



# *Lebanon: Economic and Social Impact Assessment of the Syrian Conflict*

September 2013



## **Currency Equivalents**

(Exchange Rate Effective September 17, 2013)

Currency Unit = Lebanese Pounds (LBP)

1 LBP = 0.000664 USD

1 USD = 1,507.5 LBP

## **Fiscal Year**

January 1—December 31

## **Acronyms and Abbreviations**

|       |   |
|-------|---|
| AFD   | Agence Française de Développement                   |
| AFESD | Arab Fund for Economic and Social Development       |
| BCC   | Banking Control Commission                          |
| BdL   | Banque du Liban (Central Bank of Lebanon)           |
| BIA   | Beirut International Airport                        |
| BIAC  | Beirut International Airport Corporation            |
| BoP   | Balance of Payment                                  |
| BSE   | Beirut Stock Exchange                               |
| CAA   | Civil Aviation Authority                            |
| CBD   | Central Business District                           |
| CCT   | Conditional Cash Transfer                           |
| CD    | Certificate of Deposit                              |
| CDP   | Community Development Project                       |
| CDR   | Council for Development and Reconstruction          |
| DGLMT | Directorate General for Land and Maritime Transport |
| DGUP  | Directorate General of Urban Planning               |
| DOR   | Directorate of Roads                                |
| DOT   | Department of Tenders                               |
| ECRD  | Education Center for Research and Development       |
| EdL   | Electricité du Liban                                |
| EIA   | Environmental Impact Assessment                     |
| EIB   | European Investment Bank                            |
| EMIS  | Education Management Information System             |
| EOSI  | End of Service Indemnity                            |
| E&O   | Errors and Omissions Account                        |
| ESCWA | Economic and Social Commission for Western Asia     |
| ESFD  | Economic and Social Fund for Development            |
| ESIA  | Economic and Social Impact Assessment               |
| EU    | European Union                                      |
| FAO   | Food and Agriculture Organization                   |
| FAR   | Floor-Area-Ratio                                    |
| FF-DC | Fully-Funded Defined-Contribution                   |
| FIAS  | Foreign Investment Advisory Service                 |
| FMIP  | First Municipal Infrastructure Project              |
| FX    | Foreign Exchange                                    |

|       |  |
|-------|--|
| GBA   | Greater Beirut Area  |
| GDP   | Gross Domestic Product   |
| GDMA  | General Directorate of Municipal Administration and Local Councils |
| GIS   | Geographic Information System                                      |
| HCP   | Higher Council for Privatization                                   |
| HCUP  | Higher Council for Urban Planning                                  |
| HRC   | Higher Relief Commission   |
| ICA   | Investment Climate Assessment                                      |
| IDAL  | Investment Development Authority of Lebanon                        |
| IDB   | Islamic Development Bank   |
| IDF   | Institutional Development Fund                                     |
| IFC   | International Finance Corporation                                  |
| ILO   | International Labour Organization                                  |
| IMF   | International Monetary Fund  |
| IPPs  | Independent Power Producers  |
| IRI   | Industrial Research Institute                                      |
| ISA   | Individual Savings Accounts  |
| KFESD | Kuwait Fund for Economic and Social Development                    |
| LBP   | Lebanese Pound   |
| LNG   | Liquefied Natural Gas  |
| LRA   | Litani River Authority   |
| LWC   | Local Water Committee  |
| MC    | Municipal Council  |
| MEHE  | Ministry of Education and Higher Education                         |
| MENA  | Middle East and North Africa                                       |
| MIS   | Management Information System                                      |
| MO    | Municipal Observatory  |
| MOA   | Ministry of Agriculture  |
| MOE   | Ministry of Environment  |
| MOET  | Ministry of Economy and Trade                                      |
| MOEW  | Ministry of Energy and Water                                       |
| MOF   | Ministry of Finance  |
| MOI   | Ministry of Industry   |
| MOIM  | Ministry of Interior and Municipalities                            |
| MOL   | Ministry of Labor  |
| MOPH  | Ministry of Public Health  |
| MOPWT | Ministry of Public Works and Transportation                        |
| MOSA  | Ministry of Social Affairs   |
| MOT   | Ministry of Tourism  |
| NA    | National Accounts  |
| NEO   | National Employment Office   |
| NGO   | Non Governmental Organization                                      |
| NSSF  | National Social Security Fund                                      |
| OCFTC | Office des Chemins de Fer et des Transports en Commun              |
| OECD  | Organization for Economic Cooperation and Development              |
| O&M   | Operation and Maintenance  |
| OHCHR | Office of the High Commissioner for Human Rights                   |
| p.a.  | per annum  |
| PAYG  | Pay-As-You-Go  |
| PBMC  | Performance-Based Maintenance Contract                             |
| PCH   | Public Corporation for Housing                                     |

|            |  |
|------------|--|
| PFM        | Public Financial Management  |
| PHC        | Primary Health Care  |
| PIA        | Permit Issuing Agency  |
| PMO        | Prime Minister's Office  |
| RPTA       | Railway and Public Transport Authority   |
| R&R        | Rehabilitation and Recovery  |
| RWA        | Regional Water Authorities   |
| SAMU       | Social Assessment and Monitoring Unit  |
| SAP        | Social Action Plan   |
| SDC        | Social Development Center  |
| SF         | Société Foncière   |
| SME        | Small and Medium Enterprise  |
| TB         | Tuberculosis   |
| TBs        | Treasury Bills   |
| TIR        | Transports Internationaux Routiers   |
| UA         | Unemployment Assistance  |
| UI         | Unemployment Insurance   |
| UNCAC      | United Nations Convention against Corruption                                   |
| UNDP       | United Nations Development Program   |
| UNESCO     | United Nations Educational, Cultural and Scientific Organization               |
| UNFPA      | United Nations Population Fund   |
| UN Habitat | United Nations Human Settlements Programme                                     |
| UNHCR      | United Nations High Commissioner for Refugees                                  |
| UNICEF     | United Nations Children Fund   |
| UNRWA      | United Nations Relief and Works Agency for Palestine Refugees in the Near East |
| UN Women   | United Nations Entity for Gender and Women's Empowerment                       |
| USAID      | United States Agency for International Development                             |
| VAT        | Value-Added Tax  |
| VTE        | Vocational and Technical Education   |
| VTs        | Vessel Traffic Systems   |
| WFP        | World Food Programme   |
| WUAs       | Water Users Associations   |
| WHO        | World Health Organization  |
| WTO        | World Trade Organization   |

|                   |                |
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## Acknowledgements

This report has been prepared at the request of the Government of Lebanon through a participatory and inclusive process, which benefited from the active participation of Government representatives and partners (UN, EU, and IMF).

The report was drafted by a World Bank team, under the guidance of Mr. Ferid Belhaj (Country Director), and led by Mr. Eric Le Borgne (Lead Economist and Task Team Leader), Ms. Haneen Sayed (Lead Operations Officer) on the Social and Human Development sectors, and Mr. Husam Beides (Lead Energy Specialist) and Mr. Raja Arshad (Lead Disaster Risk Management Specialist) on the Infrastructure sectors. Contributions and inputs were received from the EU, ILO, IMF, OHCHR, UNESCO, UNICEF, UNHCR, UNDP, UNESCWA, UNFPA, UN Habitat, UNRWA, UN Women, FAO, WFP, and WHO. Some chapters of the report were co-authored by teams of the World Bank and UN agencies. Further details on sector contributions are referenced under each respective chapter.

The preparation of the report greatly benefited from the close collaboration and strong engagement of the Government. Valuable information and contributions were provided by the: Ministry of Energy and Water; Ministry of Public Works and Transport; Ministry of Interior and Municipalities; Ministry of Education and Higher Education; Ministry of Public Health; Ministry of Social Affairs; Ministry of Labor; Ministry of Finance, Ministry of Economy and Trade; Council for Development and Reconstruction; and Central Bank of Lebanon. Overall guidance and coordination from the Government was provided by Mr. Shadi Karam, Economic Advisor to the President of the Lebanese Republic, Mr. Samir El Daher, Advisor to the Prime Minister, and Mr. Alain Bifani, Director General of the Ministry of Finance.

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## Executive Summary

- i. **At the request of the Government of Lebanon, the World Bank, in collaboration with the UN, the EU, and the IMF, has undertaken a rapid Economic and Social Impact Assessment (ESIA) of the Syrian conflict on Lebanon for the 2012-2014 period.** The report's current (first) phase is limited to quantifying the impact and stabilization needs of Lebanon. Based on priorities set by the Government, a second phase will focus on the identification of policy recommendations, programs and projects to mitigate the impact of the Syrian conflict.
- ii. **This rapid ESIA differs in important ways from typical impact and needs assessments due to the nature of the shock that Lebanon is facing.** Key differences are that the shock is (1) *ongoing*—Lebanon has been, and continues to be, subject to the spillover effects of conflict in a neighboring country, but it is neither in a post-disaster situation, nor is it in a post-conflict situation; (2) of *uncertain magnitude*, both in terms of duration and size—the start of the spillover is diffuse while the end date unknown, and the size of the shock depends to a large extent on the intensity of the (ongoing) conflict in Syria; (3) *temporary*—Lebanon is not facing a permanent shock, as is the case with a natural disaster or a (direct) war; (4) *without material damages* to Lebanon's infrastructure, housing, capital or human stock. Losses, instead, are on flows, such as loss of economic activity, income, access to and quality of public services. Based on a request from the Government of Lebanon, the ESIA is a rapid assessment, having been completed at very short notice, in light of the ongoing degradation of the situation. As such, while comprehensive in its aggregate (net) economic impact assessment, it provides a detailed assessment of selected, highly impacted, sectors. The report does not address security-related impacts which are the subject of assessments of other expert agencies and organizations.
- iii. **The initial spillovers from the Syrian conflict were primarily of a humanitarian nature and related to the influx of refugees into Lebanon.** Since the onset of the Syrian crisis, Lebanon has generously maintained an open border policy and has permitted refugees to temporarily but freely settle across the country. To assist Lebanon in coping with the humanitarian dimension of the refugee influx, the international community, through the UNHCR and UN partner agencies, promptly established operations in Lebanon. By August 2013, the refugee influx had expanded dramatically—to 914,000 equivalent to 21 percent of Lebanon's pre-crisis population—and led to the largest humanitarian emergency operation of its kind for many years. Based on current trends, a total of 1.3 million Syrian-conflict refugees are projected to have entered Lebanon by end-2013 (as presented in the Regional Response Plan 5 in June 2013). Projections for 2014 are subject to significant uncertainty. To address this, two scenarios are analyzed. A *baseline refugee influx scenario* forecasts 1.6 million refugees by end-2014 (37 percent of Lebanon's pre-crisis population). For illustration and sensitivity purposes, a lower probability/higher impact scenario is also used (*high refugee influx scenario*).
- iv. **With the escalation of the Syrian conflict, spillovers onto Lebanon have rapidly moved beyond the humanitarian to the economic and social spheres where large, negative, and growing spillovers are occurring** (Table 1). In summary, this report finds that during the 2012-2014 period, the conflict may (1) cut real GDP growth by 2.9 percentage points each year, entailing large losses in terms of wages, profits, taxes, or private consumption and investment; (2) push approximately 170,000 Lebanese into poverty (over and above the 1 million currently living below the poverty line) and double the unemployment rate to above 20 percent, most of them unskilled youth; and (3) depress government revenue collection by USD1.5 billion while simultaneously increasing government expenditure by USD1.1 billion due to the surge in demand for public services, bringing the total fiscal **impact** to USD2.6 billion. Across all key public services, the surge in demand is currently being partly met through a decline in both the access to and the quality of public service delivery. It is estimated that an additional spending of USD2.5 billion would be required for **stabilization**, i.e., to reinstate the access to and quality of public services to their pre-Syrian conflict level.

Let us elaborate:

- v. **The conflict in Syria—a country that is closely linked, through historical, social and economic ties to Lebanon—is severely and negatively impacting the Lebanese economy.** Lebanese growth is estimated to be down by 2.9 percentage points, generating billions of dollars in lost economic activity over 2012-2014 impact assessment period—Table 1. The largest impact arises through the insecurity and uncertainty spillovers which profoundly and negatively affect investor and consumer confidence. The resulting lower economic activity is putting downward pressure on government revenues which, combined with rising demand for public services stemming from the large refugee influx, is damaging Lebanon's structurally weak public finances.
- vi. **The impact of the Syrian conflict is also particularly pronounced in the trade sector, affecting goods and services trade, and in particular the large tourism sector.** An economy with a large trade sector, Lebanon is significantly exposed to Syria not only due to its role as a trading partner, but also because a sizable share of Lebanese trade transits through Syria and because of the risk a destabilized Syria creates for Lebanon's large services exports, especially tourism, with the number of international visitors having steadily declined since 2010. The first half of 2013 witnessed sharp reductions in trade flows, particularly for food products and consumer goods. While Lebanon was traditionally a net food importer from Syria, the country posted its first food trade surplus in 2012. Conversely, trade disruptions are pushing up domestic prices of some staples such as wheat flour, which has important implications on welfare, particularly for poor households.
- vii. **Lebanon's public finances were structurally weak prior to the Syrian shock and are now becoming severely strained, with the deficit estimated to widen by USD2.6 billion over the 2012-14 period**—(Table 3, baseline refugee influx projections). Following half a decade of robust growth, Lebanon experienced a remarkable decrease in its debt-to-GDP ratio, from about 180 percent in 2006, to 134 percent at the eve of the Syrian conflict in 2011. The country's improved public finances, however, were to a large extent due to a cyclical improvement, as strong structural reforms envisaged as part of the Paris III conference have yet to be fully implemented. The Syrian conflict shock is putting Lebanon's public finances under severe and rapidly escalating strains, unsustainable given Lebanon's initial weak public finances. On the revenue side, spillovers from the conflict are estimated to cut USD1.5 billion in revenue collection over 2012-14, due to a combination of direct impact on key sectors (e.g., tourism) and indirect impacts through weaker economic activity. On the expenditure side, total budgetary spending by the Government alone is estimated to grow by up to USD1.1 billion over 2012-2014 because of the Syrian conflict and the associated sharp increase in demand for and consumption of public services by refugees from Syria. The wider fiscal deficits, lower economic growth, and rising interest risk premium due to the Syrian conflict have halted Lebanon's remarkable progress in reducing its debt-to-GDP ratio; for the first time since 2006, Lebanon's debt ratio rose again in 2012 with further increases projected through 2014.
- viii. **Over 2012-14, the Syrian conflict is estimated in health, education and social safety nets to have a fiscal cost of USD308-USD340 million while USD1.4-1.6 billion (3-3.4 percent of GDP) will be needed for stabilization**—i.e., to restore access to and quality of these services to pre-conflict levels—including USD166-242 million for short-term job creation (Tables 1 and 2). The conflict is estimated to negatively and materially affect the poverty, livelihoods, health and human capital conditions of the Lebanese people. By end-2014, some 170,000 additional Lebanese will be pushed into poverty (over and above the current 1 million below the poverty line). Furthermore, an additional 220,000-324,000 Lebanese, primarily unskilled youth, are expected to become unemployed, thus doubling the unemployment rate to over 20 percent. The influx of refugees has challenged the already weak public social services sector in Lebanon and social tensions, including gender issues, among refugees and Lebanese communities are on the rise.

- **The increase in demand for *health* services caused by the Syrian conflict is straining Lebanon's health system.** The conflict in Syria is impacting Lebanon's health system through: (1) increased demand for health care services; (2) increased unpaid commitments of the Ministry of Public Health (MOPH) to contracted hospitals; (3) shortages in health workers including specialists and nurses; (4) a sharp rise in communicable diseases (the number of measles cases, for example, increased from 9 in 2012 to 1,456 in 2013) and the emergence of previously absent diseases, such as leishmaniasis (420 cases); and (5) increased risks of epidemics such as water-borne diseases, measles, and tuberculosis. Overcrowding, lack of water and sanitation infrastructure and other poor environmental conditions also pose significant risks to increased infections, as outbreaks of lice and scabies among refugees have shown. Thus, demand for health services has markedly increased over the past 6-12 months—in December 2012 alone 40 percent of primary health care visits were for Syrian refugees. In addition, strong demand for hospital care is crowding hospitals and compromising access to healthcare, thus exerting financial pressure on hospitals, increasing costs, and generating medication shortages. In the medium- to long-term, the impact of delayed health care could result in increased overall levels of morbidity, particularly for the vulnerable. The fiscal impact has been estimated to be USD38 million in 2013 and USD48-69 million in 2014, depending on refugee projections. Health care costs needed to restore the system to its pre-refugee access and quality levels is estimated at USD177 million in 2013 and USD216-306 million in 2014, depending on the refugee projections.
- **The increase in demand for *education* services arising from the Syrian children refugees is leading to mounting fiscal costs, an adverse effect on quality of public education, and a significant need for non-formal education.** Prior to the Syrian conflict, basic education enrollment in Lebanon had been stable at over 90 percent for a decade, with gender parity achieved. Although public schools only accommodated 30 percent of total students, they catered predominantly to children of lower socio-economic status. Since the onset of the Syrian conflict, and the influx of refugees into the country, the Ministry of Education and Higher Education (MEHE) provided open access to refugees in its public school system. In 2012, 40,000 refugee children were accommodated in public schools for a budgetary cost of USD29 million. An additional USD24 million in costs were financed by donors through UN agencies, which the MEHE would otherwise have had to bear. These costs are projected to continue to escalate: in the coming academic year 90,000 refugees are expected to enroll, and, by 2014 that number would reach between 140,000 and 170,000. The latter figure amounts to 57 percent of public school students in Lebanon. Therefore, MEHE's stabilization needs amount to USD183 million in 2013 and between USD348-434 million in 2014, depending on the refugee influx scenario. These figures do not reflect the 65 percent of refugees who are not expected to enroll in formal schooling, thus creating significant needs for non-formal/out-of-school education, necessary to control the onset of child labor and other negative social consequences.
- **As a result of the Syrian conflict, it is expected that by end-2014, some 170,000 additional Lebanese citizens will be pushed into poverty while the existing poor will fall deeper into it.** Prior to the Syrian conflict, poverty in Lebanon was significant and regional disparities in living conditions were acute. Nearly 1 million Lebanese were estimated to be poor (living on less than USD4 per day). *Social safety nets* (SSN) were weak, fragmented and poorly targeted. For this reason the Ministry of Social Affairs (MOSA) was in the process of implementing reforms to its SSN system. To date, the MOSA has noted a 40 percent increase in the utilization of its health and social programs. To stabilize the situation, USD176 million will be required till end-2014, of which over USD50 million is needed to scale up the National Poverty Targeting Program for poor and vulnerable Lebanese.
- **The Syrian spillovers are further exacerbating already difficult *labor market* conditions and are expected to result in further unemployment and informality.** Prior to the Syrian crisis,

labor market conditions in Lebanon were already dire. High unemployment rates coexisted with mismatches in the labor market and a high prevalence of low-quality and low-productivity jobs. The influx of Syrian refugees is expected to increase labor supply by between 30 and 50 percent—with the largest impacts on women, youth, and unskilled workers. Such a massive increase in the number of individuals looking for jobs at a time when economic activity is subdued is expected to have major effects on labor market outcomes. The overall unemployment rate and the share of informal work in total employment could both increase each by up to 10 percentage points. Stabilizing the situation by implementing a comprehensive package of active labor market programs to improve livelihoods and earnings opportunities over the short-term would require resources in the order of USD166-242 million.

ix. **Over the period 2012-14, the fiscal cost of the Syrian conflict on *infrastructure* is estimated at USD589 million, while USD1.1 billion would be required for stabilization, including USD258 million for current spending** (baseline influx scenario). The country's infrastructure (defined for the purposes of this report as water and sanitation, municipal services, electricity and transport), already severely constrained, was ill-prepared to cope with increased use resulting from the surge in refugees. The cash-strapped and under-capacitated local and municipal governments and establishments are severely impacted by the crisis as they now extend basic services and tend to the immediate needs of both refugees and host communities. Tables 1 and 2 provide a sector breakdown of these impacts and stabilization (needs) assessments. Detailed tables identifying the various components of the impact and stabilization assessments are available at the beginning of each sector chapter.

- ***Water supply and sanitation systems, already facing acute pre-crisis challenges in balancing supply augmentation with demand management, must now meet an additional estimated water demand of 26.1 million m3/year***, equivalent to 7 percent of the pre-crisis demand. The cumulative fiscal impact over 2012-14 reaches approximately USD18 million (baseline influx projection). Between 2012-14, an estimated USD340-375 million will be required for stabilization interventions to reinstate pre-crisis levels of WSS service to host and refugee communities. These include: (1) humanitarian relief interventions such as distribution of bottled and tanked water, chlorination kits and storage tanks to the most vulnerable populations; (2) additional capital and operation and maintenance costs, provision of urgent equipment, and additional short-term infrastructure for restoring water supply infrastructure; and (3) acceleration of infrastructure investments and institutional reforms such as storage and transfer infrastructure, distribution network rehabilitation and replacement, water and wastewater treatment and irrigation expansion and improvement.
- ***A markedly visible decline in the level and quality of solid waste management and municipal services has resulted from the sudden and sharp increase in demand and utilization by Syrian refugees.*** Lebanon's local governments and municipalities are highly dependent on central government transfers, have a weak local revenue base, and have a backlog of investment needs that far exceed available resources. Solid waste generation has doubled in several areas, which is contributing to ground water contamination, pollution of water resources and spread of water-borne disease. Both municipal revenues and expenditures are expected to see a major shortfall in 2013 and 2014. This will further restrict the capacity of municipalities to deliver basic services and fund minimum maintenance of their already dilapidated assets. The cumulative fiscal impact over 2012-14 on solid waste management reaches USD71 million (baseline influx scenario). It is estimated that between USD193-206 million would be required over 2012-14 for stabilization interventions in the municipal sector including: (1) the closure and rehabilitation of open and uncontrolled municipal solid waste dumps; (2) establishing composting, separating and landfilling facilities, and; (3) extending financial support to host municipalities to cover the expected additional operational and capital expenditures.

- **Increased electricity demand due to the incoming Syrian refugee population is estimated at 213 megawatts (MW) by end-2013 and between 251 to 362 MW by end-2014**, depending on the refugee projection. Even prior to the Syrian crisis, Lebanon's electricity sector had insufficient installed capacity, low efficiency, high losses and inadequate infrastructure, resulting in poor reliability, inadequate levels of supply and extensive load shedding. The current fiscal cost of providing electricity to the refugees is estimated at USD170 million for 2013 and USD314-393 million for 2014, depending on the projected influx of refugees. The interventions required to reinstate pre-crisis levels of electricity service to the Lebanese population and meet the needs of refugee communities include: (1) capital investment in generation capacity and associated transmission and distribution networks; and (2) institutional capacity and technical assistance for project preparation and implementation. It is estimated that between USD310-440 million would be required by end-2014 for stabilization interventions.
- **Regions with high influx of refugees such as Akkar, Zahleh, and Ba'albek, will witness traffic increase of more than 50 percent on some roads, resulting in accidents and the rapid deterioration of the transport network.** Lebanon's transport network is generally in fair to poor condition and is over-saturated, particularly in the Greater Beirut Area. While the Syrian crisis did not have direct fiscal impact on the government expenditures in the sector, it has affected Lebanon's transport sector in the form of: (1) increased wear and tear of the road and transport network; (2) substantial increase in traffic volumes causing congestion; and (3) a near halt of Lebanon's thriving transit business particularly for freight. The Greater Beirut Area will witness a 15-25 percent traffic increase which can reduce speeds and increase travel times by about 20-30 percent during the peak hours. Transit trucking services have decreased by over 65 percent following the crisis, particularly for Lebanese trucks. In order to restore transport sector performance to pre-crisis levels, investments ranging between USD246-525 million would be required over the period 2013-14 for the baseline and high refugee influx scenarios respectively. These investments can be categorized as follows: (1) asset preservation primarily including enhanced road maintenance; (2) capacity increases including network reconstruction, widening and expansion; and (3) public transport solutions such as mass transit.

To conclude:

- x. ***Such large and growing impact and stabilization costs are unsustainable given Lebanon's weak public finances and need to be promptly addressed. With a debt-to-GDP ratio of 134 percent in 2012 and an overall fiscal deficit of 8.6 percent of GDP, Lebanon cannot—and should not be expected to—shoulder on a sustained basis the impact and stabilization costs described above on its own.***
- xi. ***Furthermore, the Syrian conflict at large has challenged the already delicate societal and inter-communal balance in Lebanon. As noted throughout the report, overcrowding, saturation of basic services and competition for jobs are among the root causes for social tensions between host and refugee communities. Maintaining and promoting greater social cohesion is important to reduce the negative social and economic impacts of this crisis.***
- xii. ***While the scope of the present report is limited to the quantification of the impact and stabilization costs, several options could significantly reduce the costs imposed on Lebanon. These include receiving external financing from the international community and introducing policy reforms to improve the efficiency of public service delivery. In practice, some combination of the various options will probably be required. Sustainable social cohesion will also need to be sought by investing in conflict mitigation mechanisms, processes and capacities at all levels, and through conflict sensitive programming.***



Table 1: Lebanon: Quantified Impact Assessment of the Syrian Conflict Spillovers

|  | 2012   | 2013  | 2014                          |                        | Cumulative<br>2012/14         |
|--|--------|---|-------------------------------|------------------------|-------------------------------|
|  |        |   | Baseline<br>Refugee<br>Influx | High Refugee<br>Influx | Baseline<br>Refugee<br>Influx |
|  |        | (in millions of Lebanese Pounds)                |                               |                        |                               |
| Impact Assessment  | 94,343 | 475,745   | 781,984                       | 973,041                | 1,352,072                     |
| Human Development & Social Impact  | 62,032 | 162,754   | 238,801                       | 287,807                | 463,587                       |
| Health   | 9,088  | 57,999  | 71,688                        | 103,705                | 138,775                       |
| Education  | 43,994 | 95,206  | 153,113                       | 184,102                | 292,313                       |
| Poverty and Social Safety Nets 1/  | 8,950  | 9,550   | 14,000                        | ...                    | 32,500                        |
| Infrastructure Impact  | 32,311 | 312,991   | 543,183                       | 685,235                | 888,485                       |
| Electricity  | 24,120 | 256,275   | 473,355                       | 592,448                | 753,750                       |
| Water and Sanitation   | 8,191  | 7,571   | 11,337                        | 14,698                 | 27,099                        |
| Solid Waste Mangement & Municipal Services                                 | -      | 49,145  | 58,491                        | 78,089                 | 107,636                       |
|  |        | (in millions of US dollars)                     |                               |                        |                               |
| Impact Assessment  | 63     | 316   | 519                           | 645                    | 897                           |
| Human Development & Social Impact  | 41     | 108   | 158                           | 191                    | 308                           |
| Health   | 6      | 38  | 48                            | 69                     | 92                            |
| Education  | 29     | 63  | 102                           | 122                    | 194                           |
| Poverty and Social Safety Nets 1/  | 6      | 6   | 9                             | ...                    | 22                            |
| Infrastructure Impact  | 21     | 208   | 360                           | 455                    | 589                           |
| Electricity  | 16     | 170   | 314                           | 393                    | 500                           |
| Water and Sanitation   | 5      | 5   | 8                             | 10                     | 18                            |
| Solid Waste Mangement & Municipal Services                                 | -      | 33  | 39                            | 52                     | 71                            |
|  |        | (in percent of GDP, unless otherwise indicated) |                               |                        |                               |
| Impact Assessment  | 0.1    | 0.7   | 1.1                           | 1.4                    | 1.9                           |
| Human Development & Social Impact  | 0.1    | 0.2   | 0.3                           | 0.4                    | 0.7                           |
| Infrastructure Impact  | 0.0    | 0.5   | 0.8                           | 1.0                    | 1.3                           |
| Economic impact (public and private; in percent)                           | -2.9   | -2.9  | -2.9                          | -2.5                   | ...                           |
| Real GDP growth rate: No Syrian Conflict Spillovers (in percent)           | 4.3    | 4.4   | 4.4                           | 4.4                    | ...                           |
| Real GDP growth rate: Actual and Projected (in percent)                    | 1.4    | 1.5   | 1.5                           | 1.9                    | ...                           |
| Fiscal impact (change in overall fiscal balance due to conflict spillover) | 1.1    | 2.1   | 2.6                           | 2.6                    | 5.8                           |
| Revenue: foregone due to conflict spillover                                | 0.9    | 1.3   | 1.3                           | 1.0                    | 3.4                           |
| Expenditure: increment due to conflict spillover                           | 0.2    | 0.9   | 1.3                           | 1.6                    | 2.4                           |
|  |        | (in millions of US dollars)                     |                               |                        |                               |
| Memorandum item:   |        |   |                               |                        |                               |
| Nominal GDP (actual and projected)   | 42,945 | 45,203  | 47,230                        | 47,408                 | ...                           |
| Nominal GDP (counter-factual: no Syrian conflict spillover)                | 44,088 | 47,662  | 51,157                        | 51,157                 | ...                           |

Source: World Bank staff calculations and projections.

1/ No high scenario has been calculated for Poverty and SSNs in 2014.

Table 2: Lebanon: Quantified Stabilization (Needs) Assessment of the Syrian Conflict Spillovers

|  | 2012    | 2013                             | 2014                          |                        | Cumulative<br>2012/14         |
|--|---------|----------------------------------|-------------------------------|------------------------|-------------------------------|
|  |         |                                  | Baseline<br>Refugee<br>Influx | High Refugee<br>Influx | Baseline<br>Refugee<br>Influx |
|  |         | (in millions of Lebanese Pounds) |                               |                        |                               |
| Stabilization (Needs) Assessment           | 309,734 | 1,237,495                        | 2,205,928                     | 3,145,052              | 3,753,157                     |
| Human Development & Social                 | 237,373 | 643,389                          | 1,230,226                     | 1,480,770              | 2,110,988                     |
| Health                                     | 56,578  | 267,031                          | 326,018                       | 461,271                | 649,626                       |
| Education                                  | 145,692 | 275,245                          | 524,903                       | 654,999                | 945,840                       |
| Employment and Livelihoods 1/              | ...     | ...                              | 250,875                       | 364,500                | 250,875                       |
| Poverty and Social Safety Nets 2/          | 35,103  | 101,114                          | 128,430                       | ...                    | 264,647                       |
| Infrastructure                             | 72,361  | 594,106                          | 975,702                       | 1,664,282              | 1,642,169                     |
| Electricity                                | 58,793  | 322,605                          | 85,928                        | 281,903                | 467,325                       |
| Water and Sanitation                       | 8,141   | 133,866                          | 370,893                       | 422,854                | 512,900                       |
| Solid Waste Mangement & Municipal Services | 5,427   | 72,511                           | 212,859                       | 232,607                | 290,797                       |
| Transportation infrastructure              | -       | 65,125                           | 306,023                       | 726,918                | 371,148                       |
| Current spending                           | 205,003 | 641,581                          | 1,156,239                     | 1,370,995              | 2,002,823                     |
| Capital spending                           | 104,731 | 595,913                          | 1,049,690                     | 1,774,056              | 1,750,334                     |
|  |         | (in millions of US Dollars)      |                               |                        |                               |
| Stabilization (Needs) Assessment           | 205     | 821                              | 1,463                         | 2,086                  | 2,490                         |
| Human Development & Social                 | 157     | 427                              | 816                           | 982                    | 1,400                         |
| Health                                     | 38      | 177                              | 216                           | 306                    | 431                           |
| Education                                  | 97      | 183                              | 348                           | 434                    | 627                           |
| Employment and Livelihoods 1/              | ...     | ...                              | 166                           | 242                    | 166                           |
| Poverty and Social Safety Nets 2/          | 23      | 67                               | 85                            | ...                    | 176                           |
| Infrastructure                             | 48      | 394                              | 647                           | 1,104                  | 1,089                         |
| Electricity                                | 39      | 214                              | 57                            | 187                    | 310                           |
| Water and Sanitation                       | 5       | 89                               | 246                           | 281                    | 340                           |
| Solid Waste Mangement & Municipal Services | 4       | 48                               | 141                           | 154                    | 193                           |
| Transportation infrastructure              | 0       | 43                               | 203                           | 482                    | 246                           |
| Current spending                           | 136     | 426                              | 767                           | 909                    | 1,329                         |
| Capital spending                           | 69      | 395                              | 696                           | 1,177                  | 1,161                         |
|  |         | (in percent of GDP)              |                               |                        |                               |
| Stabilization (Needs) Assessment           | 0.5     | 1.8                              | 3.1                           | 4.4                    | 5.4                           |

Source: World Bank staff calculations and projections.

1/ Stabilization costs for 2014 baseline and high scenarios include the needs for 2013.

2/ No high scenario has been calculated for Poverty and SSNs in 2014.

## Liban: Impact Économique et Social du Conflit Syrien

### Résumé Analytique

- i. **À la demande du Gouvernement libanais, la Banque mondiale, en collaboration avec les Nations Unies, l'Union Européenne et le Fonds Monétaire International, a effectué une étude rapide de l'impact économique et social (ESIA) du conflit syrien sur le Liban durant la période 2012-2014.** La phase actuelle (première) du rapport se limite à la quantification de l'impact du conflit et des besoins de stabilisation au Liban. Sur la base des priorités définies par les autorités, une deuxième phase portera sur l'identification de recommandations pratiques, de programmes et de projets visant à atténuer l'impact du conflit syrien.
- ii. **Cette étude rapide d'impact économique et social diffère grandement de l'évaluation typique des effets et des besoins en raison de la nature du choc qui secoue le Liban.** Les principales différences tiennent au fait que le choc est 1) *continu* — le Liban a subi et continue de subir les répercussions d'un conflit dans un pays voisin, mais ne se trouve ni dans une situation d'après-catastrophe ni d'après-conflit ; 2) *d'une ampleur incertaine*, à la fois en termes de durée et de taille — les répercussions commencent de manière diffuse, mais nul ne sait quand elles prendront fin, et l'ampleur du choc dépend en grande partie de l'intensité du conflit (en cours) en Syrie ; 3) *temporaire* — le Liban n'est pas soumis à un choc permanent, comme dans le cas d'une catastrophe naturelle ou d'une guerre (directe) ; 4) *sans dégâts substantiels* sur l'infrastructure, le logement, les équipements ou le capital humain libanais. Les pertes se dénombrent plutôt en termes de flux, comme pour la baisse de l'activité économique, du revenu, de l'accès et de la qualité des services publics. L'étude d'impact économique et social demandée par le Gouvernement libanais constitue une évaluation rapide ayant été réalisée dans des délais extrêmement brefs, compte tenu de la détérioration actuelle de la situation. Ainsi, tout en examinant l'impact économique global (net) de façon approfondie, ce rapport ne porte que sur quelques secteurs lourdement affectés. Il n'aborde pas les répercussions en matière de sécurité qui sont le domaine d'évaluation d'autres institutions et organismes spécialisés.
- iii. **Les retombées initiales du conflit syrien étaient surtout d'ordre humanitaire et associées à l'afflux de réfugiés au Liban.** Depuis le déclenchement de la crise syrienne, le Liban a généreusement maintenu une politique d'ouverture des frontières et a permis aux réfugiés de s'installer temporairement, mais librement sur l'ensemble de son territoire. Pour l'aider à faire face à la dimension humanitaire de l'arrivée des réfugiés, la communauté internationale a aussitôt engagé des opérations dans le pays par le biais du HCR et d'organismes partenaires des Nations Unies. Vers août 2013, le nombre de réfugiés avait considérablement augmenté — pour atteindre 914 000 personnes représentant 21 pourcent de la population libanaise d'avant la crise — suscitant la plus importante intervention d'urgence humanitaire du genre depuis de nombreuses années. Compte tenu de l'évolution actuelle de la situation, 1,3 million de réfugiés du conflit syrien pourraient entrer sur le territoire libanais d'ici la fin 2013 (selon le 5<sup>e</sup> Plan régional d'intervention de juin 2013). Les prévisions pour 2014 présentent un degré élevé d'incertitude. Pour faire face à cette situation, deux hypothèses sont envisagées : une *hypothèse de base* prévoyant 1,6 million de réfugiés d'ici la fin 2014 (37 pourcent de la population libanaise d'avant la crise) et une hypothèse moins probable/d'impact plus important (*scénario d'afflux élevé de réfugiés*) avancée à des fins d'illustration.
- iv. **Le conflit en Syrie étant entré dans une escalade, ses retombées sur le Liban ont rapidement dépassé le volet humanitaire pour atteindre les sphères économique et sociale, où elles sont importantes, négatives et croissantes (Tableau 1).** En résumé, le rapport relève que durant la période 2012-2014, le conflit pourrait 1) *ralentir la croissance du PIB réel de 2,9 points de pourcentage chaque année, entraînant un énorme manque à gagner en termes de salaires, de recettes, d'impôts ou de consommation privée et d'investissements* ; 2) *faire basculer environ 170 000 Libanais dans la pauvreté (en plus du million qui vit actuellement en dessous du seuil de pauvreté) et doubler le taux du chômage*

*qui s'établirait à plus de 20 pourcent, surtout chez les jeunes non qualifiés ; et 3) amputer les recettes fiscales de l'État de 1,5 milliard de dollars tout en augmentant parallèlement les dépenses de 1,1 milliard de dollars en raison de la forte progression de la demande de services publics, ce qui porterait l'impact total sur le budget à 2,6 milliards de dollars. Dans tous les principaux services publics, cette hausse de la demande est en partie satisfaite actuellement par la diminution aussi bien de l'accès que de la qualité de prestation de services publics. Selon les estimations, il faudra dépenser 2,5 milliards de dollars de plus pour parvenir à un **stabiliser**, autrement dit rétablir l'accès et la qualité des services publics à leur niveau d'avant le conflit syrien.*

Plus précisément :

- v. **Le conflit en Syrie — un pays qui entretient des liens historiques, sociaux et économiques étroits avec le Liban — a des répercussions profondément néfastes sur l'économie libanaise.** Selon les estimations, la croissance libanaise a diminué de 2,9 points de pourcentage, ce qui se traduit par des milliards de dollars de manque à gagner résultant de la baisse de l'activité économique durant la période d'étude de 2012-2014 — Tableau 1. Le plus grand impact se fait ressentir dans les retombées de la crise en matière d'insécurité et d'incertitude, minant ainsi de manière considérable et négative la confiance des investisseurs et des consommateurs. La baisse de l'activité économique qui en résulte réduit les recettes de l'État, une situation qui, combinée à la demande croissante des services publics générée par l'afflux massif de réfugiés, grève les finances publiques, par ailleurs structurellement faibles, du Liban.
- vi. **L'impact du conflit syrien est aussi particulièrement visible dans le secteur du commerce international, notamment des biens et services, et surtout dans le vaste secteur touristique.** L'économie libanaise est caractérisée par un important secteur du commerce et est très exposée de la Syrie, non seulement en raison de son rôle comme partenaire commercial, mais aussi parce qu'un volume considérable du commerce libanais transite par la Syrie, et que la déstabilisation de la Syrie menace les exportations de services libanais, particulièrement le tourisme – le nombre de visiteurs internationaux n'a cessé de décroître depuis 2010. Le premier semestre 2013 a accusé une baisse drastique des flux commerciaux, notamment des produits alimentaires et des biens de consommation. Autrefois importateur net traditionnel de produits alimentaires en provenance de la Syrie, le Liban a enregistré son premier excédent de la balance commerciale dans cette filière en 2012. Cependant, les perturbations des échanges tirent vers le haut les prix intérieurs de certaines denrées de base comme la farine de blé, ce qui a une incidence majeure sur les conditions de vie, surtout pour les ménages pauvres.
- vii. **Déjà structurellement faibles avant la crise syrienne, les finances publiques libanaises sont actuellement mises à rude épreuve, de sorte qu'une augmentation du déficit de l'ordre de 2,6 milliards de dollars est prévue pendant la période 2012-2014** — (Tableau 3, prévisions d'afflux des réfugiés fondées sur une hypothèse de base). Après cinq années de croissance robuste, le Liban a vu son ratio dette/PIB baisser de manière substantielle, passant d'environ 180 pourcent en 2006 à 134 pourcent à la veille du conflit syrien en 2011. L'amélioration des finances publiques du pays était toutefois due en grande partie à une embellie conjoncturelle, les réformes structurelles envisagées dans le cadre de la Conférence de Paris III n'étant pas encore intégralement mises en œuvre. Le conflit syrien met à rude épreuve les finances publiques libanaises, dont les difficultés augmentent rapidement et de façon insoutenable, au regard des faiblesses budgétaires d'avant la crise. Du côté des recettes, on estime que le conflit syrien va entraîner une baisse de 1,5 milliard de dollars des recettes fiscales entre 2012 et 2014, en raison à la fois de son impact direct sur les secteurs clés (tourisme par exemple) et des conséquences indirectes marquées par la contraction de l'activité économique. D'un autre côté, les dépenses budgétaires totales du Gouvernement devraient augmenter d'un montant pouvant atteindre 1,1 milliard de dollars sur la période 2012-2014, à cause du conflit syrien et de la forte progression connexe de la demande et de la consommation des services publics par les réfugiés en provenance de Syrie. L'élargissement du déficit budgétaire, la faiblesse de la croissance économique et la hausse de la prime de risque sur les taux

résultant du conflit syrien, sont tous des facteurs ayant interrompu les progrès remarquables accomplis par le Liban au titre de la réduction de son ratio d'endettement ; pour la première fois depuis 2006, le ratio d'endettement du pays est remonté en 2012, et les prévisions font état d'une progression supplémentaire jusqu'en 2014.

viii. **Durant la période 2012-2014, on estime l'incidence budgétaire du conflit syrien sur la santé, l'éducation et la protection sociale entre 308 et 340 millions de dollars, alors que 1,4 à 1,6 milliard de dollars (3 à 3,4 pourcent du PIB) seront nécessaires pour revenir à une situation de stabilisation** — autrement dit, rétablir l'accès et la qualité de ces services à leur niveau d'avant le conflit. Il faudra également 166 à 242 millions de dollars pour créer des emplois à court terme (tableaux 1 et 2). Selon les estimations, le conflit syrien a une incidence profondément néfaste sur la pauvreté, les moyens de subsistance, la santé et les conditions de vie des Libanais. D'ici fin 2014, quelque 170 000 Libanais supplémentaires auront basculé dans la pauvreté (en plus du million qui vit actuellement en dessous du seuil de pauvreté). De plus, 220 000 à 324 000 Libanais supplémentaires devraient se retrouver au chômage, surtout des jeunes non qualifiés, doublant ainsi le taux de chômage qui s'établirait à plus de 20 pourcent. L'arrivée des réfugiés syriens perturbe davantage le secteur des services sociaux publics déjà fragilisé, alors même que les tensions sociales s'intensifient entre réfugiés et Libanais.

- **La hausse de la demande de services de santé générée par le conflit syrien grève le système de santé libanais.** Les retombées du conflit syrien sur le système de santé libanais se manifestent comme suit : 1) Une demande accrue des services de santé ; 2) Une accumulation des impayés du ministère de la Santé publique (MOPH) auprès des hôpitaux sous contrat ; 3) Un déficit de professionnels de la santé comme les médecins spécialistes et les infirmiers ; 4) Une flambée des maladies transmissibles (la prévalence de la rougeole a par exemple augmenté entre 2012 et 2013, passant de 9 à 1 456 cas) et l'apparition de nouvelles maladies comme la leishmaniose (420 cas) ; et 5) augmentation de risques d'épidémies de maladies d'origine hydrique, de rougeole et de tuberculose, entre autres. L'encombrement, le manque d'installations d'approvisionnement en eau et d'assainissement, et d'autres conditions ambiantes déplorables augmentent également les risques d'infection, en témoigne l'apparition de poux et de gale parmi les réfugiés. Ainsi, la demande des services de santé s'est intensifiée durant les six à douze derniers mois — en décembre 2012 uniquement, 40 pourcent des consultations de santé primaire concernaient des réfugiés syriens. Qui plus est, la forte demande de soins hospitaliers crée des encombrements dans les hôpitaux et entrave l'accès aux soins, avec pour conséquences une pression financière sur le secteur hospitalier, le renchérissement des coûts et des pénuries de médicaments. À moyen et à long terme, l'impact du report des soins de santé pourrait se traduire par l'élévation du niveau général de morbidité, particulièrement chez les personnes vulnérables. L'impact budgétaire est estimé quant à lui à 38 millions de dollars en 2013 et 48 à 69 millions de dollars en 2014, en fonction du nombre de réfugiés. Le coût des soins de santé nécessaires pour ramener le système à ses niveaux d'accès et de qualité d'avant l'arrivée des réfugiés est estimé à 177 millions de dollars en 2013 et 216 à 306 millions de dollars en 2014, en fonction des prévisions concernant le nombre de réfugiés.
- **L'accroissement de la demande de services d'éducation par les enfants réfugiés syriens entraîne une majoration des coûts budgétaires, affecte négativement la qualité de l'enseignement public et génère un besoin considérable d'éducation non formelle.** Avant le déclenchement du conflit syrien, les inscriptions au primaire s'étaient stabilisées à plus de 90 pourcent durant une décennie, et l'égalité était atteinte entre garçons et filles. Si les écoles publiques n'accueillaient que 30 pourcent du nombre total d'élèves, elles s'occupaient surtout d'enfants de milieux socioéconomiques modestes. Depuis le début du conflit syrien et l'arrivée de réfugiés au Liban, le ministère de l'Éducation et de l'Enseignement supérieur (MEHE) a ouvert son réseau d'écoles primaires aux réfugiés. En 2012, 40 000 enfants réfugiés fréquentaient les

écoles publiques, pour un coût budgétaire de 29 millions de dollars. Les bailleurs de fonds par ailleurs ont apporté 24 millions de dollars à travers des institutions onusiennes pour financer des coûts additionnels que le ministère aurait dû supporter autrement. Ces coûts budgétaires devraient toutefois continuer à augmenter : l'année académique prochaine, 90 000 réfugiés devraient s'inscrire à l'école et, d'ici 2014, ils atteindraient 140 000 à 170 000. Ce dernier chiffre représente 57 pourcent des élèves des écoles publiques au Liban. Par conséquent, les besoins de stabilisation du ministère de l'Éducation s'élèvent à 183 millions de dollars en 2013 et varient entre 348 et 434 millions de dollars en 2014, selon l'hypothèse d'afflux des réfugiés. Ces montants ne prennent toutefois pas en compte les 65 pourcent de réfugiés qui ne devraient pas accéder à des écoles de type classique, créant de ce fait un besoin considérable d'éducation non formelle ou hors des salles de classe, nécessaire pour empêcher que les enfants ne se retrouvent sur le marché du travail et d'autres conséquences sociales négatives.

- **À cause du conflit syrien, on s'attend à ce que quelque 170 000 Libanais supplémentaires basculent dans la pauvreté d'ici 2014, alors que les personnes déjà pauvres s'enfoncent davantage dans la misère.** Avant le déclenchement du conflit syrien, la pauvreté était importante au Liban, et les disparités de conditions de vie marquées d'une région à l'autre. On estimait à près d'un million le nombre de Libanais pauvres (vivant avec moins de 4 dollars par jour). Les *files de protection sociale* étaient limités, fragmentés et mal ciblés, raison pour laquelle le ministère des Affaires sociales (MOSA) était en passe de réformer son système de protection sociale. Jusqu'à présent, le MOSA a relevé une hausse de 40 pourcent de l'utilisation de ses programmes sanitaires et sociaux. Il faudra 176 millions de dollars d'ici la fin 2014 pour stabiliser la situation, dont plus de 50 millions devraient servir à étendre le Programme national de lutte contre la pauvreté à plus de Libanais pauvres et vulnérables.
- **Les retombées du conflit syrien exacerbent les difficultés sur un *marché du travail* déjà sous pression, et devraient entraîner une hausse du chômage et le renforcement du secteur informel.** Le marché du travail au Liban rencontrait déjà de graves difficultés avant la crise syrienne. Des taux de chômage élevés coexistaient avec des décalages entre l'offre et la demande et une forte prévalence d'emplois de qualité médiocre et peu rémunérateurs. L'arrivée des réfugiés syriens devrait entraîner une augmentation de 30 à 50 pourcent de la main-d'œuvre disponible — ce qui devrait surtout affecter les femmes, les jeunes et les travailleurs non qualifiés. Une telle hausse de demandeurs d'emploi en période de baisse de l'activité économique devrait avoir une incidence considérable sur le marché du travail. Le chômage et le travail informel pourraient enregistrer chacun un taux d'augmentation pouvant atteindre 10 pourcent de l'emploi total. Il faudrait 166 à 242 millions de dollars pour stabiliser la situation en appliquant un éventail complet de programmes d'intervention directe sur le marché du travail pour améliorer les moyens de subsistance et les perspectives de revenu à court terme.

ix. **Durant la période 2012 à 2014, le coût budgétaire du conflit syrien sur les infrastructures est estimé à 589 millions de dollars, alors que 1,1 milliard de dollars seraient nécessaires pour stabiliser ce secteur,** dont 258 millions de dollars pour les dépenses de fonctionnement (selon l'hypothèse d'afflux de base). L'infrastructure du pays (entendue comme incluant l'eau et l'assainissement, les services municipaux, l'électricité et le transport pour les besoins du présent rapport), qui était déjà sérieusement mise à mal, n'était pas préparée à faire face à une utilisation accrue résultant de l'augmentation considérable du nombre de réfugiés. Déjà minés par des contraintes de ressources et de capacités, les administrations et les établissements locaux et municipaux sont lourdement affectés par la crise, eux qui doivent à présent étendre les services de base et satisfaire les besoins immédiats aussi bien des réfugiés que de la population hôte. Les tableaux 1 et 2 présentent une répartition sectorielle de l'évaluation de ces impacts et des besoins de stabilisation. Des tableaux détaillés recensant les différentes



composantes d'évaluation de l'impact et des besoins de stabilisation sont inclus au début de chaque chapitre consacré à un secteur.

- **Peinant déjà avant la crise à établir un équilibre entre l'augmentation des approvisionnements et la gestion de la demande, les réseaux d'approvisionnement en eau et d'assainissement doivent désormais faire face à une demande additionnelle d'eau estimée à 26,1 millions de m<sup>3</sup>/an**, ce qui équivaut à 7 pourcent de la demande d'avant la crise. L'impact budgétaire cumulé sur la période 2012-2014 se monte à près de 18 millions de dollars (prévisions d'afflux de base). Entre 2012 et 2014, on estime qu'il faudra 340 à 375 millions de dollars pour des interventions de stabilisation destinées à ramener les services d'approvisionnement en eau et d'assainissement à leurs niveaux d'avant la crise pour les populations hôtes et les réfugiés. Il s'agit notamment des services suivants : 1) interventions d'aide humanitaire comme la distribution de l'eau en bouteille et dans des citernes, de kits de désinfection au chlore et de réservoirs de stockage aux populations les plus vulnérables ; 2) coûts additionnels d'équipement, d'exploitation et d'entretien, fourniture d'équipements urgents et investissements additionnels à court terme pour réhabiliter les dispositifs d'approvisionnement en eau ; et 3) accélération des investissements et des réformes institutionnelles dans le secteur des infrastructures — installations de stockage et de transfert, remise en état et remplacement du réseau de distribution, traitement de l'eau et des eaux usées, et expansion et amélioration des systèmes d'irrigation.
- **L'accroissement soudain et rapide de la demande et de l'utilisation des systèmes de gestion des déchets solides et des services municipaux par les réfugiés syriens entraîne une baisse tangible du niveau et de la qualité des prestations.** Les collectivités locales et les municipalités libanaises dépendent largement des transferts de l'administration centrale, ont une base étroite de recettes locales et des besoins d'investissement accumulés qui dépassent de loin les ressources disponibles. La production de déchets solides a doublé dans plusieurs localités, contribuant à la contamination des eaux souterraines, la pollution des ressources en eau et la propagation de maladies d'origine hydrique. Selon les prévisions, les municipalités devraient enregistrer une baisse importante aussi bien de leurs recettes que de leurs dépenses en 2013 et 2014, ce qui va réduire davantage leur capacité à fournir des services de base et à financer l'entretien minimal de leurs installations déjà vétustes. L'impact budgétaire cumulé sur la période 2012-2014 atteint 71 millions de dollars (hypothèse d'afflux de base). On estime qu'il faudra 193 à 206 millions de dollars pour les interventions visant à stabiliser le secteur municipal entre 2012 et 2014, y compris notamment : 1) la fermeture et la réhabilitation des décharges ouvertes et non contrôlées de déchets ménagers ; 2) la mise en place d'unités de compostage, de séparation et d'enfouissement ; et 3) la fourniture d'une aide financière aux municipalités hôtes pour couvrir les dépenses additionnelles d'investissement et de fonctionnement escomptées.
- **La demande accrue d'électricité résultant de l'afflux de réfugiés syriens est estimée à 213 mégawatts (MW) d'ici à la fin 2013, et de l'ordre de 251 à 362 MW en fin 2014**, selon les prévisions d'afflux de réfugiés. Même avant le déclenchement de la crise syrienne, le secteur de l'électricité au Liban avait une capacité installée insuffisante, un déficit d'efficacité, des pertes importantes et des carences en termes d'infrastructures qui se traduisaient par un manque de fiabilité, des niveaux d'approvisionnement insuffisants et des délestages considérables. Le coût budgétaire actuel de l'approvisionnement des réfugiés en électricité est estimé à 170 millions de dollars pour 2013 et 314 à 393 millions de dollars pour 2014, en fonction des prévisions d'afflux de réfugiés. Pour revenir aux niveaux de services offerts aux populations libanaises avant la crise et satisfaire les besoins des réfugiés, les interventions requises sont, entre autres : 1) des investissements dans la capacité de production et les réseaux associés de transmission et de distribution ; et 2) le renforcement des capacités institutionnelles et l'assistance technique pour la

préparation et la mise en œuvre de projets. On estime entre 310 et 440 millions de dollars le montant des financements requis d'ici la fin 2014 pour les interventions de stabilisation.

- **Dans les régions accueillant un nombre important de réfugiés comme Akkar, Zahle et Ba'albeck, le trafic va plus que doubler sur certains axes routiers, suscitant des accidents et la dégradation rapide du réseau.** D'une manière générale, le réseau de transport libanais est dans un état médiocre et délabré et a dépassé le seuil de saturation, particulièrement dans la zone du Grand Beyrouth. Si la crise syrienne n'a pas eu d'impact budgétaire direct sur les dépenses de l'État dans le secteur du transport, ses retombées sont néanmoins les suivantes : 1) l'accroissement de l'usure de la route et du réseau de transport ; 2) l'augmentation substantielle du volume du trafic entraînant des embouteillages ; et 3) la quasi-interruption du secteur du transit libanais en plein essor, particulièrement l'activité de fret. Dans la zone du Grand Beyrouth, le trafic va connaître une augmentation de 15 à 25 %, ce qui pourrait réduire les vitesses et rallonger la durée des voyages d'environ 20 à 30 % aux heures de pointe. Les services de transport de transit ont rétréci de plus de 65 % à la faveur de la crise, notamment le camionnage libanais. Pour rétablir les performances du secteur du transport à leurs niveaux d'avant la crise, il faut investir entre 246 et 525 millions de dollars durant la période 2013-2014, selon les hypothèses respectives de faible et fort afflux de réfugiés. Ces investissements peuvent être regroupés dans les catégories suivantes : 1) préservation du patrimoine, dont entretien accru des routes ; 2) augmentation des capacités, notamment par la reconstruction, l'élargissement et l'expansion du réseau ; 3) solutions de transport public comme le transport de masse.

Pour conclure :

- x. ***Les effets et les coûts de stabilisation importants qui ne cessent d'augmenter sont insoutenables au regard des faiblesses budgétaires du Liban et doivent faire l'objet de mesures immédiates.*** Avec un ratio d'endettement de 134 pourcent du PIB en 2012 et un déficit budgétaire global de 8,6 pourcent du PIB, le Liban ne peut pas — et ne devrait pas être tenu de — supporter tout seul et de façon continue l'impact et les coûts de stabilisation décrits plus haut.
- xi. ***Qui plus est, le conflit syrien a plus généralement mis à mal le tissu social et l'équilibre intercommunal déjà fragiles au Liban.*** Comme on peut le voir tout au long du rapport, l'encombrement, la saturation des services de base et la concurrence pour l'emploi figurent parmi les causes profondes de la détérioration des relations sociales entre les populations hôtes et les réfugiés. Pour réduire les conséquences négatives de cette crise sur les plans économique et social, il importe de préserver et promouvoir le renforcement de la cohésion sociale.
- xii. ***Bien que le présent rapport vise à quantifier l'impact et les coûts de stabilisation du conflit syrien, plusieurs options pourraient diminuer considérablement les coûts imposés au Liban.*** Celles-ci incluent des financements externes de la communauté internationale et l'adoption de réformes en vue d'améliorer l'efficacité des prestations des services publics. Dans la pratique, il faudra probablement combiner plusieurs options. Une cohésion sociale durable doit aussi être recherchée à travers l'investissement dans des mécanismes, des procédures et des capacités d'atténuation des conflits à tous les niveaux, et par le biais de programmes qui tiennent compte des conflits.

Tableau 1 : Évaluation quantitative de l'impact du conflit syrien sur le Liban

|   | 2012   | 2013   | 2014   |  | Données<br>cumulées pour<br>2012/14              |
|---|--------|--|--|--|--|
|   |        |  | Afflux des<br>réfugiés -<br>hypothèse de<br>base | Afflux des<br>réfugiés -<br>hypothèse<br>haute | Afflux des<br>réfugiés -<br>hypothèse de<br>base |
|   |        | (en millions de livres libanaises )                |  |  |  |
| Évaluation de l'impact  | 94 343 | 475 745  | 781 984  | 973 041  | 1 352 072  |
| L'impact sur le développement humain et social  | 62 032 | 162 754  | 238 801  | 287 807  | 463 587  |
| Santé   | 9 088  | 57 999   | 71 688   | 103 705  | 138 775  |
| Éducation   | 43 994 | 95 206   | 153 113  | 184 102  | 292 313  |
| Pauvreté et filets de sécurité sociale 1/   | 8 950  | 9 550  | 14 000   | ...  | 32 500   |
| L'impact sur les infrastructures  | 32 311 | 312 991  | 543 183  | 685 235  | 888 485  |
| Électricité   | 24 120 | 256 275  | 473 355  | 592 448  | 753 750  |
| Eau et assainissement   | 8 191  | 7 571  | 11 337   | 14 698   | 27 099   |
| Gestion des déchets solides et services municipaux  | -      | 49 145   | 58 491   | 78 089   | 107 636  |
|   |        | (en millions de dollars)                           |  |  |  |
| Évaluation de l'impact  | 63     | 316  | 519  | 645  | 897  |
| L'impact sur le développement humain et social  | 41     | 108  | 158  | 191  | 308  |
| Santé   | 6      | 38   | 48   | 69   | 92   |
| Éducation   | 29     | 63   | 102  | 122  | 194  |
| Pauvreté et filets de sécurité sociale 1/   | 6      | 6  | 9  | ...  | 22   |
| L'impact sur les infrastructures  | 21     | 208  | 360  | 455  | 589  |
| Électricité   | 16     | 170  | 314  | 393  | 500  |
| Eau et assainissement   | 5      | 5  | 8  | 10   | 18   |
| Gestion des déchets solides et services municipaux  | -      | 33   | 39   | 52   | 71   |
|   |        | (en pourcentage du PIB, sauf indication contraire) |  |  |  |
| Évaluation de l'impact  | 0,1    | 0,7  | 1,1  | 1,4  | 1,9  |
| L'impact sur le développement humain et social  | 0,1    | 0,2  | 0,3  | 0,4  | 0,7  |
| L'impact sur les infrastructures  | 0,0    | 0,5  | 0,8  | 1,0  | 1,3  |
| L'impact économique (secteurs public et privé; en pourcentages)                             | -2,9   | -2,9   | -2,9   | -2,5   | ...  |
| Taux de croissance du PIB réel: Pas de retombées du conflit syrien (en pourcentages)        | 4,3    | 4,4  | 4,4  | 4,4  | ...  |
| Taux de croissance du PIB réel: Réel et prévisionnel (en pourcentages)                      | 1,4    | 1,5  | 1,5  | 1,9  | ...  |
| L'impact budgétaire (variation du solde budgétaire global résultant de l'impact du conflit) | 1,1    | 2,1  | 2,6  | 2,6  | 5,8  |
| Recettes: manque à gagner résultant de l'impact du conflit                                  | 0,9    | 1,3  | 1,3  | 1,0  | 3,4  |
| Dépenses: manque à gagner résultant de l'impact du conflit                                  | 0,2    | 0,9  | 1,3  | 1,6  | 2,4  |
|   |        | (en millions de dollars)                           |  |  |  |
| Pour mémoire :  |        |  |  |  |  |
| PIB nominal (réel et prévisionnel)  | 42 945 | 45 203   | 47 230   | 47 408   | ...  |
| PIB nominal (hypothèse contradictoire: aucune retombée du conflit syrien)                   | 44 088 | 47 662   | 51 157   | 51 157   | ...  |

Source : Calculs et prévision de la Banque mondiale.

1/Aucune hypothèse haute n'a été prise en compte pour la pauvreté et les filets de sécurité sociale en 2014.

Tableau 2 : Évaluation quantitative des besoins de stabilisation résultant de l'impact du conflit syrien sur le Liban

|  | 2012                                | 2013      | 2014   |  | Données<br>cumulées pour<br>2012/14              |
|--|-------------------------------------|-----------|--|--|--|
|  |                                     |           | Afflux des<br>réfugiés -<br>hypothèse de<br>base | Afflux des<br>réfugiés -<br>hypothèse<br>haute | Afflux des<br>réfugiés -<br>hypothèse de<br>base |
|  | (en millions de livres libanaises ) |           |  |  |  |
| Évaluation des besoins de stabilisation            | 309 734                             | 1 237 495 | 2 205 928  | 3 145 052                                      | 3 753 157  |
| L'impact sur le développement humain et social     | 237 373                             | 643 389   | 1 230 226  | 1 480 770                                      | 2 110 988  |
| Santé  | 56 578                              | 267 031   | 326 018  | 461 271  | 649 626  |
| Éducation  | 145 692                             | 275 245   | 524 903  | 654 999  | 945 840  |
| Emploi et moyens de subsistance 1/                 | ...                                 | ...       | 250 875  | 364 500  | 250 875  |
| Pauvreté et filets de sécurité sociale 2/          | 35 103                              | 101 114   | 128 430  | ...  | 264 647  |
| Infrastructure                                     | 72 361                              | 594 106   | 975 702  | 1 664 282                                      | 1 642 169  |
| Électricité  | 58 793                              | 322 605   | 85 928   | 281 903  | 467 325  |
| Eau et assainissement                              | 8 141                               | 133 866   | 370 893  | 422 854  | 512 890  |
| Gestion des déchets solides et services municipaux | 5 427                               | 72 511    | 212 859  | 232 607  | 290 797  |
| Infrastructure de transport                        | 0                                   | 65 125    | 306 023  | 726 918  | 371 148  |
| Current spending                                   | 205 003                             | 641 581   | 1 156 239  | 1 370 995                                      | 2 002 823  |
| Capital spending                                   | 104 731                             | 595 913   | 1 049 690  | 1 774 056                                      | 1 750 334  |
|  | (en millions de dollars)            |           |  |  |  |
| Évaluation des besoins de stabilisation            | 205                                 | 821       | 1 463  | 2 086  | 2 490  |
| L'impact sur le développement humain et social     | 157                                 | 427       | 816  | 982  | 1 400  |
| Santé  | 38                                  | 177       | 216  | 306  | 431  |
| Éducation  | 97                                  | 183       | 348  | 434  | 627  |
| Emploi et moyens de subsistance 1/                 | ...                                 | ...       | 166  | 242  | 166  |
| Pauvreté et filets de sécurité sociale 2/          | 23                                  | 67        | 85   | ...  | 176  |
| Infrastructure                                     | 48                                  | 394       | 647  | 1 104  | 1 089  |
| Électricité  | 39                                  | 214       | 57   | 187  | 310  |
| Eau et assainissement                              | 5                                   | 89        | 246  | 281  | 340  |
| Gestion des déchets solides et services municipaux | 4                                   | 48        | 141  | 154  | 193  |
| Infrastructure de transport                        | 0                                   | 43        | 203  | 482  | 246  |
| Dépenses de fonctionnement                         | 136                                 | 426       | 767  | 909  | 1 329  |
| Dépenses d'investissement                          | 69                                  | 395       | 696  | 1 177  | 1 161  |
|  | (en pourcentage du PIB)             |           |  |  |  |
| Évaluation des besoins de stabilisation            | 0,5                                 | 1,8       | 3,1  | 4,4  | 5,4  |

Source : Calculs et prévision de la Banque mondiale.

1/ Les coûts de stabilisation proposés pour 2014 dans l'hypothèse de base et l'hypothèse haute incluent les besoins pour 2013

2/ Aucune hypothèse haute n'a été prise en compte pour la pauvreté et les filets de sécurité sociale en 2014.

## تقييم تداعيات الأزمة السورية على الوضع الاقتصادي والاجتماعي في لبنان

## المخلص التنفيذي

i. بناء على طلب من الحكومة اللبنانية، قام البنك الدولي بالتعاون مع منظمات الامم المتحدة، والاتحاد الاوروبي، وصندوق النقد الدولي بتقييم عاجل لتداعيات الأزمة السورية على الوضع الاقتصادي والاجتماعي في لبنان خلال الفترة الزمنية الممتدة بين 2012-2014. يقتصر الجزء الأول من التقييم على تحديد حجم تداعيات هذه الأزمة على لبنان والحاجات الطارئة لإعادة تصويب الوضع الاقتصادي والاجتماعي ولتمكين القطاعات الرئيسة من إعادة تثبيت الاستقرار في أجهزتها التنفيذية إلى مستوى قبل الأزمة السورية. وبناءً على الأولويات التي تم تحديدها من قبل الحكومة، سوف تقوم المرحلة الثانية من التقرير بتسليط الضوء على التوصيات المتعلقة بالسياسات والبرامج والمشاريع التي يمكن اعتمادها بهدف الحد من الإنعكاسات السلبية للأزمة السورية على لبنان.

ii. يختلف هذا التقييم في أوجه عدة عن غيره من الدراسات التحليلية النموذجية، وذلك بسبب طبيعة الصدمة التي يواجهها لبنان. نذكر أبرز تلك الاختلافات: (1) استمرار الصدمة، حيث أن لبنان كان، وما يزال، معرضاً للإرتدادات الناجمة عن الصراع المتواصل في بلد مجاور، لكنه لا يُعتبر في حالة ما بعد وقوع كارثة، أو في حالة ما بعد نشوب صراع؛ (2) مقدار الصدمة غير مؤكد، سواء من حيث المدة الزمنية أو الحجم: فبدية ملامح الإرتدادات متشعبة، وتبقى نهايتها غير معروفة، أما تحديد حجم الصدمة فيعتمد بشكل كبير على شدة النزاع (المستمر) في سوريا؛ (3) الصدمة مؤقتة: حيث أن لبنان لا يواجه صدمة دائمة من جراء كارثة طبيعية أو حرب مباشرة؛ و(4) لم ينجم عن هذه الصدمة أضرار مادية على البنية التحتية والوحدات السكنية ورؤوس الأموال المادية والبشرية، بل تمثلت الخسائر في الحركة الاقتصادية، والإيرادات، وصعوبة الحصول على الخدمات العامة وتدني نوعيتها. وقد تم إنجاز هذا التقييم العاجل بناء على طلب من الحكومة اللبنانية ضمن مهلة زمنية قصيرة جداً تزامناً مع تدهور الوضع. يتسم هذا التقرير بالشمولية من ناحية تقييم التداعيات الاقتصادية الإجمالية، كما أنه يتطرق بشكل تفصيلي إلى القطاعات التي تم إختيارها بناءً على مدى تأثرها بالأزمة. ولا يتناول التقرير الإنعكاسات الأمنية على الوضع في لبنان التي تقوم بتقييمها المنظمات والوكالات المختصة.

iii. إتّسمت الإنعكاسات الأولية للأزمة السورية بشكل أساسي بطابع إنساني يتعلق بتدفق اللاجئين إلى لبنان. يعتمد لبنان منذ إندلاع الأزمة السورية سياسة الحدود المفتوحة والسماح للنازحين بالإستقرار المؤقت بحرية في كافة أرجاء البلاد. وقام المجتمع الدولي، عبر المفوضية العليا للأمم المتحدة لشؤون اللاجئين ومنظمات الأمم المتحدة المعنية، بمباشرة عملياته بشكل طارئ لمساعدة لبنان على التأقلم مع التداعيات الإنسانية لنزوح اللاجئين. منذ آب/أغسطس 2013، ازدادت حدة النزوح بشكل كبير - لتبلغ 914 ألف نازح، أي ما يوازي 21 بالمئة من إجمال عدد سكان لبنان ما قبل الأزمة - مما أدى إلى أكبر عملية إغاثة إنسانية طارئة من نوعها منذ عقود. وبناءً على مجريات الأحداث الحالية، من المتوقع وصول حوالي 1.3 مليون نازح إلى لبنان نتيجة الأزمة السورية مع حلول أواخر عام 2013 (كما هو معروض في مخطط الاستجابة الخامس في حزيران/يونيو 2013). لكن توقعات العام 2013 ما زالت غير مؤكدة، حيث أنها تبقى عرضة للتغيرات. فبهدف الوصول إلى أقرب مستوى من الدقة، تم دراسة سيناريوهين. بحسب القاعدة المعيارية للسيناريو الأول، من المتوقع دخول 1.6 مليون نازح إلى لبنان حتى نهاية العام 2014 (أي 37 بالمئة من اجمال سكان لبنان ما قبل الأزمة). وبهدف التوضيح وتحليل مقدار الحساسية، فقد تم أيضاً استخدام السيناريو الذي يعتمد على الاحتمالية الأدنى ذات الأثر الأكبر (السيناريو الأعلى لتدفق اللاجئين المرتفع).

iv. انتقلت إرتدادات الأزمة السورية بشكل سريع لتأخذ طابعاً آخر إلى جانب الطابع الإنساني، حيث لمست الجوانب الاقتصادية والاجتماعية. فقد تأثر لبنان سلباً وبشكل كبير ومنتام من جراء الأزمة السورية. كخلاصة، يجد هذا التقرير أن خلال الفترة الممتدة بين 2012-2014 سوف يؤدي الصراع إلى (1) خفض معدل النمو الحقيقي في إجمالي الناتج المحلي اللبناني بنحو 2.9 نقطة مئوية لكل سنة تستمر فيها الأزمة، فينتج عن ذلك خسائر كبيرة في نسبة الأجور، والأرباح، والضرائب، والإستهلاك الفردي، والإستثمار؛ (2) ودفع حوالي 170 ألف مواطن لبناني نحو مستوى الفقر (ذلك إضافة إلى مليون لبناني يعيشون حالياً دون مستوى خط الفقر) ومضاعفة نسبة البطالة إلى ما يزيد عن 20 بالمئة، حيث تكون العمالة الشابة غير الماهرة الأكثر عرضة؛ (3) وتقليص قدرة الحكومة على تحصيل الإيرادات بشكل ملحوظ، أي بقيمة 1.5 مليار دولار أميركي، كما في المقابل سوف يرتفع الإنفاق العام إلى 1.1 مليار دولار أميركي بسبب الزيادة الحادة في الطلب على الخدمات العامة، دافعة بذلك التدايعات المالية الإجمالية إلى 2.6 مليار دولار أميركي. ففي الوقت الراهن، يجري تلبية الزيادة في الطلب على جميع الخدمات العامة بشكل جزئي، حيث تراجعت إمكانية الحصول على الخدمات العامة وتدنّت نوعية الخدمات المتوفرة. ويقدر التقرير بأن القيمة الإجمالية المطلوبة في ما يخص الإنفاق العام لإعادة تصويب الوضع وإعادة تثبيت الإستقرار في أجهزة الخدمات العامة (أي لإعادة نوعية الخدمات وسهولة الحصول عليها إلى مستوى ما قبل نشوب النزاع في سوريا) بـ 2.5 مليار دولار.

v. إن الصراع القائم في سوريا - هذا البلد الذي يرتبط بشكل وثيق بلبنان على المستويات التاريخية، والاجتماعية، والاقتصادية - يؤثر سلباً وبشكل حاد على الإقتصاد اللبناني. ويقدر الإنخفاض في معدل النمو الحقيقي في إجمالي الناتج المحلي اللبناني بنحو 2.9 نقطة مئوية لكل عام من سنوات الصراع، مما سوف يؤدي إلى خسائر تراكمية في الناتج المحلي تقدر بمليارات الدولارات خلال الفترة التي يركز عليها هذا التقرير (2012-2014) - الجدول 1. أما العامل الأهم فهو التدهور في الوضع الأمني في لبنان وتوسع أبعاد عدم الإطمئنان، مما سوف يؤثر سلباً وبشكل حاد على ثقة المستثمرين والمستهلكين. كما ينجم عن التراجع في النشاط الإقتصادي ضغوط كبيرة على الإيرادات الحكومية، وإذا ما تزامن ذلك مع زيادة في الطلب على الخدمات العامة نتيجة التدفق الكبير للاجئين، سوف يؤدي حتماً المالية العامة التي تعاني أصلاً من ضعف في هيكلتها.

vi. كما تظهر إنعكاسات الصراع في سوريا بشكل بارز في القطاع التجاري، إذ تأثرت التبادلات التجارية في ما يخص السلع والخدمات، وبالأخص القطاع السياحي الذي شهد ازدهاراً قبل الأزمة. فلبنان الذي يتسم إقتصاداه بقطاع تجاري واسع، يتأثر بشكل ملحوظ بالأزمة السورية، ليس فقط بسبب الدور الذي تلعبه سوريا كشريك تجاري هام، بل أيضاً لأنها تؤمن الممرات التجارية التي يستفيد منها لبنان. فقد تأثرت تلك الممرات إلى حد كبير وتضاعفت المخاطر على الصادرات في مجال الخدمات، ولاسيما في قطاع السياحة. كما يتكبد لبنان خسائر ملموسة نتيجة الإنخفاض المستمر في عدد الزوّار منذ عام 2010. وقد شهد النصف الأول من عام 2013 تراجعاً حاداً في مستوى النشاط التجاري، ولاسيما في ما يتعلق بتبادل المنتجات الغذائية والسلع الإستهلاكية. لطالما كان لبنان يستورد المواد الغذائية من سوريا، بيد أنه سجل أول فائض له في مجال تجارة الأغذية عام 2012، ما تسبب في إرتدادات عكسية، حيث أدى هذا الإرتباك في نمط النشاط التجاري إلى رفع الأسعار المحلية لبعض السلع الأساسية (كالطحين أو دقيق القمح)، وذلك ينعكس سلباً على مستوى الرفاه الإجتماعي، وبالأخص على الأسر الفقيرة.

vii. لقد ظهر ضعف هيكلية المالية العامة في لبنان قبل نشوب الصراع في سوريا، وما هي الآن تتعرض لضغوطات حادة، إذ يقدر إتساع عجز الموازنة بنحو 2.6 مليار دولار أميركي خلال الفترة الممتدة بين 2012 و2014. فبعد نصف عقدٍ من النمو الناشط، شهد لبنان إنخفاضاً ملحوظاً في نسبة الديون إلى إجمالي الناتج المحلي، من 180 بالمئة عام 2006 إلى 134 بالمئة منذ نشوب الصراع في سوريا عام 2011. وقد ساهمت التقلبات الدورية إلى حدٍ بعيد في دعم وضع المالية العامة، لكن الإصلاحات الهيكلية التي تم الإتفاق عليها في مؤتمر باريس 3 ما زالت قيد التنفيذ. إن الصدمة من جراء الأزمة السورية تلقي بكل ثقلها على



المالية العامة في لبنان، حيث يواجه هذا القطاع ضغوطاً هائلة ومتصاعدة. فمن جهة الإيرادات، إن الخسائر الناتجة عن النزاع سوف تؤدي إلى تقليص ما يقارب الـ 1.5 مليار دولار أميركي من مجموع تحصيل الإيرادات بين الفترة 2012-2014 وذلك بسبب تأثيرها بشكل مباشر بعوامل القطاعات الرئيسية (قطاع السياحة)، وبشكل غير مباشر بالعوامل الناتجة عن ضعف النشاط الاقتصادي. أما من جهة النفقات، فإن الإنفاق العام لميزانية الدولة الإجمالية سوف يزداد ليبلغ 1.1 مليار دولار أميركي بين 2012-2014 بسبب الأزمة وما يرتبط بها من ارتفاع حاد في الطلب على الخدمات العامة ونسبة الإستهلاك من قبل اللاجئين السوريين. إن إتساع عجز الموازنة، وإنخفاض النمو الاقتصادي، وارتفاع أسعار الفائدة بسبب المخاطر الناتجة عن الصراع السوري قد أدى إلى تقليص ما حققه لبنان من تقدم ملحوظ في خفض نسبة الدين إلى إجمالي الناتج المحلي: فللمرة الأولى منذ العام 2006، عادت نسبة الدين العام في لبنان إلى الارتفاع في العام 2012، ومن المتوقع أن تتصاعد خلال عام 2014.

**viii. تُقدر التكلفة المالية لتداعيات الأزمة السورية على قطاع الصحة، والتعليم، وشبكات الأمان الاجتماعي بما يتراوح بين 308 مليون و 340 مليون دولار أميركي خلال الفترة الزمنية 2012-2014، أما الموارد المالية المطلوبة لإعادة تثبيت نوعية الخدمات عند مستوى ما قبل الأزمة فيتراوح بين 1.4 مليار و 1.6 مليار دولار أميركي (أي بين 3 و 3.4 بالمئة من إجمالي الناتج المحلي)، من ضمنها ما بين 166 مليون و 242 مليون دولار أميركي لخلق فرص عمل على المدى القريب (جدول 1 وجدول 2). كما من المتوقع أن تؤثر الأزمة السورية سلباً على مستويات الفقر، والرفاه الاجتماعي، والأوضاع الصحية، والموارد البشرية. ومن المحتمل أن تتسع مكان الفقر بحلول نهاية عام 2014 وأن تدفع الأزمة السورية بنحو 170 ألف مواطن لبناني إلى خط الفقر، ذلك إضافة إلى مليون مواطن لبناني يعيشون حالياً تحت خط الفقر. كما أنه من المتوقع ارتفاع عدد العاطلين عن العمل بما يتراوح بين 220 ألف و 324 ألف مواطن، وأغلبهم من فئة الشباب ذوي الكفاءات المحدودة، مما سوف يتسبب في مضاعفة نسبة البطالة إلى مستوى يفوق الـ 20 بالمئة. فتدفع اللاجئين السوريين يمثل تحدياً في وجه قطاع الخدمات الاجتماعية العامة الذي يعتبر ضعيف أصلاً في لبنان، ويزيد من حدة التوتر الاجتماعي المتصاعد بين اللاجئين والمجتمعات المحلية المضيفة، بما في ذلك إعادة طرح قضايا المساواة بين الجنسين.**

- إن زيادة الطلب على الخدمات الصحية نتيجة للأزمة السورية قد أدى إلى إرهاب القطاع الصحي في لبنان، وبرز وقع الأزمة على القطاع الصحي عبر: (1) زيادة الطلب على الخدمات الصحية؛ (2) وتزايد المستحقات غير المدفوعة من قبل وزارة الصحة العامة إلى المستشفيات؛ (3) والنقص في عدد العاملين في مجال الصحة بمن فيهم الأطباء الاختصاصيين والممرضين؛ (4) والارتفاع الحاد في حالات الأمراض المعدية (فقد إزداد عدد الإصابات بمرض الحصبة من 9 إصابات في 2012 إلى 1456 إصابة في 2013) وانتشار أمراض جديدة كداء الليشمانيات (420 حالة)؛ (5) وتكاثر مخاطر انتشار الأوبئة كالأمراض المنقولة مائياً، والحصبة، ومرض السل. فالإكتظاظ البشري، والنقص في المياه، وضعف البنية التحتية الصحية، والعوامل البيئية الرديئة تزيد من أخطار إنتقال العدوى، كما تبين من خلال إنتشار القمل والجرب بين اللاجئين. وبناءً على ذلك، فقد إرتفع الطلب على الخدمات الصحية بشكل ملحوظ خلال الأشهر الماضية - ففي شهر كانون الأول/ديسمبر 2012 شكلت الإستشارات الصحية الأساسية للنازحين السوريين 40 بالمئة من إجمالي الإستشارات الطبية. ويؤدي تضخم الطلب على العلاج الإستشفائي إلى إكتظاظ المستشفيات وإضعاف نوعية الخدمات الطبية، مما يتسبب في زيادة العبء المالي على المستشفيات، وارتفاع الكلفة الصحية، وتزايد النقص في الأدوية. أما على المدى المتوسط والطويل فسوف يؤدي التأخير في الخدمات الصحية إلى إنتشار المزيد من الأمراض، وبالأخص بين الفئات الأكثر ضعفاً. وتُقدر كلفة تداعيات الأزمة على القطاع الصحي بـ 38 مليون دولار أميركي في عام 2013، و بين 48 مليون و 69 مليون دولار أميركي خلال العام 2014، وذلك يعتمد على التوقعات المتعلقة بتوافد اللاجئين إلى لبنان. وتقدر التكاليف الصحية المطلوبة لإعادة تثبيت نوعية الخدمات الصحية وسهولة الحصول عليها إلى مستوى ما قبل الأزمة في سوريا بـ 177 مليون دولار

أميركي في عام 2013، و بين 216 مليون و 306 مليون دولار أميركي سنة 2014، بحسب التوقعات المتعلقة بنزوح اللاجئين السوريين.

- لقد زاد الطلب على خدمات قطاع التعليم من جراء تزايد عدد اللاجئين السوريين الأطفال، مما يؤدي إلى تصاعد التكاليف المالية، ويؤثر على المستوى التعليمي، ويخلق الحاجة إلى وسائل تربوية غير رسمية. كانت نسبة التسجيل في التعليم الأساسي في لبنان خلال العقد الماضي ثابتة وقد فاقت الـ 90 بالمئة، على مستوى متوازن بين الجنسين. وبالرغم من أن قدرة المدارس العامة على إستيعاب الطلاب تقتصر فقط على 30 بالمئة من إجمالي التلاميذ، فقد كانت تلبي أغلبية حاجات الطلاب الذين ينتمون إلى الفئات الاجتماعية ذات الدخل المحدود. فمع بداية الأزمة السورية وتدفق اللاجئين إلى البلاد، وقّرت وزارة التربية والتعليم العالي لللاجئين إمكانية الإنتساب إلى نظامها التربوي العام خلال السنة الدراسية 2012. وتم إستيعاب 40 ألف طفل لاجيء في المدارس العامة بكلفة بلغت 29 مليون دولار أميركي. أما التكاليف الإضافية والتي بلغ حجمها 24 مليون دولار أميركي فقد تولت تغطيتها وكالات الامم المتحدة. وقد تتصاعد التكاليف المتعلقة بالخدمات التربوية في العام الدراسي القادم حيث يتوقع تسجيل 90 ألف لاجيء، ومن المحتمل أن يزداد هذا العدد بين 140 ألف و 170 ألف لاجيء في 2014. إن الرقم الأخير (أي 170 ألف) يشكل 57 بالمئة من طلاب المدارس العامة في لبنان. لذلك، فإن الموارد المالية المطلوبة لإعادة تثبيت خدمات وزارة التربية والتعليم العالي إلى مستوى ما قبل الأزمة في سوريا تبلغ 183 مليون دولار أميركي للعام 2013، وما بين 348 مليون و 434 مليون دولار أميركي في 2014، بحسب التوقعات المعتمدة بالنسبة لتدفق اللاجئين السوريين. ولا تعكس هذه الأرقام نسبة الـ 65 بالمئة من اللاجئين الذين من غير المتوقع أن ينتسبوا إلى الأجهزة التربوية الرسمية، مما يؤدي إلى خلق الحاجة للحصول على التعليم عبر الوسائل غير الرسمية (خارج المدارس)، فمن الضروري السيطرة على الحالات المتعلقة بعمالة الأطفال والإنعكاسات المجتمعية السلبية الأخرى.

- من المتوقع أن تتسع مكانم الفقر بحلول نهاية عام 2014 نتيجة لتدفق اللاجئين السوريين إلى لبنان، حيث ستدفع الأزمة بنحو 170 ألف مواطن لبناني إلى مستوى الفقر، في حين سوف تتفقم سبل العيش بالنسبة للفقراء الحاليين حيث يزداد الفقر عمقاً. تبين المؤشرات أن نسبة الفقر في لبنان كانت عالية ما قبل نشوب الأزمة في سوريا، كما تبين الأرقام التفاوت المناطقي الحاد في مستويات المعيشة. وبحسب التقديرات، يبلغ عدد الفقراء في لبنان ما يقارب المليون مواطن (ممن يعيشون على أقل من 4 دولار أميركي في اليوم). كما إستمست شبكات الأمان الاجتماعية بالضعف والتشتت وسوء الإستهداف، ولهذه الأسباب باشرت وزارة الشؤون الاجتماعية بتنفيذ الإصلاحات اللازمة في نظام شبكات الأمان الاجتماعية. وقد لاحظت الوزارة المذكورة إرتفاع نسبة مستخدمي برامجها الصحية والاجتماعية إلى حوالي 40 بالمئة. أما من حيث إعادة تصويب الخدمات الاجتماعية إلى المستوى المطلوب من حيث النوعية وسهولة الحصول عليها فيتطلب حوالي 176 مليون دولار حتى نهاية عام 2014. من ضمن هذا المبلغ المطلوب ما لا يقل عن 50 مليون دولار أميركي لتوسيع نطاق البرنامج الوطني لدعم الأسر الأكثر فقراً، الذي يستهدف الفئات غير القادرة على إستيعاب أعباء الصدمات الإقتصادية.

- إنعكس تدفق اللاجئين السوريين أيضاً على الأوضاع الصعبة في سوق العمل، ومن المتوقع أن يؤدي إلى المزيد من البطالة والعمالة غير الرسمية. وكانت الأوضاع السائدة في سوق العمل في لبنان تتسم بالصعوبة قبل نشوب الأزمة السورية، إذ أن نسبة البطالة المرتفعة كانت تتأثر سلباً من جراء الخلل في سوق العمل بين المهارات والوظائف ذات الجودة والإنتاجية المتدنية. ومن المتوقع أن يؤدي تدفق اللاجئين السوريين إلى زيادة العرض في سوق العمل بما يتراوح بين 30 و 50 بالمئة، مع توقع الضرر الأكبر بين النساء والشباب والعمال ذوي المهارات المحدودة. كما قد تحدث هذه الزيادة الضخمة في عدد الباحثين عن فرص عمل خلاً كبيراً في سوق العمل. ويمكن أن يرتفع المعدل العام للبطالة والعمالة غير الرسمية إلى

10 نقاط مئوية. ويتطلب تحقيق الإستقرار في وضع سوق العمل تطبيق مجموعة شاملة من البرامج الرامية إلى تحسين مستوى المعيشة وفرص الأرباح على الأمد القصير، والتي قد توفر موارد مالية تتراوح بين 166 مليون و 242 مليون دولار أميركي.

ix. **تقدر التكلفة المالية للأزمة السورية على البنية التحتية خلال الفترة 2012-2014، بمبلغ 589 مليون دولار أميركي، في حين يتطلب تحقيق الإستقرار في هذا القطاع مبلغ قدره 1.1 مليار دولار أميركي، بما فيه 258 مليون دولار أميركي للنفقات الجارية (قاعدة معيارية للتدفق).** كانت البنى التحتية في لبنان (الصرف الصحي، وإدارة النفايات الصلبة، والخدمات البلدية، والكهرباء، والنقل) تعاني بالأساس من ضغوط جمة قبل إندلاع الأزمة السورية. لذلك كانت غير مهيأة أصلاً للتكيف مع تزايد الإستخدام الناجم عن الأعداد الكبيرة للاجئين. وقد نتج عن ذلك أعباء كبيرة تأثرت بها المجتمعات المحلية والبلديات التي كانت تعاني في الأساس من النقص في الموارد المالية والقدرات، وتجد نفسها الآن مضطرة إلى تقديم خدمات أساسية إضافية لتأمين إحتياجات اللاجئين ورعاية المواطنين اللبنانيين (جدول 1-2).

- **قطاع المياه والصرف الصحي، الذي كان يعاني بالفعل من تحديات كبيرة قبل الأزمة من جراء عدم التوازن بين الطلب على هذه الخدمات وإدارة القطاع، يواجه الآن طلبات إضافية على إمدادات المياه تُقدّر بنحو 26.1 مليون متر مكعب في السنة، أي ما يعادل 7 بالمئة من حجم الطلب قبل الأزمة.** ويبلغ حجم التأثيرات المالية التراكمية في الفترة الزمنية بين 2012-2014 ما يقارب 18 مليون دولار أميركي (قاعدة معيارية للتدفق). وخلال الفترة نفسها، سيتطلب الأمر توفير ما يُقدّر بما يتراوح بين 340 و 375 مليون دولار أميركي من أجل التدخلات الرامية إلى تحقيق الإستقرار كي تعود خدمات المياه والصرف الصحي إلى سابق عهدها قبل الأزمة سواء للاجئين أو المجتمعات المحلية التي تستضيفهم. ويتضمن ذلك: (1) تدخلات إغاثة إنسانية مثل توزيع المياه المعبأة في زجاجات أو خزانات، وأدوات للتنقية بالكلور وصهاريج تخزين من أجل الفئات غير القادرة على إستيعاب الصدمات؛ (2) وتوفير رأسمال إضافي لتغطية تكاليف التشغيل والصيانة، وتوفير المعدات اللازمة على وجه السرعة، وإقامة مرافق بنية تحتية إضافية قصيرة الأمد من أجل إصلاح البنية التحتية لمياه الشرب؛ (3) والإسراع في تأمين الإستثمار في مجال البنية التحتية وإدخال إصلاحات مؤسسية مثل البنية التحتية للتخزين والنقل، وإعادة تأهيل شبكة التوزيع وتجديدها، والتوسع في معالجة وتحسين مياه الشرب ومياه الصرف الصحي ومياه الري.

- **تدنى مستوى ونوعية إدارة النفايات الصلبة وخدمات البلديات بشكل واضح وملحوظ نتيجة الارتفاع الحاد والمفاجئ في الطلب على هذه الخدمات وإستخدامها من قبل اللاجئين السوريين.** تعتمد المجتمعات المحلية والبلديات في لبنان على تحويلات نقدية من الحكومة المركزية بشكل أساسي، كما أن قاعدة عائداتها المحلية ضعيفة، ولديها قائمة طويلة من الإحتياجات الإستثمارية التي تفوق الموارد المتوفرة بشكل كبير. لقد تضاعف حجم النفايات الصلبة في عدد من المناطق، ويساهم ذلك في تلوث المياه الجوفية والموارد المائية، كما في إنتشار الأمراض التي تنتقل عبر المياه. ومن المتوقع أن تشهد عائدات ونفقات البلديات على حد سواء نقصاً أساسياً في عامي 2013 و 2014. ومن شأن ذلك أن يزيد من محدودية قدرة البلديات على توفير الخدمات الأساسية وتمويل الحد الأدنى من أعمال الصيانة لأصولها المتهاكلة. وتبلغ التداعيات المالية المتراكمة خلال الفترة 2012-2014 على إدارة النفايات الصلبة 71 مليون دولار أميركي (وفق القاعدة المعيارية للتدفق). ومن المقدر أن تبلغ إحتياجات قطاع البلديات من أجل مبادرات حفظ إستقرار نسبي في هذه الخدمات ما بين 193 مليون و 206 مليون دولار أميركي خلال الفترة الزمنية 2012-2014 من أجل: (1) إغلاق وإعادة تأهيل مكبات النفايات الصلبة المكشوفة وغير الخاضعة للسيطرة، (2) وتشديد المنشآت لطمر النفايات، وفرزها، ودفنها، (3) ومد البلديات التي تستضيف اللاجئين بال دعم مالي من أجل تغطية النفقات التشغيلية والرأسمالية الإضافية المتوقعة.

• يقدر الطلب الإضافي على الكهرباء نتيجة توافد اللاجئين السوريين ما بين 231 ميغاوات بنهاية العام 2013، و251 إلى 362 ميغاوات بنهاية العام 2014، وفقاً لتقديرات عدد اللاجئين. يعاني قطاع الكهرباء في لبنان حتى قبل نشوب الأزمة السورية من ضعف ملحوظ في بنيته التحتية، مما أدى إلى ضعف كبير في خدمات الطاقة الكهربائية من جهة التغذية المتدنية وغير المنتظمة، إضافة إلى خسارات مالية فادحة وهدر كبير في الشبكة الكهربائية. وتُقدّر التكلفة المالية الحالية الإضافية لتوفير الكهرباء للاجئين بنحو 170 مليون دولار أميركي لعام 2013، وما بين 314 مليون و393 مليون دولار أميركي لعام 2014، حسب تقديرات توافد اللاجئين. ومن بين الإجراءات المطلوبة للعودة إلى مستويات خدمة الكهرباء للمواطنين اللبنانيين إلى مرحلة ما قبل الأزمة وتلبية احتياجات مجتمعات اللاجئين: (1) ضخ إستثمارات رأسمالية في طاقة التوليد وما يرتبط بها من شبكات النقل والتوزيع؛ (2) وتعزيز القدرات المؤسسية وتقديم المساعدة الفنية لإعداد المشروعات وتنفيذها. ومن المقدّر أن يتطلب الأمر ما بين 310 مليون و440 مليون دولار أميركي بحلول نهاية العام 2014 من أجل الإجراءات اللازمة لتحقيق الإستقرار في هذا القطاع والحد من تراجع خدماته.

• سوف تشهد المناطق التي تستقبل أعداداً كبيرة من اللاجئين، مثل عكار وزحلة وبيعلبك، زيادة في حركة المرور بنسبة تفوق 50 بالمئة على بعض الطرق، ما قد يؤدي إلى زيادة الحوادث وسرعة تدهور الشبكة. تتراوح حالة شبكة النقل في لبنان بشكل عام بين المعقولة والسيئة، فضلاً عن إزدحامها أكثر من طاقتها، ولاسيما في منطقة بيروت الكبرى. ومع أن الأزمة السورية لم يكن لها تأثير مالي مباشر على الإنفاق الحكومي في قطاع النقل، فقد أثر تزايد أعداد مستخدمي شبكات النقل من خلال: (1) زيادة إهتراء وتدهور جودة شبكة الطرق والنقل؛ (2) والإرتفاع الكبير في حركة المرور ما يسبب إزدحاماً ملموساً؛ (3) وتوقف شبه تام في نشاط الترانزيت اللبناني الذي كان متنعشاً، ولاسيما حركة الشحن. وسوف تشهد منطقة بيروت الكبرى زيادة في حركة المرور تتراوح نسبتها بين 15 و25 بالمئة، ما قد يؤدي إلى تخفيض السرعات وزيادة مدة النقل بما يتراوح بين 20 و30 بالمئة أثناء ساعات الذروة. وقد تقلصت خدمات شاحنات الترانزيت بنسبة تفوق 65 بالمئة في أعقاب نشوب الأزمة، وخاصة بالنسبة للشاحنات اللبنانية. ولكي يستعيد أداء قطاع النقل استقراره الذي كان عليه قبل نشوب الأزمة، يتطلب الأمر ضخ إستثمارات تتراوح بين 246 مليون و525 مليون دولار أميركي بين عامي 2013 و2014 حسب نسب أعداد اللاجئين الوافدين إلى لبنان. ويمكن تقسيم تلك الإستثمارات إلى الفئات التالية: (1) الحفاظ على الأصول في المقام الأول، بما في ذلك تعزيز صيانة الطرقات؛ (2) ورفع طاقة الطرقات بما في ذلك إعادة تشييد شبكات النقل القائمة وتوسيعها؛ (3) وإيجاد حلول للنقل العام كإنشاء محاور كبرى.

في النهاية:

x. إن التداعيات الكبيرة والمتنامية للأزمة السورية وتكاليف الإستقرار، سواءً على صعيد الإقتصاد والمالية العامة أو القطاعات الآتفة الذكر لفترة 2012-2014، غير مستدامة بالنسبة للبنان الذي يعاني من مالية عامة هشة تستلزم سرعة المعالجة. مع وصول نسبة الدين العام للنواتج المحلي خلال سنة 2012 إلى 134 بالمئة وعجز الموازنة إلى 8.6 بالمئة من الناتج المحلي، لا يستطيع لبنان - ولا يتوقع منه - أن يحتمل بطريقة مستدامة تأثير وتكاليف الإستقرار الموصوفة أعلاه.

xi. بالإضافة إلى ذلك، شكلت الأزمة السورية تحدياً للتوازن الإجتماعي الحساس في لبنان. كما يلاحظ التقرير أن الإكتظاظ البشري الشديد، والضغط الجمة على الخدمات الأساسية، والتنافس على الوظائف، هي من بين الأسباب الجذرية لتدهور العلاقات الإجتماعية بين المجتمعات المحلية المضيفة واللاجئين. وتشكّل القدرة على تعزيز التماسك الإجتماعي، من المتطلبات الهامة للحد من التداعيات الإجتماعية والإقتصادية السلبية لهذه الأزمة.

xii. يقتصر هذا التقرير على قياس آثار وكلفة إستقرار الأوضاع الاقتصادية والخدمات في لبنان من جراء تداعيات الأزمة السورية، والبحث في الخيارات التي يمكن أن تخفف الكلفة المفروضة على لبنان. ومن هذه الخيارات تأمين الحصول على تمويل خارجي من المجتمع الدولي والمباشرة في إدخال إصلاحات جذرية للسياسات المتبعة لتحسين فعالية وجودة الخدمات العامة. عملياً، قد يكون الحل الأنسب في دمج الخيارين المذكورين. كما يجب البحث عن التماسك الاجتماعي عبر الاستثمار في قطاعات تساهم في الحد من الصراع وتمكين اللاجئين و المجتمعات المضيفة على جميع المستويات، وتطوير برامج لطرح الحلول لمعالجة النزاعات.

جدول 1 - تداعيات الأزمة السورية على الوضع الاقتصادي والاجتماعي في لبنان

| تراكمي<br>2012/2014  | 2014                   | 2013                   | 2012                   |        |
|--|------------------------|------------------------|------------------------|--------|
| تدفق منخفض<br>لللاجئين                                     | تدفق مرتفع<br>لللاجئين | تدفق منخفض<br>لللاجئين | تدفق مرتفع<br>لللاجئين |        |
| (بملايين الليرات اللبنانية)                                |                        |                        |                        |        |
| 1,352,072  | 973,041                | 781,984                | 475,745                | 94,343 |
| 463,587  | 287,807                | 238,801                | 162,754                | 62,032 |
| 138,775  | 103,705                | 71,688                 | 57,999                 | 9,088  |
| 292,313  | 184,102                | 153,113                | 95,206                 | 43,994 |
| 32,500   | ...                    | 14,000                 | 9,550                  | 8,950  |
| 888,485  | 685,235                | 543,183                | 312,991                | 32,311 |
| 753,750  | 592,448                | 473,355                | 256,275                | 24,120 |
| 27,099   | 14,698                 | 11,337                 | 7,571                  | 8,191  |
| 107,636  | 78,089                 | 58,491                 | 49,145                 | -      |
| (بملايين الدولارات الأمريكية)                              |                        |                        |                        |        |
| 897  | 645                    | 519                    | 316                    | 63     |
| 308  | 191                    | 158                    | 108                    | 41     |
| 92   | 69                     | 48                     | 38                     | 6      |
| 194  | 122                    | 102                    | 63                     | 29     |
| 22   | ...                    | 9                      | 6                      | 6      |
| 589  | 455                    | 360                    | 208                    | 21     |
| 500  | 393                    | 314                    | 170                    | 16     |
| 18   | 10                     | 8                      | 5                      | 5      |
| 71   | 52                     | 39                     | 33                     | -      |
| (في المائة من الناتج المحلي الإجمالي، ما لم يذكر خلاف ذلك) |                        |                        |                        |        |
| 1.9  | 1.4                    | 1.1                    | 0.7                    | 0.1    |
| 0.7  | 0.4                    | 0.3                    | 0.2                    | 0.1    |
| 1.3  | 1.0                    | 0.8                    | 0.5                    | 0.0    |
| ...  | -2.5                   | -2.9                   | -2.9                   | -2.9   |
| ...  | 4.4                    | 4.4                    | 4.4                    | 4.3    |
| ...  | 1.9                    | 1.5                    | 1.5                    | 1.4    |
| 5.8  | 2.6                    | 2.6                    | 2.1                    | 1.1    |
| 3.4  | 1.0                    | 1.3                    | 1.3                    | 0.9    |
| 2.4  | 1.6                    | 1.3                    | 0.9                    | 0.2    |
| (بملايين الدولارات الأمريكية)                              |                        |                        |                        |        |
| ...  | 47,408                 | 47,230                 | 45,203                 | 42,945 |
| ...  | 51,157                 | 51,157                 | 47,662                 | 44,088 |

المصدر: توقعات وحسابات موظفي البنك الدولي

عدم احتساب سيناريو تدفق اللاجئين المرتفع للفقر وشبكات الأمان الاجتماعي في 2014 / 1

جدول 2: الموارد المالية المطلوبة لإعادة تثبيت الخدمات العامة إلى المستوى التي كانت عليه قبل الأزمة السورية

| تراكمي<br>2012/2014  | 2014                  | 2013                  | 2012      |         |
|--|-----------------------|-----------------------|-----------|---------|
| تدفق منخفض<br>للاجئين                                      | تدفق مرتفع<br>للاجئين | تدفق منخفض<br>للاجئين |           |         |
| (بملايين الليرات اللبنانية)                                |                       |                       |           |         |
| 3,753,158  | 3,145,052             | 2,205,928             | 1,237,496 | 309,734 |
| 2,110,989  | 1,480,770             | 1,230,226             | 643,390   | 237,373 |
| 694,626  | 461,271               | 326,018               | 267,031   | 56,578  |
| 945,840  | 654,999               | 524,903               | 275,245   | 145,692 |
| 250,875  | 364,500               | 250,875               | ...       | ...     |
| 264,647  | ...                   | 128,430               | 101,114   | 35,103  |
| 1,642,169  | 1,664,282             | 975,702               | 594,106   | 72,361  |
| 467,325  | 281,903               | 85,928                | 322,605   | 58,793  |
| 512,900  | 422,854               | 370,893               | 133,866   | 8,141   |
| 290,797  | 232,607               | 212,859               | 72,511    | 5,427   |
| 371,148  | 726,918               | 306,023               | 65,125    | -       |
| 2,002,823  | 1,370,995             | 1,156,239             | 641,581   | 205,003 |
| 1,750,334  | 1,774,056             | 1,049,690             | 595,913   | 104,731 |
| (بملايين الدولارات الأمريكية)                              |                       |                       |           |         |
| 2,490  | 2,086                 | 1,463                 | 821       | 205     |
| 1,400  | 982                   | 816                   | 427       | 157     |
| 431  | 306                   | 216                   | 177       | 38      |
| 627  | 434                   | 348                   | 183       | 97      |
| 166  | 242                   | 166                   | ...       | ...     |
| 176  | ...                   | 85                    | 67        | 23      |
| 1,089  | 1,104                 | 647                   | 394       | 48      |
| 310  | 187                   | 57                    | 214       | 39      |
| 340  | 281                   | 246                   | 89        | 5       |
| 193  | 154                   | 141                   | 48        | 4       |
| 246  | 482                   | 203                   | 43        | 0       |
| 1,329  | 909                   | 767                   | 426       | 136     |
| 1,161  | 1,177                 | 696                   | 395       | 69      |
| (في المائة من الناتج المحلي الإجمالي، ما لم يذكر خلاف ذلك) |                       |                       |           |         |
| 5.4  | 4.4                   | 3.1                   | 1.8       | 0.5     |

المصدر: توقعات وحسابات موظفي البنك الدولي

عدم احتساب سيناريو تدفق اللاجئين المرتفع للفقر وشبكات الأمان الاجتماعي في 2014 /  
الاحتياجات لتثبيت لإستقرار عند المستوى المطلوب - التدفق المنخفض والمرتفع للاجئين - تتضمن احتياجات 2013 / 2



## INTRODUCTION

1. To provide a solid basis to define its needs and frame its priorities in terms of the specific assistance it seeks from the international community as well as to inform its own domestic policy response, the Government of Lebanon (GoL) requested the World Bank to lead an Economic and Social Impact Assessment (ESIA) of the Syrian conflict on Lebanon.

2. Upon an official request from the Prime Minister of Lebanon, through a letter addressed to the World Bank dated July 25, 2013, this assessment has been conducted under the leadership of the World Bank, in collaboration with the UN, the EU, and the IMF. The outcome is the present report, of which the accuracy, quality and suitability for further dissemination is the responsibility of the World Bank, with input from the above mentioned key partners.

### I. CRISIS CONTEXT

3. **More than two years of conflict in Syria have resulted in massive influx of refugees within Lebanon and across the region at large.** As part of the group of neighboring countries that are most affected—Lebanon, Jordan, Turkey and Iraq—Lebanon is the one where these unprecedented numbers of refugees may have the most destabilizing consequences. As of August 2013, over 914,000 people have crossed the border between Lebanon and Syria because of the Syrian conflict, of which more than 710,000 are refugees already registered or awaiting registration with the United Nations’ refugee agency (the UNHCR).<sup>1</sup> Lebanon, therefore, hosts the largest number of Syrian refugees in both absolute terms and relative to population shares (these 914,000 people represent 21 percent of Lebanon’s pre-crisis population). These individuals are competing with Lebanese citizens for jobs and for access to public services and infrastructure. Such increases in the number of refugees into Lebanon are also endangering the country’s delicate sectarian balance and constitute a threat to its institutional and political stability.

4. **The international community, through the UNHCR and UN partner agencies, has acted promptly to help Lebanon cope with the humanitarian dimension of these flows of refugees.** Registration centers were established, first and immediate assistance was provided, and efforts were launched to gather support and mobilize financial resources. However, the situation on the ground in Syria becomes more intricate and unpredictable, there is a realization that the crisis and its impact on the region are likely to be protracted, even in the event that hostilities were to stop rapidly in Syria. Given the extent of the damage that Syria has suffered to date, refugees are likely to only gradually return to Syria. As international experience with large refugee displacement reveals, a large number of refugees are likely to remain in Lebanon over several years, with grave consequences for the Lebanese social fabric and economy. It is thus essential that the resilience of Lebanese communities be strengthened so they can weather the stress caused by the increase in population and in the demand for basic services and jobs. Also needed is to strengthen the GoL’s capacity in dealing with the added pressure on an already fragile macroeconomic and fiscal framework. This is aside from the security dimension of the situation which, while not an integral part of this report, obviously has major adverse effects on the Lebanese economic and social fabric and should be factored appropriately.

5. **Humanitarian response systems are primarily triggered by identifiable stress- or shock-driven events.** This report, however, is underpinned by the need to respond to humanitarian emergencies

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<sup>1</sup> The difference between the UNHCR number and the total number is accounted for by (1) Syrian refugees who are not willing to register with the UNHCR (these are mostly estimated by UNICEF based on school data); (2) Lebanese returning from Syria; and (3) Palestinian refugees from Syria. Further details on refugees are provided in the next section.

while simultaneously addressing longer term development needs. It relates to the complementarity between the humanitarian dimension of the international community's action in Lebanon, and the now obvious need for a robust and multifaceted development approach. These two dimensions form an integrated humanitarian-development nexus and need to be tackled in parallel and in coordination. While some measures will require immediate action—such as the actions in the UNHCR Regional Response Plan 5 (RRP5)—others, however, may take more time to implement.

**6. The continuum between the first and the second phase of this exercise will be framed as the building block of the overall resilience of the service delivery system, at the national and local levels.** This work is integral to Lebanon's development strategy and should build on it and accelerate its implementation. By end-2014, it is projected in the baseline scenario that 1.6 million refugees from Syria could be in Lebanon. This would represent a 37 percent increase in Lebanon's pre-Syrian conflict population.<sup>2</sup> Such a population increase—a large, exogenous and sudden shock—would create major pressure on public service delivery and on public finances. To address this additional demand, there will be a need to build up the overall resilience of the service delivery system so it can weather external shocks like the current one, as well as address the long-standing deficits in basic service delivery that Lebanese communities have experienced. There was an existing deficit which has now been aggravated by the effects of the Syrian conflict. Economically, politically, and socially, a response to the additional demand without addressing the existing deficit will not be possible. Similarly, supporting Syrian refugee communities without addressing the needs of the broader Lebanese population is not a viable option.

## II. SYRIAN REFUGEES IN LEBANON<sup>3</sup>

**7. The huge influx of refugees from Syria has been the largest humanitarian emergency of its kind for many years.** Based on UNHCR registration data, more than two million Syrians have fled their country since 2011. The conflict and the subsequent refugee movements have directly affected all the adjacent states (Jordan, Turkey, Iraq, and Lebanon) and even non-neighboring countries in the region such as Egypt. The GoL's response to the refugee influx has been guided by the Office of the Prime Minister and coordinated by the Ministry of Social Affairs (MOSA). The international assistance effort has been led by the UNHCR in close collaboration with government counterparts. To date, some USD534 million have been committed to support humanitarian assistance programs for refugees in Lebanon.<sup>4</sup>

**8. The influx of refugees into Lebanon, while initially modest, steadily and dramatically increased to reach 914,000—or 21 percent of Lebanon's pre-crisis population—by August 2013.** By end-2011 only 5,000 refugees had been registered by UNHCR.<sup>5</sup> During 2012 arrival trends accelerated rapidly resulting in an increase to over 129,000 registered refugees by end-December. Since January 2013 monthly registration totals have risen even more sharply to average over 60,000 a month. As of mid-August the number of registered refugees crossed 700,000, a figure that already approximates to 16 percent of the Lebanese population. Beyond the UNHCR-registered refugees, several other groups have fled from Syria and into Lebanon because of the conflict, including those whom, for various reasons, are

<sup>2</sup> The high refugee influx scenario, which is an unlikely scenario used mainly for illustration and sensitivity purposes, is calculated based on a straight line extrapolation from recent refugee inflows. Based on this mechanical approach, by end-2014 the refugee population could reach 2.3 million people and would represent a 54 percent increase in Lebanon's pre-conflict population.

<sup>3</sup> This section and the next one on the humanitarian impact were prepared by Ewen Macleod (UNHCR).

<sup>4</sup> Funds not recorded against the official appeal are not included in this figure.

<sup>5</sup> Refugees from Syria register in one of four centers established by UNHCR in Mount Lebanon, Zahleh, Tripoli, and Tyre. A range of individual information and biodata is collected through interviews.

not willing to register with the UNHCR.<sup>6</sup> Mostly based on UNICEF school attendance data, this category is estimated to have reached 71,000 as of August 2013. Lebanese returnees account for another 41,000 while Palestinian refugees from Syrian (PRS) totaled 92,000, also as of August 2013.

**9. The majority (about 80 percent) of Syrian refugees arriving in Lebanon originate from the central and western governorates of Homs, Aleppo, Hama, Idleb, and rural Damascus** (based on UNHCR refugee data). The remaining 20 percent come from Damascus itself, from Dara in the south, and from the north eastern governorates of Hassakah, Arraqa, and Deir-Az-Zour. Palestinian refugees from Syria have come primarily from Damascus and surrounding rural areas.<sup>7</sup>

**10. The GoL has maintained an open border policy since the beginning of the crisis and has permitted refugees to settle freely across the country.** In addition, it has waived certain regulatory requirements and payments normally required of Syrian migrants. A feature of the influx in Lebanon has been the absence of camps and the absorption of many refugees into Lebanese communities, a remarkable tribute to the generosity and hospitality of the Lebanese people. While most refugees are renting accommodation or are hosted within Lebanese communities, over 1,400 informal settlements have emerged within the country, with the resultant complexity of the humanitarian and operational challenges that such a large influx has generated for the Lebanese authorities and the assistance community. The majority (65 percent) have settled in the North and East (Beka'a) governorates but with growing numbers in Mount Lebanon, the South, and Beirut. This pattern is attributable principally to proximity to the Syrian border and to traditional cross-border ties and relationships. The large number of locations may partly be explained by the GoL's present opposition to the establishment of refugee camps.

**11. Registration with the UNHCR entitles refugees to receive some individual basic assistance from aid agencies and provides them with documentation.** In addition, project support is provided for food security, livelihoods, water and sanitation, and access to health and education. Appeals to date have raised approximately 40 percent of requested funds, thus many needs have not been met.

**12. Palestinian refugees from Syria are recorded by UNRWA and in general have been accommodated and supported in Palestinian refugee camps in Lebanon** through existing social service provision.<sup>8</sup> As of August 2013, a total of 92,000 Palestinian refugees from Syria were in Lebanon.

**13. To complement the quantitative data generated by the registration process, more analytical studies and surveys have been commissioned to assess vulnerability and to determine the protection and material needs of the refugee population.** A series of technical studies of important sectors (housing, education, and health) have also been carried out. Indications of economic and social fragility among the refugee population are reflected in the depletion of assets, the range of extreme coping strategies, high levels of out of school children, poor and overcrowded living conditions, and limited employment opportunities.

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<sup>6</sup> Not all Syrians entering Lebanon register as refugees even if they are eligible to do so. This may be because of self-sufficiency, inability to access registration centers, the time/costs involved, or to retain anonymity. An estimate of this population has been included in the overall calculation. It does not include the sizeable population of Syrian migrants thought to be in the country prior to the onset of the conflict in March 2011.

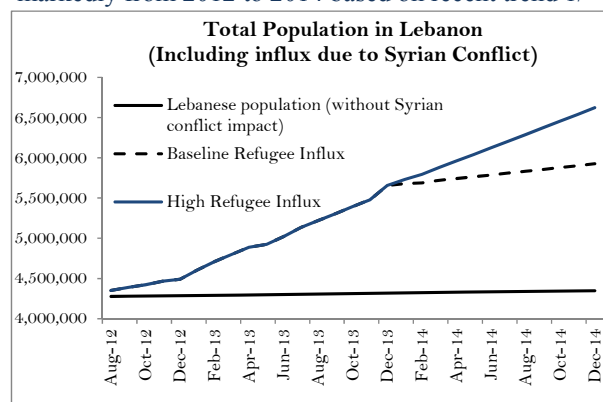
<sup>7</sup> Data from UNHCR, UNRWA.

<sup>8</sup> Recent UNDP/UN-Habitat assessments indicate that over a third of these refugees are residing in informal gatherings outside of official UNRWA camp boundaries, requiring additional support for basic services in these communities.

14. By end-2013, based on current trends, a total of 1.3 million Syrian-conflict refugees are projected to enter Lebanon—this would represent 32 percent of Lebanon’s pre-crisis population (Figure 1). The GoL and UNHCR anticipate that there will be 1 million Syrian UNHCR-registered refugees in the country by end-2013. An additional 100,000 persons who have applied for UNHCR registration are also be included in the year-end total, as are an estimated 100,000 Syrian refugees that are not willing to register with the UNHCR. The estimate also includes 92,000 Palestinian refugees from Syria and 49,000 Lebanese returnees. The impact that such a drastic increase in population would have would be especially acute in some districts as the spatial distribution of refugees is far from homogenous (Figure 2).

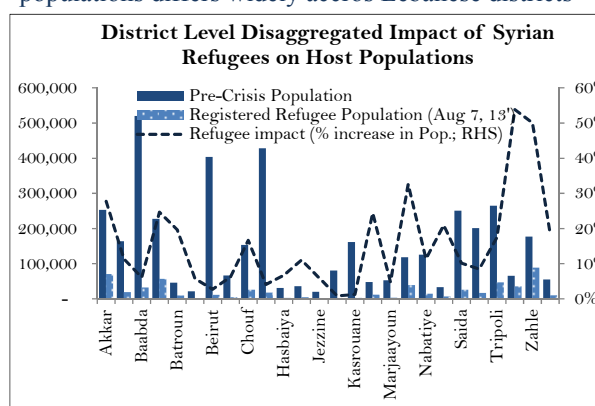
15. Forecast for end-2014 are highly uncertain; in a baseline scenario, it is estimated that the total refugee influx could reach 1.6 million, or 37 percent of Lebanon’s pre-crisis population (Figure 1). To capture the significant uncertainty related to forecasting refugee influx in 2014, two scenarios have been envisaged. The first (*baseline influx*) scenario is one in which the refugee influx tappers off to 500 per day (compared to the current high case of an average of 2,000 per day). Under this assumption, a total of 1.56 million refugees would be in Lebanon by end-2014. While this scenario implies a slowdown in daily refugee arrival to Lebanon compared to current arrival numbers, it is considered as a “baseline” as, in contrast to pure linear extrapolations from current trends, it incorporates likely changes in the absolute and relative attractiveness of Lebanon to refugees as the number of refugees progressively saturates Lebanon’s absorption capacity (e.g., social, infrastructure, political). The second (*high influx*) scenario is one in which the current refugee influx trend continue at the same (high) pace and would result in a total influx of 2.28 million (this includes refugees registered or awaiting registration with the UNHCR, those unwilling to register, the Lebanese returnees, and the Palestinian refugees from Syria). This lower probability/higher impact scenario is used for illustration and sensitivity purposes.<sup>9</sup>

Figure 1. Lebanon’s population could increase markedly from 2012 to 2014 based on recent trend 1/



Source: UNHCR, UNDP, UNICEF, UNWRA, WBI’s WDI, and World Bank staff projections. 1/ Low influx is the baseline scenario

Figure 2. The impact of Syrian refugees on host populations differs widely accross Lebanese districts



Source: UNICEF, UNHCR, CDR, and World Bank staff.

16. The projection of arrival trends for 2014 takes into account a number of important variables within the region and inside Syria itself. These include policy decisions by individual governments of the neighboring countries on border management and the measures they adopt for the maintenance and welfare of the refugee populations on their territory. In Syria, the critical driver of internal displacement and forced migration will be the immediate violence and threats to life posed by the conflict. Decisions to leave the country will also be determined by the proximity of violence, economic

<sup>9</sup> A sudden and dramatic increase in the conflict would imply even higher numbers. It is assumed that such a situation be effectively addressed by a further expansion of emergency humanitarian assistance under a regional contingency plan.

coping strategies, perceptions of safety and security in neighboring countries, perceived safety of travel to neighboring countries, and connections with family members outside Syria.

**17.** Based on UNHCR information derived from current registration data, it is estimated that the demographic composition of the refugee population by end-2014 will be approximately 671,079 (51 percent) female and 644,763 (49 percent) male in a baseline arrival scenario, and 997,723 (female; 51 percent) and 958,597 (male; 49 percent) in a high arrival scenario; approximately 20 percent of refugees are children under the age of five. The potential number of children of primary school age at the end of 2014 is estimated at 268,431 (baseline case scenario) and 399,009 (high case scenario). Refugees of working age (18-59) will amount to 44.6 percent of the overall refugee population or 586,865 (baseline case) and 872,519 (high case). Males would account for 287,563 and 427,534 of these figures respectively. It must be noted that refugee numbers are extremely contingent on developments in Syria and elsewhere, and could be very much higher, or very much lower, than the estimations in these projections.

### III. THE HUMANITARIAN IMPACT AND NEEDS ASSESSMENTS TO DATE

**18. The effects of the Syrian conflict and the resultant refugee crisis have had far reaching consequences for Lebanon and its people.** The rapid increase in the overall population of a small country with only 10,452 square kilometers has generated enormous challenges for the GoL, its people, and the international assistance community. The early arrival of refugees from Syria primarily affected border areas in the north and north east of the country, traditional destinations for Syrian migrant workers, notably in the agricultural sector. Pre-existing cross border economic, commercial, and social ties between Lebanese and Syrian communities eased their initial reception. Many refugees were hosted by Lebanese families who shared their homes and resources in a remarkable display of hospitality.

**19. The initial policy and operational responses of the GoL and the international community focused primarily on the immediate humanitarian needs of the refugees from Syria.** These were assessed and appeals for assistance launched under successive Regional Response Plans (RRP). As detailed in this report, as the impact of the Syrian conflict and the refugee crisis has spread and deepened across the country, its consequences for Lebanese communities have increased dramatically. Increased pressures on the economy, service delivery, and the environment are most directly felt at the local level. The large refugee presence, especially in many of the country's poorest regions, has heightened competition for scarce resources, employment, and access to limited social services.

**20. The GoL has been reluctant to establish refugee camps for Syrian refugees.** This reflects, in part, the remarkable absorptive capacity of Lebanese society and, in part, the permanence of the 12 official Palestinian refugee camps in Lebanon which were established more than half a century ago and are home to 475,000 people.<sup>10</sup> However, as the number of Syrian refugees has grown, local absorption capacities and response capabilities of communities, of municipalities, and humanitarian aid providers have come under increasing strain. Accommodation within individual family households proved unsustainable. The majority of refugees have found temporary solutions by renting rooms and apartments. However, these options are not affordable for many families so a growing number have established themselves in informal settlements.

**21. UNHCR data indicates that Syrian refugees are now present in more than 1,400 municipalities.** In over 133 locations, Syrian refugees already account for more than 30 percent of the

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<sup>10</sup> Number of Palestine refugees officially registered in Lebanon as of March 2013. A socio-economic survey conducted in 2010 by the American University in Beirut for UNRWA revealed that the estimated number of Palestine refugees living in Lebanon at the time was 260,000-280,000.

overall population. These are predominantly (75 percent) found in the North and North East (Beka'a). There is a strong concentration of refugees in Lebanese communities that are affected by poverty. Thus the shift in the demographic balance has also been accompanied by a range of economic and social effects. The pressures on labor markets, services, and resources, and the resulting social tensions, have been captured in a series of assessments and studies undertaken by different aid organizations in 2012-2013.

**22. Assessments to date have focused on the humanitarian needs of Lebanese communities and families and growing inter-communal discontent.** The economic impact of the refugee crisis has been reflected in increased food prices, reduced employment opportunities, and higher rental costs. Social and environmental effects include reduced access to health care, overcrowded schools, deteriorating water quality, and inadequate waste management. The most adversely affected among the poorer Lebanese have been unskilled laborers and those in informal or irregular work.

**23. The socio-economic consequences of the refugee crisis have also led to increasingly fragile inter-communal relations and discontent.** Even if refugees are largely living in very basic and insecure circumstances themselves, Lebanese communities have widely attributed the decline in their own living standards to the refugee presence. Notwithstanding the efforts of the Lebanese authorities to highlight their concerns on this point, the fact that Syrian refugees have hitherto been the main beneficiaries of international and government assistance remains a source of tension. The perception of insecurity and rise of violence levels, due to the massive influx of refugees and harmful coping mechanisms, are very much present and dictate the way of living of women, men, boys and girls, with consequences on their freedom of movement and social and intra-household relations.

**24. The full extent of the Syrian conflict on Lebanon, and on poorer Lebanese in particular, has prompted an important shift in both policy and operational responses on the part of the humanitarian assistance effort.** Recognizing the need for a more balanced and comprehensive approach, greater attention and resources have been devoted to address both the country's overall requirements and the immediate needs of local Lebanese communities. The change in emphasis is reflected in the expansion in the humanitarian appeal lodged within the Regional Response Plan. From an initial USD274 million for the first half of 2013, the amount sought under RRP5 has been increased fourfold to a total of USD1.66 billion. It includes a substantial component of support for local Lebanese communities to be implemented through government and international assistance channels. A targeting exercise was undertaken prior to the launch of RRP5 that drew on existing data on poverty and compared it with information on the documented presence of Syrian refugees. Of the 1.2 million affected Lebanese, the exercise identified 600,000 persons in 145 communities as being particularly vulnerable.

**25. The need for a more balanced approach has already been practiced by some aid agencies albeit on a modest scale.** The more formal adoption of a strategy that combines immediate humanitarian support for both Lebanese and Syrian refugee communities marks an important recognition of the urgent need for stabilizing the situation on a more comprehensive basis.

#### IV. THE ECONOMIC AND SOCIAL IMPACT AND NEEDS ASSESSMENTS

**26. While drawing from international best practices, the present ESIA differs in important ways from typical impact and needs assessments, namely:**

- Ongoing impacts: Lebanon has been, and continues to be, subject to the spillover effects of conflict in a neighboring country, but it is neither in a post-disaster situation, nor is it in a post-



conflict situation. While related needs assessment methodologies<sup>11</sup> have provided some useful insights,<sup>12</sup> they do not fully account for the unique circumstances in which the ESIA is being conducted and thus have limited applicability in this particular context.

- A shock of uncertain magnitude, both in terms of size and duration:
  - **It is difficult to posit an exact date for the start of the crisis, or when the crisis became significant in Lebanon for several reasons.** First, the shock that Lebanon is enduring is not a direct one but a spillover from a growing crisis in a neighboring country. Second, this spillover began slowly and then significantly accelerated. Third, the spillover impacts various areas and sectors differently. In particular, the macro-economic impact was limited during the early part of the crisis. While unrest in Syria started in March 2011 and refugees started arriving in limited numbers in Lebanon from April 2011 onward, the impact at that date was still low and difficult to capture at an aggregate level. It was not until July 2012 that a major increase in the flow of refugees started to generate serious problems for host communities, municipalities and government agencies as well as having an impact on the Lebanese economy. With these factors in mind and given the priority needs to establish economic trends, to accommodate annual statistics, and to balance competing factors, the assessment, after considerable debate, decided on January 2012 as the start date for the significant phase of the crisis. Data corresponding to this start date have been used throughout the assessment. Analytical issues associated with this decision are set out in Box 1 below.
  - **Even more uncertain is the end of the conflict in Syria and the degree of magnitude of the spillover effects yet to come in Lebanon**—these effects are primarily correlated with the intensity of the conflict in Syria. Different assumptions on these two parameters (duration and magnitude of spillover), would naturally significantly change the impact assessment for the rest of 2013 and for 2014. To address these, at the request of the Government, the impact assessment is being undertaken to cover the period through end-2014. A high and baseline scenario for refugee influx for 2014 has also been agreed with all the agencies involved and with the Government. These two scenarios aim to illustrate the sensitivity to which varying intensity of the crisis in Syria would affect Lebanon over the next 18 months. Having two scenarios illustrates the uncertainty of the situation and provides a basis for planning. However it also needs to be borne in mind that, depending on events, the impact of crisis could be much greater than under the ‘high’ scenario, or the impact could, alternatively, be much less than the ‘low’ scenario.
- A temporary shock: the country is not facing a permanent shock—as is the case with a natural disaster or a war—but a temporary one, though, as indicated above, the duration and seriousness of the crisis are uncertain. This is of particular relevance as far as policy-recommendations are concerned. Similarly, the expected scale and duration of, say, the refugee influx, will also condition the type of policy action to introduce.
- A shock without material damages to Lebanon’s infrastructure,<sup>13</sup> housing, capital or human stock, as is generally the case in post-disaster or post-conflict situations. Losses in Lebanon have

<sup>11</sup> i.e., post-conflict needs assessments (PCNA), or post-disaster needs assessments (PDNA).

<sup>12</sup> E.g., multi-stakeholder exercise, particularly with strong involvement of the UN and EU, and use of a cross sectoral analysis to assess impact/needs.

<sup>13</sup> Though, as detailed in the infrastructure section, despite the lack of immediate damages, and given the duration of the crisis, deterioration of existing infrastructure arises due to the intensive use or lack of capacity to deliver at the

related to ongoing factors: e.g., loss of economic activity, of income, of access and of quality of public services. These are inherently more difficult to capture and quantify than physical damage.

- A rapid assessment: Following a request to the World Bank on July 25, 2013 to undertake the ESIA, a team was rapidly formed in early August. This multi-sectoral and multi-stakeholder team was tasked to deliver its report by early September so as to meet the GoL's request to table the ESIA report during a meeting in the margin of the United Nations General Assembly (September 25, discussions on the impact of the Syrian conflict on Lebanon). The four weeks available severely constrained the extent to which the ESIA team was able to collect original data, for example through field surveys. To meet the requested timetable, the ESIA team focused on gathering existing available data. The team also focused its efforts on selected sectors where the impact of the Syrian conflict was best documented and where its impact was most anticipated.

**27. Throughout the report, a common methodology has been followed for consistency and aggregation purposes.** First, the report provides an overview of the sector prior to the Syrian conflict, along with its projected performance for the years 2012 to 2014 (the conflict-impacted years). This section is followed by a report on the impact assessment itself. Throughout the report, where quantification has been possible, the *impact assessment* of the Syrian conflict is measured as the difference between: (1) the actual out-turn (spending) for the variable of interest in period  $t$ , and (2) the spending that would have occurred in period  $t$  should the Syrian conflict had not occurred (counterfactual). Third, is the *stabilization (needs) assessment* which is measured by the spending that would be needed in period  $t$  in order to maintain the pre-conflict level of access to and quality of public services for the Lebanese people.<sup>14</sup> For example, in the electricity sector where pre-crisis supply of electricity was 18.3 hours per day, and with electricity supply dropping to 16.2 hours in the baseline scenario in 2013, the stabilization assessment is calculated as the cost of supplying all consumers the original 18.3 hours they had. This requires 251MW of electricity to be generated. The cost for such additional generation capacity is estimated at USD310 million. Common assumptions have also been used throughout the sectors, most notably those regarding the increase in the population due to the Syrian conflict, including projections through 2014. The relevance and feasibility of making a meaningful stabilization assessment in different sectors varies considerably, as do the practical and methodological challenges of expressing this in quantitative terms. The assessment faces up to this challenge whilst acknowledging the practical and methodological difficulties of doing so.

**28.** The ESIA is structured along three sections comprising a total of 15 main sectors of the economy:

- Economic Impacts: macroeconomic, fiscal, and selected sectors (trade, tourism, real estate, banking);
- Human Development and Social Impacts: health, education, employment and livelihoods, poverty and social safety nets, and social cohesion and gender; and
- Infrastructure Impacts: water and sanitation, solid waste management, energy, and transportation.

**29.** **There are important sectors which are not covered in the ESIA, including security, for which other agencies and organizations have the needed expertise** in terms of impact and needs analysis. Within the sectors covered in this assessment, the Bank has sought extensive involvement of and

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increased levels required. This deterioration leads to increased maintenance costs and actual investment in repair of damages associated with overuse.

<sup>14</sup> The stabilization assessment is a purely positive one, as opposed to being a normative one. Returning to pre-crisis access to and quality of public services is not a (normative) statement about whether that level was appropriate or optimal. The aim is simply to calculate the cost needed for the Lebanese population not to be affected by the Syrian conflict, at least as far as public service delivery is concerned.



substantive inputs from the Government and various donors, agencies and NGOs with sector-specific expertise, in particular numerous United Nations agencies, the European Commission, and the IMF.

**30. The analysis in the ESIA provides an empirical knowledge base for Government and stakeholder consultations on developing and adopting a comprehensive short-term mitigation plan and a realistic strategy for medium- and longer-term sustainable growth.** In this regard, although some sectors have presented priority actions, a stabilization results framework will be developed as part of the second phase of the assessment, which will present prioritized and sequenced actions in each sector over the immediate, short, and medium-term, that will contribute towards the stabilization effort. This could entail expansion of systemic ‘load-bearing’ capacity by focusing on policy, institutional, livelihood and growth strategies over the medium- to long-term. Furthermore, the issues and facets of the current crisis presented in the assessment should be further researched and analyzed to provide a source of “real-time” inputs into future planning and policy development as the situation and corresponding needs continue to evolve.

**31.** Further analysis would also be needed to determine: (1) how specific factor are affecting perceptions between communities, individual behavior and motivation, and the capacity of the state to regulate and manage these tensions; and, (2) key economic and social ‘stress factors’ and associated breaking points, which could potentially be used to monitor and prevent destabilization and conflict. The latter would be critical in the form of periodic follow-up assessments to continue to refine data, analysis and scenario modeling, which will allow for better policy actions and development interventions over time in response to the evolution of the crisis and its impact.

### Box 1. Starting and end date of the Economic and Social Impact Assessment

For the purpose of this ESIA, a starting date for the spillover of the Syrian conflict on Lebanon had to be determined. While unrest started with demonstrations in Syria in March 2011, the team established that, overall, a material spillover from Syria started in July 2012 but, in order to work with calendar years, January 2012 was chosen as the beginning of the impact assessment. This starting date is motivated by several factors, and in particular, our goal of measuring the economic and social impact of the spillover, namely:

- **Macroeconomic impact:** most indicators point to the summer of 2012 as the time when the spillover from Syria materially impacted Lebanon. One such indicator is the change in relative spreads on Eurobonds between Lebanon and other emerging economies (Figure 19 page 43). Concerns about Lebanon's creditworthiness and growth prospects soared in July 2012 and have remained elevated since. Similar patterns were observed when Lebanon faced earlier crises (Former Prime Minister Hariri's assassination in 2005, or the hostilities with Israel in 2006). That period in the summer of 2012 witnessed a severe (Syria-related) deterioration of the security situation in Lebanon (kidnappings, etc.) which led several countries to issue travel bans or restrictions on their citizens. One possible exception is the tourism sector, where activity softened in 2011 but quantitatively disentangling the cause of that softening is difficult given data availability. Standard & Poor's changed its outlook on Lebanon to negative in May 2012, in part driven by the expected impact of the Syrian spillovers on Lebanon.
- **Social impact:** while there were some influx of population in 2011, that influx remained relatively limited—at end-2011 a total of 5,668 people had moved from Syria to Lebanon.<sup>1</sup> This is too small a number to affect public service delivery (e.g., health, education, and access to infrastructure). Even by end-June 2012, that total increase in the population due to the Syrian conflict was 39,120. While this is a large number of people, at the level of a country of 4.2 million inhabitants, it remained nonetheless modest and difficult to discern in terms of impact on public services except in a few small localities near the Lebanon-Syria borders. Since the second half of 2012, this number did escalate rapidly.

The end date of the impact and needs assessment was set at December 2014, based on a request from the government of Lebanon. The aim is to cover the next budget year and to better capture some of the lagged effect that, say, the influx of Syrian refugees is having on Lebanon's economy, and access to public services (e.g., school enrollment).

Two refugee influx scenarios (high and low) are analyzed to project the impact and needs assessment into 2014 (Figure 1 page 27). These high and low trajectories are based on current trend of an average 2,000 refugees arriving in Lebanon every day (high influx scenario), and on a more modest average influx of 500 refugees a day (baseline influx scenario). These scenarios illustrate the sensitivity of the impact and needs assessment to the influx of people arriving in Lebanon. It needs to be borne in mind that these projections are illustrative and that much higher or lower refugee influxes are possible in the coming period.

## SECTION I:

### ECONOMIC IMPACT OF THE SYRIAN CONFLICT

#### Section I Summary

**32. The conflict in Syria is estimated to be holding down real GDP growth by almost 3 percentage points each year, generating billions of dollars in lost economic activity—Table 3.** The conflict in Syria—a country that is closely linked, both through historical, social and economic ties to Lebanon—is severely and negatively impacting the Lebanese economy. Lebanon’s real GDP growth rate is estimated to be 2.9 percentage points lower for each conflict year. The largest impact arises through the insecurity and uncertainty spillovers channels which profoundly and negatively affect investor and consumer confidence as Lebanon’s societal fabric is at risk. The conflict also disrupts Lebanon’s trade routes and negatively impacts tourism. The resulting lower economic activity is putting downward pressure on government revenues which, combined with rising demand for public services stemming from the large refugee influx, are further damaging Lebanon’s public finances.

**33. Spillovers from Syria are particularly pronounced in the trade sector, affecting both the goods and services trade, and in particular the large tourism sector.** Lebanon, an economy with a large trade sector, is significantly exposed to Syria not only due to its role as a trading partner, but also because a sizable share of Lebanese trade transits through Syria and due to the risk Syria creates for Lebanon large services exports. The first half of 2013 witnessed sharp reductions in trade flows, particularly for food products and consumer goods. While Lebanon was traditionally a net food importer from Syria, the country posted its first food trade surplus in 2012. Trade disruptions have pushed up domestic prices of some staples such as wheat flour, which has important implications on welfare, particularly for poor households. Lebanon is also incurring substantial losses through disruptions in tourism flows, with visitors from all parts of the world having steadily declined since 2010.

**34. Lebanon’s public finances were structurally weak prior to the Syrian shock and are becoming severely strained by it—the fiscal deficit is estimated to widen by USD2.6 billion during 2012-14 (Table 3).** Following half a decade of robust growth, Lebanon experienced a remarkable decrease in its debt-to-GDP ratio, from about 180 percent in 2006, to 134 percent at the eve of the Syrian conflict in 2011. The country’s improved public finances, however, were to a large extent due to a cyclical improvement, as strong structural reforms envisaged as part of the Paris III (post-Israel hostilities) conference have yet to be fully implemented. The shock coming from the Syrian conflict is putting Lebanon’s public finances under severe and rapidly escalating strains. On the revenue side, spillovers from the conflict are estimated to cut USD1.5 billion in revenue collection over 2012-14, due to a combination of direct impact on key sectors (e.g., tourism) and indirect impacts through weaker economic activity. On the expenditure side, total budgetary spending is estimated to grow by up to USD1.1 billion over the 2012-2014 period because of the Syrian conflict and the associated sharp increase in demand for and consumption of public services by refugees from Syria. The combination of lower revenue and higher expenditure is widening Lebanon’s already large fiscal deficit by a cumulative USD2.6 billion during 2012-14. The wider fiscal deficits, lower economic growth, and rising interest risk premium due to the Syrian conflict have halted Lebanon’s remarkable progress in reducing its debt-to-GDP ratio; for the first time since 2006, Lebanon’s debt ratio rose in 2012 with further increases projected through 2014.

Table 3: Macroeconomic and Fiscal Impact Assessment, 2012-14

|   | 2012   | 2013       | 2014            |             | Cumulative<br>2012/14 |
|---|--|------------|-----------------|-------------|-----------------------|
|   |  |            | Baseline influx | High influx | Baseline influx       |
| Impact Assessment 1/  |  |            |                 |             |                       |
| Impact on Economic Activity   |  |            |                 |             |                       |
|   | (in percent, unless otherwise indicated)           |            |                 |             |                       |
| Change in real GDP growth rate (percentage points)                        | -2.9   | -2.9       | -2.9            | -2.5        | ...                   |
| Pre-crisis projected real GDP growth rate                                 | 4.3  | 4.4        | 4.4             | 4.4         | ...                   |
| Current (with crisis) estimated and projected real GDP growth rate        | 1.4  | 1.5        | 1.5             | 1.9         | ...                   |
| Loss in economic activity (nominal; million of USD)                       | 1,142  | 2,459      | 3,928           | 3,749       | 7,529                 |
| Impact on Public Finances   |  |            |                 |             |                       |
|   | (in million of LBP)                                |            |                 |             |                       |
| Total Revenues and Grants   | -556,198   | -863,895   | -892,698        | -745,508    | -2,312,792            |
| Tax Revenues  | -345,834   | -616,979   | -617,238        | -570,052    | -1,580,051            |
| Non-tax and non-budget revenue  | -210,364   | -246,916   | -275,460        | -175,455    | -732,740              |
| Total Expenditures  | 146,784  | 588,835    | 926,323         | 1,121,814   | 1,661,943             |
| Overall Fiscal Balance  | -702,982   | -1,452,730 | -1,819,022      | -1,867,322  | -3,974,734            |
|   | (in million of USD)                                |            |                 |             |                       |
| Total Revenues and Grants   | -369   | -573       | -592            | -495        | -1,534                |
| Tax Revenues  | -229   | -409       | -409            | -378        | -1,048                |
| Non-tax and non-budget revenue  | -140   | -164       | -183            | -116        | -486                  |
| Total Expenditures  | 97   | 391        | 614             | 744         | 1,102                 |
| Overall Fiscal Balance  | -466   | -964       | -1,207          | -1,239      | -2,637                |
|   | (in percent of GDP, unless otherwise indicated 2/) |            |                 |             |                       |
| Total Revenues and Grants   | -0.9   | -1.3       | -1.3            | -1.0        | -3.4                  |
| Tax Revenues  | -0.5   | -0.9       | -0.9            | -0.8        | -2.3                  |
| Non-tax and non-budget revenue  | -0.3   | -0.4       | -0.4            | -0.2        | -1.1                  |
| Total Expenditures  | 0.2  | 0.9        | 1.3             | 1.6         | 2.4                   |
| Overall Fiscal Balance  | -1.1   | -2.1       | -2.6            | -2.6        | -5.8                  |
| Memorandum item:  |  |            |                 |             |                       |
| Stabilization needs in Social and Infrastructure sectors (million USD)    | 205  | 821        | 1,463           | 2,086       | 2,490                 |
| Current spending (million USD)  | 136  | 426        | 767             | 909         | 1,329                 |
| Capital spending (million USD)  | 69   | 395        | 696             | 1,177       | 1,161                 |
| Stabilization needs in Social and Infrastructure sectors (percent of GDP) | 0.5  | 1.8        | 3.1             | 4.4         | 5.4                   |

Source: World Bank staff estimates and projections.

1/ Compares for each year the difference between (1) the outcome and (2) the counter-factual of no Syrian conflict.

2/ Nominal GDP used is the one containing the Syrian crisis impact (not the counter-factual GDP).

## I. MACRO-ECONOMIC IMPACT ASSESSMENT<sup>15</sup>

**35.** *The conflict in Syria—a country that is closely linked, both through historical, social and economic ties to Lebanon—is severely and negatively impacting the Lebanese economy. Lebanon’s real GDP growth rate is estimated to be 2.9 percentage points lower for each conflict year over the 2012-2014 period. The largest impact arises through the insecurity and uncertainty spillovers channels which profoundly and negatively affect investor and consumer confidence as Lebanon’s societal fabric is at risk. The conflict also disrupts Lebanon’s trade routes. The resulting lower economic activity is putting downward pressure on government revenue which, combined with rising demand for public services stemming from the large refugee influx, is damaging Lebanon’s already weak public finances.*

### Macroeconomic Impact Assessment, 2012-14

|  | 2012                                     | 2013   | 2014            |             | Cumulative<br>2012/14 |
|--|--|--------|-----------------|-------------|-----------------------|
|  |  |        | Baseline influx | High influx | Baseline influx       |
| <b>Impact Assessment 1/</b>  |  |        |                 |             |                       |
| <b>Impact on Economic Activity</b>                                 |  |        |                 |             |                       |
|  | (in percent, unless otherwise indicated) |        |                 |             |                       |
| Change in real GDP growth rate (percentage points)                 | -2.9                                     | -2.9   | -2.9            | -2.5        | ...                   |
| Pre-crisis projected real GDP growth rate                          | 4.3                                      | 4.4    | 4.4             | 4.4         | ...                   |
| Current (with crisis) estimated and projected real GDP growth rate | 1.4                                      | 1.5    | 1.5             | 1.9         | ...                   |
| Loss in economic activity (nominal; million of USD)                | 1,142                                    | 2,459  | 3,928           | 3,749       | 7,529                 |
| <b>Memorandum item:</b>  |  |        |                 |             |                       |
|  | (in millions of US dollars)              |        |                 |             |                       |
| Nominal GDP (actual and projected)                                 | 42,945                                   | 45,203 | 47,230          | 47,408      |                       |
| Nominal GDP (counter-factual: no Syrian conflict spillover)        | 44,088                                   | 47,662 | 51,157          | 51,157      |                       |

Source: World Bank staff. 1/ Compares for each year the difference between the outturn and the counter-factual of no Syrian conflict.

### I.1. Baseline and Pre-Conflict Macro-Economic Trends

#### I.1.A. Overall macroeconomic developments

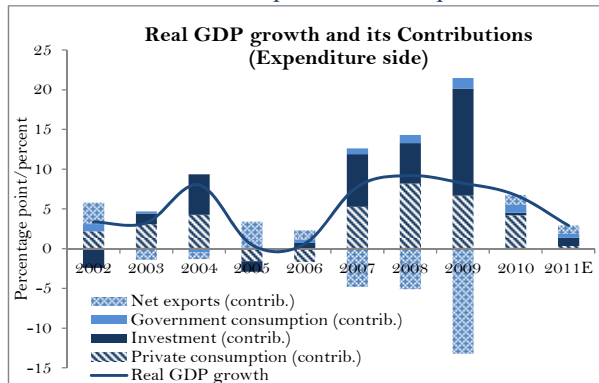
##### *Real sector*

**36.** **In the half decade through 2011, Lebanon’s economy experienced a remarkable growth performance, especially given the international context of the global financial crisis.** After suffering from large exogenous shocks in 2005 and 2006 with the assassination of former Prime Minister Rafic Hariri and a war with Israel, respectively, the economy recovered and surged at an average annual real GDP growth rate of 7.1 percent from 2007 to 2011 (Figures 3 and 4). During that period, the global economy experienced its worse growth performance since the Great Depression of the 1930s. The Middle East also experienced a sharp softening of its economic expansion, as the oil price plummeted in light of the slump in global demand (Figure 5). While the growth performance in 2007 is explained by a low 2006 base, the growth thereafter was supported by sustained strong regional demand for Lebanon’s services and large inflows of transfers and capital (services exports increased by about 38 percent in 2009 over and above the 44 percent increase registered in 2008, and net inflows of services, income, transfers, and capital reached over 60 percent of GDP in 2009)—World Bank (2010).

<sup>15</sup> This chapter was prepared by Eric Le Borgne, Claire Hollweg, Ibrahim Jamali, Wael Mansour, Samer Matta, and Gonzalo Varela (World Bank), in close collaboration with Kristina Kostial and Alina Luca (IMF), Abdallah Al Dardari, Mohamed Hedi Bchir, and Sandra Saghir Sinno (ESCWA), Rola Rizk (UNDP), Mireille Mouawad and staff from the Macro-Fiscal Unit of the Ministry of Finance (MoF), and Roger Melki (Ministry of Economy and Trade).

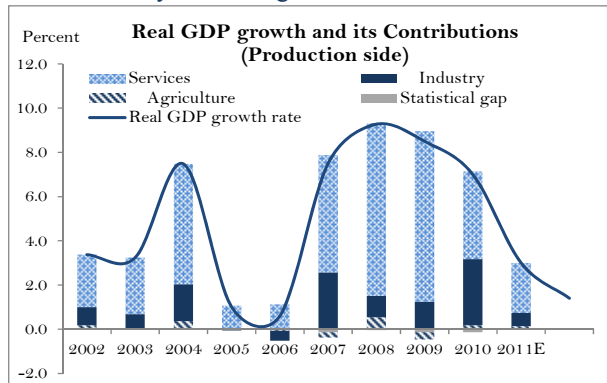
**37. In 2011, economic activity slowed down, in part due to concerns about domestic political instability but also because of a consolidation phase following a period of record growth.** Consumer and business confidence in 2011 was shaken by the increasingly strong polarization of political parties that resulted in the fall of a coalition government in January and a long vacuum period until a new government was able to be formed in June.<sup>16</sup> As the economy had been consistently growing at growth rates in excess of potential output, a period of stabilization was also to be expected. This was particularly the case in the real estate sector where prices had surged to a level that priced out many Lebanese residents. With prices high and construction activity catering to a large extent to foreign demand (e.g., from the Gulf and Lebanese expatriates), the uncertain domestic and regional political climate led buyers to revisit their demand for Lebanese real estate.

Figure 3. Growth took off after 2006 thanks to robust investment and private consumption



Source: CAS, and World Bank staff calculations and estimates.

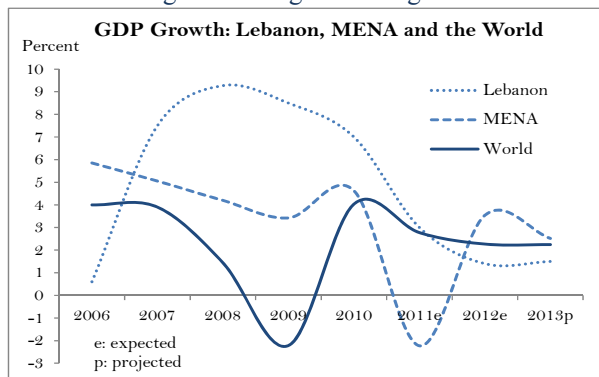
Figure 4. On the production side, growth was driven by a booming services sector



Source: CAS, and World Bank staff calculations and estimates.

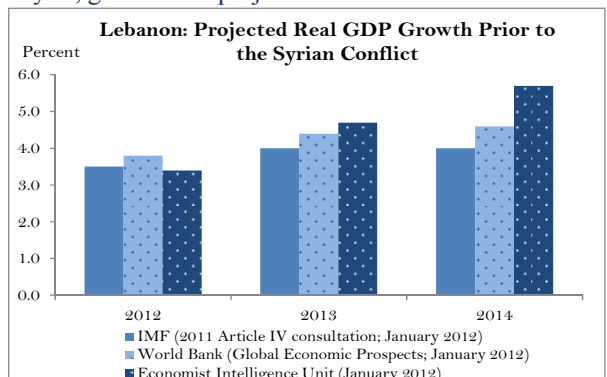
**38. Prior to the Syrian conflict, expectations for 2012 to 2014 were for Lebanon's real GDP growth to expand at 4-4.5 percent, near its potential growth rate.** Most economic forecast made in early 2012—i.e., prior to the escalation of the Syrian crisis into a full blown conflict with serious spillover effects onto Lebanon—were projecting Lebanon to recover rapidly from the growth deceleration of 2011. The IMF and the World Bank, for example, were projecting Lebanon's real GDP growth to hover around 4 to 4.5 percent during the 2012-2014 period; the Economist Intelligence Unit projected even stronger growth in the outer years (Figure 6).

Figure 5. Lebanon's growth pre-Syria crisis was remarkable given the regional and global context



Source: World Bank *Global Economic Prospects*, June 2013.

Figure 6. Prior to the onset of serious spillovers from Syria, growth was projected to be robust in Lebanon



Source: EUI, IMF, and World Bank.

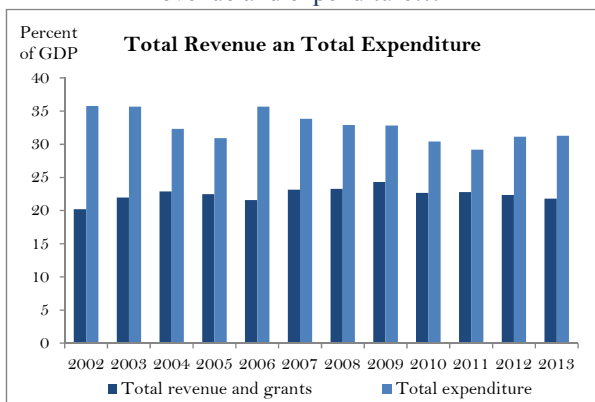
<sup>16</sup> The government's fall in January triggered deposit outflows and currency conversions leading to pressure on the pound and a loss of half the BdL net foreign exchange holdings (IMF, 2012). Dollarization started subsiding once a new government took office. Regional turbulence with the onset of the Arab Spring further impacted confidence.

## Fiscal

**39. Lebanon's public finances have been structurally weak since the mid-1990s.** High overall fiscal deficits have been the norm in Lebanon. In the 10 years prior to the Syrian conflict, the overall fiscal deficit ranged from 14.9 percent of GDP in 2002 to 6.5 percent of GDP in 2011 and average 9.7 percent of GDP (Figure 7). As a result of these high and sustained deficits, Lebanon's public debt peaked at nearly 180 percent of GDP in 2006 (Figure 8) and interest payments have been sizeable, accounting for one third of total expenditures and about 60 percent of total revenue and grants.

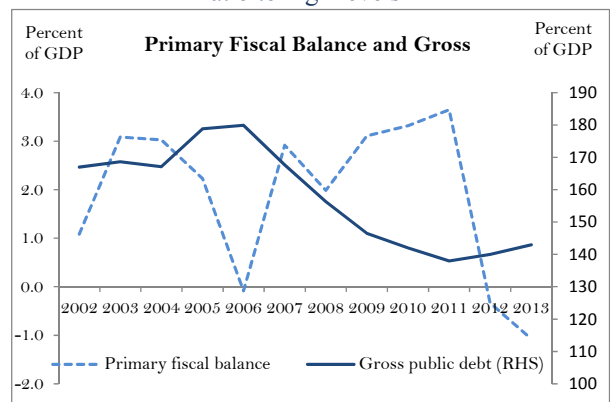
**40. Prior to the Syrian conflict, high and sustained GDP growth had significantly improved Lebanon's fiscal balances and pushed debt-to-GDP down by about 40 percentage points of GDP.** After peaking at nearly 180 percent of GDP in 2006, Lebanon's debt dynamics improved remarkably over the following five years, mostly due to record GDP growth. Indeed, an analysis of the sources of the decrease in the debt-to-GDP ratio reveals that a relatively small share stems from increased primary fiscal surpluses (e.g., Debt Sustainability Analysis included in various IMF Article IV Staff Reports on Lebanon). Strong and sustained structural reforms—such as those envisaged by the Government of Lebanon as part of its (post-Israel hostilities) Paris III commitments (World Bank, 2007)—either on the revenue or the expenditure side have not been fully implemented so that the underlying structural fiscal balance has not markedly changed (see next chapter for details).

Figure 7. Lebanon's persistent and wide gap between revenue and expenditure...



Source: World Bank.

Figure 8. ...have pushed the country's debt-to-GDP ratio to high levels



Source: IMF and World Bank.

## I.1.B. Developments in Key Economic Sectors

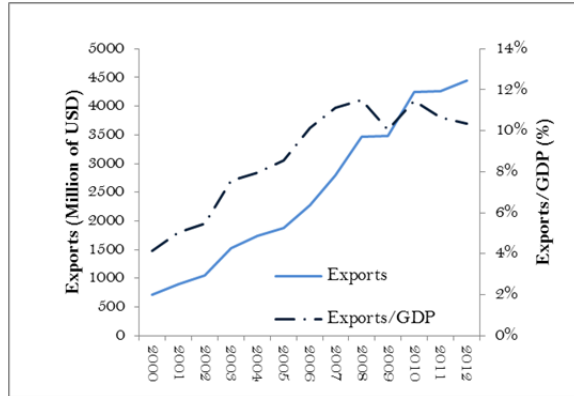
### Trade sector

#### Trends in Merchandise Trade

**41. Between 2000-2010, exports grew at an impressive average rate of 22 percent (2000-2008), a growth rate that was projected to decelerate but to remain buoyant during 2012-14.** Starting from a low export base Lebanon expanded rapidly throughout the 2000s to reach 11.4 percent of GDP in 2010 (Figure 9). On the import side, growth also expanded rapidly, in dollar terms—Figure 10. With global economic growth tapering, and that of Lebanon's key trading partners also softening, export growth was projected to decelerate modestly through 2012-2014. On the import side, a deceleration was also projected as the Lebanese economy was projected to slow down from the robust growth rates of 2007-2010 and expand at around 4-4.5 percent through 2012-2014.

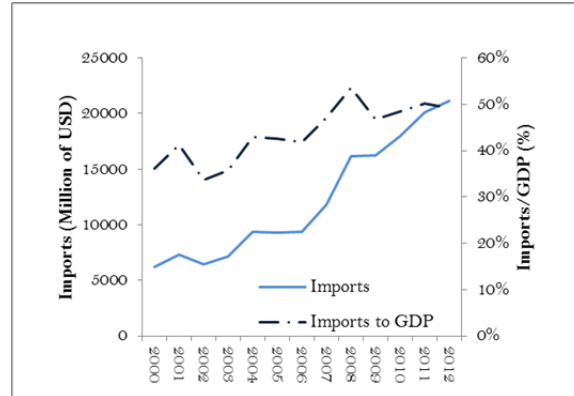
**42. Syria is important for Lebanon in international trade not only due to its role as a trading partner, but also because a sizable share of Lebanese trade transits through Syria.**<sup>17</sup> Despite Lebanon's export and import bundles being relatively diversified given its level of GDP (e.g., exporters reach 110 destinations, well above the average for countries of similar size), more than 20 percent of total exports and about 6 percent of total imports transit by land through Syria, mainly to and from the Arab markets (the most important being United Arab Emirates, Saudi Arabia, Jordan, Iraq, Iran, Kuwait, Oman, Qatar and Bahrain, hereafter referred to as the "affected countries"). These trade flows clear customs in the border cities of Masnaa, Abboudieh, Arida, or Kaa (Figure 11 and Figure 12).<sup>18 19</sup>

Figure 9. Evolution of Lebanese Exports



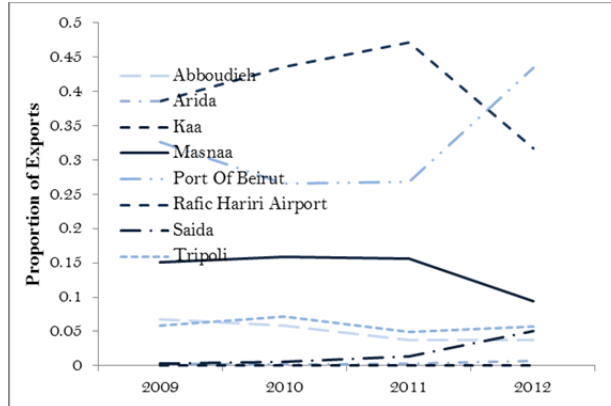
Source: WB staff calculations based on WITS and WDI.

Figure 10. Evolution of Lebanese Imports



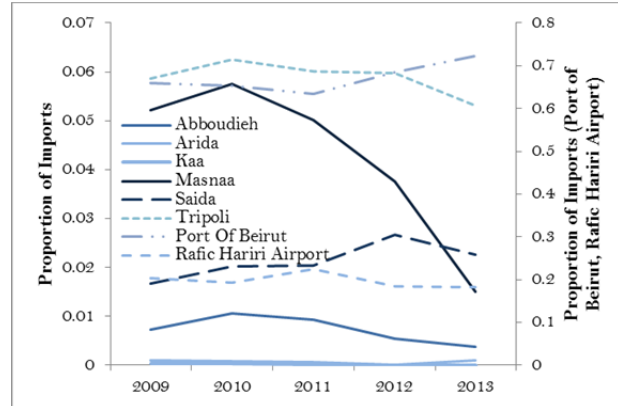
Source: WB staff calculations based on WITS and WDI.

Figure 11: Share of Exports by Customs Office



Source: World Bank staff calculations based on Lebanese Customs data. Note: Data for 2013 are only available until June.

Figure 12: Share of Imports by Customs Office



Source: World Bank staff calculations based on Lebanese Customs data. Note: Data for 2013 are only available until June.

<sup>17</sup> In 2012 Syria was the fifth destination for Lebanese exporters, accumulating about 6.6 percent of total exports, after South Africa (19.4 percent), Switzerland (12.3 percent), UAE (7.8 percent), and Saudi Arabia (7.9 percent).

<sup>18</sup> About 1 percent of import flows are cleared through Abboudieh, 0.1 percent through Arida, 0.03 percent through Kaa, and 5.5 percent through Masnaa, the most important customs point in the border with Syria.

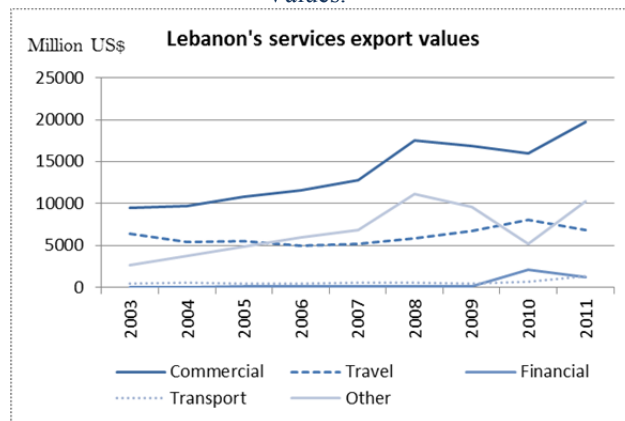
<sup>19</sup> It should be noted that while the trade impact analysis is based on Lebanon customs data, it is widely reported that non-recorded imports (e.g., smuggling) between Lebanon and Syria was quite prevalent given the large shared terrestrial border. Anecdotal evidence, for example, point to large disruptions in the smuggling of petroleum products, which were moving from Syria to Lebanon prior to the conflict due to price differences among the two countries, but as the Syrian conflict worsened, these trade flows have reversed.



## Trends in Services Trade

**43. During most of the 2000s, Lebanon's services exports performed strongly overall though some of its components proved sensitive to domestic and regional instability (Figure 13).** While aggregate services exports expanded steadily through the 2000s, large components such as tourism have in the past suffered materially from shocks related to insecurity. For example, tourism exports contracted in both 2005 and 2006 due to the repeated security events that took place in 2005—most importantly the assassination of former Prime Minister Rafic Hariri—and the hostilities with Israel in the summer of 2006 (the peak of the tourism season in Lebanon). Such shocks have had lasting impacts (Figure 14).

Figure 13: Evolution of Lebanon's Services Export Values.



Source: UNCTAD Stat. Note: Commercial services are total services excluding government services. The category other services includes communication, construction, insurance, computer and information, royalties and licensing fees, other business services, and personal services.

Figure 14: Tourism and Financial services dominate Lebanon's Services Export



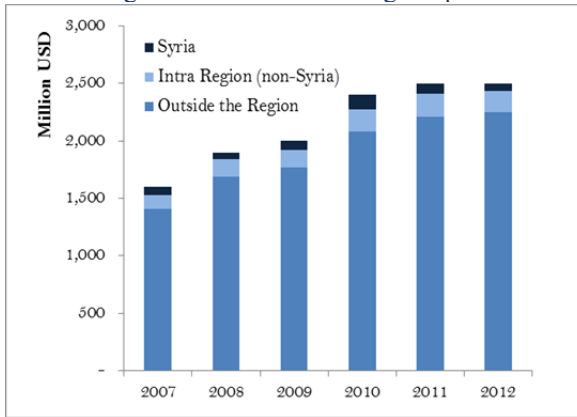
Source: UNCTAD Stat. Note: The category other services includes communication, construction, insurance, computer and information, royalties and licensing fees, other business services, and personal services.

**44. Notwithstanding the large transport and tourism exports, Lebanon's services exports also include a strong focus on modern services, providing some resilience to the Syrian crisis.** Contrary to most economies in the region, Lebanon's services exports do not rely exclusively on exports of transport and tourism, but also cover modern sectors like financial services and business services. Other business services, which encompasses IT-enabled services (ITES) related to business processing outsourcing (BPO), replaced travel services as the most important services export sector (In 2011, these accounted for 46 percent of commercial services exports). The ITES sector continues to be resilient and productive despite the challenging economic environment.

## Trends in Food Trade

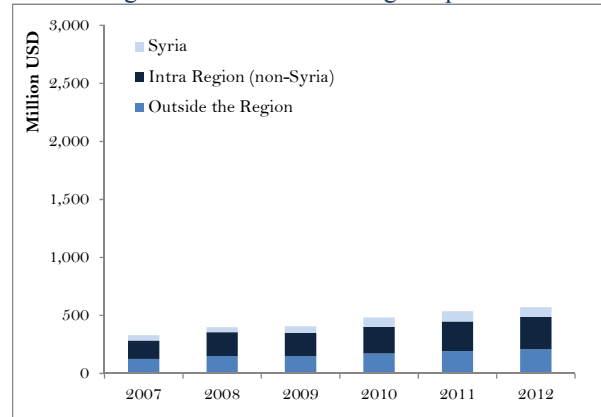
**45. Lebanon has historically been a net importer of food products.** Food imports have been sourced from countries outside the group of affected countries. Since the beginning of the conflict, imports of food and beverages from neighboring countries have dropped (9 percent in 2011 and 14 percent in 2012), which contributed to a decrease in 2 percentage points in the share of food and beverage imports from affected countries (Figure 15). Food exports, on the other hand, are mainly oriented to the region (63 percent of the total), where Lebanon has been historically a net exporter of food. Syria is an exception and Lebanon has traditionally been a net importer of food from the country. However, in 2012, Lebanon posted its first trade surplus in food products with Syria since data are available (Figure 16).

Figure 15: Food &amp; Beverage Imports



Source: WB staff calculations based on data from WITS.

Figure 16: Food &amp; Beverage Exports



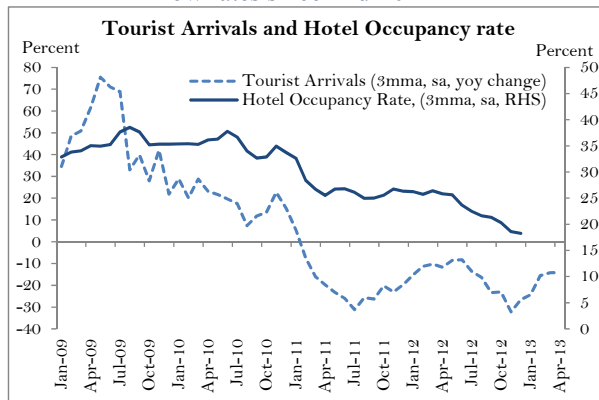
Source: WB staff calculations based on data from WITS.

### Tourism sector

**46. Tourism—a linchpin of Lebanon’s economy—had performed strongly through 2010 but softened in 2011, in part due to domestic turmoil and to the negative perception of the Arab Spring.** Tourist arrivals and hotel occupancy rates exhibited an upward trend through 2010. Tourist arrivals peaked at 361,964 (nsa) in July 2010, while hotel occupancy rates reached a high of 52.2 percent (nsa) in July 2009. The upward trends in nationwide tourist arrivals and hotel occupancy rates were expected to persist under normal political and security environments during the summer of 2011 with the arrival of Arab and Western tourists.

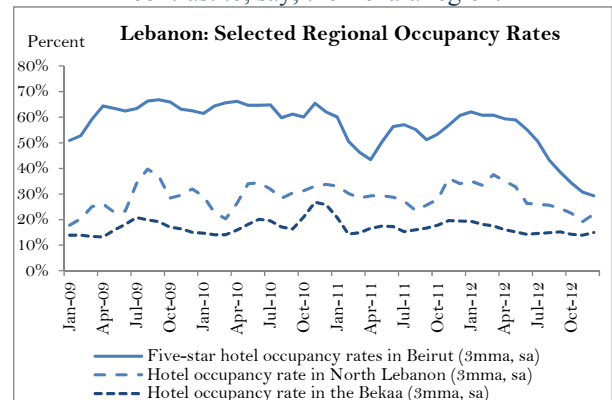
**47. The spatial impact of tourism within Lebanon was relatively stable prior to the Syrian conflict.** Hotel occupancy rates in Beirut, North Lebanon and the Beka’a remained relatively stable prior to the Syrian conflict. Unlike five-star hotels in Beirut which cater to affluent Arab and Western nationals, hotels in North Lebanon and the Beka’a usually cater for the middle- to lower-middle-class Arab tourists. Absent the Syrian conflict and associated security incidents in Lebanon, the regional hotel occupancy rates were projected to be close to their historical averages.

Figure 17. Tourist arrivals reacts strongly to security incidents while hotel occupancy had dropped to very low rates since mid-2012



Source: Ministry of Tourism and World Bank staff calculations.

Figure 18. Beirut hotels are most affected by the crisis as few refugees are in there to offset tourist demand, in contrast to, say, the Beka’a region.



Source: Ministry of Tourism and World Bank staff calculations.

*Real estate sector*

**48. After a real estate boom from 2006 to 2009, a period of consolidation started in late 2010 and was expected to extend over a few years as affordability for Lebanese residents was low.** The strong price increases observed during the boom years had pushed prices to level where many Lebanese, especially the resident ones, were being increasingly priced out of the market. Beirut, for example, was one of the most expensive real estate markets in the region in 2010 (IMF, 2012). As Lebanese nationals traditionally account for 80 to 90 percent of the real estate market (of which about two thirds are residents), a period of consolidation was to be expected. The consolidation was expected to occur through a combination of downward price pressure, in nominal but especially in real terms, and a readjustment of the real estate supply away from the luxury market aimed primarily at foreigners or Lebanese expatriates and towards smaller housing units aimed at Lebanese residents.

*Banking sector*

**49. The (large) Lebanese banking sector has traditionally enjoyed high capitalization, good profitability, and has proven resilient even to large shocks.** The sector has shown remarkable resilience to external shocks and performed well, in terms of profitability and liquidity, during the US subprime mortgage crisis and the more recent Greek sovereign debt and Cypriot banking crises. With relatively under-developed financial markets, the Lebanese banking sector is at the center of financial intermediation in the country. The sector has typically been profitable and highly liquid as a result of a combination of prudent investments, cautious risk management practices and sound oversight and regulation by the BdL. Prior to any of spillovers from the Syrian crisis, the assets and deposits in commercial banks have steadily increased while several subsidized lending schemes coupled with robust economic growth have enticed lending to the private sector.<sup>20</sup> In the absence of the Syrian conflict, assets, deposits and lending of Lebanese banks were expected to remain buoyant except for lending for real estate investment as the sector was entering a period of consolidation. Large banking sector vulnerabilities were, however, projected to remain. These include a strong reliance on short-term deposits—which have remained relatively stable to date—and indirect currency risk exposure through the exposures of their borrowers. Lebanese banks are also significantly exposed to their sovereign debt and have large claims with the BdL.

**50. Lebanese banks had expanded rapidly in Syria since the mid-2000s as the Syrian banking sector started to open up to the private sector and to foreigners.** Lebanese banks had expanded rapidly and significantly at the regional level. Prior to the onset of the regional turmoil (and not just the Syrian one), expectations were that these expansions plans would have continued. A total of seven Lebanese banks operated in Syria when the crisis started. Their market share before the crisis was around 22 percent (in terms of total deposits and lending in the Syrian banking sector), and more than 60 percent of the share of privately-owned banks.<sup>21</sup> Pre-crisis banks' assets in Syrian subsidiaries were estimated at SYP302 billion (USD5.5 billion) at end-2011 and belonged to banks which have adequate reserve coverage and therefore do not impose an unreasonable added risk.

<sup>20</sup> The consolidated assets of the banking sector grew by 22.8 percent in 2009 and 13.5 percent in 2010 due to strong deposit inflows. Lending to the private sector, in turn, rose by 15.2 and 25 percent in 2009 and 2010, respectively.

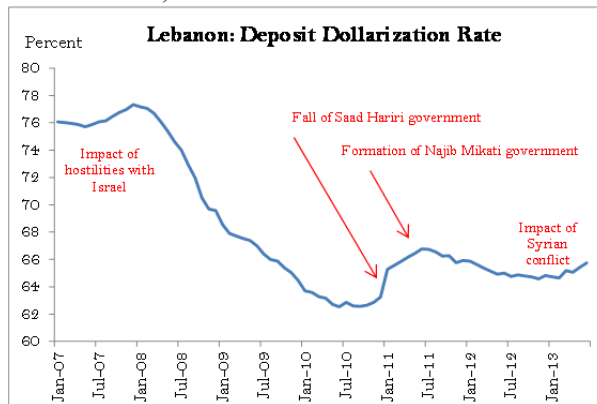
<sup>21</sup> Lebanese banks constituted 60 (70) percent of assets (deposits), and 57 percent of private banks loans.

## I.2. Impact assessment

### I.2.A. Overall macroeconomic impact

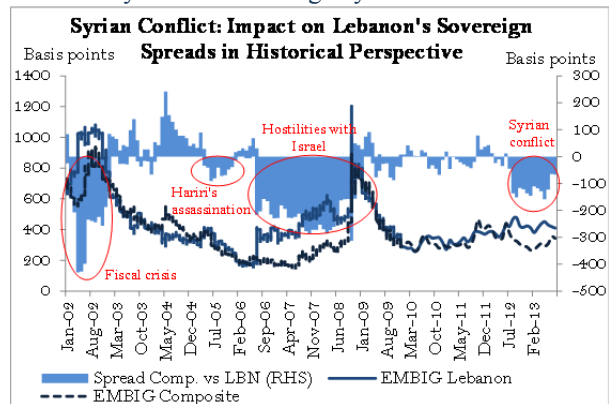
**51. From a macroeconomic perspective, the impact of the Syrian crisis started to become significant in the summer of 2012.** Notwithstanding quality, coverage and timeliness issue of statistical data in Lebanon, consumer and investor confidence can still be gauged rapidly through a few high frequency indicators. One such indicator is the deposit dollarization rate.<sup>22,23</sup> During the summer of 2012 several major security events took place in Lebanon and in Syria and a surge in refugees arrived from Syria. Confidence ebbed, as captured by the rise in the dollarization rate (Figure 19). A similar timing of the Syrian crisis' impact on investor confidence can be seen from the relative spread between Lebanon and other emerging markets (Figure 20). Starting in July 2012, spreads on Lebanon's Eurobonds widened and have remained elevated since. The level change in spreads indicate that investors perceive that the Syrian conflict's impact is about twice as concerning as the assassination of former PM Rafic Hariri but about half as impactful as the hostilities with Israel in the summer of 2006.

Figure 19. The Syrian conflict's impact on confidence, as reflected in the dollarization rate



Source: Banque du Liban and World Bank staff.

Figure 20. The Syrian conflict's impact on Lebanon's solvency is viewed as large by financial markets



Source: Bloomberg.

**52. Econometric estimates indicate that the Syrian conflict cut Lebanon's annual real GDP growth by 2.9 percentage points each year since 2012 for a cumulative nominal loss in economic activity of USD7.5 billion** (Figure 21). With serious deficiencies in macroeconomic data available (e.g., no official GDP series after 2010), the team used monthly import data available through June 2013 to estimate domestic consumption and investment, two of the largest components of GDP but for which limited timely information exist.<sup>24</sup> The impact of the Syrian conflict on the two other components of GDP, namely government spending and net exports, are detailed in the section and chapter below, respectively. Comparing current nominal GDP estimates and forecast with those under the counter-factual scenario of no-Syrian conflict spillover,<sup>25</sup> this impact translates in a loss in economic activity amounting to USD1.1 billion in 2012, USD2.5 billion in 2013, and USD3.9 billion in 2014. Table 6 presents an

<sup>22</sup> Since Lebanon has a fixed exchange rate to the dollar and is a heavily dollarized economy, switching in and out of the dollar is relatively frictionless. As a result, any confidence shock can immediately be seen through this indicator.

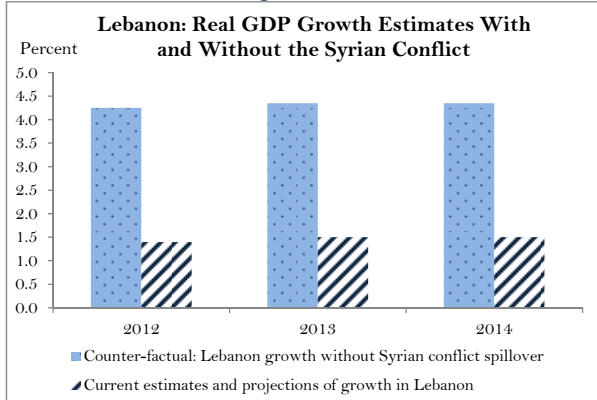
<sup>23</sup> This indicator reveals, for example, that the fall of Saad Hariri's unity government in January 2011 (i.e., prior to the onset of demonstrations in Syria in March 2011) led to a sudden jump in the dollarization rate. Only when a new government headed by PM Najib Mikati came to power in June of that year did the dollarization rate start to fall. The improvement in confidence continued from June 2011 till the summer of 2012.

<sup>24</sup> See the Macro Appendix on page 80 for the model used and caveats.

<sup>25</sup> For example, comparing current 2013 nominal GDP estimates with the counter-factual 2013 nominal GDP.

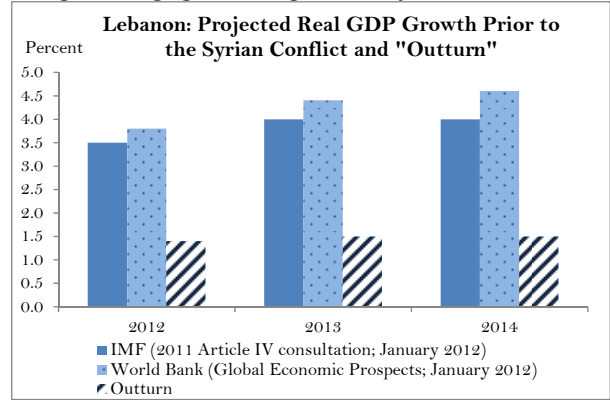
overview of the latest World Bank economic forecast for the Lebanese economy, taking into account the findings of this report.<sup>26</sup>

Figure 21. Syria's conflict is estimated to subtract 2.9 percentage points annually to Lebanon's real GDP growth



Source: World Bank staff estimates.

Figure 22. GDP growth forecast made prior to the crisis compared to the latest forecast point to a 2-3 percentage points drop due to Syrian conflict



Source: EUI, IMF, World Bank.

**53. Given the limited data available, several cross checks of the estimated growth impact of the Syrian conflict were used and produce very similar results. The cross checks are:**

- **Pre-shock versus current forecast comparisons.** By comparing (1) forecast of real GDP growth in Lebanon made immediately prior to the time when analysts perceived the Syrian conflict as materially impacting Lebanon with (2) the latest real GDP growth forecast one can identify, under certain conditions, the Syria-shock impact. Using such an identification strategy with forecast from both the IMF and the World Bank as of January 2012 and August 2013, one can calculate that the Syrian conflict cut real GDP growth by an annual average of 2.3 percentage points using IMF forecast, 2.8 percentage points using World Bank forecast, and 3.1 percentage points using forecast from the Economist Intelligence Unit. These are of the same order of magnitude as the 2.9 percentage points estimated.

Several caveats apply for this “identification” method to be valid, most importantly is that the Syrian shock is the only one that impacted Lebanon during the time difference in forecasts. This assumption appears reasonable in the case of Lebanon between January 2012 and August 2013. The global economic outlook is relatively unchanged as are key prices such as oil prices.<sup>27</sup> Another assumption is that of perfect pre-crisis forecast.

- **Comparison of the Syria shock with historical shocks in Lebanon.** A recent shock that hit Lebanon was the hostilities with Israel in 2006. At the request of the GoL, the World Bank

<sup>26</sup> One key assumption retained in estimating the impact on growth in 2014 between the baseline and high refugee influx scenario is that the overall security and confidence environment is the same in both scenarios (i.e., more refugees does not lead to increased tensions within the country which could dampen consumer and investor confidence). Under this assumption, a higher influx of refugees translates into increased domestic absorption (consumption of the refugees, spending on public services to cater to them, investment in housing, etc.), and therefore in a higher GDP than in the scenario with lower refugees.

<sup>27</sup> These have a significant impact on Lebanon's balance of payments, not just because of its direct impact on its oil imports but also through its impact on remittances (e.g., from Lebanese citizens working in Gulf countries) and on its tourism exports—for details on the oil price and Lebanon's external performance, see World Bank (2012). You might want to mention the fiscal impact through transfers to the EdL.

undertook an extensive Economic and Social Impact Assessment of these hostilities (World Bank, 2007). This shock cut an estimated 5 percentage points to real GDP growth in Lebanon (from a pre-crisis projected growth rate of 5.6 percent in 2006 to an outturn of 0.6 percent). This cut in growth cost USD1.1 billion in foregone economic activity (2006 GDP was nearly half of its 2013 level in current dollars). While it is difficult to compare a direct shock (hostilities with Israel) and an indirect shock (Syrian conflict spillover) in terms of economic impact, based on Eurobond spreads, one can extract that the 2006 hostilities with Israel was about two times more concerning to Eurobond investors than the current crisis is (Figure 20).<sup>28</sup> Based on investors' impact assessment, a linear extrapolation of the 2006 shock to the current one would correspond to a drop in real GDP growth of 3 percentage points, which is close to the 2.9 drop estimated.

- CGE simulations. A Computational General Equilibrium model of the Lebanese economy developed by the Economic and Social Commission for Western Asia (ESCWA, 2013) and calibrated with the 2010 Social Accounting Matrix was used to assess the impact of the Syrian shock.<sup>29</sup> The result of the model show that real GDP growth in 2011 is unaffected, then drops by 0.3 percentage points in 2012 (compared to the no-crisis growth rate), and by 2.9 percentage points in both 2013 and 2014. Aside from the lower simulated impact in 2012, the growth impacts for 2013 and 2014 are very close to the econometric estimates of a 2.9 percentage points drop.

**54. Measured from the expenditure side, the Syrian conflict has impacted all components of GDP,** namely: private consumption, private investment, public consumption and investment, and net exports. Specifically:

- *The security spillover of the crisis has negatively affected private consumption activities.* Consumer confidence, as measured by the AUB/Byblos consumer confidence index, reached a new low in 2012, plunging by 36.8 percent compared to 2011 (which itself was already comparatively low). As security incidents have continued to increase in 2013, a further decrease in consumer confidence is expected to have taken place through August 2013. This is expected to drive households to increase their precautionary savings and, as a result, to consume less. This directly reduces aggregate demand leading to a slowdown in economic activities. The 1.5 percent drop in checks cleared for 2012 and the continued 0.6 percent decline in Q1 2013 year-on-year (yoy) are consistent with such a slowdown in consumption.
- *The (Syria-related) drop in aggregate demand and increased risk perceptions have weakened private investment.* Faced with uncertainty regarding final demand, private investment has also declined. This can be depicted through investment indices such as cement deliveries, construction permits, and electricity production which all dropped in 2012 by respectively 3.2, 10.1 and 12.8 percent (yoy). No tangible improvement was depicted so far in 2013.<sup>30</sup> In addition, the political deadlock in the country, which is strongly intertwined with the events in Syria, has blocked long

<sup>28</sup> The average change in relative spreads jumped by 200 basis points (bps) in 2006 while they rose by 120 basis points on average since July 2012. Based on this impact assessment of investors, a linear extrapolation of a 200 bps increase for a 5 percentage points drop in real GDP growth, the current jump in spreads of 120 bps would correspond to a drop in real GDP growth of 3 percentage points.

<sup>29</sup> The input shocks to the model included the following: (1) a reduction of the tourism revenue by 15 percent each year; (2) a reduction of total factor productivity by 20 percent compared to the base line scenario; (3) an increase of labor supply by 30 percent in 2013 and by 36 percent in 2014. This additional labor supply is assumed to be entirely absorbed by the informal labor market; and (4) an assumption that all the refugees arrive with no financial assets and that consequently all the capital revenue is collected by the host community.

<sup>30</sup> Figures for Q1 2013 show a continued drop in electricity production and construction permits by respectively 10.2 and 21.8 percent (yoy). Cement deliveries rose on the other hand by 13.6.

awaited reforms to improve the business environment in Lebanon,<sup>31</sup> tackle infrastructure bottleneck, increase competitiveness, and facilitate access to credit. This has further weakened private investment and private investors risk perception of the country.

- *Government consumption on the other hand has increased as a result of the Syrian conflict.* While many of the services for Syrian refugees are now being provided or paid for directly by donors and NGOs, the government has nonetheless extended many public services to refugees, including education, health, and electricity (which, through large transfers to EdL is heavily subsidized)—details on these costs are provided in the Fiscal Chapter as well as in many of the sectoral chapters (e.g., health, education, electricity). As the number of refugees and the length of time they remain in Lebanon grow, the associated pressures on public services are estimated to grow rapidly and non-linearly (e.g., once spare capacity at school facilities are exhausted, to serve the additional students, new buildings will need to be purchased or rented).
- *The Syrian crisis has also negatively impacted Lebanon's net exports.* The neighboring conflict has led to a widening Lebanon's trade deficit. Exports are estimated to have shrunk in both 2012 and 2013 due to the conflict, while the surge in imports observed in a select but large number of categories is not aligned with the slowdown in domestic economic activity observed in 2012. The effects and channels are analyzed in details in the next section on Trade Impact (page 48).

### Impact on prices

**55. While the Syrian conflict is expected to exert upward pressure on Lebanon's domestic prices, especially food and rents, existing (yet imperfect) inflation data do not yet show such pressures.** After accelerating in 2012 due in part to large minimum wage and public sector salary increases, various measures of inflation—headline, core or food inflation—have all been trending down in early 2013 (Figure 23). Upward pressure on prices in Lebanon is, nevertheless, expected to be taking place due to (1) the rise in consumption for staple products (especially food) linked to Syrians consumers in Lebanon; (2) import substitution from cheap Syrian goods to more expensive foreign sources (especially prevalent for border cities and villages); and (3) the rise in rent prices as result of the large demand shock in the housing market coming from Syrians seeking refuge in Lebanon and the relatively inelastic housing supply in the short-term. This is particularly the case in the bordering regions of the North and the Beka'a where the housing stock is initially low and the concentration of Syrians taking residency is high. As Lebanese inflation data capture rent prices only infrequently,<sup>32</sup> inflation is expected to be underestimated. Cues on this can be taken from Jordan. Rent pressures are clearly visible in Jordan in the first half of 2013 yet the country hosts less Syrian refugees and has a 50 percent larger population (and therefore housing stock) than Lebanon. Inflationary pressures are also present in Jordan for food items, including for domestically produced food.

**56. Notwithstanding national-level inflation data pointing to a lack of food price pressures, localized price pressures are expected, especially in border cities.** An analysis of international trade data through June 2013 reveals that supply and demand conditions for food products in Lebanon has not dramatically changed. However, it is likely that supply and demand conditions, and therefore prices, have changed more dramatically in in border cities, where, according to anecdotal evidence, cross-border shopping was the norm.<sup>33</sup> Moreover, there is some evidence that shocks have hit particularly hard the

<sup>31</sup> Lebanon has slipped further in the doing business ranking from 111 in 2011 to 114 in 2012.

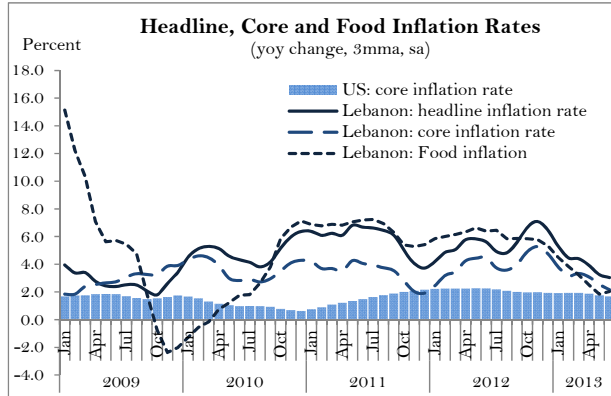
<sup>32</sup> Rental surveys are only undertaken every three years, with the latest survey dating from July 2012.

<sup>33</sup> Unavailability of detailed price data at the city level precludes examining geographical heterogeneities, restricting the analysis to national averages.



products that are more intensely traded in the region. This is the case for wheat and wheat flour products.<sup>34</sup>

Figure 23. Measured inflation is decreasing in 2013 following large minimum wage and salary increases in 2012



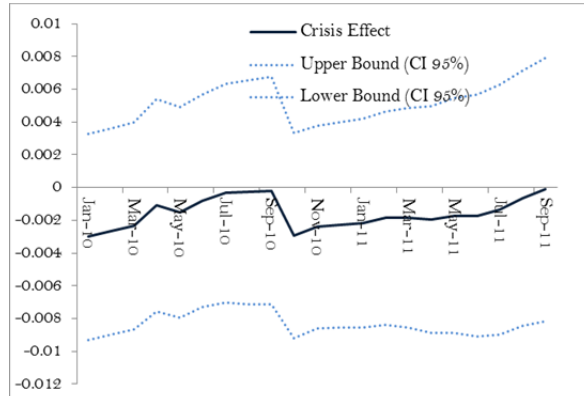
Source: Bloomberg, Consulting & Research Institute, Central Administration of Statistics, and World Bank staff. 1/ Core inflation is defined as headline inflation minus fuel and food inflation.

Table 4: Trends in Trade and Unit Values for Wheat and Wheat Flour 1/

|  | Imports | Unit Values | Exports | Unit Values |
|--|---------|-------------|---------|-------------|
| <b>Durum Wheat</b>                         |         |             |         |             |
| 2010                                       | 129,193 | 0.26        | 7,910   | 0.25        |
| 2011                                       | 143,864 | 0.32        | 2,423   | 0.38        |
| 2012                                       | 165,974 | 0.31        | 432     | 0.27        |
| 2013*                                      |         |             |         |             |
| Main Destinations: Syria, Jordan, Turkey   |         |             |         |             |
| Main Sources: Russia, Ukraine, USA         |         |             |         |             |
| <b>Wheat Flour</b>                         |         |             |         |             |
| 2010                                       | 5,546   | 0.53        | 1,232   | 0.35        |
| 2011                                       | 7,463   | 0.68        | 1,873   | 0.41        |
| 2012                                       | 8,497   | 0.54        | 7,586   | 0.42        |
| 2013*                                      | 7,875   | 0.54        | 10,055  | 0.51        |
| Main Destinations: Syria, Iraq             |         |             |         |             |
| Main Sources: France, Germany, Netherlands |         |             |         |             |

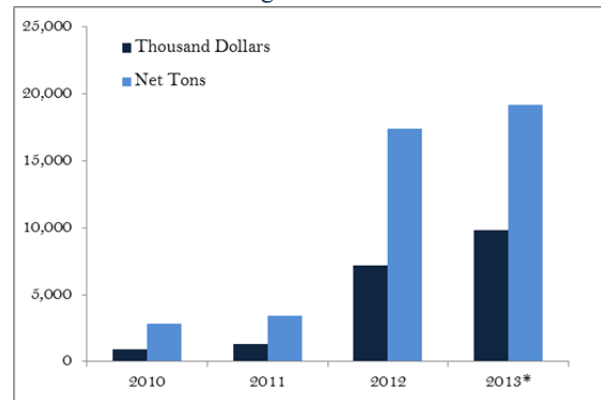
Source: WB staff calculations based on Lebanese Customs data. 1/ (\*) denotes that data for 2013 are only available until June.

Figure 24. Estimated Domestic Price Change Effect on Grains



Source: WB staff calculations based on data from Ministry of Economy and Trade.

Figure 25: Lebanon: Exports of Wheat Flour to Syria have surged since 2012



Source: WB staff calculations based on Lebanese Customs data. Note: (\*) denotes that data for 2013 are only available until June.

**57. Domestic price pressures are being observed for grains and flours due to a surge in Syrian demand for these staple goods.** Exports of wheat flour to Syria in the first six months of 2013 were 11 times greater than those of 2010 in current US dollars terms, and almost 7 times greater in volume (Figure 25). Durum wheat and wheat flour appear among the main food products traded with the region. Net exports of wheat have decreased after the conflict, and those of wheat flour, mainly to Syria, have soared in values and volumes (Table 4). These sharp changes in supply and demand conditions in the market for grains and flours have pushed domestic prices upwards by about 11 percent, beyond any effect associated

<sup>34</sup> The trade dynamics associated with other food products of importance for Lebanon's import and export bundles, but with less significant changes in supply and demand conditions, are presented in the Trade Sector Appendices starting on page 54.



with world price changes.<sup>35</sup> The estimated effect of the conflict on the growth rate of prices is plotted in Figure 24.<sup>36</sup>

### **Implications of rising food prices for welfare, poverty, and employment**

**58. Rising food prices lead to welfare losses if the negative impact through consumption outweighs the benefit through production.** Many Lebanese citizens were accessing cheaper goods (and even services) from Syria prior to the conflict, including food. Lebanon becoming a net exporter of food products with Syria was shown to have sizeable domestic price impacts on particular foods such as grains and flours. While data is unavailable to estimate the actual impact of price effects, whether the net effect is positive or negative for a household depends on the share of the product in expenditure and income.<sup>37</sup> However, Lebanon switching from a net food importer to a net food exporter with Syria offers benefits for food producers and the agricultural sector more generally.

**59. In general, both effects—consumption and production—are biased against the poor.** Price increases in food staples are immediately translated into substantial losses of purchasing power for poor households who are net food consumers. Although net food producers would benefit through income gains, only 6 percent of households were employed in agriculture in 2009 (agriculture includes a lot of Syrian seasonal workers). However, these are also the poorest households in Lebanon. In 2004-2005, extreme poverty rates were the highest in agriculture compared to other sectors of the economy at over 20 percent.

**60. The impact of food price increases will therefore vary across urban and rural households.** Income effects are expected to be larger in rural areas where a larger proportion of households are involved in agricultural activities. Although only four agricultural producers were surveyed in the World Bank enterprise survey, three were located to the east in Zahleh, as well as Hazmieh and Safra. However, if more poor households live in rural areas, then the consumption effects would also be larger.

## **I.2.B. Impact in Key Industries**

### **I.2.B.1. Trade sector**

#### **Impact on trade in goods**

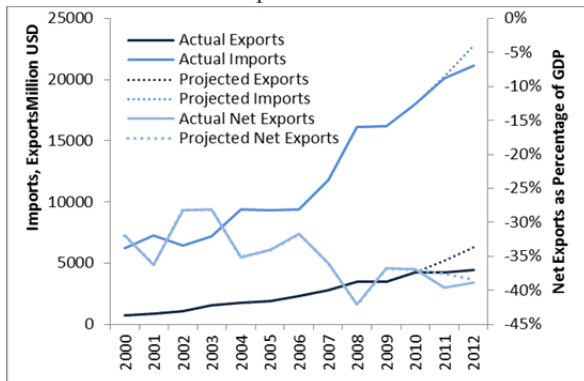
**61. To date, the Syrian conflict has had a sizable negative impact on overall trade in Lebanon.** The deceleration of exports experienced during the last two years implied about USD2.8 billion of foreign exchange income foregone, that results from comparing actual export trends with the projected one, had the growth trend of 2000-2008 continued over the period 2011-2012. Similarly, the deceleration of imports implied consumers and firms foregoing foreign goods of the value of USD1.7 billion (Figure 26). More importantly, both export and import growth is likely to contract further in light of the first six months data available from 2013.

<sup>35</sup> In 12 ‘placebo’ models, with the crisis dummy being defined from September 2010 until August 2011, the crisis effect on grain prices is not statistically different from zero. However, from August 2011 onwards, it becomes significant at 5 percent, suggesting a level effect on prices of about 10.8 percent.

<sup>36</sup> The discussion for oils and fats, meats, and fruits, where price effects associated to the conflict are found to be not significant, is presented in the Appendix to this document.

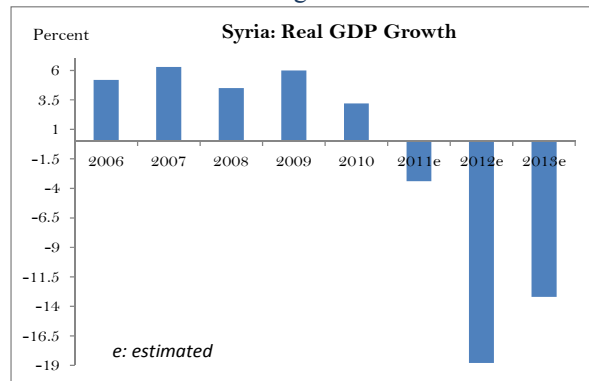
<sup>37</sup> Substitution effects will also exist as consumers or producers react to the price change. In addition, general equilibrium effects will be present where factor prices adjust, resulting in, for example, higher wages received by agricultural workers.

Figure 26. Actual and Projected Exports, Imports and Net Exports/GDP



Source: WB staff calculations based on WITS, WDI and IMF WEO

Figure 27. Syria: Impact of the domestic conflict on GDP growth



Source: Economist Intelligence Unit (Syria Country Report).

**62. The contraction in Lebanese exports and imports that travel through Syria accelerated during the first months of 2013.** Figure 28 shows the evolution of monthly export growth rates for total exports and for exports through Syria as well as trends for each of the series. The growth rate of exports through Syria fell by 11.6 percentage points when comparing the pre- and post-Syrian conflict periods. The fall in growth rates becomes particularly important in 2013. Figure 29 does the same for imports, and the picture that emerges is similar. Growth of imports through Syria fell by 43.6 percentage points when comparing pre- and post-conflict periods, and in this case the sharp reductions in the growth of imports started earlier in 2012. For total exports and imports, the evidence of a fall in growth rates from monthly data is less conclusive.<sup>38</sup>

Figure 28. The contraction in Lebanese exports through Syria accelerated in the first half of 2013... 1/

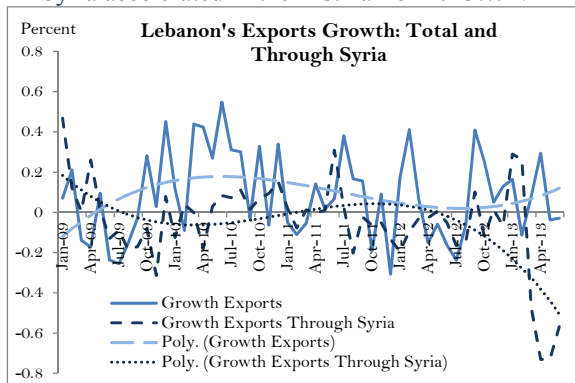
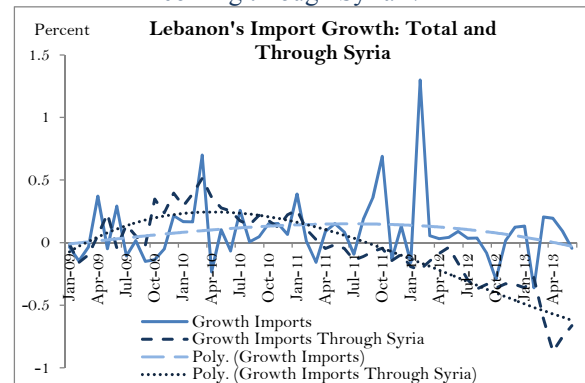
Source: WB staff calculations based on Lebanese Customs data.  
1/ Data for 2013 are only available until June. Seasonally adjusted.

Figure 29. ...as did the growth rates in imports coming through Syria 1/

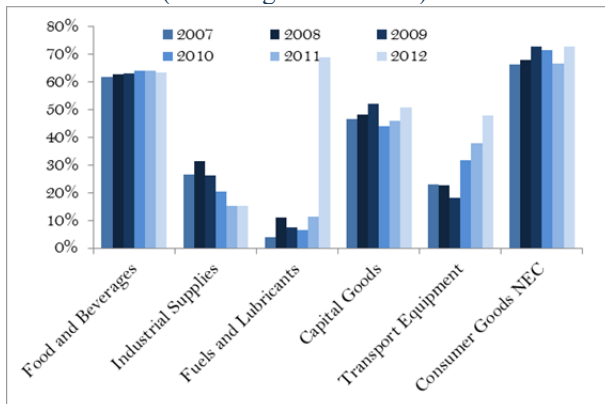
Source: WB staff calculations based on Lebanese Customs data.  
1/ Data for 2013 are only available until June. Seasonally adjusted.

**63. The disruptions of trade with the region will likely increase Lebanon's merchandise trade deficit, thereby widening its already large imbalance.** Both exports to and imports from markets that transit through Syria are and will continue to be severely affected if the conflict continues. However, given that the vast majority of imports originate in the rest of the world while a sizable portion of exports are directed to the region, the negative effect on exports will likely exceed the one on imports, thus widening the already large imbalance in Lebanon's merchandise trade.

<sup>38</sup> While on average the post-conflict reduction in the growth of exports is about 4 percentage points, for import growth, the post-conflict period displays a 3.4 percentage-point higher growth rate (though neither of these changes in growth rates is different from zero statistically.)

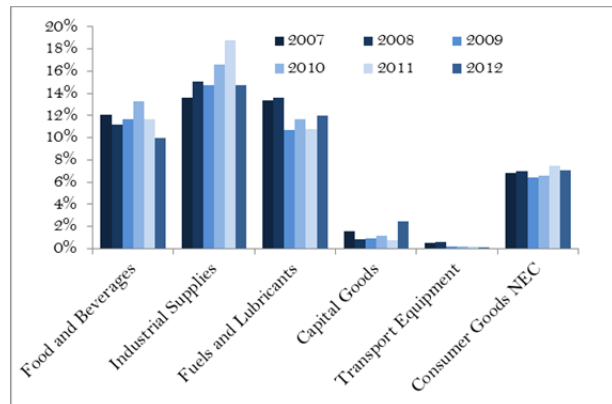
**64. The disruptions of trade will be felt more strongly on specific groups of products that are typically traded with the region: food products, consumer goods, and to a lower extent, some capital goods.** More than 60 percent of Lebanese exports of food and beverages have as a destination the affected group of countries (Figure 30). Nuts, ground nuts and other seeds, bananas, lemons and oranges, and potatoes are among the most heavily traded products. Exports of foodstuffs to the group of affected countries have increased both in 2011 and in 2012 (Figure 30). Part of this is explained by an increase in demand for food products from Syria, which is likely to be sustained given the supply gaps in that country that are a consequence of the destruction of the Syrian manufacturing base, notably in Aleppo and Homs, and of the reduction in agricultural output (World Bank, 2013). For example, Syrian demand for Lebanese wheat flour and sunflower oil has soared (implications on food prices were discussed on page 46).<sup>39</sup> In addition, half of total exports of capital goods are oriented to the group of affected countries, and may be severely hit by the disruptions in the traditional transit route. Among these, combustion engines exhibit the largest share in total export values (more than 97 million dollars exported in 2011), and are typically exported to United Arab Emirates, Iraq, and Saudi Arabia.<sup>40</sup>

Figure 30. Share of Lebanese Exports to Affected Countries by Broad Economic Classification (BEC) (Percentage of the Total)



Source: WB staff calculations based on WITS.

Figure 31. Share of Lebanese Imports from Affected Countries by BEC. (Percentage of the Total)



Source: WB staff calculations based on WITS.

**65. On the import side, the disruptions in the trade route via Syria are likely to affect Lebanese manufacturing firms' import of industrial supplies.** Between 15-20 percent of total imports of industrial supplies are sourced from the group of affected countries (about USD1 billion per year, on average), and include semi-finished base metal clads, aluminum alloys, and polyethylene, among others. Although imports of these products (mostly minerals) from the group of affected countries have actually been increasing over the last two years, they are likely to fall as the conflict escalates (Figure 31).

### Impact on trade in services

**66. The impact of the Syrian crisis through disruptions in services trade is having significant impacts on Lebanon's economy, most clearly in the tourism sector but also the banking sector.** On the one hand, this is largely due to the importance of services for the domestic economy, with services'

<sup>39</sup> The increase in exports of wheat flour also brought about an increase in imports of wheat. In addition, as argued by UNDP, data from the World Food Program shows that food vouchers distributed to Syrian Refugees in Lebanon were also geared towards wheat and flour products.

<sup>40</sup> Exports of fuel and lubricants from Lebanon to the region are minimal. However, the sharp increase observed in 2012 is related to exports to Syria as a result of the conflict-related production disruptions in that country.

share of GDP at 74 percent in 2011. In addition, nearly 80 percent of Lebanon's total exports were services, totaling USD19.8 billion (equivalent to 49.4 percent of GDP) compared to merchandise exports of USD5.4 billion. While services imports are also important, Lebanon has maintained a positive services trade balance over the last decade equivalent to 17 percent of GDP in 2011. On the other hand, the composition of Lebanon's services exports also plays a role, as the impact of the Syrian crisis is being felt in particular sectors, such as tourism and, to a lower extent, banking. These sector-specific effects are delineated in the tourism and banking sector sections below.

### **Vulnerability of Lebanese Exports to a Continuation of Syria's Conflict**

**67. The devastating impact of the Syrian crisis on the country's economic performance is expected to continue to affect Lebanon's merchandise exports into the future.** Trade has become a primary channel of transmission of external demand shocks, and projections of Syrian real GDP growth in the coming years are bleak (Figure 27). To estimate the impact that the crisis has had on Lebanon's exports to Syria due to the declines in external demand of one of the country's top five merchandise export destinations, an analysis of export vulnerability developed by the World Bank is used.

**68. The overall response of Lebanon's merchandise exports to a decrease of economic growth in Syria is low, holding everything else equal.** Indexes of export vulnerability, or the impact of changes in foreign demand on Lebanon's exports as a share of GDP, have been computed for commodities and differentiated products (the subset of merchandise exports that are not commodities).<sup>41</sup> What drives this low response is low sensitivity of exports to Syrian GDP fluctuations coupled with a lesser dependence of Lebanon's exporters on this market. This methodology, however, is capturing the historical response of Lebanon's exports to GDP fluctuations in Syria. It abstracts from other transmission channels of the Syrian crisis, for example, goods physically not being able to cross into and transit through Syria, or changing smuggling patterns.

**69. Yet the impact of the crisis could widen if the contraction in Syrian GDP is substantial.** Using the vulnerability estimates in conjunction with Syria's projected GDP growth rates, it is predicted that Lebanon's differentiated product (commodity) exports to Syria will contract by 8.7 (0.7) percentage points in 2013 and 20.4 (1.6) percentage points in 2014 relative to 2012 values. In contrast, had Syria's growth continued to expand according to IMF projections in 2013 and 2014, Lebanon's differentiated product (commodity) exports are estimated to have grown by 3.2 (0.2) percentage points in 2013 and 6.5 (0.5) percentage points in 2014 relative to 2012 values. This amounts to an estimated loss of differentiated product (commodity) export values of USD70.2 million (USD0.7 million) by 2014 due to Syrian aggregate demand contractions as a consequence of the crisis.

**70. While estimates suggest a relatively muted impact on commodity exports, if the conflict impacts Syrian agricultural land, Lebanese agricultural producers should expect demand increases.** Although a small share of Syria's commodity imports are sourced from Lebanon (1 percent in 2010), Lebanon's commodity exports to Syria increased 28 percentage points between 2011 and 2012. In fact, as discussed above, Lebanon had been a net importer of food products from Syria through 2011 but in 2012 Lebanon posted the first trade surplus. This trend is continuing into 2013, and by June Lebanon's food exports to Syria were in a surplus of over USD18 million. These changing export patterns will continue to have important implications: while food producers will benefit from increased demand, consumers (especially poor households) will face increased costs of living (discussed on separate section, page 48).

**71. An end to the conflict in Syria should also offer new export opportunities for Lebanon.** As Syrian GDP recovers, so too will external demand for Lebanese exports, but with particular sectors better

<sup>41</sup> See the appendix for a description of the methodology and estimates of export vulnerability.

positioned. For example, major reconstruction of infrastructure and buildings that will presumably take place in Syria could generate export booms for sectors such as construction. Subsidiaries and associates of Lebanese banks operating in Syria could also play a role in financing the rebuilding of the country.

### Welfare Effects of Restricted Trade through Increased Trade Costs

**72. The acceleration of the Syrian conflict has made it more difficult to use land transport for Lebanese importers and exporters.** Several simulations were conducted to quantify the potential effects on Lebanese imports and welfare associated with increased costs of trading with and through Syria. On the import side, about 5-6 percent of merchandise enters the country through customs points in the border with Syria, and have been and will continue to be disrupted by the conflict. Flows from Saudi Arabia, United Arab Emirates, Kuwait, Syria, Jordan, Iran, Qatar, Bahrain, Oman and Iraq are considered here. The choice of countries is motivated by two factors: the share of total imports from these countries that is cleared through customs offices in the Syrian border, and the importance of the trade flows in the Lebanese import basket.<sup>42</sup>

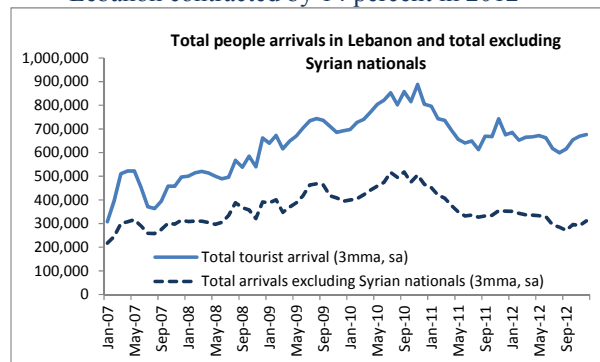
**73. The observed increases in trade costs with affected countries in the period 2011-2012 added an average of half of a percentage point to existing tariff barriers to trade.** According to our simulations, these extra costs would be associated with a total reduction in Lebanese imports of about one third of a percentage point (resulting in a drop in imports of USD52 million), and a welfare cost to Lebanese consumers and firms of about 80.5 million dollars.<sup>43</sup> If insurance, freight and other trade costs were to increase further due to the escalation of the conflict in Syria, the impact on imports and welfare will, of course, increase. Taking as an example, an increase of 25 percent (Sim. 2), that would add about 2.5 percentage points to overall existing tariff barriers, and reduce import values by USD257 million—which accounts for 1.2 percent of total imports (Table 5).

Table 5: Simulated Costs of Disruptions to Land Transportation in Syria

|  | Sim UV       | Sim 1        |
|--|--------------|--------------|
| Weighted Average Increase in Trade Costs | 0.5 percent  | 0.9 percent  |
| Change in Imports (in thousand USD)      | -52,129      | -90,660      |
| Proportional Change                      | -0.3 percent | -0.4 percent |
| Welfare Reduction (in thousand USD)      | 80,570       | 161,575      |
|  | Sim 2        | Sim 3        |
| Weighted Average Increase in Trade Costs | 2.5 percent  | 5.0 percent  |
| Change in Imports (in thousand USD)      | -256,597     | -513,196     |
| Proportional Change                      | -1.2 percent | -2.5 percent |
| Welfare Reduction (in thousand USD)      | 373,202      | 425,227      |

Source: WB staff calculations based on WITS data.

Figure 32. Excluding Syrians, total arrivals in Lebanon contracted by 14 percent in 2012



Source: Ministry of Tourism and World Bank calculations.

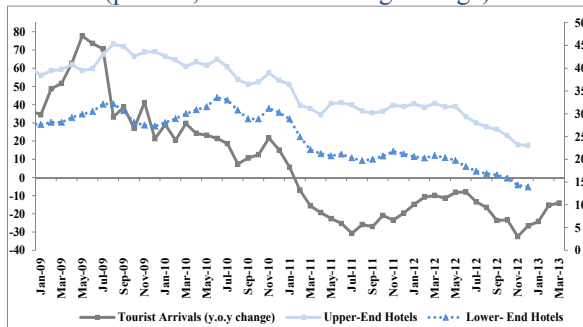
<sup>42</sup> Lebanese imports from selected countries in thousands of US dollars (share of imports through Syria): Saudi Arabia USD416,052 (76 percent); United Arab Emirates USD408,344 (32 percent); Kuwait USD316,424 (8 percent); Syrian Arab Republic USD295,100 (74 percent); Jordan USD259,644 (24 percent); Islamic Republic of Iran USD39,356 (64 percent); Qatar USD23,838 (38 percent); Bahrain USD11,287 (41 percent); Oman USD10,687 (49 percent); Iraq USD3,063 (57 percent).

<sup>43</sup> The welfare reduction combine the additional cost incurred by Lebanese importers in more expensive freight and insurance, as well as the reduction in consumer welfare due to the reduced volumes of imports. If part of the freight and insurance premia represent rents paid to Lebanese firms rather than pure costs, the welfare reduction is likely to be somewhat lower than the reported figures.

### 1.2.B.2. Tourism sector

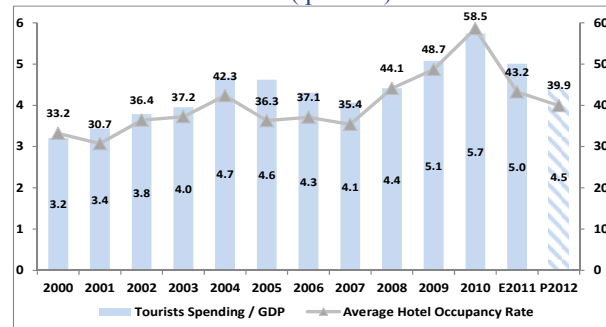
**74. Tourism—Lebanon’s leading services export sector—has been one of the sectors most severely hit by the Syrian crisis with 2012 losses estimated at 0.5 percent of GDP.** A notable decline in tourists’ arrival and in hotel occupancy rates have been observed since the start of the Syrian conflict (Figure 33). Tourist arrivals dropped in 2012—from an already low 2011 base—while hotel occupancy rates dropped by around 4 percentage points to 22.1 percent.<sup>44</sup> A noticeable additional decline in tourist arrivals occurred in May–July 2012 as the Syrian conflict increasingly took its toll on the Lebanese economy and several countries issued travel advisories discouraging travel to Lebanon (Figure 32). Hotel occupancy rates reached an unprecedented low of 17.3 percent in November 2012. The first four months of 2013 witnessed further declines in tourist arrivals, which dropped by 17.9 percent (yoy), amid the increasingly more frequent security incidents in Lebanon. The Syrian conflict partly contributed to this decline as (1) the passage points for tourists, notably Arabs, crossing to Lebanon by land through Syria was blocked as the fighting intensified; (2) violent incidences, clashes, and kidnappings continued; and (3) some of the tourism to the region was multiple-country tourism. Events fueled by a highly divided Lebanese political scene over the handling of the Syrian crisis, which also triggered a GCC travel ban to Lebanon; (3) increase in general public perception of danger in the Middle East further pushing away non-Arab tourists. Using historical trends (Figure 34). World Bank staff projects a loss of 0.5 percent of GDP (equivalent to around USD303 million) in tourist spending in Lebanon for 2012 alone. In the absence of more recent figures, anecdotal evidence suggests these losses continued into early 2013, as tourist arrivals dropped by 17.6 percent (yoy) in April. The continued worsening of the security situation in Lebanon is likely to have further materially impacted the critical summer season and puts at risk the end-of-year tourist season too. A further drop in economic activity in the sector is expected for 2013 and a stabilization (at a low base) is projected for 2014.

Figure 33 Tourist arrivals and hotel occupancy rates (percent; 3 months moving average)



Source: Ministry of Tourism and World Bank staff calculations. Upper-end is defined as 5 and 4 star hotels; Lower-end is 3 and 2 star hotels. Classification adopted is that of the ministry of tourism

Figure 34. Tourism expenditures and hotel occupancy rates ( percent)



Source: National Accounts for tourism spending, Ministry of Tourism for occupancy rates, and WB staff calculations. Note: 2011–2012 is projected using a simple OLS regression with tourists spending as a function of hotel occupancy rates and tourists arrivals.

**75. Tourism losses were partly compensated by the consumption of Syrian citizens and refugees who entered and are residing in Lebanon.** As the conflict intensified many Syrian citizens arrived into Lebanon while some Lebanese citizens living in Syria have returned to their home country. At end-2011, some 5,668 people had moved from Syria to Lebanon. At end-2012, that number grew to 204,826, and by July 2013, it reached 832,118 (Figure 1).<sup>45</sup> Tourism industry reports indicate that the sector has partly catered for the housing demands of these refugees and returnees. This is most visible with rental apartments and occupancy at non-luxury hotels, especially in the North, Beka’a. For example, average

<sup>44</sup> Occupancy rates are calculated based on the average for all regions and all levels of hotels.

<sup>45</sup> This number also includes Palestinian refugees from Syria.



hotel occupancy rates in the North and Beka'a have dropped less severely than in Beirut as these two regions witnessed a large influx of Syrian refugees. This is especially true for lower quality (and thus cheaper) hotels that serve as residences for the growing number of Syrian refugees in the North and Beka'a. This explains some of the resilience depicted in occupancy rates for this segment of hotels. The average stay of Syrian nationals significantly exceeds regular tourists. Many Syrians also opt to stay in apartments and therefore exert upward pressure on rent prices. This is notably the case in border areas, especially in the North and the Beka'a.

### *1.2.B.3. Real estate sector*

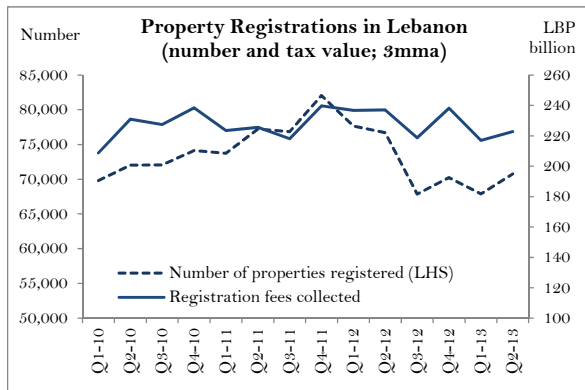
**76. The Syrian conflict impacts Lebanon's real estate sector through two key channels: putting an upward pressure on rents, but a downward pressure on sales (at least initially).** Specifically:

- **The large influx of Syrians is boosting the demand for housing, putting upward pressure on rents.** Although no rent data are available to capture the recent increase in the Syrian refugee population, given the suddenness and magnitude of the increase in housing demand this generates, and the fact that housing supply is not responding meaningfully<sup>46</sup> to what could be seen as a temporary surge in demand, rents are expected to be rising rapidly, especially in areas of the country where the increase in the population has been strongest (Figure 2). Such pressures on rent have been observed in Jordan's inflation numbers. As Jordan has received a lower number of Syrian refugees than Lebanon while having about 50 percent more population, the upward pressure on rents is expected to be noticeably stronger in Lebanon.
- **While real estate transactions had entered a consolidation phase prior to the Syrian conflict, the impact of the conflict seems to have initially accelerated this trend but might recently have been a stabilizing force.** While the number of registered properties and property registration fees started declining prior to the Syrian conflict and contracted sharply during 2012 and early 2013, a stabilization seems to have taken place in Q2 2013 (registration fees grew by 6.9 percent yoy in that quarter while the number of registered properties shrank by a modest 2 percent yoy)—Figure 35. The decline in registration fees and number of registered properties observed through Q1 2013 may be attributable to several factors, such as (1) the continuing decline in consumer confidence likely affected prospective buyers' willingness to purchase a property amid a deteriorating security environment, (2) a deceleration in economic growth might have also contributed to decreasing local demand, and (3) the decrease in foreigners demand for Lebanese real estate amid rising security incidents. The strengthening observed in Q2, if confirmed over subsequent quarters, could reflect buy-to-rent Lebanese investors given the high demand for housing that is maybe being slowly perceived as less temporary than initially thought, and growing demand from Syrian nationals given their strong increase in absolute and relative terms (in December 2012, the Syrian-related increase in population was 204,826; by June 2013, that number had surged to 722,851—which compares to a pre-crisis Lebanese population of 4.2 million).<sup>47</sup> Construction permits, however, still point to continued challenges for the sector (Figure 36).

<sup>46</sup> As evidenced by the contraction or softness in housing construction indicators (e.g., cement deliveries, new construction permits).

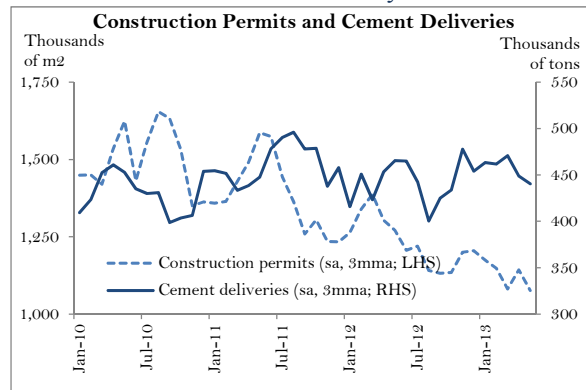
<sup>47</sup> Such transactions from Syrian nationals have likely partially offset the drop in real estate activity observed since 2010: while property registration fees paid by the Lebanese have dropped to 1.3 percent of GDP in 2012 (down from 1.6 percent in 2010), those paid by foreigners have maintained their share and have slightly increased. While many foreigners have progressively reduced their real estate transactions in Lebanon following bans on travel to Lebanon, Syrian nationals have likely been able to offset this decrease.

Figure 35. The number of registered properties slumped at the onset of the crisis but seem to have stabilized



Source: Cadastre and World Bank staff calculations.

Figure 36. Construction permits have trended sharply down since the onset of the Syrian conflict



Source: Cadastre and World Bank staff calculations.

**77. A differentiated spatial impact of the Syrian conflict can be observed, with Beirut and northern Lebanon being severely impacted, albeit for different reasons.** After peaking in the fourth quarter (Q4) of 2011, the number of registered properties has steadily declined through early 2013 and stabilized in Q2. The decline likely reflect the lack of foreign demand due to the weak security situation combined with still high prices that preclude many Lebanese to be able to afford housing, and weak housing demand from Syrians given their comparatively limited number in Beirut. In North Lebanon, the similar drop in registration likely reflect the (Syrian-conflict related) recurring clashes between the Jabal Mohsen and Tebbaneh areas and the tensed security environment that permeates the northern parts of Lebanon.

#### ***1.2.B.4. Banking sector***

**78. The subsidiaries of Lebanese banks operating in Syria have been materially and directly impacted by the Syrian conflict.** Lebanese banks operating in Syria have seen their consolidated assets shrink from SYP302 billion (USD5.5 billion) at end-2011 to SYP286.6 billion (USD3.9 billion<sup>48</sup>) at end-2012. The Banque du Liban (BdL) estimated the total losses of the seven Lebanese banks operating in Syria at around USD400 million through September 2012. This constitutes 18.7 percent of the total banking sector profits and 0.3 percent of total assets of the consolidate balance sheets of Lebanese banks. Banks have increased their provisions to cover these losses. More recently, for the first half of 2013, the Syrian affiliates of Lebanese banks have reported a staggering 590.6 percent increase in net profits—though this increase is attributable to unrealized foreign exchange gains on the Syrian pound (SYP) as banks were required to have high foreign currency holdings to operate in Syria. Excluding unrealized foreign exchange gains, a loss of USD205.3 million occurred (Byblos Bank, 2013). These losses do materially impact Lebanese banks' profitability in the short term. However, the medium- to long-term outlook remains positive for these banks in Syria. Indeed, Lebanese banks grew rapidly in Syria before the crisis, and can assume a similar role when the conflict is resolved.

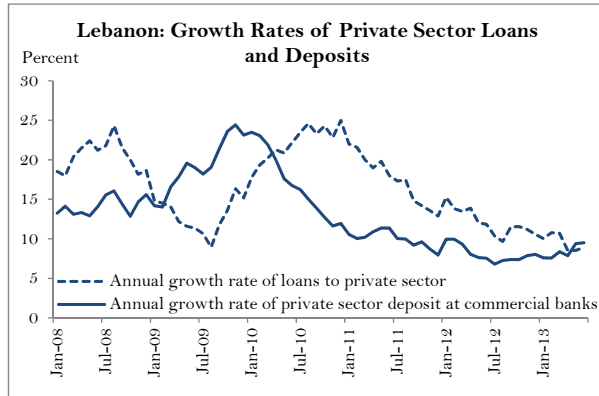
**79. The Lebanese banking sector has also been indirectly impacted by the Syrian conflict through reduced economic activity in Lebanon.** A noticeable deceleration in the growth rate of loans to the private sector occurred in 2012 (compared to 2010 as 2011 was impacted by a confidence shock mostly due to domestic internal politics). For instance, after expanding by 25 percent in 2010, lending to the private sector slowed to 10.6 percent in 2012 and to 8.9 percent year-on-year (yoy) in the first half of 2013 despite efforts by BdL to stimulate lending. On a consolidated basis, the Lebanese banking sector remains resilient and has continued to expand, albeit at a smaller pace than during the pre-conflict period

<sup>48</sup> Exchange rates as reported by the Economist Intelligence Unit (2013) *Syria Country Report*, August.



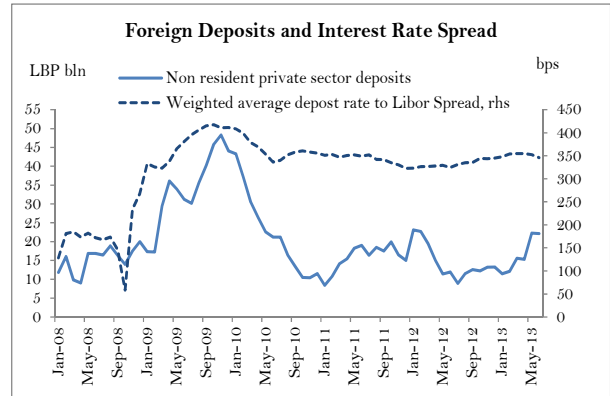
(consolidated bank assets grew by 10.2 in 2011, 8.9 percent in 2012, and 8.3 percent (yoy) in the first half of 2013).

Figure 37. Banking sector growth slowdown started prior to the Syrian conflict impact...



Source: Banque du Liban and WB staff calculations.

Figure 38. ...but favorable Interest Rate Spreads Continue to attract foreign deposits



Source: Banque du Liban and WB staff calculations.

Table 6. Lebanon: Selected Economic Indicators, 2009-2014

|  | 2009   | 2010    | 2011    | 2012    | 2013    | 2014 1/ |
|--|--|---------|---------|---------|---------|---------|
|  | Act.   |         | Prel.   | Est.    | Proj.   |         |
| Real sector  | (annual percentage change, unless otherwise specified) |         |         |         |         |         |
| Real GDP   | 8.5  | 7.0     | 3.0     | 1.4     | 1.5     | 1.5     |
| Real GDP per Capita                                | 7.7  | 6.2     | 2.3     | 0.7     | 0.8     | 0.7     |
| Agriculture (share of GDP)                         | 4.6  | 4.5     | 4.5     | 4.5     | 4.5     | 4.5     |
| Industry (share of GDP)                            | 18.7   | 20.1    | 20.1    | 20.1    | 20.5    | 20.7    |
| Services (share of GDP)                            | 76.7   | 75.4    | 75.4    | 75.4    | 75.0    | 74.8    |
| Money and prices                                   |  |         |         |         |         |         |
| CPI Inflation (p.a)                                | 2.8  | 4.9     | 5.7     | 5.7     | 3.8     | 3.2     |
| Money (M3, including non-resident deposits)        | 23.1   | 12.1    | 7.1     | 8.1     | 8.0     | 8.0     |
| Investment & saving                                | (percent of GDP, unless otherwise specified)           |         |         |         |         |         |
| Gross Capital Formation                            | 34.7   | 33.9    | 29.8    | 29.4    | 28.5    | 27.9    |
| o/w private  | 33.1   | 32.1    | 28.0    | 27.8    | 26.7    | 25.9    |
| Gross Domestic Savings                             | 6.9  | 5.9     | 12.2    | 8.8     | 8.6     | 7.9     |
| o/w private  | 11.9   | 11.1    | 22.3    | 21.4    | 21.0    | 20.1    |
| Central Government Finance                         |  |         |         |         |         |         |
| Revenue (including grants)                         | 24.7   | 22.7    | 22.8    | 22.3    | 21.8    | 22.3    |
| o/w. tax revenues                                  | 17.2   | 17.8    | 16.4    | 15.7    | 15.6    | 16.0    |
| Total expenditure and net lending                  | 32.8   | 30.4    | 29.2    | 31.1    | 31.6    | 32.2    |
| Current  | 31.2   | 28.6    | 27.4    | 29.4    | 29.8    | 30.2    |
| o/w Interest Payment                               | 11.1   | 10.5    | 9.4     | 8.4     | 8.4     | 8.5     |
| Capital & Net Lending (excluding foreign financed) | 1.6  | 1.8     | 1.8     | 1.6     | 1.8     | 2.0     |
| Overall balance (deficit -)                        | -8.2   | -7.7    | -6.4    | -8.7    | -9.8    | -9.9    |
| Primary Balance (deficit -)                        | 2.9  | 2.8     | 2.9     | -0.3    | -1.4    | -1.5    |
| External sector                                    |  |         |         |         |         |         |
| Current Account Balance                            | -19.5  | -20.4   | -12.1   | -14.4   | -15.2   | -15.3   |
| o/w Export (GNFS)                                  | 24.3   | 24.1    | 32.2    | 28.7    | 28.4    | 28.4    |
| o/w Import (GNFS)                                  | 48.4   | 50.2    | 50.0    | 49.2    | 48.3    | 48.4    |
| o/w Remittances                                    | 4.8  | 7.2     | 6.4     | 6.7     | 6.7     | 6.7     |
| Trade Balance (GNFS)                               | -24.1  | -26.1   | -17.7   | -20.6   | -19.9   | -20.0   |
| Trade of Goods Balance                             | -31.7  | -31.5   | -30.7   | -30.1   | -28.8   | -29.1   |
| Gross Reserves (months of imports GNFS) /2         | 10.6   | 11.5    | 12.1    | 11.3    | 11.3    | 11.2    |
| Total Public Debt                                  |  |         |         |         |         |         |
| Total Debt Stock (USD billion)                     | 51,152   | 52,602  | 53,656  | 57,700  | 61,993  | 66,677  |
| Debt-to-GDP ratio (percent)                        | 147.6  | 141.7   | 133.8   | 134.4   | 137.1   | 141.2   |
| Memorandum Items:                                  |  |         |         |         |         |         |
| Nominal GDP (in billion LBP)                       | 52,236   | 55,965  | 60,442  | 64,740  | 68,143  | 71,199  |
| Exchange Rate, Average (LBP/USD)                   | 1,507.5  | 1,507.5 | 1,507.5 | 1,507.5 | 1,507.5 | 1,507.5 |
| GDP (in million of USD)                            | 34,651   | 37,124  | 40,094  | 42,945  | 45,203  | 47,230  |

Source: Government data, and World Bank staff estimates and projections.

1/ 2014 forecasts are based on the baseline refugee influx scenario.

2/ Gross Reserves (months of imports GNFS) = (Imports of Goods &amp; Services / Gross Res. excl. Gold)\*12, where imports data are taken from the BOP data from the Quarterly Bulletin of the BdL.

## II. FISCAL IMPACT OF THE SYRIAN CONFLICT<sup>49</sup>

**80.** Following half a decade of robust growth, Lebanon experienced a remarkable decrease in its debt-to-GDP ratio, from about 180 percent in 2006, to 134 percent at the eve of the Syrian conflict in 2011. The country's improved public finances, however, were to a large extent due to a cyclical improvement, as structural reforms envisaged as part of the Paris III (post-Israel hostilities) conference have yet to be fully implemented. The shock coming from the Syrian conflict is putting Lebanon's public finances under severe and rapidly escalating strain which is not sustainable given the country's initially weak public finances. On the revenue side, spillovers from the conflict are estimated to cut USD1.5 billion in revenue collection over 2012-14, due to a combination of direct impact on key sectors (e.g., tourism) and indirect impacts through weaker economic activity. On the expenditure side, total budgetary spending is estimated to grow by up to USD1.1 billion over 2012-2014 because of the Syrian conflict. This spending is incurred by the government of Lebanon and does not include refugee-related spending that is financed by international agencies, donors, or NGOs. The combination of lower revenue and higher expenditure is widening Lebanon's already large fiscal deficit by a cumulative USD2.6 billion over 2012-14. The wider fiscal deficits, lower economic growth, and rising interest risk premium due to the Syrian conflict have halted Lebanon's remarkable progress in reducing its debt-to-GDP ratio; For the first time since 2006, Lebanon's debt ratio rose again in 2012 with further increases projected through 2014.

Table 7. Impact assessment of the Syrian conflict on Lebanon's central government revenue

|  | 2012     | 2013                   | 2014            |             |
|--|----------|------------------------|-----------------|-------------|
|  |          |                        | Baseline influx | High influx |
|  |          | (in million of LBP)    |                 |             |
| Total Revenues and Grants:                         | -556,198 | -863,895               | -892,698        | -745,508    |
| Tax Revenues:                                      | -345,834 | -616,979               | -617,238        | -570,052    |
| o/w.: Taxes on Income, Profits, & Capital Gains 1/ | -152,011 | -227,134               | -223,217        | -211,345    |
| Domestic Taxes on Goods & Services 2/              | -96,321  | -242,534               | -265,507        | -248,299    |
| Customs tariff                                     | -42,230  | -61,454                | -53,964         | -50,309     |
| Excises  | -33,940  | -57,149                | -49,328         | -42,546     |
| Non-tax and non-budget revenue 3/                  | -210,364 | -246,916               | -275,460        | -175,455    |
|  |          | (in million of USD)    |                 |             |
| Total Revenues and Grants:                         | -369     | -573                   | -592            | -495        |
| Tax Revenues:                                      | -229     | -409                   | -409            | -378        |
| Non-tax and non-budget revenue 3/                  | -140     | -164                   | -183            | -116        |
|  |          | (in percent of GDP 4/) |                 |             |
| Total Revenues and Grants:                         | -0.9     | -1.3                   | -1.3            | -1.0        |
| Tax Revenues:                                      | -0.5     | -0.9                   | -0.9            | -0.8        |
| Non-tax and non-budget revenue 3/                  | -0.3     | -0.4                   | -0.4            | -0.2        |

Source: World Bank staff estimates and projections; 1/ In absolute terms, losses fell mostly on corporate income tax ; 2/ In absolute terms, losses concentrated on VAT collection; 3/ In absolute terms, losses are mostly related to transfers from the telecom company ; 4/ Nominal GDP used is the one containing the Syrian crisis impact and presented in Table 6 (i.e., not the counter-factual GDP).

<sup>49</sup> This chapter was prepared by Eric Le Borgne, Wissam Harake, Wael Mansour, and Samer Matta (World Bank) in close collaboration with Kristina Kostial and Alina Luca (IMF), Hassan Krayem and Rola Rizk (UNDP), and Mireille Mouawad (MoF). More generally, the impact estimates on the expenditure side of the budget draw directly from the estimates obtained in the sectoral chapters of Sections II (Human Development and Social Impact) and III (Infrastructure Impact).

Table 8. Impact assessment of the Syrian conflict on Lebanon's central government expenditures

|                           | 2012  | 2013                | 2014            |             |
|---------------------------|---|---------------------|-----------------|-------------|
|                           |   |                     | Baseline influx | High influx |
|                           |   | (in million of LBP) |                 |             |
| Total Expenditures        | 146,784   | 588,835             | 926,323         | 1,121,814   |
| o/w.: Personnel Cost      | 37,794  | 77,240              | 79,000          | 87,000      |
| Interest Payments         | 46,029  | 128,257             | 233,579         | 233,579     |
| Materials and Supplies 1/ | 10,365  | 35,883              | 46,086          | 66,586      |
| Transfers 2/              | 3,086   | 21,085              | 26,959          | 37,973      |
|                           |   | (in million of USD) |                 |             |
| Total Expenditures        | 97.4  | 390.6               | 614.5           | 744.2       |
|                           | (in percent of GDP, unless otherwise stated 3/) |                     |                 |             |
| Total Expenditures        | 0.2   | 0.9                 | 1.3             | 1.6         |

Source: World Bank staff estimates. 1/ Key impact items include drugs and vaccines; 2/ Key items include transfers to EdL, municipalities, water, bread subsidy, and hospitals; 3/ GDP relates to actual, not counter-factual one.

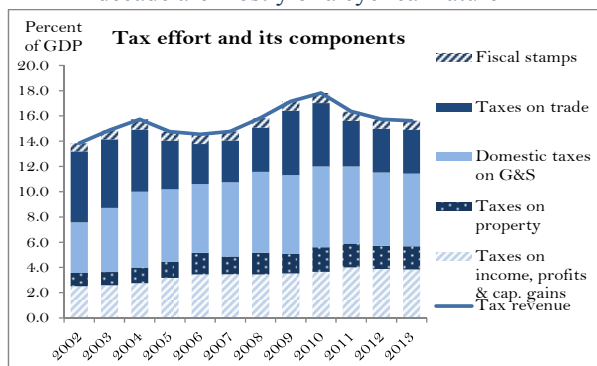
### II.1. Baseline and Pre-Conflict Fiscal Trends

**81. Lebanon's public finances have been structurally weak since the 2000s.** High overall fiscal deficits have been the norm in Lebanon during the 2000s. In the 10 years prior to the Syrian conflict, the overall fiscal deficit ranged from 14.9 percent of GDP in 2002 to 6.5 percent of GDP in 2011 and averaged 9.7 percent of GDP (Figure 7). As a result of these high and sustained deficits, Lebanon's public debt peaked at nearly 180 percent of GDP in 2006 (Figure 8).

#### II.1.A. Revenue development and trends

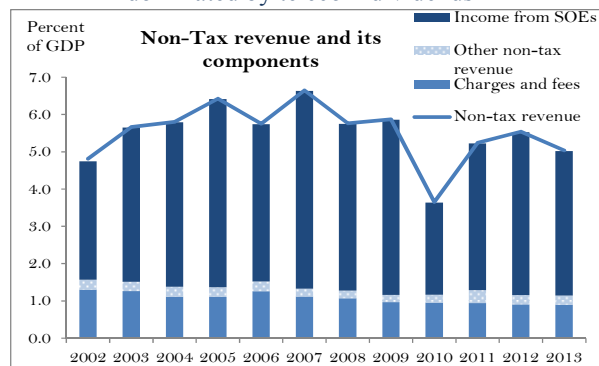
**82. Total central government revenue rebounded sharply from 2006 to 2010—mostly due to a post 2006 war rebound and from the robust economic activity—but started to subside in 2011** as economic activity slowed. Lebanon's tax effort (tax-to-GDP ratio) rose steadily from 2006 to 2010 and accounts for 95 percent of the improvement of total revenue (non-tax revenue improvements account for the rest)—Figure 39. Key drivers of the rising tax effort were cyclically-responsive taxes, taxes related to the real-estate boom, and a rise in excises on gasoline. The weaker performance of non-tax revenue mostly reflects changes in dividends from state-owned enterprises, and especially in the telecom sector. For example, increased infrastructure investment in that sector in 2010 led to a drop in profits and therefore in dividends for the state (Figure 40). With the economy projected to grow around 4-4.5 percent over the 2012-14 period, and given the stabilization period that the real estate sector was entering, the tax and non-tax efforts were expected to broadly stabilize around their 2011 level.

Figure 39. Changes in the tax effort over the past decade are mostly of a cyclical nature



Source: MoF and WB staff calculations and projections.

Figure 40. Non-tax revenue in Lebanon are dominated by telecom dividends

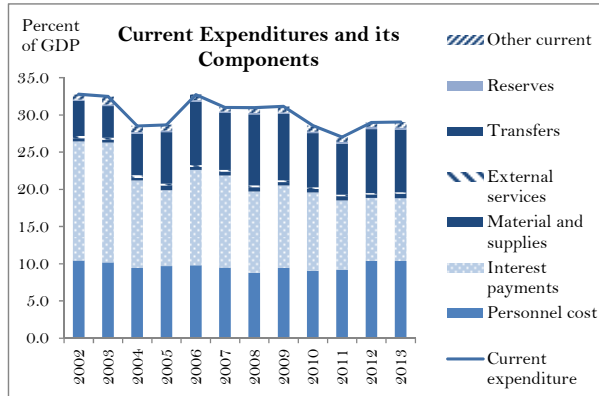


Source: MoF and WB staff calculations and projections.

### II.1.B. Expenditure development and trends

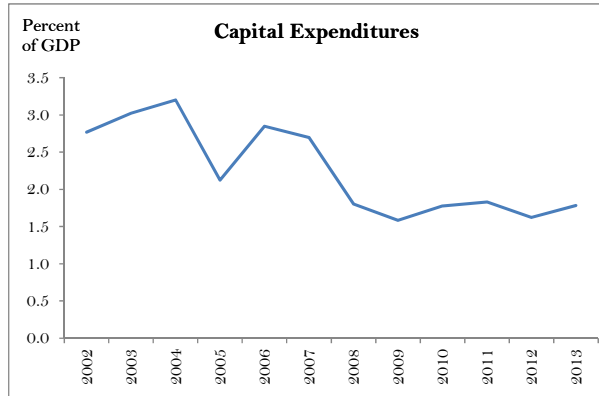
**83. Total government expenditure, as a ratio of GDP, was on a robust decreasing trend in the five years prior to the Syrian crisis, mostly reflecting cyclical factors.** About half of the decrease in total spending during the 2006-2011 period stemmed from a lower interest payment bill (Figure 41). This, in turn, reflected a sharp decrease in global interest rates and a strong rise in the nominal GDP (the denominator) over the period. Interest payments, nonetheless, still account for over 30 percent of total government spending due to the country's large debt stock. The remaining half was also primarily driven by a strong expansion of GDP and by a notable reduction in capital expenditure, to historically and internationally low levels (Figure 42).

Figure 41. Tighter current spending prior to the conflict was mostly driven by lower interest payments



Source: MoF and WB staff calculations and projections.

Figure 42. Capital spending decreased sharply during the boom/pre-Syrian crisis years



Source: MoF and WB staff calculations and projections.

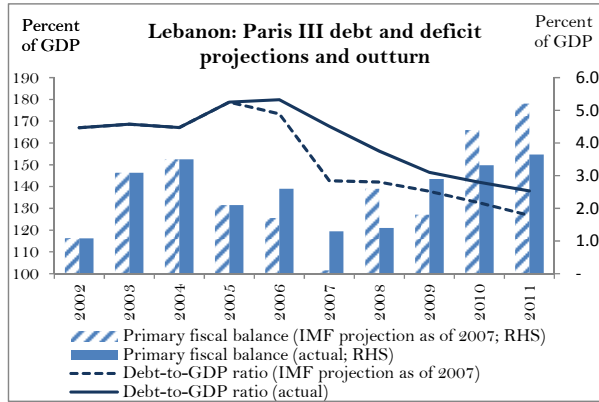
**84. Longstanding structural reforms of public spending did not take place during the boom years (2007-10).** While an ambitious reform agenda was prepared and identified as part of the (post 2006 Israel hostilities) Paris III international donor conference,<sup>50</sup> implementation of the agenda has proved challenging. Reforms of the electricity sector, for example, did not take place, so that annual transfers from the central government to EdL, the national electricity company, continued to hover around 4-5 percent of GDP, depending on international oil price developments. Personnel costs remained elevated while the quality of public service delivery—as detailed in the remaining chapters of this report—remained weak, in part due to an inadequacy in staffing within the public sector. Civil service reform has remained elusive.

### II.1.C. Deficit and Debt development and trends

**85. Lebanon's debt-to-GDP ratio is high by international standards but had been decreasing at a rapid pace prior to the Syrian conflict, mostly driven by cyclical developments.** Although key structural fiscal reforms envisaged in the (post-conflict) Paris III conference of January 2007 did not fully materialize, the decrease in Lebanon's debt-to-GDP ratio is remarkably close to the path envisaged at that time (Figure 43). While both the debt-to-GDP ratio and the primary fiscal balance have improved broadly as expected, this improvement reflects, to a large extent, favorable cyclical developments as real GDP growth turned out to be significantly stronger than envisaged at the time of the Paris III conference. Lebanon's still high debt and overall deficits generate large gross financing requirements (Figure 44). These expose the country to sudden shifts in market sentiment.

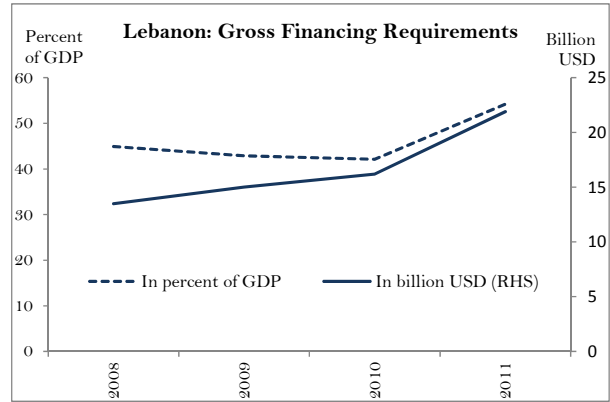
<sup>50</sup> See, for example, World Bank (2007) for details of the economic and social impact assessment of the 2006 hostilities with Israel and the post-conflict policy reform agenda.

Figure 43. Lebanon's debt and deficits had improved markedly after the Paris III's post conflict...



Source: IMF (various Article IV consultation reports) and WB staff.

Figure 44. ... though with large overall fiscal deficits and debt levels, rollover risk remain elevated 1/



Source: IMF 2011 Article IV staff report (Public Debt Sustainability Analysis table). 1/ Defined as public sector deficit, plus amortization of medium and long-term public sector debt, plus short-term debt at end of previous period.

## II.2. Fiscal Impact Assessment

### II.2.A. Impact on Revenue

**86. The Syrian conflict is estimated to cut USD1.5 billion in government revenue collection during 2012-14, due to a combination of direct impact on key sectors and indirect impacts through weaker economic activity** (Table 7). The estimated revenue loss follows the same overall methodology highlighted in the Introduction (paragraph 27): it is the difference between (1) revenue that would have been collected in year  $t$  in the absence of the conflict (counter-factual), and (2) current (and projected for part of 2013 and all of 2014) revenue collection in year  $t$ .<sup>51</sup> For 2012, estimated revenue losses reached USD369 million (0.9 percent of GDP), growing to USD573 million (1.3 percent of GDP) in 2013, and up to USD592 million (1.3 percent of GDP) in 2014 depending on whether a baseline or high Syrian refugee influx is chosen.<sup>52</sup> Revenue losses mainly stem, on the tax side, from the corporate income tax, VAT, and trade-related collection (tariff and excises), and on the non-tax side, from transfers from state-owned enterprises, especially telecom and casino du Liban due to the drop in high spending tourists.<sup>53</sup> The cumulative revenue loss of USD1.5 billion represents 20.4 percent of the cumulative economy-wide loss of USD7.5 billion estimated in Chapter 1, which is similar to the 21.7 percent loss estimated in the World Bank (2007) ESIA following the hostilities with Israel.

<sup>51</sup> The counter-factual revenue estimates were obtained mostly through a tax-elasticity approach based on the counter-factual GDP estimates obtained in the previous chapter. This approach was supplemented, as needed, by taking into account the impact of tax policy or tax administration changes (e.g., the March 2012 VAT exemption on red and green gasoil; the February 2012 increase in the minimum wage and in public sector salaries). Actual revenue projections for the remainder of 2013 and for 2014 were obtained through a similar elasticity approach, in close collaboration with the IMF Lebanon team.

<sup>52</sup> It should be noted that the high refugee influx produces the less revenue losses as in that scenario GDP growth is slightly higher due to increased domestic absorption related to the higher number of refugees.

<sup>53</sup> Despite a strong negative impact on revenue, some specific revenue categories are performing strongly. These include tobacco related revenue, i.e., tobacco excises and transfers from the Regie des tabacs. These overall tobacco revenues have grown by 36 percent in 2012 and are up by 26 percent (yoy) in Q1 2013. Strong consumption from the Syrian refugees and possibly smuggling activity towards Syria likely explain this strong performance (see UNDP, 2013a, for further details on the impact on government revenue of the Syrian crisis).

## II.2.B. Impact on Expenditure

**87. Budgetary expenditures are estimated to be up to USD1.1 billion higher over the 2012-2014 period because of the Syrian conflict** (in the high refugee influx scenario)—Table 8. The increased budgetary spending consists of (1) the sector spending identified in the next two sections (on Social and Infrastructure impacts) and summarized in the impact assessment tables; and (2) other spending that falls outside of the specific Social and Infrastructure sector analyzed. Regarding the former, the Syrian conflict's impact is channeled through the large influx of refugees from Syria that pushes up the demand for public services. As the analysis in our next chapters reveal, in most sectors, the government is meeting this increased demand through a combination of higher budgetary spending, and a decrease in the level of access to and quality of public services.<sup>54</sup> Regarding the latter, the largest items are (1) a higher interest payments bill reflecting the higher overall fiscal deficit created by the Syrian conflict and the higher risk premium on Eurobond paper which, as depicted in Figure 20, rose by an average of 120 basis points because of the Syrian conflict;<sup>55</sup> (2) personnel costs (such as for the hiring of contractual workers); (3) the Ministry of Economy and Trade's bread (wheat) subsidy program which has seen a sharp increase in volume consumed since the onset of the Syrian crisis; and (4) material and supplies, which have grown rapidly over the past quarters. It should be noted that this spending is incurred by the government of Lebanon and does not include refugee-related spending that is financed by international agencies, donors, or NGOs. To the extent that these agencies, donors, and NGOs might not be able to sustain their ongoing financial support or be able to maintain their current share of refugee costs, the fiscal impact would rise.

## II.2.C. Impact on Deficit and Debt

**88. Lower revenue and higher expenditure stemming from the Syrian crisis generate sizeable impacts on Lebanon's overall fiscal balance (a cumulative USD2.6 billion over 2012-14).** The impact on Lebanon's fiscal deficit is rapidly escalating over time, as the continued weak economic performance impact revenue while the expenditure costs are surging due to the massive influx of refugees. Hence, the worsening of the fiscal balance goes from USD466 million in 2012, to USD964 million in 2013, and up to USD1.24 billion in the high refugee scenario of 2014. In 2012, the impact of the Syrian crisis on the budget was such that it pushed Lebanon's public finances into its first primary deficit—of 0.3 percent of GDP—since 2006 (the year of the hostilities with Israel). Without the conflict, the primary fiscal balance would have posted a surplus estimated at 0.7 percent of GDP. For 2013, a primary fiscal deficit of 1.4 percent of GDP is expected, against a primary fiscal surplus of 0.6 percent of GDP in the absence of the Syrian conflict.

**89. The wider fiscal deficits, lower economic growth, and rising interest risk premium due to the Syrian conflict have halted Lebanon's remarkable progress in reducing its debt-to-GDP ratio.** For the first time since 2006, Lebanon's debt-to-GDP ratio stopped declining in 2012 and rose by 0.6 percentage points to 134.4 percent. Without the impact of the Syrian conflict, the debt ratio path would have continued to trend downward. A sustained impact of the Syrian conflict would rapidly put Lebanon's debt dynamics unto an unsustainable path as low growth, high real interest rates, and high deficit would all combine to push debt upward.

<sup>54</sup> This lowering of the access and quality of public services could arise for several reasons. These include a tight budget constraint given Lebanon's already difficult public finances, or the time delays needed to build up capacity and quality of public services when confronted to a sudden and large increase in demand.

<sup>55</sup> Spreads are assumed to remain at their elevated level through end-2014.



## SECTION II:

# HUMAN DEVELOPMENT AND SOCIAL IMPACT OF THE SYRIAN CONFLICT

### Section II Summary

**90. The Syrian conflict, and more specifically the large numbers of refugees in Lebanon, is negatively and materially impacting the poverty, livelihoods, health and human capital conditions of the Lebanese citizens.** By end-2014, some 170,000 additional Lebanese will be pushed into poverty (over and above the current 1 million below the poverty line). Furthermore, an additional 220,000-324,000 Lebanese are expected to become unemployed (compared to a no refugee situation), most of them unskilled youth which would about double the unemployment rate, to over 20 percent. The influx of Syrian refugees has challenged the already weak public social services sector in Lebanon and social tensions among refugees and Lebanese communities are on the rise. Gender issues are coming to the fore. This section of the report considers the impact of the Syrian conflict on the access to and quality of health, education, and social safety net services in Lebanon, and assesses the associated stabilization needs through end-2014 in these sectors. It also estimates the impact of the conflict on poverty levels and labor market outcomes for the Lebanese people. Finally, social cohesion and gender aspects are considered as important cross-cutting elements of the stabilization response.

**91. Over 2012-14, the Syrian conflict is estimated in health, education and social safety nets to have a fiscal cost of USD308-USD340 million while USD1.4-1.6 billion (3-3.4 percent of GDP) will be needed for stabilization—i.e., to restore access to and quality of these services to pre-conflict levels—including USD166-242 million for short-term job creation (Table 9).**

**92. The influx of Syrian refugees has strained the health sector and its ability to respond to the crisis.** The refugee influx has severely strained the health system due to: (1) a sharp rise in communicable diseases (measles cases increased from 9 to cases in 2012 to 1,456 cases in 2013); (2) the emergence of new diseases not present in Lebanon before, such as leishmaniasis (420 cases); and (3) increasing risks of epidemics such as water-borne diseases, measles, and tuberculosis. Poor environmental conditions such as overcrowding, lack of water and sanitation infrastructure (see Water and Sanitation chapter) also poses significant risks to increased infections, as outbreaks of lice and scabies among refugees have shown. Thus, demand for health services has increased significantly over the past 6-12 months—in December 2012 alone, 40 percent of primary health care visits were for Syrian refugees. In addition, crowding out of hospitals with refugees is compromising access to healthcare by the Lebanese and exerting financial pressure on hospitals, pushing up costs and generating medication shortages for Lebanese. In the medium- to long-term, the impact of delayed health care for Lebanese, particularly for the vulnerable, could result in increased overall levels of morbidity. The fiscal impact has been estimated to be USD38 million in 2013 and USD48-69 million in 2014, depending on refugee influx. To stabilize the situation till end-2014, overall health care costs needed to maintain the system to its pre-refugee access and quality levels is estimated at USD177 million in 2013 and USD216-306 million in 2014, depending on the refugee influx scenario.

**93. The rapidly growing number of Syrian refugee children is leading to mounting fiscal costs, an adverse effect on quality of public education, and a significant need for non-formal/out of school education for the 65 percent of refugees who will likely not enroll in formal schooling.** Prior to the Syrian conflict, basic education enrollment in Lebanon was stable at over 90 percent for the last decade, with gender parity achieved. Though public school only accommodated 30 percent of total students, they catered predominantly to children of lower socio-economic status. Since the onset of the Syrian conflict,



and the appearance of refugees in the country, the MEHE provided open access to refugees in its public school system. The impact of this was felt through additional expenditures that the MEHE had to incur in 2012 to accommodate 40,000 refugee children in its schools at a direct cost of USD27 million. In addition, some USD24 million of costs were financed by donors through UN agencies, which the MEHE would have had to bear otherwise. These costs and the burden on the school system are, however, going to escalate rapidly: in the coming academic year an additional 90,000 refugees are expected to enroll, and, by 2014 that number would reach between 140,000 and 170,000. The latter figure amounts to 57 percent of public school students in Lebanon. Therefore, MEHE's stabilization needs amount to approximately USD183 million in 2013 and between USD348-434 million in 2014, depending on the refugee influx scenario. Even such amounts, however, do not take into account the 65 percent of the refugees who are not expected to enroll in formal schooling, thus creating significant needs for non-formal/out of school education, otherwise child labor and other negative social consequences would increase tremendously.

Table 9. Impact and Stabilization Assessments for Human Development

|  | 2012    | 2013       | 2014                          |                           | Cumulative                    |
|--|---------|------------|-------------------------------|---------------------------|-------------------------------|
|  |         |            | Baseline<br>Refugee<br>Influx | High<br>Refugee<br>Influx | Baseline<br>Refugee<br>Influx |
| (in millions of Lebanese Pounds)         |         |            |                               |                           |                               |
| Impact Assessment                        | 62,032  | 162,754    | 238,801                       | 287,807                   | 463,587                       |
| Health                                   | 9,088   | 57,999     | 71,688                        | 103,705                   | 138,775                       |
| Education                                | 43,994  | 95,206     | 153,113                       | 184,102                   | 292,313                       |
| Poverty and Social Safety Nets           | 8,950   | 9,550      | 14,000                        | ...                       | 32,500                        |
| Stabilization (Needs) Assessment         | 237,373 | 643,389    | 1,230,226                     | 1,480,770                 | 2,110,988                     |
| Health                                   | 56,578  | 267,031    | 326,018                       | 461,271                   | 649,626                       |
| Education                                | 145,692 | 275,245    | 524,903                       | 654,999                   | 945,840                       |
| Employment and Livelihoods               | ...     | ...        | 250,875                       | 364,500                   | 250,875                       |
| Poverty and Social Safety Nets           | 35,103  | 101,114    | 128,430                       | ...                       | 264,647                       |
| Current spending                         | 196,862 | 488,419.30 | 928,606                       | 1,052,912                 | 1,613,887                     |
| Capital spending                         | 40,511  | 154,970    | 301,620                       | 427,857                   | 497,101                       |
| (in millions of US Dollars)              |         |            |                               |                           |                               |
| Impact Assessment                        | 41      | 108        | 158                           | 191                       | 308                           |
| Stabilization (Needs) Assessment         | 157     | 427        | 816                           | 982                       | 1,400                         |
| o/w: Health, Education, Poverty and SSNs | 157     | 427        | 650                           | 740                       | 1,234                         |
| Current spending                         | 131     | 324        | 616                           | 698                       | 1,071                         |
| Capital spending                         | 27      | 103        | 200                           | 284                       | 330                           |
| (in percent of GDP)                      |         |            |                               |                           |                               |
| Impact Assessment                        | 0.1     | 0.2        | 0.3                           | 0.4                       | 0.7                           |
| Stabilization (Needs) Assessment         | 0.4     | 0.9        | 1.7                           | 2.1                       | 3.0                           |
| o/w: Health, Education, Poverty and SSNs | 0.4     | 0.9        | 1.4                           | 1.6                       | 2.7                           |

Source: World Bank Staff calculations based on data from MEHE, MOPH, and MOSA.

**94. The influx of Syrian refugees is also exacerbating already dire labor market conditions and is expected to result in further unemployment and informality unless a comprehensive package of active labor market programs is introduced.** Labor market conditions in Lebanon before the Syrian crisis were already dire. High unemployment rates coexisted with mismatches in the labor market and a high prevalence of low quality and low productivity jobs. The influx of Syrian refugees is expected to increase labor supply by between 30 and 50 percent—with the largest impacts among women, young, and unskilled workers. Such a massive increase in the number of individuals looking for jobs is expected to have major effects on labor market outcomes. The overall unemployment rate and the share of informal

work could increase each by up to 10 percentage points. Stabilizing the situation by implementing a comprehensive package of active labor market programs to improve livelihoods and earnings opportunities over the short-term would require resources in the order of USD166-242 million.

**95. As a result of the influx of Syrian refugees to Lebanon, it is expected that by end-2014, some 170,000 additional Lebanese will be pushed into poverty while the existing poor will fall deeper into poverty.** Poverty in Lebanon prior to the Syrian conflict was significant and regional disparities in living conditions were acute. Nearly 1 million Lebanese were estimated to be poor (living on less than USD4 per day). **Social safety nets (SSN)** were weak, fragmented and poorly-targeted, and for this reason the Ministry of Social Affairs (MOSA) was in the process of implementing reforms to its SSN system. Simulations indicate that, as a result of the influx of 1.6 million refugees by end-2014, some 170,000 additional Lebanese will be pushed into poverty. In addition, existing poor will fall deeper into poverty. Lebanon's SSN system is already feeling the impact through the increased utilization, of about 40 percent to date, of MOSA's health and social programs. To stabilize the situation, approximately USD176 million will be required till end-2014, of which at least USD50 million is needed to scale up the National Poverty Targeting Program for poor and vulnerable Lebanese.

**96. The arrival of a large number of Syrian refugees has further challenged the already delicate societal and inter-communal balance in Lebanon.** Overcrowding, saturation of basic public services, and competition for jobs are among the root causes for the deterioration of the social relations between the hosts and refugees. Growing instances of violence based on perceived inequalities involving refugees threaten wider social cohesion. Perceptions can be as important as objective realities, especially considering that the come on top of an already difficult legacy. Lebanese women and girls are particularly affected by the Syrian conflict, in a context of reinforced insecurity and a palpable rise in violence. Maintaining and promoting greater social cohesion is important to reduce the negative social and economic impacts of this crisis. Livelihood opportunities and access to services for both refugees and host communities need to be addressed on an equitable basis. Although it is difficult to quantify at this stage what is required in financial terms for social cohesion stabilization, the size of the threat for the country means that conflict mitigation and social cohesion will need to be carefully assessed at all levels and integrated in the programming phase. Sustainable social cohesion can be achieved by investing in conflict mitigation mechanisms, processes and capacities at all levels, and through conflict sensitive programming.

## I. HEALTH<sup>56</sup>

**97.** *The influx of Syrian refugees has strained the health sector and its ability to respond to the crisis. The refugee influx has resulted in: (1) increased demand for health care services; (2) increased unpaid commitments of the MOHP to contracted hospitals; (3) shortages in health workers (specialists and nurses); (4) a sharp rise in communicable diseases (measles cases increased from 9 to cases in 2012 to 1,456 cases in 2013); (5) the emergence of new diseases not present in Lebanon before, such as leishmaniasis (420 cases); and (6) increased risks of epidemics such as water-borne diseases, measles, and tuberculosis. Poor environmental conditions such as overcrowding, lack of water and sanitation infrastructure (see Water and Sanitation chapter) also poses significant risks to increased infections, as outbreaks of lice and scabies among refugees have shown. Thus, demand for health services has increased significantly over the past 6-12 months—in December 2012 alone 40 percent of primary health care visits were for Syrian refugees. In addition, crowding out of hospitals with refugees is compromising access to healthcare by the Lebanese and exerting financial pressure on hospitals. This is pushing up costs and generating medication shortages for Lebanese. In the medium- to long-term, the impact of delayed health care for Lebanese, particularly for the vulnerable, could result in increased overall levels of morbidity. The fiscal impact has been estimated to be USD39 million in 2013 and USD48-69 million in 2014, depending on refugee influx. To stabilize the situation till end-2014, overall health care costs needed to maintain the system to its pre-refugee access and quality levels is estimated at USD177 million in 2013 and USD216-306 million in 2014, depending on the refugee influx scenario.*

**Table 10: Impact and Stabilization Assessments for the Health Sector**

|   | 2012  | 2013      | 2014              |               |
|---|---|-----------|-------------------|---------------|
|   |   |           | (Baseline influx) | (High influx) |
|   | (in million of LBP, unless otherwise indicated)     |           |                   |               |
| Impact assessment on GoL resources 1/                                   | 9,088   | 57,999    | 71,688            | 103,705       |
| Primary care 2/   | 0   | 0         | 0                 | 0             |
| Drugs, immunization, surveillance 3/                                    | 5,282   | 31,447    | 38,870            | 56,229        |
| Secondary and tertiary care 4/  | 2,929   | 20,557    | 25,410            | 36,758        |
| Public hospitalization debt 5/  | 878   | 5,994     | 7,409             | 10,718        |
| Stabilization (needs) assessment  | 56,578  | 267,031   | 326,018           | 461,271       |
| Primary care 6/   | 26,500  | 61,620    | 72,118            | 93,977        |
| Preventive health (Immunization, surveillance, outreach)                | 991   | 6,750     | 8,349             | 12,078        |
| Secondary and tertiary care (at 10% referral rate; MOPH reimbursements) | 29,087  | 198,660   | 245,551           | 355,216       |
|   | (in million US dollars, unless otherwise indicated) |           |                   |               |
| Impact assessment on GoL resources 1/                                   | 6.0   | 38.5      | 47.6              | 68.8          |
| Stabilization (needs) assessment  | 37.5  | 177.1     | 216.3             | 306.0         |
| Memorandum item:  |   |           |                   |               |
| Projected number of Syrian refugees (absolute number)                   | 204,826   | 1,329,000 | 1,564,465         | 2,263,168     |
| Private hospital debt due to Syrians (millions LBP) 7/                  | 2,847   | 16,514    | 20,411            | 29,527        |

Source: WB staff calculations based on UNHCR and MOPH data. 1/ All cost estimates are subject to inflation of 5 percent per year from base year; 2/ MOPH presently does not cover refugee primary health care costs—these are covered by UN agencies, NGOs, and out of pocket; 3/ Includes MOPH line item expenditure on drugs, immunization, YMCA, UNICEF; Assuming MOPH budget to UNICEF, YMCA will be spent at same rate in 2013 and 2014 as in 2012; 4/ MOPH currently covers only emergency visits for Syrian refugees; Assuming 20 per cent of hospitalizations are for emergencies (e.g., trauma, emergency obstetrics); 5/ Assuming 10 percent of total Syrian refugees hospitalized and 20 percent of those hospitalized seek care in public sector (bed ratio in public to private hospitals is 20:80). Average public hospital debt per Syrian in 2013 was LBP225,516 based on data from 4 public hospitals (in Hermel, Bint Jbeil, El Shouf and Hariri); 6/ MOPH stabilization estimates are higher than World Bank estimates; 7/ Based on a cost of LBP4,500/PHC visit, including drugs and diagnostics, upgrading of Primary Health Centers (PHCs), and additional training; 8/ Assuming 10 percent of total Syrian refugees hospitalized and 80 percent of those hospitalized seek care in private sector (bed ratio in public to private hospitals is 20:80). Average private hospital debt per Syrian in 2012 was LBP173,738 and in 2013 was LBP155,320 based on data from 35 private hospitals (source: Private Hospital Syndicate).

<sup>56</sup> This chapter was prepared by Nadwa Rafah and Aakanksha Pande (World Bank), with inputs from Elissar Radi (WHO) and in close collaboration with Ministry of Public Health (MOPH). We thank the MOPH and the Syndicate of Hospitals in Lebanon for their cooperation and for sharing of data.

## 1.1. Baseline and Pre-Conflict Health Trends

### 1.1.A. Health status

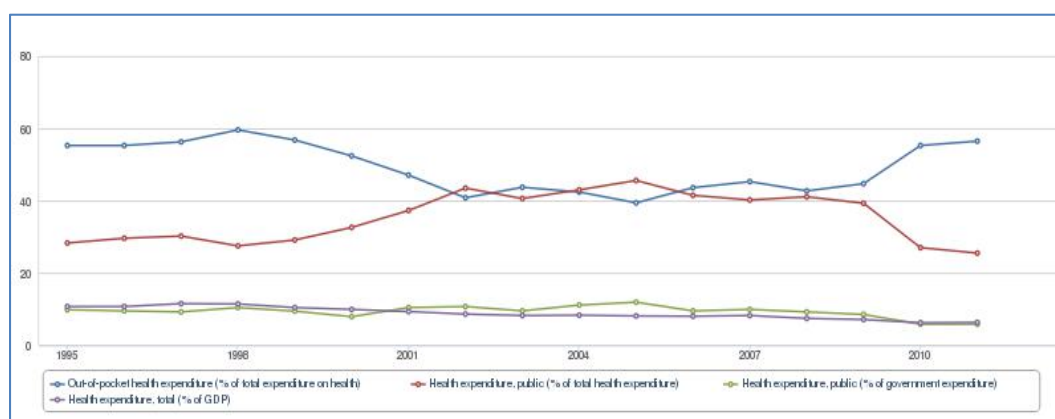
**98. Overall, Lebanon's pre-crisis health indicators have been improving steadily, reaching regional averages.** The health of the Lebanese population has been improving—life expectancy for females is at 75 and males is at 71 years, infant mortality rate is at 9 per 1000 live births, under five mortality rate is at 10 per 1,000 live births, and maternal mortality ratio is at 25 per 100,000 live births. Births attended by skilled health personnel and immunization coverage are high at around 98 percent. Lebanon has been certified as polio free since 2002; however, measles remains a public health concern with 11 reported cases in 2010 and nine reported cases in 2011 and 2012.<sup>57</sup>

**99. As other similar middle income countries in the region, Lebanon is going through a demographic and epidemiological transition.** Non communicable diseases are estimated to account for 84 percent of all deaths in Lebanon (see Figure 1 in the Health Appendix).<sup>58</sup> MOPH sources show that 32.1 percent of beneficiaries were treated for cardiovascular conditions, 16.3 percent for hypertension, 14.5 percent for diabetes, and 16.1 percent for hyperlipidemia.<sup>59</sup> 29 percent of beneficiaries were suffering from three diseases or more and 26 percent were treated with more than three drugs. The emergence of chronic health conditions and the aging of the population will contribute significantly to increases in cost of care.

### 1.1.B. Health financing

**100. Government spending on health was declining prior to the Syrian conflict.** In 2011, Lebanon spent USD2.6 billion on health (USD622 per capita), representing 6.3 percent of the country's gross domestic product (Figure 45). Public spending on health as a percentage of total health spending dropped by 45 percent from 45.6 percent in 2005 to 25.5 percent in 2011. Today, MOPH budget is 5.8 percent of the total budget, down from 11.9 percent in 2005.<sup>60</sup>

Figure 45. Health financing data Lebanon, 1995-2011



Source: World Bank, 2013, *World Development Indicators*, Washington DC: World Bank, 2013.

<sup>57</sup> MoPH, Vital Health Statistics, 2013.

<sup>58</sup> WHO, NCD Country Profile, 2011.

<sup>59</sup> MOPH, Vital Health Statistics, 2013.

<sup>60</sup> NHA data listed in World Bank, *World Development Indicators*, 2013

**101. Lebanon has a pluralistic and fragmented health system with multiple sources of financing, financing agents, and providers.** Private sources, including households and employers, provide the main source of funding (71 percent) while the public sector pays the rest. Only 50.1 percent of the population is insured under the three main insurance scheme—the National Social Security Fund (50.1 percent), public schemes covering mainly public sector employees and the armed forces (28.5 percent), private sector (14.2 percent), and others (7.1 percent).

**102. Out-of-pocket (OOP) spending is the single largest source of health care financing.** The burden of household out-of-pocket spending increased from 39.4 percent in 2005 to 43 percent in 2009 (MOPH).<sup>61</sup> Lower income groups spent a higher percentage of their income (14 percent) on health than those with higher income (4.2 percent).<sup>62</sup>

**103. For the uninsured, the Ministry of Public Health (MOPH) serves as a safety net or provider of last resort.** Services to the uninsured (about 1.6 million people) are provided either in public hospitals or through contracted private hospitals, with MOPH covering 85 percent of the hospital care, and 100 percent of medication of chronic and high risk diseases.

**104. MOPH has a sizable budget deficit resulting in delayed payments to contracted private hospitals.** The budget of the MOPH is allocated on a historic basis. Outstanding payments to the 137 contracted private hospitals from public health purchasers (MOPH, NSSF, and other funds) was estimated to be USD800 million of which USD80 million is owed by MOPH<sup>63</sup>. Given the significant time lags in reimbursement by public purchasers, additional burdens may have significant effects on the financial status of many private hospitals.

**105. The main drivers of health costs are diagnostics, pharmaceuticals, and personnel and related fees.** Based on 2013 data, the average reimbursement by MOPH per hospital admission is USD988 with the main drivers of costs being personnel and related fees (35 percent); physician fees (17 percent); non-medical supplies (16 percent); medical supplies (15 percent); pharmaceuticals (12 percent); depreciation (11 percent); utilities (5 percent); and miscellaneous (1 percent).

### I.1.C. Service delivery

**106. Primary health care is provided through a network of primary health centers (PHCs) which are predominantly run by non-governmental organizations (NGOs).** MOPH has contractual agreements with the private sector through NGOs and with the existing local authorities in districts. The PHC Network includes 182 contracted PHCs, of which 67 percent are affiliated through NGOs, 20 percent through local municipalities, 11 percent through MOPH and 2 percent through the Ministry of Social Affairs (MOSA). The basic package includes immunization, reproductive health, maternal and child health (MCH) services, health education, general medical care, dental care, and the provision of essential drugs. Between 2009 and 2012, the number of PHC Network visits increased by 52.2 percent, from 723,891 to 1,102,066 visits respectively. Use of PHC services by pregnant women has also doubled from 13,122 in 2009 to 26,666 in 2012 which constitutes 36 percent of total pregnancies in the country. MOPH procures essential drugs and vaccines for PHCs and in turn PHCs charge a nominal fee of approximately USD10 per visit.

<sup>61</sup> WHO Global Health Expenditure Database 2011 shows an out of pocket expenditure of 56 per cent.

<sup>62</sup> National Health Accounts (NHA), 2005.

<sup>63</sup> Syndicate of Private Hospitals, Lebanon, July 2013

**107. PHC network is the main source of medications for chronic illnesses.** The PHC network continues to be the source of medications for chronic illnesses to beneficiaries dispensing 156,850 prescriptions for a total of 460,480 drugs in 2012. The program is managed by an NGO, the Young Men Christian Association (YMCA), and covers the entire country. MOPH finances the provision of essential drugs to PHCs and the provision of drugs for specific conditions like cancer, multiple sclerosis, and mental illness for the uninsured.

**108. Ambulatory outpatient care is available through private sector facilities, but most expenses are borne out of pocket.** A multitude of private health facilities exists, which provides ambulatory outpatient medical and dental care ranging from solo physician practices to multi-disciplinary polyclinics. The costs of these visits are mostly borne out of pocket or at differing rates by those with insurance so the facilities are largely frequented by the more well off populations with PHCs being the alternative for the uninsured or indigent.

**109. Secondary and tertiary care is mostly provided by the private sector with an oversupply of hospital beds and physicians but shortage of nurses.** Around 86 percent of hospital beds (10,214 beds) are privately owned compared to 14 percent (1,688 beds) in the public sector. The ratio of hospital beds per 1000 population is 3.5 with a relatively low occupancy rate of 55 percent and average length of stay of 4.5 days,<sup>64</sup> which is being addressed through several reform initiatives including the accreditation of hospitals and the introduction of a system of utilization reviews. In general, the country has an over-supply of physicians (3/1000 population), pharmacists (1.2/1000 population), and dentists (1.1 per 1000 population) and an under supply of nurses (1.8 nurses per population). The availability of high-tech equipment such as CT imaging scanners and MRIs is very high, surpassing the ratios in all OECD countries.

**110. Preventive health care is directed by MOPH in concert with NGOs.** Preventive health care includes immunizations, disease surveillance, and public health messaging and is directed by MOPH in concert with NGOs. For example, immunizations are routinely conducted by all health centers and dispensaries in the country with 109 public and 540 NGO centers involved in EPI activities in 2007 (Ammar, 2009, p40).

## ***1.2. Impact Assessment of the Syrian Conflict on the Health Sector: Coverage by GoL***

**111. Due to the large and rising influx of refugees, Lebanon's health sector is under strain.** Syrian refugees are accessing public services extended to Lebanese citizens, thus putting pressure on the delivery and quality of services and public finances. The immediate impact of the rapid increase in users over such a short time period has primarily been met through existing structures such as the PHC Network and hospital services, and an accelerated use and hence depletion of drugs. GoL has borne a part of the health care costs of this influx of refugees by paying for emergency visits, some drugs, immunizations, and disease surveillance.

### ***1.2.A. Impact on health status***

**112. The refugees have unique health care needs, ranging from skin diseases to mental health conditions, thereby requiring different mix of services and mode of health system.** According to the United Nations, 35 percent of the Syrian refugees are vulnerable, requiring specific assistance.<sup>65</sup> This

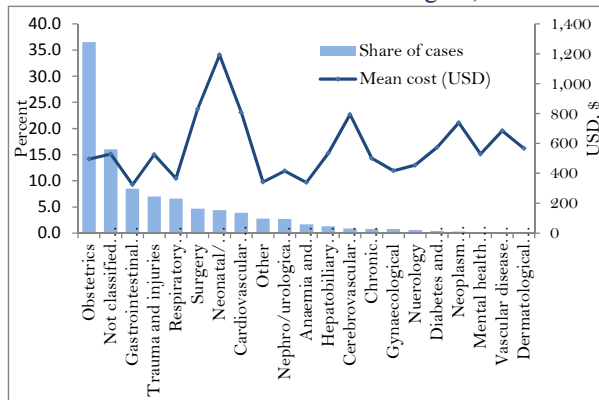
<sup>64</sup> WHO, *Country Cooperative Strategy: Lebanon, 2010-2015*, WHO: Geneva, page 23.

<sup>65</sup> United Nations, 2013, *Syria Regional Response Plan: Jan-Dec 2013*, Available at [http://www.who.int/hac/Syria\\_regional\\_response\\_plan\\_june2013.pdf](http://www.who.int/hac/Syria_regional_response_plan_june2013.pdf). Accessed on September 2, 2013.



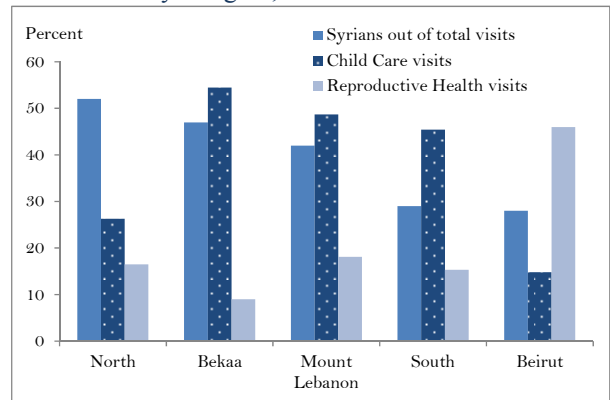
includes women (49.1 percent) of whom 22 percent are at child bearing age, children under the age of 12 (40 percent), and elderly (2.6 percent). In addition, data from various health providers suggest a large number of Syrian refugees have chronic diseases or serious medical conditions that require continued medical follow up. Of the 90,000 refugee patients treated at Amel Association clinics, 47 percent had skin disease (leishmaniasis, scabies, lice, and staphylococcal skin infection); 27 percent digestive system diseases; 19 percent respiratory diseases; 7 percent—especially children—suffer from malnutrition; 2 percent infectious diseases (measles, jaundice, and typhoid); and 13 percent of patients were diagnosed with mental illness as a result of trauma and displacement (Marwa and Mohanna, 2013). Similarly, of the 18,478 referrals reported by UNHCR 36.5 percent were for obstetric care of which 30.5 percent were for Caesarean sections (Figures 46 and 47). Such an upsurge both in demand and the mix of healthcare needs could easily overwhelm the existing primary health care facilities in Lebanon. In an assessment that looked at reproductive health conditions among 452 Syrian women in the Bekaa and the North, the most prevalent condition cited by women was anemia, with 31 percent prevalence among participants in the North and 24 percent in Bekaa. In addition to these three main diseases, 20 percent of participants in the North and 36 percent in Bekaa cited a variety of additional diseases or conditions that they currently have. An estimated 37 percent of women said that they had complications during labor, delivery, or other.

Figure 46. Secondary and tertiary health care: Referrals and associated costs for refugees, H1 2013



Source: UNHCR, 2013.

Figure 47. Primary health care: Use of PHC Services by refugees, December 2012



Source: MOPH, 2013.

**113. With the influx of Syrian refugees, Lebanon is now facing a sharp rise in communicable disease and the (re-)emergence of infections like measles and leishmaniasis.** Morbidity data from MOPH shows a sharp rise in communicable diseases. As a result of the increased influx, measles cases increased dramatically from 9 cases in 2012 to 1,456 cases by July 2013. Other communicable diseases that were not present in Lebanon, such as leishmaniasis, are being reported among Syrian refugees. By July 2013, 420 cases of cutaneous leishmaniasis (CL) were reported, of which 314 cases were among Syrians, compared with only two cases in 2012. The incidence is 76 times higher than the average for the same period in the last three years. Cases of hepatitis have also been reported in refugee communities.

**114. The large influx of refugees also increases risk of epidemics in Lebanon.** A World Health Organization (WHO) study of the epidemic risks in Lebanon showed that, in the context of Syrian refugees, Lebanon has a high risk for vector-borne diseases such as CL; water-borne diseases such as typhoid, hepatitis A and E, and Shigella dysenteriae; vaccine-preventable diseases such as measles, whooping cough, diphtheria, and polio; and other critical diseases such as TB (particularly multiple drug resistance tuberculosis (MDR-TB) and bacterial meningitis.<sup>66</sup> These risks are based on indications of escalated incidence of common diseases inside Syria with potential risk for epidemics that may spill over

<sup>66</sup> World Health Organization. Epidemic Risk Assessment for Syria Crisis. Lebanon, 13-15 May 2013.

to Lebanon due to population movement and displacement, risk factors that enhance transmission of the disease (such as overcrowding and lack of water and sanitation), and lack of preparedness of local health authorities in detecting and responding to these epidemics.

**115. Poor living conditions can also exacerbate health risks.** Poor environmental conditions such as crowding, lack of water and sanitation infrastructure also pose a significant risk to increased infections and outbreak. Access to safe drinking water and sanitation is limited where high refugee density populations are concentrated. There is documented evidence of outbreaks of lice and scabies among refugees as well as increase in levels of diarrheal diseases in both children and adults (Marwa and Mohanna, 2013). Moreover, as the conflict continues in its third year, regular immunization services have become disrupted, leaving Syrian children as well as unvaccinated persons in Lebanese host communities vulnerable to vaccine-preventable diseases. TB services have also become disrupted due to discontinued medications; leaving Syrian diagnosed with TB at risk of developing MDR-TB, thus increasing the risk of introducing drug resistant TB to Lebanon.

### **I.2.B. Impact on demand for and access to services**

**116. The distribution of the impact differs significantly by region within the country, with the strongest pressure observed in poor Lebanese communities given the strong overlap with refugee density.** Unlike neighboring countries, no refugee camps have been established in Lebanon. Instead, refugees are spread over villages and communities across the country. Their concentration is highest in host communities that are the poorest in the country such as Beka'a and North. Given the unequal spatial distribution of refugees in Lebanon, crowding out of public services—such as in MOPH run hospitals and primary healthcare centers—has materially impacted access for Lebanese in communities with large concentrations of Syrian refugees.

**117. The demand for health services has increased significantly over the past six to twelve months, especially in regions with the highest influx of refugees.** MOPH data for the month of December 2012 alone show that on average, 40 percent of primary health care visits were for Syrian Refugees. This varies by region. 52 percent of PHC visits in the North and 47 percent of visits in Beka'a were for Syrian refugees, with Wadi Khalid health center having the highest percentage of Syrians at 85 percent. The majority of visits were for child care, reproductive health, and dispensing of medications.

**118. Crowding out of hospitals with Syrian Refugees is compromising access to healthcare by the Lebanese and exerting financial pressure on hospitals.** Unlike other host countries, Lebanon did not establish field hospitals for refugees. The burden of meeting refugees' hospital care needs falls on existing public and private hospitals. There is evidence to suggest that admissions among Syrian refugees are on the rise and many contracted private facilities have reached their ceiling for MOPH covered patients. Public hospitals are also affected by the influx. Data from the Hariri Teaching Public Hospital in Beirut show that there were 2,821 admissions of Syrian refugees in 2012 and first half of 2013, 39 percent (1,103 cases) of which were for deliveries. During the same period, outstanding bills of Syrian refugee patients at the Hariri Hospital amounted to USD814,272. Smaller public hospitals, mostly at the Gaza level, are particularly at risk because of their small size and limited financial resources. For example, data from the the Siblin Shouf (64 beds), El-Hermel (40 beds), and Tripoli Public Hospitals show that more than 42 percent of their total deliveries in the first half of 2013 were for Syrian refugees with outstanding bills ranging between USD47,000 and USD113,333.

**119. The large and sudden increase in demand for health services is pushing up costs and generating medication shortages for Lebanese.** The influx of refugees is having a significant impact on host communities' access to affordable quality healthcare services. The increase in demand for PHC



services has led to an increase in health care cost especially in the North and in Beka'a. It is estimated that the costs of medicine increased by 5 percent in Beka'a, and by 34 percent in the North.<sup>67</sup> The increased demand for healthcare is creating a shortage of medications for Lebanese who are competing with refugees for drugs.

**120. The absence of sufficient primary health facilities in affected communities is creating increased financial burden for Lebanese.** Lack of access to health care in communities with the highest concentration of refugees in Beka'a, North and Wadi Khalid is mainly attributed to inability to pay for health care and absence of primary health care (PHC) centers within the community.<sup>68</sup> Lack of access to Syrian border hospitals for some communities is incurring additional financial burden when patients seek services through Lebanese institutions.<sup>69</sup> As such, geographical accessibility especially for underserved Lebanese is jeopardized. Lebanese have to travel longer distances to seek care in alternative facilities, and incur higher costs especially when they shift their care to the private sector.

**121. Given the pre-crisis capacity and infrastructure constraints of primary health care facilities in Lebanon, the sharp rise in demand is already generating shortages in selected health specialties.** MOPH 2012 annual report highlighted the need to refurbish and upgrade almost all PHC centers. It also reported shortages for medical and administrative staff mainly medical supervisors (50), nurses (20), Gaza physicians and assistant physicians (15), and computer operators (14). With the growing influx of refugees, shortages in health human resources became far more prominent in terms of numbers and mix of skills. The availability of particular specialties to address the current health needs of the vulnerable communities are low, especially among nutritionists, mental health practitioners, dermatologists, gynecologists, emergency doctors, and communicable disease experts, and additional training will be required.

**122. Private hospitals have sufficient capacity to deal with the growing demand, but insufficient financing constrains their ability to provide care to refugees.** The cost of treating the emergency cases among Syrians is absorbed by the private hospitals. Prior to the crisis, outstanding payments to 137 private hospitals from public health purchasers (MOPH, NSSF and other funds) was estimated to be USD800 million, of which USD80 million was owed by MOPH.<sup>70</sup> Given the significant time lag in reimbursement by public purchasers, additional burdens like these can have significant effects on the financial status of many private hospitals. These hospitals collectively employ over 25,000 employees and work with more than 10,000 physicians and there have been threats of the private hospitals not accepting any more refugee cases till adequate financing is provided. Unfortunately, no data is yet available to capture the extent to which arrears have grown since the crisis and what share is attributable to Syrian refugees.

**123. Delayed access to care would likely result in greater morbidity and costs.** A medium-to-long term impact of the crisis is delayed access to health care. The unmet need caused by the crisis, particularly on the vulnerable, and delays in access to preventive care, diagnosis, and treatment will increase the overall levels of morbidity and cost of care on the Lebanese population in the future.

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<sup>67</sup> Development Management International, Rapid Assessment of the Impact of Syrian Crisis on Socio-Economic Situation in North and Beka'a, August 2012.

<sup>68</sup> International Medical Corps Lebanon, Syrian Refugee Response, January-June, 2013

<sup>69</sup> Development Management International, Rapid Assessment of the Impact of Syrian Crisis on Socio-Economic Situation in North and Beka'a, August 2012

<sup>70</sup> Syndicate of Private Hospitals, Lebanon. Press Conference, July, 2013

### **I.2.C. Impact on finances**

**124. The rise in demand for health services will likely be financed through rising arrears.** MOPH data show a 34 percent increase in allocated expenditure for hospital care, from USD209 million in September 2012 to USD280 million in September 2013. Similarly, MOPH allocated spending on drugs increased by 9.4 percent from September 2012 to September 2013. Despite these increases, budget shortfalls are expected in 2013. For example, due to the increased demand for medication, drugs are being depleted at a faster rate with 97 percent of MOPH allocated budget for drugs in 2013 already being spent by September. Similarly, 99 percent of the hospitalization allocated spending has also been used by September 2013. There is growing concern that without additional financial resources, the MOPH will face severe shortages in drugs and in its ability to cover hospital care for Lebanese. No major changes in MOPH allocated spending for PHC between 2012 and 2013 has been found. The extent and tracking of MOPH expenditure on refugee health care is unclear, which complicates the assessment of the fiscal burden.

**125. To date, the financial burden of refugee health costs has mostly been borne by UN agencies, NGOs, public and private hospitals, and out of pocket.** MOPH does not provide free primary and hospital care services to Syrian refugees, but subsidizes medicine. However, life-threatening and emergency cases are admitted at MOPH contracted hospitals in Lebanon. UN agencies supported by donors, international NGOs and charities, are subsidizing health care costs for the refugees using Lebanese facilities. In 2013, donor health-related pledges, commitments and contributions totaled around USD154 million,<sup>71</sup> less than the funding needed to meet the spiraling needs for refugees and host communities. Due to the high costs of health care in Lebanon, UNHCR and partner NGOs have reduced their coverage of costs starting April 2013 from 85 to 75 percent starting. This will further exacerbate the financial burden on Lebanese hospitals as unpaid bills—already a significant problem as sampling from one large hospital revealed that about one-third of out-of-pocket expenses due to be paid by Syrian refugees are in arrears—are likely to grow. The outstanding refugee bills are currently absorbed by contracted public and private hospitals which have intensified the already large arrears faced by these providers.

**126. The impact assessment estimates that the cost to GoL for providing health care to the Syrian refugees based to present policies will be USD38.5 million in 2013 and USD48-69 million in 2014 depending on the refugee influx scenario used.** Using MOPH expenditure data from 2012 and 2013 it can be calculated that cost of drugs, immunization, and surveillance (including GoL contributions to YMCA and UNICEF) for the Syrian refugee population will be USD21 million in 2013 and range from USD26 million (baseline refugee scenario) to USD37 million (high refugee scenario) in 2014. MOPH only covers emergency visits for Syrian refugees (estimated at 20 percent of all hospitalizations, e.g., trauma and obstetric care), which can be estimated as USD14 million in 2013 and ranges from USD17 million (baseline refugee scenario) to USD24 million (high refugee scenario) in 2014. At present, PHC visits are not covered by MOPH and so are not included in the impact assessment calculations.

### ***I.3. Stabilization Assessment for the Health Sector***

**127. Increasing PHC capacity and availability of specialists to deal with the increase in demand for health care.** Presently the most affected communities in Lebanon lack sufficient primary health care capacity to deal with refugee influx. Short-term stabilization measures at the PHC level include; expanding the PHC network to include more contracted facilities, increasing opening hours in facilities with the highest influx of patients, reducing staff shortages, and increasing the availability of particular

<sup>71</sup> Includes contributions by countries to UNHCR, WHO, UNICEF, UNFPA and bilateral country contributions by Denmark, Czech Republic, Norway, UK, France, and Sweden.

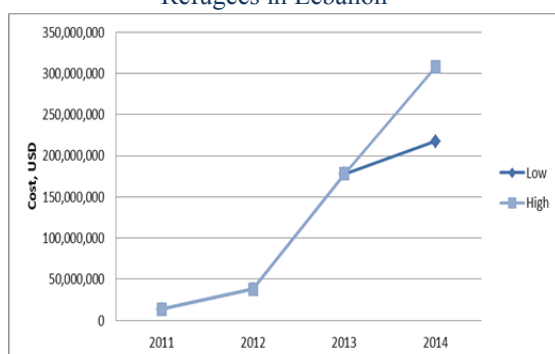
specialists and sub specialists to address the unique health needs to refugee communities. Medium term measures include upgrading the PHC network and TB centers.

**128. Expanding surveillance and preventive health measures.** To check the spread of disease in both refugees and Lebanese host communities it is imperative to expand the Early Warning and Response Network (EWARN) and harmonize the response procedures at national level (United Nations, 2013). Also preventive health measures should be actively pursued and include immunization, public health messaging, access to clean water and sanitation (discussed in the chapter on water and sanitation), and public health messaging.

**129. Increasing financing for health sector to cope with the refugee crisis and pay off previously accrued debt.** With the continuing crisis, the health sector is facing significant financial pressures and shortages, particularly drugs that are being rapidly depleted. With the influx expected to continue and reach 1.6 million refugees in Lebanon by end-2014 in the baseline scenario, more resources are required to cope with the situation and sustain the health sector to pre-conflict levels. Additional financing will help alleviate the burden of the Syrian crisis on affected communities, improve the fiscal ability of the MOH to reimburse the private sector for its services, and assist the MOH maintain its commitment for timely access to health care to its citizens.

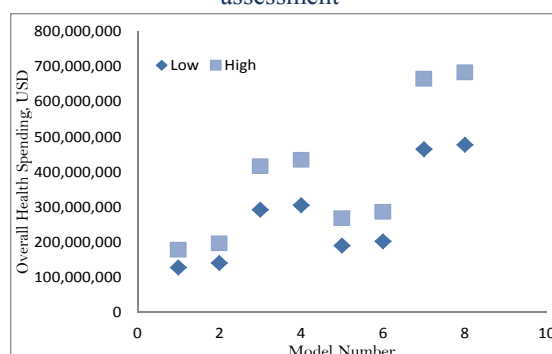
**130. The estimated total health care cost of Syrian refugees are rising rapidly from USD177 million in 2013 to USD216-USD306 million in 2014, depending on the refugee influx scenario** (Table 10 and Figure 48). This estimate is based on an analysis of primary health care uses, secondary and tertiary health care uses, and preventive care uses of the refugee population. The primary health care estimate assumes 40 percent of refugees seek primary health care with each visit costing USD50 (including cost of drugs and diagnostics). In addition, all PHC facilities will be upgraded and additional staff trained and paid for overtime hours to increase capacity at PHCs. Secondary and tertiary care costs are modeled based on the epidemiological profile of refugee patients referred by UNHCR to Lebanese facilities and assume a 10 percent referral rate. Depending on the type of visit (e.g., obstetric, mental health inpatient), reimbursement is based on UNHCR cost estimates inflated to MOPH rates (since providers are said to be finding UNHCR rates insufficient). Preventive care costs include costs of immunizing children under five, health campaigns in areas with large refugee populations (e.g., Vitamin A supplementation, demand creation for mental health services), and infectious disease surveillance. All costs estimates are subject to a 5 percent inflation rate per year from base year prices.

Figure 48. Estimated health impact of Syrian Refugees in Lebanon



Source: WB staff estimates based on UN and MOPH data. Low scenario is the baseline scenario.

Figure 49. Sensitivity analyses for health impact assessment



Source: World Bank staff. For details of models see Health Appendix. Low scenario is the baseline scenario.

**131. Sensitivity analyses show that the main drivers of overall health care costs will be the reimbursement rate for secondary and tertiary care and the magnitude of refugee influx in 2014.** To test the robustness of the model, sensitivity analyses were undertaken varying primary care costs

(USD50 versus USD30); secondary and tertiary care referral rates (6 percent versus 10 percent) and secondary and tertiary care reimbursement rates (MOPH rates versus private sector rates which are three times MOPH rates). From the ensuing eight models, the estimates in 2014 for the baseline refugee scenario ranged from USD139 million to USD506 million and for high refugee scenario from USD194 million to USD725 million (Figure 49). The latest GOL Response Plan estimates the cost of accommodating Syrian refugees in 2013 at USD1.2 billion, of which USD368 million is for health. These estimates also include the provision of health care to host Lebanese communities (about 20 percent) and Palestinians, which can explain the difference from our model estimates which only look at the additional health care costs of Syrian refugees.

## II. EDUCATION<sup>72</sup>

**132.** Prior to the Syrian conflict, basic education enrollment in Lebanon was stable at over 90 percent for the last decade, with gender parity achieved. Though public schools only accommodated 30 percent of total students, they catered predominantly to children of lower socio-economic status. Since the onset of the Syrian conflict, and the influx of refugees, the Ministry of Education and Higher Education (MEHE) in the past two school years has provided open access to refugees in its public school system, but going forward there may be a need to rethink this policy. The impact of the conflict has been seen through additional expenditures that the MEHE incurred in 2012 to accommodate 40,000 refugee children in its schools at a cost of USD29 million. Other costs—in the order of USD24 million—were financed by donors through UN agencies. These cost and the burden on the school system is, however, going to escalate rapidly: in the coming school year 90,000 refugees are expected to enroll, and, by 2014 that number could reach between 140,000 and 170,000. The latter figure amounts to 57 percent of public school students. To accommodate such demand from Syrian refugees, and maintain quality and access for Lebanese students at levels prior to the conflict, stabilization needs amount to approximately USD183 million in 2013 and between USD348 and USD434 million in 2014. However, even such stabilization needs do not take into account the needs of the 65 percent of the refugees who are not expected to enroll in formal schooling (for both supply and demand reasons), thus creating significant needs for non-formal/out of school education, otherwise child labor and other negative consequences would increase tremendously.

Table 11: Impact and Stabilization Assessments for the Education Sector, 2012-2014

|   | 2012     | 2013    | 2014                                   |                        |
|---|----------|---------|--|------------------------|
|   |          |         | Baseline<br>Refugee Influx<br>Forecast | High Refugee<br>Influx |
|   | Estimate |         |  |                        |
| (in million of Lebanese Pounds, unless otherwise indicated) |          |         |  |                        |
| Impact assessment   | 43,994   | 95,206  | 153,113                                | 184,102                |
| Current spending  | 40,994   | 88,440  | 140,819                                | 167,309                |
| Student fees (LL150,000/student/year)                       | 6,000    | 13,500  | 21,000                                 | 25,500                 |
| Books (free for students)                                   | 1,200    | 2,700   | 6,300                                  | 7,650                  |
| Contractual teachers hired for teaching Syrian children     | 33,794   | 72,240  | 113,519                                | 134,159                |
| Capital spending  | 3,000    | 6,766   | 12,294                                 | 16,793                 |
| Stabilization (Needs) assessment                            | 145,692  | 275,245 | 524,903                                | 654,999                |
| Current spending  | 133,470  | 253,790 | 386,292                                | 457,777                |
| Capital spending  | 12,222   | 21,455  | 138,611                                | 197,222                |
| (in million US dollars)                                     |          |         |  |                        |
| Impact assessment   | 29       | 63      | 102                                    | 122                    |
| Stabilization (Needs) assessment                            | 97       | 183     | 348                                    | 434                    |

Source: World Bank/UNICEF staff calculations from MEHE data.

### II.1. Baseline and Pre-conflict Trends in Education

**133.** Prior to the Syrian conflict and the large influx of refugees, enrollment in primary education in Lebanon was over 90 percent and has been stable at this rate for over a decade. Regional disparities are large, however, with enrollment in Akkar and Minieh-Danniyeh only 76 percent.

<sup>72</sup> This chapter was prepared by Haneen Sayed, Juan Manuel Moreno, Dima Krayem (World Bank), Peter de Vries, Emma Coll, Wafa Kotob (UNICEF), in close collaboration with Ministry of Education and Higher Education.

Net enrolment for children of secondary school age drops to 81 percent and also witnesses regional differences. At the national level almost 5 percent of secondary school age children are still in primary school. Gender parity is achieved at primary level while at secondary attendance of girls is higher resulting in a gender parity index of 1.1. Particularly North Lebanon and Beka'a show a substantial gender gap to the advantage of girls due to boys starting work at an early age.

Table 12: Net Enrolment Rates (2004-2009)

|                    | 2004 | 2007 | 2009 |
|--------------------|------|------|------|
| Level of education |      |      |      |
| Primary            | 93   | 93   | 99   |
| Intermediate       | 69   | 72   | --   |
| Secondary          | 42   | 54   | 86   |

Sources: CAS 2004 and 2007, Multi Indicator Cluster Survey, UNICEF 2009.

**134. The private sector plays an important role in the provision of education.** Public schools accounted for 47 percent of the total number of schools accommodating only 30 percent of the students in 2009-10 (CAS). In addition, the public sector suffers from significantly higher repetition rates and percentages of over-age students as compared to the private sector. It also accounts for only 19 percent of pre-school service provision compared to 66 percent in the private sector and 15 percent in private schools (UNICEF 2013). Since the majority of private schools are located in Beirut and Mount Lebanon region, it can be claimed that disparities in access to education start early in Lebanon and are less pronounced in more socio-economically advantaged areas where the private education sector is dominant. In any case, the fact that the public sector caters for those areas and communities with the lowest socio-economic indicators is crucial to understanding the risks involved in the current crisis and its potential short and long-term impact on the Lebanese education system.

**135. Public schools exhibit lower academic outcomes than private ones in international and national assessments.** The academic level of public school students was 10 percent lower than that of private schools in 2011 TIMSS results which placed Lebanon 25<sup>th</sup> out of 42 countries for grade eight math and 39 out of 42 for grade eight science. While official national data for the Brevet (grade 9) demonstrates increases over the last few years, results were also notably lower for the public sector (55 percent as compared to 74 for private schools in 2004-05). Repetition rates show clear variation by region/district and by level. According to MEHE data, at national level the repetition rate stood at 18.2 percent in 2010-11 while repetition rates for cycle 1 (grades 1; 2 and 3) ranged from 9.85 percent in Nabatiyeh to 22.84 percent in North Lebanon (ECD, 2010).

**136. Although there is an oversupply of teachers at the national level, the teaching force is under qualified and there are shortages of teachers in certain subjects and in certain regions, particularly those in the northern parts of the country.** Teachers, particularly those that are contracted, have been playing a key role in responding to fluctuations in enrolment, as is the case with the Syrian conflict. However, particularly in the case of contracted teachers, these are less equipped with pedagogical skills required for quality teaching and learning. This raises concerns about the overall quality of the public system and also about large disparities in terms of learning outcomes among the different regions. In general, despite recent curriculum review efforts promoting participatory approaches and classroom and child-centered learning, classroom teaching practices appear to remain largely traditional while the role of school leadership has changed little and only in a few public schools.

**137. Prior to the conflict, MEHE started the process of implementing an ambitious multi-year education sector reform program supported by a multitude of donors and agencies.** The Education Sector Development Plan (ESDP), approved by the Council of Ministers in 2010, included 10 priority programs to address long-standing challenges in the Lebanese education system related to quality, equality of access, governance and institutional reforms. A key priority of the MEHE today is to ensure that these reform plans are not derailed by the influx of such large numbers of refugees. At the same time, the MEHE is committed to address the immediate education needs of the Syrian refugees. This “twin-challenge” means significant strains and pressures on existing systems, resources, and capacity, particularly for public basic education schools.

## ***II.2. Impact of the Syrian Conflict on Education<sup>73</sup>***

**138. MEHE’s decision of late 2011 provided for open access for Syrians refugees in Lebanon’s public school system.** In academic year 2011/2012 (2011) only 1,000 Syrian refugees were registered in public schools. The following year 2012/2013 (2012), however, approximately 40,000 refugees enrolled, thereby increasing the public school student population up by 13 percent. Some 9,500 additional students enrolled in out-of-school accelerated learning programs (ALPs) implemented through NGOs.

**139. To accommodate the 40,000 refugees in the public system, the MEHE provided in both direct and indirect spending approximately USD27 million** to cover the costs of student fees, books, and teaching and administrative costs in 2012 (Table 11). An additional USD24 million was spent by UN agencies and NGOs from donor funds, bringing the total monetary impact of the crisis in 2012 on the education sector to approximately USD51 million.

**140. Most of the Syrian children have entered public schools in areas that are already under-privileged and suffering from low quality education.** The influx has led to an increase in the average number of students per section to 20 compared to 15 in 2011, and in certain areas such as rural North Lebanon the number reached 26 to 35 students per section. It is expected that these ratios will rise even further in areas where there is a high influx of Syrian refugees such as Akkar which will impact the quality of teaching particularly if teachers are not trained adequately enough to cope with large classrooms (UNICEF 2013). In addition, studies have indicated that many Syrian children require special needs, such as psycho-social support and protection, including addressing traumatic experiences. This also requires additional training for teachers, including contracted teachers in special needs education and child-centered pedagogical practices. To handle this situation, there will be a need to increase the number of school counselors and psychologists and, in general, all external support services to schools which the DOPS (Department of Pedagogical Orientation) provides to public schools in Lebanon. Finally, schools have intensified the use of infrastructure facilities, including water and sanitation, which has led to an increased need for maintenance.

**141. Failure rates and dropout among Syrian children are twice the national average for Lebanese children, which add to an already growing concern over child labor** (Box 2 on Child Labor below). A major factor behind high dropout rates relates to language barriers as the medium of instruction in Lebanese public schools for subjects such as mathematics and sciences is French or English, whereby the equivalent in Syrian schools is Arabic. Reports based on field surveys indicate that in some schools that have high numbers of Syrian students, teachers have been forgoing English and French as languages of instruction in order to mitigate failure rates and drop outs. On the other hand, such practices could further undermine quality in the public system, where the comparative weakness in foreign languages has already been recognized as a concern and could now worsen.

<sup>73</sup> Analysis of impact and stabilization needs is restricted to basic education (grades 1-9) as this is the level at which the majority of Syrian refugees are enrolled or expected to enroll.



**142. It is too early to measure the impact of the absorption of the Syrian refugees on the learning performance of Lebanese students.** It will likely take 2-4 years for the impact on outcomes to become apparent. It is thus important for MEHE to closely monitor, and with varying methodologies, these potential impacts, and to ensure that its reform plans remain on track as per pre-conflict status. In any case, considering the already substantial risks and challenges related to education quality in the public school system, and considering that the public system is expected to shoulder the education impact of the crisis almost exclusively, it needs to be acknowledged from the outset that MEHE urgently needs the extra fiscal and human resources to respond to the above-mentioned twin challenge.

#### Box 2. Child Labor

**Child labor in Lebanon has traditionally been concentrated in the informal sector, street trades and family-based agriculture.** While there are no reliable national estimates, recent findings from qualitative research and small-scale quantitative studies suggest that the phenomenon is on the rise. Deteriorating socio-economic conditions and school drop-out are important causal factors. Child labor has further been fueled by the large number of refugee families fleeing the war in Syria. Findings from ILO research on the labor market impact of the Syrian refugee influx show that 7 percent of refugee children in the age group 10 to 14 are economically active. Moreover, 61 percent of children of the same age group do not attend school and are thus vulnerable to future labor exploitation. The Government is sensitive to the issue and has reinforced its legislation and policy on child labor. There is need for stronger inter-sectoral linkages, such as with Ministry of Social Affairs in the area of non-formal/out of school education, and combatting child labor programs.

Source for the Box: Rapid Assessment of Syrian Refugees in Lebanon: Employment Profile and Impact on Local labour Market, Preliminary Draft Survey Summary, International Labour Organization; August 2013.

### *II.3. Stabilization Needs in the Education Sector*

**143. Despite the pro-active emergency response of the MEHE, which have resulted in rapidly absorbing 40,000 refugee students, it is clear that going forward the impact will be of another scale, and therefore response strategies and resources must be commensurate.** Significant pressures are expected at the basic education level where it is estimated that if 35 percent of the 260,000 Syrian refugees ages 6-15 enroll in 2013, there would be 90,000 students, representing a 30 percent increase in total public school students.<sup>74</sup> In 2014, with the numbers of refugees ages 6-15 expected to grow to 410,000 (baseline refugee influx scenario), potential enrollees would be approximately 143,000 Syrian students based on an enrolment rate of 35 percent. In the high refugee influx scenario, the numbers increase to 196,000 Syrian students seeking enrollment in public schools which would mean an increase of 57 percent in total public school students (Figure 50).

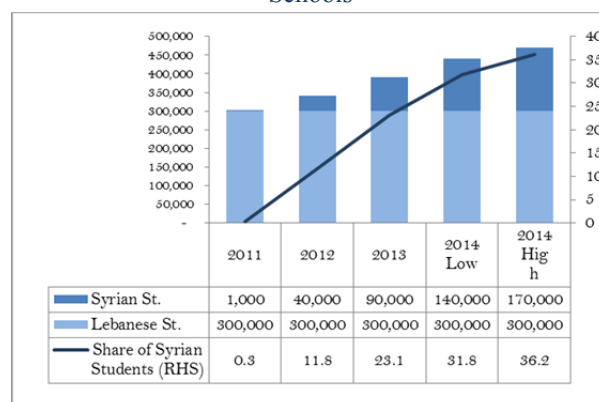
**144. The MEHE's stabilization plan to address the above demand is based on the following assumptions:** (1) the Lebanese public system will continue to accept refugees children from Syria within the system's capacity; (2) the MEHE will receive refugee students in the Lebanese public school system in their areas of residency up to the capacity limit of the schools in these areas. Additional students seeking registration beyond the schools' capacity will be requested to register in neighboring public schools, as suggested by MEHE, where new sections will be opened in these schools or within existing premises or locations that the MEHE had evacuated previously for various reasons, as well as locations that require rehabilitation. In addition, in specific regions, MEHE will adopt second shifts but strictly for

<sup>74</sup> Expected enrollment rates for Syrian refugees is estimated at 35 percent for 2013 and 2014 based on some assumed increase over the 2012 enrollment rates which was approximately 20 percent among the refugee population. The determinants of demand for education by the refugee population is beyond the scope of this assessment, but is generally expected to be low given socio-economic conditions of the refugees. At the same time, there are capacity constraints in the public school system.



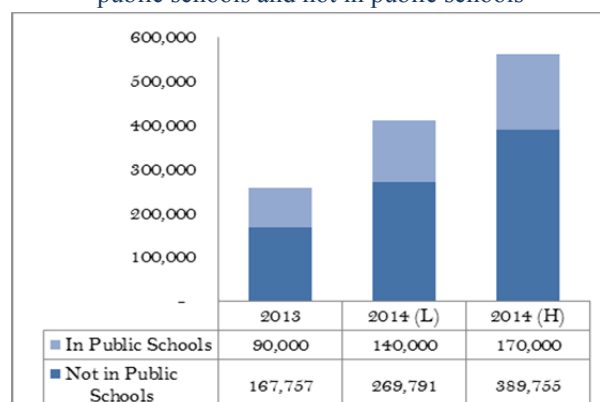
cycle 3 (grades 7, 8 and 9). If well planned, second shifting could be cost-effective and reach a greater number of children. Approximately 90,000 additional students can be accommodated in the public schools. The MEHE is, however, expecting some 20,000 Lebanese students to switch from private schools due to socio-economic conditions and therefore only 70,000 places are available for non-Lebanese. Beyond that number, double-shifting and use of prefabricated structures will be utilized. Table 13 presents the numbers of students accommodated through public schools, second shifts, and prefabricated structures for 2013 and 2014. It should be noted that in 2014, there would be approximately 3,000 (baseline scenario) and 26,000 (high scenario) refugees wanting to enroll who could not be accommodated in the three options above and therefore would join the ranks of the 65 percent who would have to be serviced through some form of non-formal/out of school education (see paragraph 146).

Figure 50: Lebanese and Syrian Students in Public Schools



Source: WB/UNICEF staff calculations based on UNHCR data.

Figure 51: Number of Syrian Children Ages 6-15 in public schools and not in public schools



Source: WB/UNICEF staff calculations based on UNHCR data.

**145. Table 11 summarizes the stabilization needs for 2013 and 2014, and demonstrates the significant additional funding that will be required to maintain access and quality of the education system to the pre-refugees status.** The amounts for 2013 reach USD183 million to integrate 70,000 Syrian refugee students in the public schools. The additional 20,000 students in 2013 will be accommodated through second shifts). In 2014, the needs range from USD348 million to USD434 million and include accommodating between 30,000 and 40,000 students through second shifts, in addition to current and capital costs of purchasing and installing prefabricated structures to accommodate between 40,000 and 60,000 students. (See education annex for detailed costing of student costs in public schools, prefabs and second shifts).

**146. With assumptions of only 35 percent enrollment rates for refugees, it is important to consider what will happen to those refugees who will not enroll in formal schooling.** An estimated 270,000-390,000 refugee children aged 6-15 (baseline and high scenario) are not expected to be enrolled in any form of formal schooling in 2014. Options for non-formal education, therefore, need to be considered. Non-formal/out of school education, however, is limited in Lebanon and does not fall under the mandate of the MEHE. While MOSA partially carries that mandate, its abilities are limited and resources constrained. Innovative, cost-effective strategies need to be further explored to ensure that children have access to learning. Such strategies could include expanding accelerated learning programs and non-formal education through community centers with support from NGOs. Otherwise the risks are high of having increased child labor and other negative social consequences. Furthermore, it is expected that most children aged 15 and above will not be enrolling in secondary school and instead will join the labor supply, adding further pressure on an already tenuous labor market situation (see next chapter).

Table 13. Assumptions for Stabilization Needs in Basic Education

|  | 2012    | 2013     | 2014                          |                           |
|--|---------|----------|-------------------------------|---------------------------|
|  | Actual  | Forecast | Baseline<br>refugee<br>influx | High<br>refugee<br>influx |
|  |         |          | Forecast                      |                           |
| Number of Syrian refugees ages 6-15                      | 195,000 | 258,000  | 410,000                       | 560,000                   |
| Estimated Enrolment Rate of refugees (%)                 | 21      | 35       | 35                            | 35                        |
| Estimated Number of refugees wanting to enroll           | 40,000  | 90,000   | 143,000                       | 196,000                   |
| Number of refugees accommodated in public schools 1/     | 40,000  | 70,000   | 70,000                        | 70,000                    |
| Number of refugees accommodated through second shifts 2/ | -       | 20,000   | 30,000                        | 40,000                    |
| Number of refugees accommodated in prefabs               | -       | -        | 40,000                        | 60,000                    |

Source: World Bank staff.

1/ Although the public system can accommodate 90,000 additional students, the MEHE is expecting additional demand from Lebanese students in 2013 and 2014 as a result of switching taking place from private schools to the more affordable public schools.

2/ Second shifting is applicable only to Cycle 3 (grades 7, 8, 9)

### III. EMPLOYMENT AND LIVELIHOODS<sup>75</sup>

*147. Labor market conditions in Lebanon before the Syrian crisis were already dire. High unemployment rates coexisted with mismatches in the labor market and a high prevalence of low quality and productivity jobs. The influx of Syrian refugees is expected to increase labor supply by between 30 and 50 percent—with major changes taking place among women, young, and unskilled workers. Such a massive increase in the number of individuals looking for jobs is expected to have major effects on labor market outcomes. The overall unemployment rate and the share of informal work could increase each by up to 10 percentage points. An additional 220,000-324,000 Lebanese are expected to become unemployed (compared to a no refugee situation). Stabilizing the situation by implementing a comprehensive package of active labor market programs to improve livelihoods and earnings opportunities over the short-term would require resources between USD166 million and USD242 million.*

#### *III.1. Baseline and Pre-conflict Trends<sup>76</sup>*

**148. Prior to the Syrian conflict, the Lebanese labor force was steadily growing, at an average annual rate of 2.2 percent (2004-10).** Half of this growth was explained by a growing working age population (1.7 percent per year). The share of youth entering the labor market will continue to increase over the next decade. Hence, it is projected that over the next decade the working age population will be growing at an average rate of 1.2 percent per year. If participation rates remain constant, this would imply around 19,000 new entrants to the labor market each year.

**149. The factor affecting labor force growth is increasing labor force participation rates.** Although today participation rates for both men and women are low compared to other countries in the region, particularly for women, they are on an upward trend (Table 14). Between 2004 and 2010, the aggregate participation rate increased from 44 percent to 46 percent. It is expected that the participation rate will reach 47 percent by year 2020. With increasing participation rates, 23,000 individuals, on average, would be entering the labor market each year over the next 10 years. Just to absorb them, without taking into account the influx of Syrian refugees, the economy would need to create more than 6 times the number of jobs it is currently creating (on average, only 3,400 new jobs each year between 2004 and 2007).

**150. Employment growth has taken place mainly in low productivity sectors and has not been sufficient to absorb new entrants to the labor market despite reasonably strong GDP growth between 1997 and 2009.** While GDP grew at an average of 3.7 percent per year, employment expanded by only 1.1 percent. Between 2004 and 2009, the main contributors to net job creation were trade (61 percent) and low productivity services (33 percent) sectors, followed by construction (10 percent). Higher productivity sectors such as transportation, telecommunication, financial services and insurance actually shed jobs.

<sup>75</sup> This Chapter was prepared by David Robalino, Carole Chartouni, Haneen Sayed, Mohammad Marouani, Anda David, and Dima Krayem (World Bank), with inputs from Mary Kawar (ILO) and Charu Bist (UNDP), and staff of the Ministry of Labor. Comments from Chris Dammers (EU) are gratefully acknowledged.

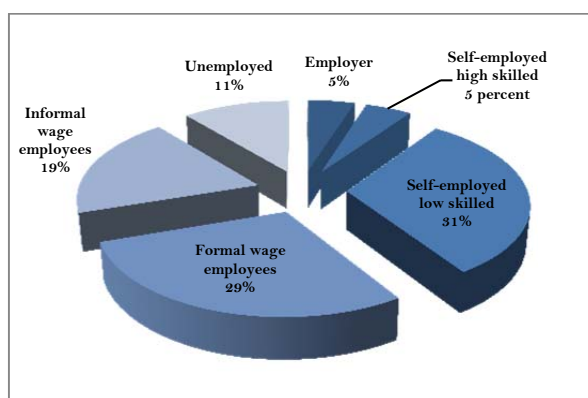
<sup>76</sup> World Bank, 2012, “Lebanon: Good Jobs Needed: The Role of Macro, Investment, Education, Labor and Social Protection Policies (“MILES”),” A Multi-Year Technical Cooperation Program, December.

**151. As a result, even prior to the conflict in Syria, unemployment had increased and was often of long duration.** Around 11 percent of the labor force is unemployed reflecting, in part, long average durations of the unemployment spell (close to one year). Unemployment rates are particularly high for women (18 percent) and youth (34 percent). Unemployment also increases with education. Around 14 percent of university graduates and 15 percent of those with secondary education are unemployed relative to 10 percent among workers with no education and only 7 percent among those with primary education.

**152. In addition to high unemployment, the Lebanese labor market is characterized by a high prevalence of informal unemployment.** Around 19 percent of workers are informal wage employees, lacking access to social insurance and labor regulations. Another 36 percent of workers are self-employed, but, out of these, the majority are low-skilled self-employed who are usually involved in low productive activities and have limited access to formal insurance arrangements. Figure 52 provides a more detailed portrayal of the distribution of the Lebanese labor force by employment status.

**153. Long before the Syrian crisis, Lebanon has had large numbers of low skilled migrant workers most of which were Syrians** and who were mainly employed in construction, agriculture and services. Estimates of the number of foreign workers in Lebanon vary widely from one source to the other. Estimates suggest Syrian workers constituted around 17 percent of the total labor force in the country, or around 300,000 workers pre-conflict.<sup>77</sup>

Figure 52-Equilibrium Distribution of the Labor Force by Employment Status



Source: World Bank, 2010 Employer-Employee Survey.

Table 14-Trend and Projections in the Demographics and Labor Force in Lebanon 1/

|        | Share of working age population | Economic activity rate | Population growth rate | Working age population growth rate | Labor Force Growth Rate |
|--------|---------------------------------|------------------------|------------------------|------------------------------------|-------------------------|
| 2004   | 72%                             | 44%                    |                        |                                    |                         |
| 2005   | 72%                             | 45%                    | 1.40%                  | 2.30%                              | 3.10%                   |
| 2006   | 73%                             | 45%                    | 1.10%                  | 2.00%                              | 2.80%                   |
| 2007   | 74%                             | 45%                    | 0.90%                  | 1.60%                              | 2.20%                   |
| 2008   | 74%                             | 45%                    | 0.80%                  | 1.40%                              | 1.70%                   |
| 2009   | 75%                             | 46%                    | 0.70%                  | 1.40%                              | 1.70%                   |
| 2010   | 75%                             | 46%                    | 0.70%                  | 1.50%                              | 1.80%                   |
| 2015 P | 78%                             | 46%                    | 0.70%                  | 1.50%                              | 1.70%                   |
| 2020 P | 79%                             | 47%                    | 0.60%                  | 0.90%                              | 1.30%                   |
| 2025 P | 80%                             | 48%                    | 0.50%                  | 0.80%                              | 1.10%                   |
| 2030 P | 81%                             | 49%                    | 0.30%                  | 0.60%                              | 0.90%                   |

Source: ILO, Economically Active Population, Estimates and Projections (6th edition, October 2011).

1/ Projections beyond 2020 are based on staff calculations, working age population defined as 15+; the growth rate refers to the average between two consecutive periods (growth rate between year t1 and t2 = (stock t1 /stock t2)<sup>1/(t2-t1)</sup> -1).

### III.2. Impact of the Syrian conflict on Employment and Livelihoods

**154. The inflow of Syrian refugees to Lebanon is significantly impacting total labor supply, especially for females, youth, and poorly educated individuals.** It is estimated that labor supply expanded by 30 percent in 2013 as a result of the influx of refugees and that in 2014 there might be an even larger increase of between 36 to 54 percent relative to the baseline.<sup>78</sup> The estimates do not include

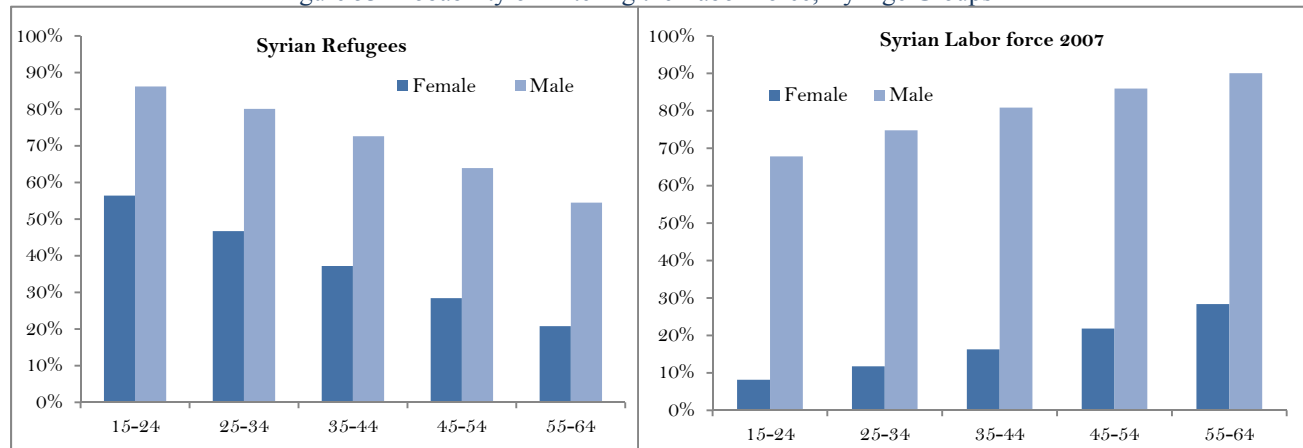
<sup>77</sup> Najwa Yaacoub, Lara Badre, 2011, "The Labour Market in Lebanon", Central Administration for Statistics; and Age A.Tiltne, 2006, "Study on the Employability of Palestinian Refugees in Lebanon," FAFO.

<sup>78</sup> We use data from UNHCR and ILO to project the Lebanese and Syrian Labor force until the end of 2014. The ILO survey was fielded in August 2013 and covers 400 households in Akkar, Bekaa and Tripoli (more than 2,000

the Palestinian Refugees from Syria (PRS) as they tend to settle in Palestinian camps as opposed to Syrians who reside among the Lebanese (see Box 3). The large changes in the number of workers looking for jobs will have important effects on the labor market. Depending on the type of adjustment, the country is likely to observe both an increase in unemployment rates, especially among the low skilled, and a fall in wages. As discussed below, it is also likely that the share of subsistence self-employment and informal wage employment will increase.

**155. Part of the increase in the labor force is explained by an increase in participation rates among female refugees.** Prior to the conflict, female participation rates in Syria were among the lowest in the region and worldwide (14 percent in 2010). However, as a result of their refugee situation and vulnerable status, many young females are entering the labor market seeking a source of income as seen from the recent ILO survey (ILO, 2013). Thus, the probability of entering the labor force rose significantly from 8 percent to 54 percent and from 12 percent to 47 percent for females aged between 15-24 years and 24-34 years, respectively, after becoming refugees in Lebanon (Figure 53).<sup>79</sup>

Figure 53-Probability of Entering the Labor Force, By Age Groups



Source: UNHCR Data August 2013 and Syrian Labor Force Survey 2007

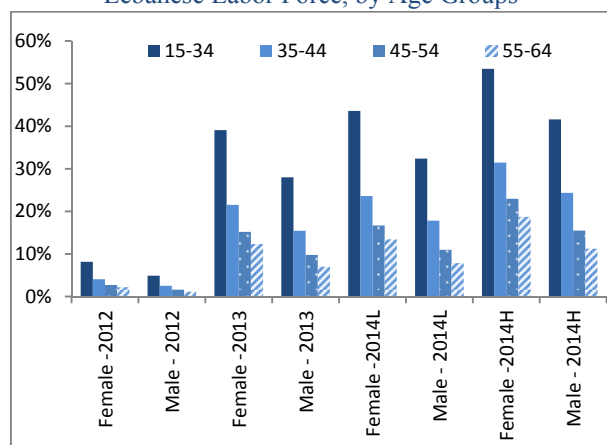
**156. The implication is that Syrian refugees now constitute a significant part of the Lebanese labor force, particularly among women, youth and unskilled workers.** In 2014, it is projected that Syrian refugees may constitute between 27 percent and 35 percent of the Lebanese labor force. Among

individuals) with the aim to assess the skills and employability of Syrian refugees and the impact of the Syrian influx on the Lebanese labor market, and the employment profile and working conditions of Syrian refugees in those areas. Even though the survey is not nationally representative, the three geographical areas cover most of where the Syrian refugees reside. We use data from UNHCR and ILO to project the Lebanese and Syrian Labor force until the end of 2014. The ILO survey, fielded in August 2013, covers 400 households in Akkar, Bekaa and Tripoli (2,000 individuals) with the aim to assess the skills and employability of Syrian refugees and the impact of the Syrian influx on the Lebanese labor market, and the employment profile and working conditions of Syrian refugees in those areas. Even though the survey is not nationally representative, the three geographical areas cover most of where the Syrian refugees reside. UNHCR data is registration data of refugees generated from a 2-3 page questionnaire administered upon registration. The UNHCR data used in this report contains information on 554,828 Syrian refugees entering the Lebanese territories and registering with UNHCR. Data includes information on registration date, gender, age, religion, ethnicity, governorate, village and district in Lebanon where they reside. Data on education and occupation are for 312, 413 and 86,654 Syrian refugees respectively.

<sup>79</sup> The probability of entering the labor force for Syrians in 2007 was calculated using the 2007 Syrian Labor force survey, the latest Syrian labor force survey available to the team. The probability of entering the labor force in Lebanon for Syrian refugees was calculated from the aforementioned ILO survey (ILO, 2013).

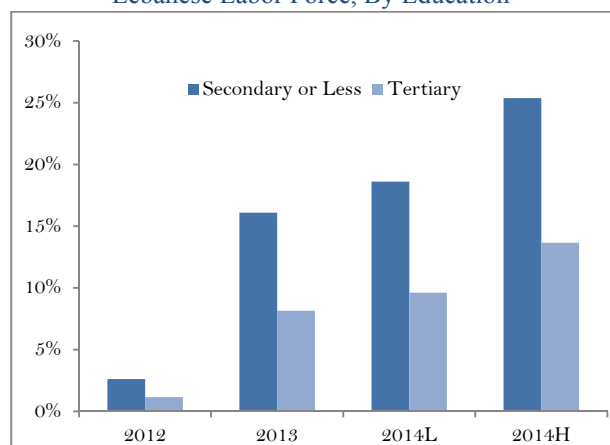
young women (ages 15-34) this share is likely to range between 44 percent and 53 percent, and between 31 and 42 percent among active young male (Figure 54). Because of the low level of education of the Syrian refugees, most will join the supply of low skilled workers. Thus, it is estimated that in 2014 Syrian refugees will constitute between 19 percent and 25 percent of those with secondary education or less and between 10 percent and 14 percent of active workers with higher education (Figure 55).

Figure 54. Percentage of Syrian Refugees out of Lebanese Labor Force, by Age Groups



Source: World Bank Calculations and UNHCR data 2013.

Figure 55. Percentage of Syrian Refugees out of the Lebanese Labor Force, By Education



Source: World Bank Calculations and UNHCR data 2013.

### III.2.A. Who are the Refugees?

**157. Syrian refugees entering Lebanon have very similar characteristics in terms of gender, age and education relative to the general population in Syria prior to the conflict.**<sup>80</sup> Both are young and of low educational level, and with a similar ratio between men and women. The majority are children and young adults,<sup>81</sup> with almost 57 percent of refugees and 59 percent of Syrians in 2007 below the age of 25. Moreover, around 62 percent of the Syrian refugees are of working age, 34 percent of which are youth (15-24) (Figure 56). Almost 50 percent of the working age population of Syrian refugees in 2013 has completed only primary education or less, while 43 percent has attained a secondary degree. This is similar to the Syrian population in 2009 where, almost 60 percent of Syrians had completed primary education, while 31 percent obtained a secondary degree. A small minority of Syrians have completed tertiary education (Figure 57). It is important to note, however, that the Syrian refugees differ from one region to another with respect to their socio-economic background and place of origin (i.e., Syrian refugees in Burj Hammoud have higher educational background than those in Akkar)—UNDP (2012).

**158. Overall, many of the skills that the Syrian refugees bring into the country are of a traditional type and will mainly contribute to fill low productivity jobs.** Routine manual and non-routine manual physical skills are more prevalent among refugee workers (Figure 58). They have, on average, 11 percentage points more manual skills and 18 percentage points less analytical skills than the Lebanese.<sup>82</sup> Therefore, it is likely that the competition for low-quality jobs, which existed before the crisis, will increase and that the share of self-employment and informal wage employment will rise.

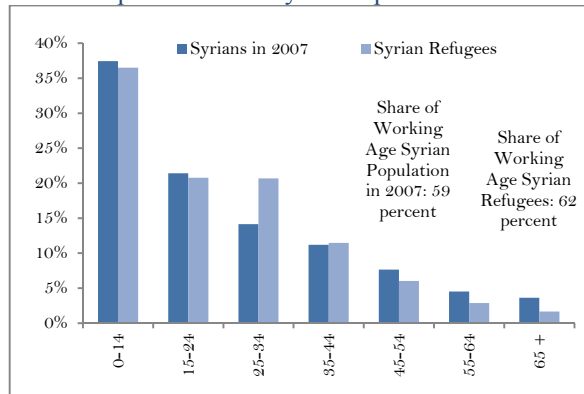
<sup>80</sup> Syrian Labor Force Survey, 2007.

<sup>81</sup> UNHCR Figures, August 2013

<sup>82</sup> Rather than using education as a proxy for skills, the analysis here is based on the skills intensity of occupations (tasks workers actually do on a job). There are certain jobs that are more intensive in analytical and interpersonal tasks while others are more associated with manual tasks. Using data on Lebanese and Syrian refugees, it is possible

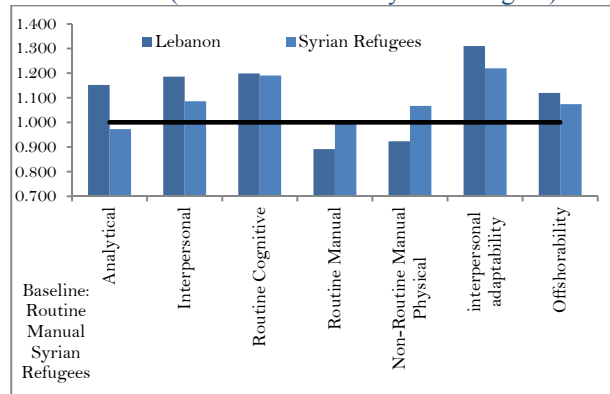


Figure 56. Age Distribution of Syrian Refugees in Comparison to the Syrian Population of 2007



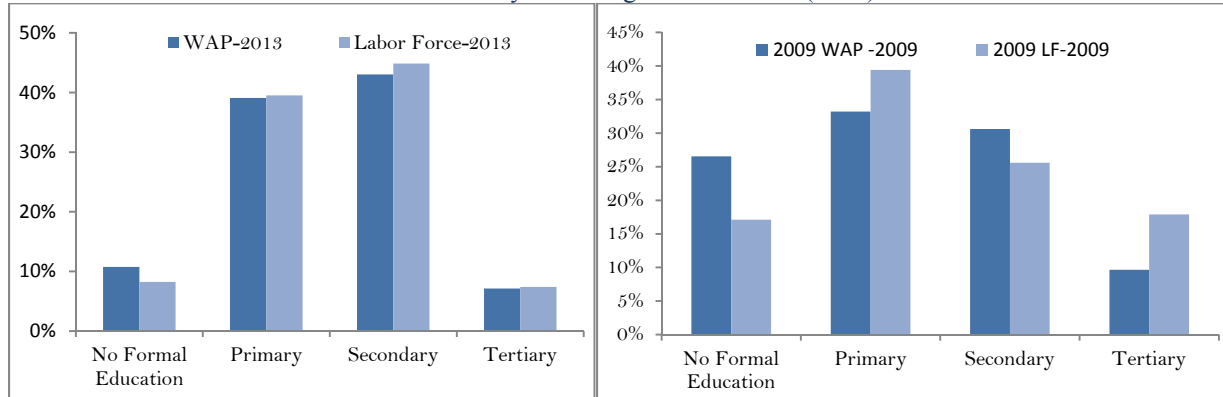
Source: Syrian Labor force Survey of 2007 and UNHCR Calculations, August 2013.

Figure 57-Task Measures for Syrian Refugees and Lebanese (Baseline=Manual Syrian Refugees)



Source: Lebanon Employer-Employee survey 2010 and World Bank staff calculations from UNHCR data, August 2013

Figure 58-Education Composition of Working Age Population and Labor Force of Syrians in Syria (pre-conflict) 2009 and Syrian Refugees in Lebanon (2013)



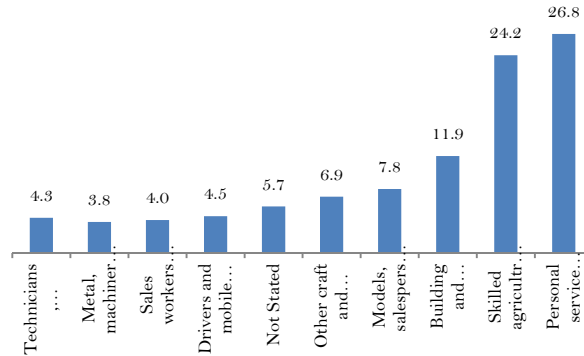
Source: Syrian Labor force Survey of 2009 and UNHCR Calculations, August 2013

**159. So far, a majority of Syrian refugees are working in low-skilled jobs in agriculture and services.** Not surprisingly, refugees continue to work in the sectors they occupied before the crisis. Almost half of the Syrian refugee workers are involved in agriculture or domestic services, followed by 12 percent who are working in construction. These are low skilled occupations that provide little income, social protection and job security (ILO, 2013).

**160. Traditionally, Syrian laborers in Lebanon worked in low-paid and unskilled jobs** (Figure 59). Given their harsh nature and lack of employment security, such jobs were perceived unattractive to the Lebanese. However, as a consequence of the lower labor cost of Syrian workers and their minimal demands in terms of working conditions (e.g., their willingness to accept long working hours), the demand for their services has increased in the informal market. Anecdotal evidence, based on qualitative interviews with some Lebanese employers (ILO, 2013), suggests that the competition between the Lebanese and Syrian labor force is extending to skilled jobs and to other sectors like services (hospitality and sales) and industry (in small factories).

to determine the intensity of each of the following tasks: analytical, interpersonal, routine cognitive, routine manual, non-routine manual physical, interpersonal adaptability and off-shorability (see Employment and Livelihood Appendix page 93 for detailed definitions). (Acemoglu and Autor, 2011).

Figure 59. Distribution of Syrian Refugees by Type of Occupation



Source: Rapid Assessment of Syrian Refugees in Lebanon: Employment Profile and Impact on Local labour Market, Preliminary Draft Survey Summary, International Labour Organization; August 2013.

**161. In addition, there is evidence that Syrians are establishing micro and small enterprises,** such as retail shops and small restaurants, with a comparative advantage in terms of pricing as products and equipment are often imported from Syria at a cheaper cost. Small Syrian enterprises are perceived to impose serious threats to local Lebanese businesses. A number of Lebanese employers have complained that shops and small business are closing down due to emerging Syrian enterprises. Syrian enterprises' comparative advantage lies in the fact that they are to evade taxes, rentals and running costs such as electricity. Moreover, some self-employed Syrian craftsmen working, for example, as plumbers, carpenters, or mechanics are alleged to have better skills than their Lebanese counterparts, and as a result crowd out Lebanese labor.

**162. In addition to tighter labor market conditions and potentially lower earnings, Lebanese households are facing higher expenditures as the costs of goods and services are rising.** Local field studies pointed out to increases in food prices in 2012 by an average of 18 percent in Beka'a and 12 percent in the North. This is, in part, fueled by incoming cash from Arab countries to Syrian refugees, increased costs of transporting products to Lebanese markets due to increased prices of fuel, and the border closure which led to Lebanese purchasing goods and services from Lebanon when they used to purchase them from Syria (UNDP, 2012).

**163. To cope with increased expenditures and decreased incomes many Lebanese households are reducing savings, increasing debt, or cutting on meals.** Beka'a residents, for instance, mostly purchase food on credit (59 percent), borrow food (42 percent), and are spending from their own savings (37 percent). North residents buy "only afford to" food items (43 percent), reduce quality of meals (40 percent) and spend from savings (40 percent). Spending from savings indicates that Lebanese households might not be able to sustain the current situation in the near future (UNDP, 2012).

### III.2.B. Impact on Labor Market Outcomes

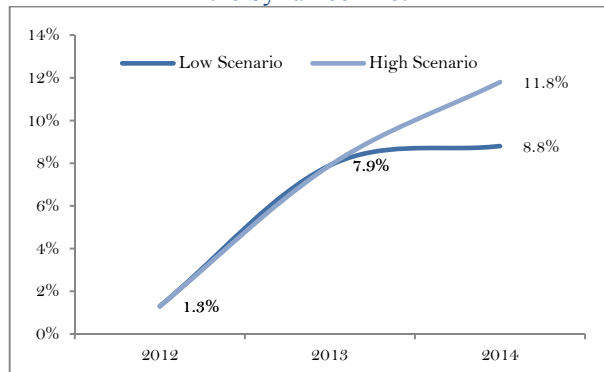
**164. There are different factors that will affect how the influx of Syrian refugees will affect labor markets.** These include the capacity of newcomers to engage in self-employment or small scale entrepreneurship, and how those who engage in wage employment complement or substitute the Lebanese pool of skills. Syrian entrepreneurs who start new businesses can in fact create new jobs and workers with skills that are in shortage can help local businesses grow. At least during the short term, however, it is also likely that the sudden increase in the supply of workers in certain gender, age, and education



categories will contribute to reduce wages and probably increase unemployment and informal employment.<sup>83</sup>

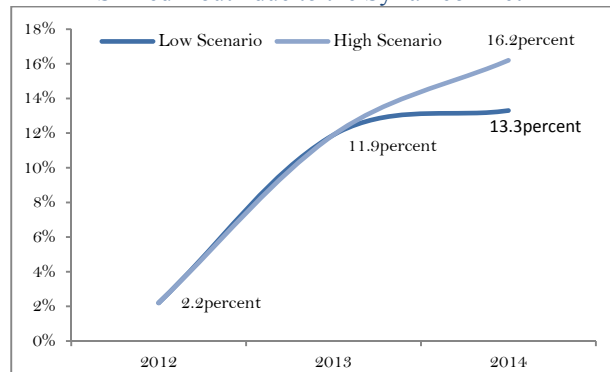
**165. Preliminary macroeconomic simulations suggest that the large increase in labor supply could have the effect of a major economic recession on labor markets.**<sup>84</sup> Assuming that there are no restrictions for the hiring of Syrian workers over Lebanese workers and that Lebanese employers do not discriminate against Syrians, the overall unemployment rate could go up by between 8 and 11 percentage points despite significant adjustments in wages and higher investments (Figure 61). Even if the inflow of refugees stopped in year 2014 it would take several years for the unemployment rate to converge to its pre-crisis level.

Figure 60. Change in the Unemployment Rate due to the Syrian-conflict



Source: World Bank staff simulations.

Figure 61. Change in the Unemployment Rate for Low Skilled Youth due to the Syrian conflict



Source: World Bank staff simulations.

**166. Effects are likely to vary considerably across workers, with youth and the unskilled being the most affected.** This is because, as discussed above, the largest increases in labor supply will take place among these workers and the skills of Syrian refugees are mostly of the manual and traditional type. It is estimated, for instance, that in 2014 the labor supply of unskilled youth would increase by 80 to 120 percent. This could lead to an increase in their unemployment rate of 13 to 16 percentage points (Figure 63). Those who are able to work will also be more likely to be self-employed and/or in informal wage employment. Hence, the share of total informal employment for this group of workers could increase by 6 to 8 percentage points. Although the model used to conduct these simulations does not distinguish between men and women, the latter could be more affected given that, as discussed in the previous section, their number in the labor force is increasing more rapidly.

**167. But even among skilled youth, the impact of the Syrian refugees can be considerable.** The simulations suggest that the unemployment rate among this group could increase by 4 to 6 percentage points. This could happen despite a fall on average wages of between 6.5 and 9 percent. As discussed in the introduction, skilled youth are already facing difficulties transiting between school and work. Higher competition from Syrian university graduates can potentially prolong school to work transitions. At the same time, it is expected that there will be an exacerbation of the existence of the large informal

<sup>83</sup> See Ribe et al., (2012) for a discussion of how demographic shocks affect labor markets and Banerji et al., (forthcoming) for a discussion about labor market adjustments in the presence of economic shocks.

<sup>84</sup> The analysis is based on a General Equilibrium model of the Lebanese economy. The description of the model can be found in “Lebanon: Good Jobs Needed: The Role of Macro, Investment, Education, Labor and Social Protection Policies (“MILES”), A Multi-Year Technical Cooperation Program, World Bank; December 2012”. The simulations assume that Syrians and Lebanese workers within a given age, gender, and education category are perfect substitutes. The results of the various simulations for a baseline and high scenario of potential migrants in 2014 are presented in the Annex.

economy. Results from the simulations in this section are consistent with some stylized facts revealed by the Emergency Market Mapping and analysis (EMMA) for the Agriculture, Services and Construction Labor Market Systems in the North and Beka'a in April 2013 (see Box 4 below).

**168. The effects among adult workers are likely to be less severe but should not be underestimated.** Again, the effects will vary depending on skills levels and the size of the “labor supply shock.” Among unskilled adults, for instance, labor supply could increase between 17 and 25 percent. This could lead to an increase in the unemployment rate of 2 to 3 percentage points. Higher unemployment would be dampened by a fall in wages and a small increase (less than 2 percent) in informal employment. The increase in the supply of skilled adults is expected to be smaller; in the order of 5.8 and 8.6 percent. Increases in unemployment, however, could still be in the order of 3 to 4 percentage points.

**169. The negative effects on wages and employment prospects for Lebanese workers could also stimulate emigration of Lebanese nationals.** The model estimates that the level of Lebanese workers leaving the country could increase by 1.6 up to 3 times.

### *III.3. Stabilization Needs*

**170. Over the short term, the main mechanisms to absorb a larger number of workers are active labor programs** ranging from public works and services, to livelihood stabilization, and support to self-employment and small scale entrepreneurship. As illustrated through the macro-simulations, it is very unlikely that the private sector, left to its own devices, will be able to create the number of jobs needed to employ a labor force that is almost increasing by 50 percent each year among certain categories of workers. Most likely, short-term jobs will need to be created directly through temporary public programs or by subsidizing wage and/or self-employment in the private sector.

**171. Programs that combine cash transfers with conditionalities to engage in public works and community support projects need to be considered.** A number of cash-for-work infrastructure projects have been identified, implemented and completed in the North (2 projects) and Beka'a (2 projects). Numerous community support projects have also been implemented in the North, Beka'a, and South of Lebanon. The projects target communities that are heavily hosting refugees and which municipalities have already insufficient resources. They aim to support Lebanese communities affected by the crisis by strengthening the host-community capacity while meeting their most urgent needs. Such initiatives also aim to increase stability in the areas affected by the Syrian crisis through improving livelihood and urgent basic service provision in a conflict sensitive manner (UNDP, 2012).

**172. Livelihoods strategies can rapidly provide incomes and reduce the rising tensions between the Syrian refugees and the Lebanese.** Community infrastructure development can be an entry mechanism, including rehabilitating canals and feeder roads. These quick wins can contribute to stabilize the economy, rapidly provide incomes to sustain livelihoods and recovery while consequently addressing social cohesion in the communities. Furthermore, promoting inclusive local governance mechanisms for determining local development priorities and funding allocation across the communities might constitute a more pragmatic entry point, and permit creation of space for both communities to determine requirements for equitable sharing of local resources, access to services and other opportunities, and settle tensions and conflicts in a peaceful manner.

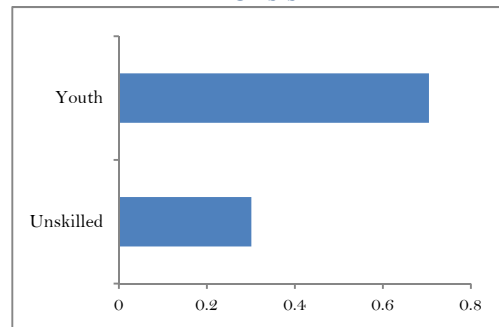
**173. The importance of combining cash-transfers with interventions to improve labor market opportunities cannot be overemphasized.** This is because workers who remain idle and/or unemployed over periods of more than one year start to lose their skills and become less employable. Not only social assistance will be needed to continue for longer but there will also be an important loss of human capital.

Any type of support to unemployed workers, therefore, should be conditional on work and this implies having policies in place that facilitate the creation of jobs. At the same time, it would be important to focus on programs that are conducive to women's participation bearing in mind that public works is not an attractive area of work for them.

**174. The international experience with the implementation of active labor market programs varies considerably across countries**, both in terms of the type of interventions, implementation arrangements, and costs (Almeida et al., 2012). Public work programs, for instance, can cost between USD500 and USD1,000 per beneficiary. Programs that support wage employment through a combination of training, job-search assistance, and wage subsidies can range between USD500 and USD2,500 per beneficiary. Programs to support entrepreneurship can be even more expensive depending on the types of interventions included (e.g., training, advisory services, credit, support to integrate markets and value chains). There are also challenges related to sustainability of these programs in the longer term.

**175. In the case of Lebanon, it is estimated that the influx of Syrian refugees could increase the number of unemployed Lebanese by between 223,000 and 324,000.** Most of them, around 75 percent, would be young workers (Figure 62). As discussed in the latest labor market report for Lebanon (MILES), they are likely to face more important constraints when accessing wage or self-employment than adult workers. This is given by the lack of job-search and work experience, but also because youth have lower levels of social capital and it is more difficult for them to have access to credit (Margolis et al., 2012). It is also important to note that around 44 percent of the excess unemployed will be workers with primary education or less. Most likely public works are the most efficient type of intervention to help these workers generate a livelihood.

Figure 62-Share of unskilled Workers and Youth in Total Number of Unemployed as a Result of the Crisis



Source: World Bank Staff Simulations

**176. Under conservative assumptions, putting in place the necessary active labor programs could costs between USD166-242 million per year.** This assumes unit costs ranging between USD500 and USD1,000 per beneficiary. Clearly, the cost of the interventions will vary by type of worker and the constraints they face. It is important, indeed, that the interventions be tailored to the beneficiaries. A possible design could include public works and services which are accompanied by interventions to connect beneficiaries to more permanent wage employment or self-employment. Beneficiaries could be classified in different groups based on a basic profiling of individual characteristics that would determine the amount of funds they can receive. Funds would then be allocated directly to private providers and NGOs, who would be accountable for designing and implementing the most suitable interventions to connect beneficiaries to jobs. For developmental and sustainability purposes support to key public sector institutions should also be considered. The GoL can expedite key necessary reforms in terms of labor market management, which will be more necessary than ever given the current circumstances.

**177. Concurrent to transfers and active labor market programs, an added approach is early economic revitalization to stabilize the situation, reduce the rising tensions between the Syrian refugees.** The overall goal would be to help stabilize and foster the resilience of Lebanese communities who are hosting refugees. This could be done by strengthening local capacity for service delivery, fostering the mechanisms for peaceful coexistence and conflict resolution and improving the living conditions for the refugees and hosting communities. This approach seeks to bridge the gap between humanitarian, stabilization and development phases by transforming quick-wins and rapid interventions into long-term gains and durable solutions for existing structures and strategies.

### Box 3. Palestinian Refugees from Syria

Since March 2011, most of the Palestinian camps and gatherings in Lebanon have been hosting an increasingly larger number of Palestinian Refugees from Syria (PRS) escaping the Syrian conflict. More than 60,000 (early 2013) Palestinian refugees from Syria are registered with UNRWA and settled in and around the Palestinian camps in the country. Half of them are concentrated between Saida (30 percent) and Beqaa (23 percent). Palestinian families in the camps have taken the burden of hosting an estimated 45 percent of the PRS into their already over-crowded homes. The remaining households pay rental fees for shelter – which they perceive as very expensive. Most of the PRS suffer from over-crowdedness (46 percent of households inhabited by more than 10 persons and 27 percent by more than 15) particularly in the Ain el-Helwe camp. A need assessment by ANERA reveals that 28 percent of PRS household—which make approximately 8,500 persons—are refuging in substandard housing conditions that are not designed for residence and suffer from poor conditions.

The PRS population is economically vulnerable. Their livelihoods status differs than the general Syrian refugees. By law, Palestinian refugees from Syria do not enjoy the right to employment like Syrians who entered the country legally do. Moreover, unlike Syrians, Palestinians from Syria “lack the informal social networks related to employment” that Syrians managed to build as foreign laborers in Lebanon. Unemployment rates among the Palestinian refugees from Syria is very high (reaching around 90 percent) with strict legal restrictions imposed on their employment and mobility. The majority has no income in Lebanon and the very few who are employed (10 percent) work as laborers with an average wage ranging between USD100 and USD300 per month. Women make only 10 percent of those employed. Food and rental fees impose a heavy toll on the PRS household budget. Finally and most importantly, PRS are not served by the UNHCR but rather by UNRWA which in return suffers from prolonged under funding and ill equipment

❖ Figures were obtained from the study “Palestinian Refugees from Syria in Lebanon: A Needs Assessment” by Anera, 2013.

## Box 4. EMMA of Labor Market Systems in North and Beka'a

**Impact Assessment on the Service Sector:**

Prior to the crisis, a large majority of Lebanese service workers earned between USD333 and USD800 a month working in semi-skilled and skilled positions in the sector, including as waiters, cashiers, bakery workers, chefs and managers/owners. Competition between Syrian and Lebanese workers does not typically feature in this sector as a result of the crisis, as there is often a division of roles, tasks and positions by national origin. In many cases, Syrian workers are hired for specific, lower-skilled jobs, while Lebanese obtain the higher positions, including the managerial ones. Even with the abundant supply of refugee workers, the low-level of experience in the services sector that those refugees possess means that the Lebanese workers are somewhat protected from competition, and their wages are likely to remain in the same range as in pre-crisis levels.

**Impact Assessment on the Agricultural Sector:**

Prior to the crisis, agricultural work conditions were deemed unattractive to unemployed Lebanese workers due to long working hours, and wages insufficient to cover the high cost of living. In the North, Lebanese workers were paid between 20-30,000 LBP per day, whereas in Beka'a Lebanese workers were paid 35,000 LBP/day. The overall number of Lebanese agricultural workers in the North and in Beka'a has remained roughly the same as during the baseline, however wages of agricultural workers have dropped by 10,000 LBP/day in Beka'a as a result of the competition from the increased Syrian refugees seeking work (In the north, there is conflicting evidence concerning wages, and it is most likely that they have stayed within the same range as in baseline). It is estimated that the available work-force seeking jobs in agriculture has doubled due to the heavy refugee influx.

**Impact on the Construction Sector:**

Refugees seeking work in the construction sector have increased the competition for work as unskilled workers, which consequently resulted in a heavy decrease in wages of unskilled workers. Moreover, the assessment also reports a drop of one third on average in the wages of skilled workers; this labor category has also witnessed the highest change in labor distribution from Lebanese to Syrian workers, with a shift of 40 percent from Lebanese to Syrians in the North and of 30 percent in Beka'a. While the least affected group by the crisis is professionals, it was reported that Syrians of professional background are hired as skilled laborers but undertake work as professionals in order to bypass the regulations on professional registration.

- ❖ Source: IRC, Save the Children, DRC, OXFAM, UKaid. (2013). *Emergency market mapping and analysis (emma) of the service, agriculture, and construction sector in north and Beka'a, Lebanon.*

#### IV. POVERTY AND SOCIAL SAFETY NETS<sup>85 86</sup>

**178.** *Poverty in Lebanon prior to the Syrian conflict was significant and regional disparities in living conditions were acute. Nearly 1 million Lebanese were estimated to be poor (living on less than USD4 per day). Social safety nets (SSN) were weak, fragmented and poorly-targeted, and for this reason the Ministry of Social Affairs (MOSA) was in the process of implementing reforms to its SSN system. Simulations indicate that, as a result of the influx of 1.6 million refugees by end-2014, some 170,000 additional Lebanese will fall below the poverty line, subjecting them to both social and economic vulnerabilities. In addition, already poor families will fall deeper into poverty, requiring higher levels of support to bring them back to their pre-crisis position. Lebanon's SSN system is already feeling the impact through the increased utilization of MOSA's health and social programs. To stabilize the situation, approximately USD176 million will be required till end-2014, of which at least USD50 million is needed to scale up the National Poverty Targeting Program for poor and vulnerable Lebanese.*

Table 15. Impact and Stabilization Assessments on Lebanon's Social Safety Net

|                                       | 2012                            | 2013      | 2014      |
|---------------------------------------|---------------------------------|-----------|-----------|
|                                       | Estimate                        | Forecast  |           |
|                                       | (in million of Lebanese Pounds) |           |           |
| Impact assessment on MOSA's resources | 8,950                           | 9,550     | 14,000    |
| Stabilization (Needs) assessment      | 35,103                          | 101,114   | 128,430   |
| MOSA Stabilization Needs              | 17,900                          | 19,100    | 24,136    |
| Needs for Syrian Refugees             | 17,203 1/                       | 51,609 2/ | 61,294 3/ |
| National Poverty Targeting Program 1/ | ...                             | 30,405    | 43,000    |
|                                       | (in millions of US dollars)     |           |           |
| Impact assessment on MOSA's resources | 5.9                             | 6.3       | 9.3       |
| Stabilization (Needs) assessment      | 23.3                            | 67.1      | 85.2      |

Source: MOSA, UNICEF, UNHCR, and World Bank staff calculations

1/ Estimate of Social Protection donor funds needed for stabilization of 2012. The stabilization needs is calculated by multiplying the unit cost of NPTP (USD168) by the number of people predicted to fall into poverty (see Staff calculation).

2/ Sum of Social Protection Funds from donors in RRP5; if not provided for by donors, this amount would have been borne by MOSA.

3/ Estimated Humanitarian funds need for 2014 by the Syrian Crisis response unit program at MOSA.

4/ Estimated Humanitarian funds need for 2014 for high case scenario estimated by the Syrian Crisis response unit program at MOSA.

<sup>85</sup> This chapter was prepared by Haneen Sayed, and Dima Krayem (World Bank), with inputs from Samman Thapa, (UNICEF) and in close collaboration with Ministry of Social Affairs. Comments from Chris Dammers (EU) are gratefully acknowledged.

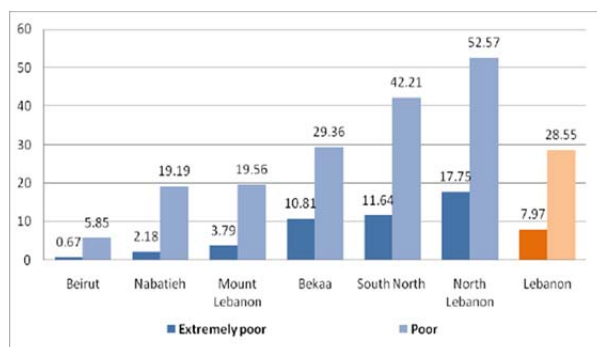
<sup>86</sup> Social safety nets (SSNs) are defined as non-contributory transfers targeted to the poor or vulnerable. They include income support, temporary employment programs (workfare), and social services that build human capital and expand access to finance among the poor and vulnerable. In this chapter, family support and care services are also included in the definition of SSNs. If well designed and implemented, SSNs can build resilience to crisis by helping households navigate the effects of shocks.

## IV.1. Baseline and Pre-conflict Trends on Poverty and Social Safety Nets

### IV.1.A. Poverty and Vulnerability

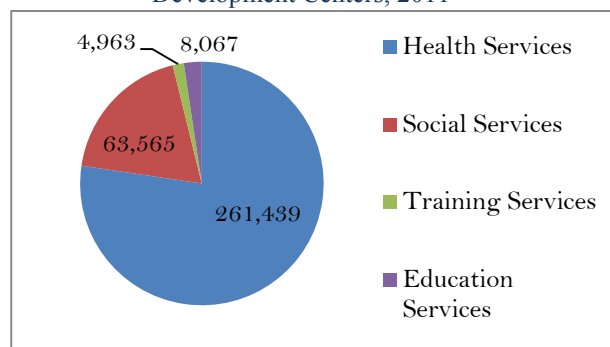
179. Even prior to the onset of the Syrian conflict and the inflow of large numbers of Syrian refugees, poverty in Lebanon was significant and regional disparities in living conditions were acute (Figure 63). It is estimated that nearly 27 percent of the Lebanese population, or 1 million people, were poor, living on less than USD 4 per day, and 8 percent, or 300,000 people, were extremely poor, living on less than USD 2.40 per day (UNDP, 2008). Poverty was significantly higher in some regions, with the highest concentration of poor found in the North governorate (52.5 percent), following by the South governorate (42 percent) and the Beka'a (29 percent). The poor are mainly concentrated among the unemployed and among workers in agriculture and construction where one person out of four workers in agriculture or one person out of five workers in construction is likely to be poor. Over half of Lebanese citizens surveyed in May 2012 claimed they do not have money left after paying for basic needs and necessities, and 63 percent claimed not being able to afford the basic necessities at some time pointing to high levels of vulnerability to sudden shocks (Institute of Finance, MOF, 2012).

Figure 63-Poverty Rates in Lebanon by Governorate



Source: Government of Lebanon, 2010, and UNICEF (2011).

Figure 64-Services Provided by MOSA Social Development Centers, 2011



Source: MOSA (2012)

### IV.1.B. Social Safety Nets

180. Compounding the poverty and vulnerability situation in Lebanon is the weak, fragmented and poorly-targeted system of public social safety nets (SSNs) which over the years has had limited impact on poverty alleviation and addressing disparities. Government spending on social safety nets prior to the conflict was only 1.3 percent of GDP (2010), one of the lowest in the MENA region (World Bank, 2013). SSNs in Lebanon include fee waivers, commodity subsidies, and in-kind transfers, and targeting methods range from categorical to proxy-means test to universal (See the Poverty and Social Safety Nets Annex). High rates of leakage to the non-poor, lack of a coordinated approach, weak capacity of public institutions coupled with lack of reliable and consistent data, are key factors that hamper the effectiveness of SSNs. The Ministry of Social Affairs (MOSA), as the main government entity responsible for provision of SSNs and reaching some 350,000 beneficiaries annually, provides social services to specific categories of vulnerable groups, either through its Social Development Centers (SDCs), or through contracting of NGOs or social welfare institutions.<sup>87</sup>

<sup>87</sup> Other public safety nets in Lebanon include price subsidies for diesel, bread, and domestic production of tobacco; and fee waivers for hospitalization in public and private hospitals (through Ministry of Public Health). These are addressed in separate chapters.



**181. With its network of approximately 210 Social Development Centers (SDCs) across the country, the MOSA has potential for wide outreach to poor and vulnerable populations but faces challenges.** Other than municipalities, the SDCs are the only permanent government institutions at the grassroots level, and they are the key local agencies in implementing MOSA's strategy. The SDCs provide social services and promote integrated development at the individual, household and community levels. In 2011, SDCs delivered around 260,000 health services, 64,000 social services, 8000 training services, and 5000 education services—including nursing, volunteer work, foreign language, fighting illiteracy, school drop-out courses—Figure 64 and MOSA (2012). However, the location of SDCs is not proportional to the spread of poverty and vulnerability across the country (for example, the most disadvantaged North and Beka'a regions are only served by 75 SDCs out of the 212 SDCs in 2013) (MOSA, 2013). In addition, the performance of the SDCs has been uneven across the country, reflecting inconsistent standards (in terms of mandates) and their widely varying financial and human resource endowments, appropriately trained staff in particular. An assessment of staff capacity in SDCs<sup>88</sup> conducted in 2010 indicated that among surveyed SDCs, approximately one third of staff had a BA degree or above. Also, there was a notable proportion of staff (21 percent) undertaking two or more functions. As a result, many SDCs provide limited services, are poorly equipped, understaffed, and their social workers need capacity building and professional certification. This uneven distribution of SDCs is mirrored on the NGO side. A mapping of service providers in violence and abuse against children NGOs in 2010, for example, revealed an unbalanced geographical distribution of such institutions with high provision in Beirut and Mount Lebanon, and very low in North and South (UNICEF, 2010). Within the budget allocated to SDCs, since 2007 there has been a gradual shift towards diverting increased funds for the medical services they offer. As a result, the funding for family support and care services, psychosocial support, and child care services has suffered a decline despite continuing needs.

**182. Recent GOL reforms are aimed at addressing the weaknesses of its SSN system.** The 2011 National Social Development Strategy emphasized the need for establishing an effective SSN system targeted to the poor and vulnerable, in addition to working towards improvements in health, education and employment opportunities. The strategy also explicitly recognizes the marked disparities of income and development across different regions of the country and commits the Government to undertake practical efforts to ensure inclusive and equitable access to services. Hence MOSA has placed poverty alleviation as one of its priorities and established the National Poverty Targeting Program (NPTP) in 2011 as the first poverty-targeted social assistance program for the poorest and most vulnerable Lebanese families. Complementing household targeting, the MOSA has also committed to the reform of its community development programs through the adoption of an effective and transparent mechanism for the allocation of financial support to communities and community-based organizations. Finally, the MOSA has placed the reform, reinforcement, and capacitation of its SDCs as one of its top priorities since 2012, both to enable them to fulfill their mandated roles, including relief work in the case of the refugee crisis.

**183. The National Poverty Targeting Program (NPTP), launched in October 2011, is based on the proxy-means testing (PMT) targeting mechanism and offers the following benefits:** (1) payment of the beneficiary portion of health bills in public and private hospitals; (2) coverage of chronic disease prescription medications through the MOSA Social Development Centers (SDC); and (3) registration fee waivers and free books for students in primary and secondary public schools. Though the program is in its infancy, it is one of the better targeted SSN programs and ready to be scaled up.

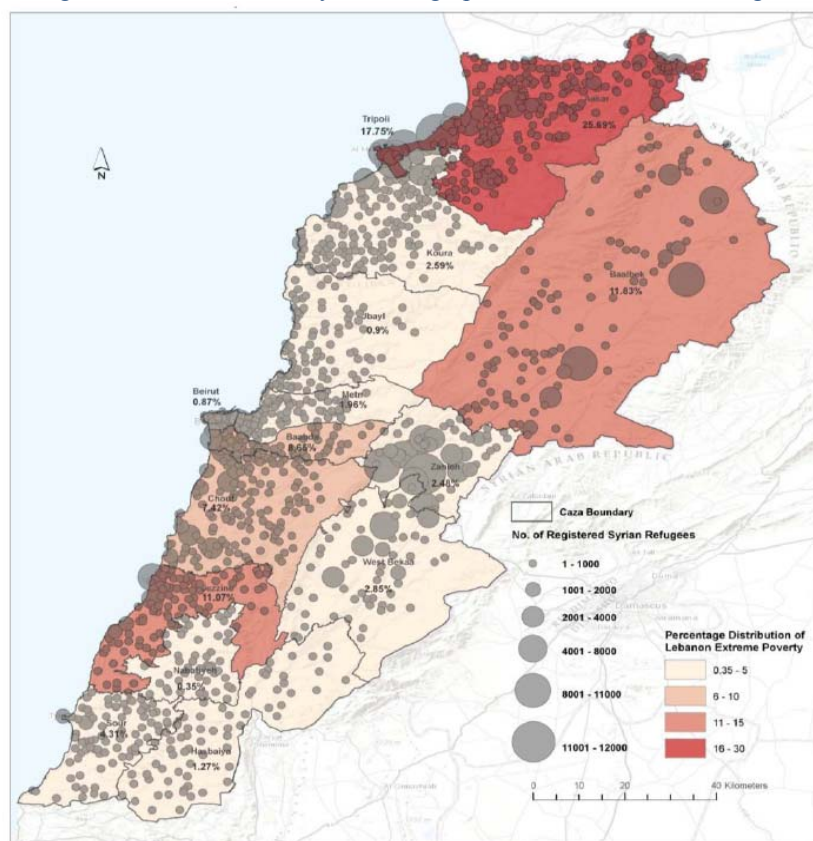
<sup>88</sup> MOSA Training Needs Assessment of SDC Staff, MOSA 2010 (unpublished).

## IV.2. Impact of the Syrian conflict on Poverty and Social Safety Nets

184. Simulations using household expenditures data show that between 2012 and 2014, poverty was projected to decline in the absence of the Syrian refugee crisis.<sup>89</sup> However, as a result of conflict in Syria and in particular the influx of over 1.3 million refugees by end 2013, it is estimated that about 120,000 additional Lebanese will have been pushed into poverty in 2013, approximately 4 percent of the Lebanese population. If the current patterns were to continue, by end 2014 another 50,000 are expected to join the ranks of the poor. At the same time, the existing poor would be pushed deeper into poverty.

185. Geographically the majority of the refugees are located in regions already having high poverty rates, deepening the vulnerability of the Lebanese in these areas as competition for jobs, services and resources increases (Figure 65). Eighty-six percent of registered refugees and 65 percent of poor Lebanese are living in just 215 of the approximately 1,600 cadasters (UNICEF, 2013). In the initial phases of large refugee influx, significant hosting of refugees by Lebanese families was taking place. Up until July 2013, 1,400 localities were hosting refugees and other persons who have fled Syria.<sup>90</sup> Rapid assessments in the North and Beka'a regions reported significant impacts and burdens on households including decreased space, increased expenditures, and increased consumption of food and non-food items. Sixty and seventy-nine percent of Beka'a and North respondents, respectively, noted that their expenditures increased as a result of hosting Syrian refugees (UNDP, 2012).

Figure 65. Extreme Poverty and Geographical Distribution of Refugees



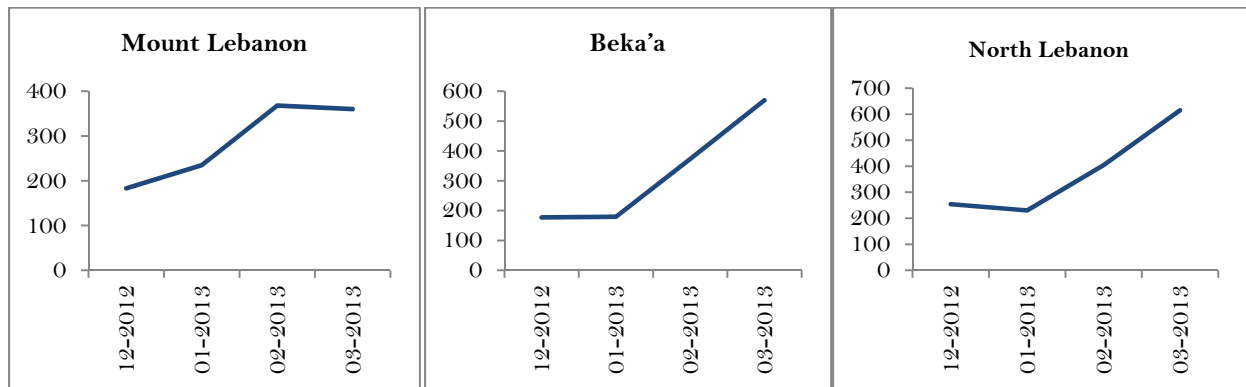
Source: PCM, UNICEF, UNHCR, 2013

<sup>89</sup> World Bank Staff simulations (see Annex on Poverty for details).

<sup>90</sup> Today, according to the most recent UNHCR data, only some 5-7 percent of refugees are hosted by Lebanese families. The vast majority (70 percent) are in rental accommodations.

**186. Areas with the highest concentrations of poverty (Mount Lebanon, North Lebanon, and Beka'a) have witnessed the largest increases in applications to the NPTP<sup>91</sup>** (15 percent, 24 percent, and 30 percent in Mount Lebanon, North Lebanon, and Beka'a respectively between December 2012 and March 2013) (Figure 65). This period of high influx of refugees appears to correlate increased vulnerability of the Lebanese living in the same areas.

Figure 66. Number of Applicants to the National Poverty Targeting Program



Source: NPTP Staff, 2013.

**187. Since the onset of the conflict in Syria and the influx of refugees, the MOSA has adopted a policy that allows refugees to access the services of its SDCs, including health services, childcare, youth services and women empowerment activities.<sup>92</sup>** As a result, the MOSA has seen demand for its services increase and pressure mounting on its already stretched financial resources and capacity. In 2012, 27 SDCs were delivering benefits to approximately 16,000 Syrian refugees per month. Figure 67 shows the increase in MOSA's main services between 2011 and 2013. For example, the number of services provided by the SDCs<sup>93</sup>—which have been the first point of contact of refugees in most instances—increased from over 338,000 services in 2011, to about 380,500 in 2012, and is projected to increase to almost 480,000 services by end-2013.<sup>94 95</sup> Figure 66 also shows an increase in medical consultations in SDCs from 190,000 consultations in 2011 to 210,000 in 2012, and a predicted 260,000 consultations in 2013.<sup>96</sup> To meet the pressure, MOSA expanded the services provided through its own SDCs, as well as through contracting with NGOs. In addition, NGOs themselves are facing constraints in their ability to respond. For example, the funding received by NGOs from MOSA is capped based on a pre-existing quota (Lebanese). Hence NGOs are unable to meet the increased demand for services from newly

<sup>91</sup> Only Lebanese citizens are entitled to apply to the NPTP.

<sup>92</sup> Vocational training programs provided by the SDCs, however, have been limited to Lebanese, apparently because of mounting tensions over competition for jobs.

<sup>93</sup> The number of “services provided” is different from the number of beneficiaries, as one beneficiary can benefit from several services.

<sup>94</sup> As of July 2013, the number of services provided by SDCs was 239,167 services; we projected a linear increase in services the second half of 2013.

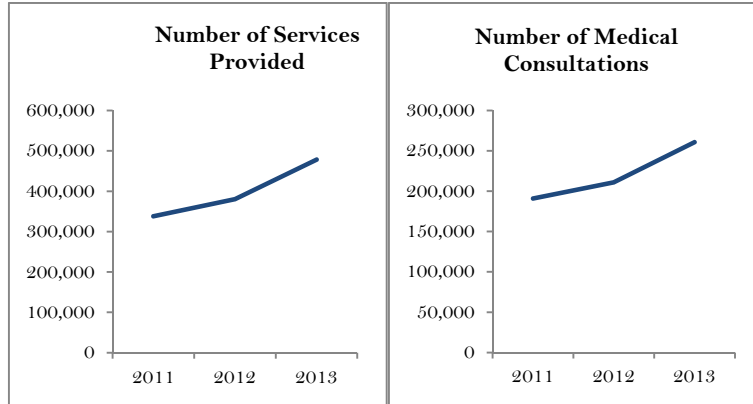
<sup>95</sup> Despite these efforts, refugee access to services remains limited to a small number of facilities, fees have not been systematically waived, and, even after receiving prescriptions, patients are frequently unable to fill them because of drug shortages.

<sup>96</sup> As of July 2013, the number of medical consultations provided by SDCs was 130,357; we projected a linear increase in services the second half of 2013.

vulnerable Lebanese, as well as Syrian refugees, since the quota has not been revised to reflect the new situation.<sup>97</sup>

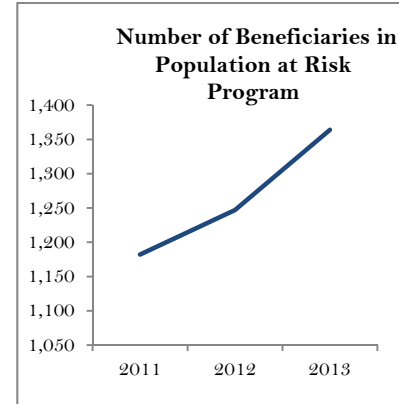
**188. In addition, MOSA has reported pressures in the past 2 years on its own programs despite these programs being open only to Lebanese, or to children of Lebanese mothers.** Such programs include the people-at-risk program (such as juvenile delinquents), disability program, among others. Figure 68 indicates a steady increase in the number of beneficiaries in the population-at-risk program since the beginning of the crisis in 2011.

Figure 67-Number of Services Provided and Medical Consultations in SDCs



Source: MOSA (2013)

Figure 68-Number of Beneficiaries in the Population-at-Risk Program



Source: MOSA (2013)

**189. Analysis of the effect of the Syrian refugee influx on MOSA's budget reveals a significant impact of LBP 8.9 billion, LBP 9.5 billion, and LBP 14 billion in 2012, 2013, and 2014, respectively, representing a 57 percent increase during this period** (Table 15). As the 2012 budget (LBP 199 billion) was finalized in April 2011, prior to any prediction of the Syrian crisis, it did not include any provisions to deal with the crisis. As pressures mounted to accommodate the large number of refugees, MOSA resorted to reallocations of resources from other programs, as well as using up of the SDC contingencies. The reallocation of funds primarily affected the vocational training, Higher Council for Childhood, and adult literacy programs. This type of reallocation will have an adverse effect on addressing socio-economic vulnerabilities experienced by vulnerable groups in Lebanon, including children. In 2013, despite the higher budget, the MOSA predicts it will reallocate an amount of LBP 2.275 billion in the second half of 2013 in response to the crisis. Similarly, in 2014, the MOSA is expecting to have to reallocate from its own programs to make up for anticipated shortfall in budget allocations (its proposed budget was LBP 227 billion to cover needs versus LBP 215 billion expected from MOF).

### IV.3. Stabilization Needs

**190. The total stabilization needs for 2012, 2013, and 2014 amount to USD 175.6 million** (Table 15). They consist of three parts: (1) needs to maintain the quality and access levels of MOSA's programs during this 3 year period including for SDCs, NGOs, and Social Welfare Institutions; (2) the needs for Syrian refugees directly; and (3) needs to expand the anti-poverty program (NPTP) to address the needs for the increased numbers of poor and vulnerable.

<sup>97</sup> As reported by members of the Child Protection in Emergencies Working Group (2013)

**191. MOSA's Programs have been severely affected by reallocation of funds to meet the demands of SDCs.** the current reallocations that MOSA has undertaken from programs including Higher Council for Children, vocational training and adult literacy programs need to be reversed so that vulnerable groups within Lebanon are not further adversely affected. The stabilization assessment of MOSA includes reallocating funds to affected programs in addition to meeting the demands of SDCs, increasing NGO contracts, and finally providing sufficient medication to SDCs.

**192. In order for the MOSA to address the expected additional impoverishment of the Lebanese people generated from the Syrian crisis, the National Poverty Targeting Program would need to be scaled up** to absorb 120,000 and 50,000 additional poor in 2013 and 2014, respectively. With a unit cost of USD168/beneficiary (for health, education, and electricity benefits), the budget needed for the NPTP for scale up amounts to close to USD49 million for the two years (this is over and above what has been estimated to provide to current beneficiaries of the NPTP, which amounts to USD33 million for 2013 and 2014).

**193. Scaling up the SDCs would likely need to be complemented to deal with the wide range of issues that constitute possible sources of tension within communities.** Additional focus on strengthening government institutions, including the justice system, police and social protection services, as well as nongovernmental institutions (religious authorities, civil society) as part of a broader strategy to promote social peace, manage conflicts and maintain public order, would also be important in this regard. Communications and community outreach would also constitute an essential pillar of such an approach.

**194. With respect to the needs of the Syrian refugees,** the scenario is based on making 50 SDCs operational and equipped (from the current 26) with enough human and capital resources, including medication, to provide necessary health services and an appropriate set of social services to meet the full range of needs for vulnerable families. The budget cost estimate (USD40.8 million) covers a full year of operations. The scale up of SDCs would also need to be accompanied by strengthening capacity in addressing new types of vulnerabilities among the Lebanese population.

## V. SOCIAL COHESION<sup>98 99</sup>

*195. The arrival of a large number of Syrian refugees has further challenged the already delicate societal and inter-communal balance in Lebanon. Overcrowding, saturation of basic public services, and competition for jobs are among the root causes for the deterioration of the social relations between the hosts and refugees. Growing instances of violence based on perceived inequalities involving refugees threaten wider social cohesion. Perceptions can be as important as objective realities, especially considering that they come on top of an already difficult legacy. Lebanese women and girls are particularly affected by the Syrian conflict, in a context of reinforced insecurity and a palpable rise in violence. Maintaining and promoting greater social cohesion is important to reduce the negative social and economic impacts of this crisis. Livelihood opportunities and access to services for both refugees and host communities need to be addressed on an equitable basis. Although it is difficult to quantify at this stage what is required in financial terms for social cohesion stabilization, the size of the threat for the country means that conflict mitigation and social cohesion will need to be carefully assessed at all levels and integrated in the programming phase. Sustainable social cohesion can be achieved by investing in conflict mitigation mechanisms, processes and capacities at all levels, and through conflict sensitive programming.*

### V.1. Pre-crisis Situation

**196. The Syrian military presence in Lebanon from 1976-2005 left a lasting imprint on Lebanese-Syrian relations at all levels.** However, in the civilian sphere, Lebanese-Syrian relations have not included serious conflict. Though Syrians living in Lebanon cover a wide social range, the majority have consisted of migrant workers in construction and agriculture. The majority of the migrants consisted of young men from the country sides of Syria, and although women did migrate to Lebanon to work as domestic labor, or in agriculture or tourism, their number was relatively small. Social tensions between the migrants and the Lebanese, where they existed, were limited and containable, and were influenced by mutual traditions of hospitality and solidarity.

**197. National social cohesion in Lebanon can be characterized as weak, yet strong cohesion exists within communities and confessional groups.** The historic weak sense of national identity in Lebanon combined with a strong sense of identity based on confessional affiliation, family, and community has served as an obstacle to realizing national social cohesion. Lebanon's political system and institutions, based on confessional affiliation, constrains the development of effective public institutions and the formation of a competent civil service. Given this weak pre-existing structure, the Syrian conflict in its multiple political, economic, social and security dimensions, has exasperated an already fragile social structure.

### V.2. Impact of the Syrian Conflict on Social Cohesion

**198. When refugees began to arrive in Lebanon in 2011, they were mostly welcomed by host communities demonstrating Lebanese hospitality and solidarity.** Yet, as the numbers of refugees

<sup>98</sup> This chapter was led by Jos De La Haye (UNDP), with inputs from Blerta Aliko (UN WOMEN) and Ayaz Parvez (World Bank). Comments from Chris Dammers (EU) are gratefully acknowledged.

<sup>99</sup> This chapter relies on desk review, workshops and regional focus groups undertaken by UNDP and partner organizations. It also relies on analysis undertaken by UN Women supported by Amel Association International (nine focus-group discussions (FGD) were conducted, reaching 50 women and 21 men in three regions of Lebanon (Beka'a, South Lebanon and South suburbs of Beirut).



increased, the burden on Lebanese communities rose. As reported in various field studies, tensions are on the rise. The situation has been particularly hard on the more vulnerable segments of Lebanese society, since a majority of the refugees have approached the most economically depressed and poorest parts of the country. Tensions between Lebanese and Syrians are particularly high in places like Akkar and Beka'a.

**199. Overcrowding, saturation of basic public services, and competition for jobs are among the root causes of the deterioration of the social relations between the hosts and refugees.** With Lebanon already facing high levels of unemployment before the crisis (see Employment and Livelihoods chapter), the massive influx of refugees has introduced even more competition for the limited livelihood opportunities. Participants of the focus group discussions conducted for this assessment expressed resentment over the unfair competition created as a result of the Syrian refugees' perceived readiness to work for longer hours and lower wages. Some of the participants expressed fear of losing their jobs to refugees. The situation is not helped by the perception that Syrians are benefitting disproportionately from the national and international response, to the neglect of the Lebanese poor, host families and returnees from Syria. Regions with ongoing security issues and sectarian diversity appear to be most prone to such social instability. Such regions have seen the emergence of new types of crime such as youth gangs, street fights and a higher incidence of burglaries.

**200. In some cases, cultural differences emerged as another key driver of the lack of social affinity between the host communities and refugee families.** Focus group discussions revealed that Syrian refugees were perceived by the participants as more "conservative" than themselves—given that a large proportion of rural refugees are seeking refuge in the much more liberal urban areas. There are also differences in lifestyles, customs and traditions that further undermine communal harmony. Participants also expressed "estrangement in their own country" owing to the large presence of refugees, as well as a dilution and erosion of their socio-cultural landmarks and points of reference. There is also a growing perception among the Lebanese that Syrian refugees have brought a high level of criminality (robberies, violent assaults) and that they are a threat to host communities. As a result, it appears that contacts between the two communities are diminishing. It was reported that some Lebanese communities may be actively discouraging social ties with the refugee families.

**201. Lebanese women and girls are particularly affected by the Syrian refugee crisis, in a context of reinforced insecurity and a palpable rise in violence.** Men are having difficulties in providing for their families, creating deep frustration and contributing to increased levels of domestic and gender-based violence. The gender analysis points to a much heightened perception of insecurity and rise of violence levels. Gender-based violence was identified as one of the most acute consequence of the harshness of the living conditions created by the sudden co-habitation of a vastly increased number of people. Women and men cited various forms of sexual and gender-based violence as taking place. Economic imperatives and deprivation stoked by the crisis may have also enhanced the exploitation of women in the form of increased rates of prostitution. Lebanese young girls also reported a certain competition between them and the young women Syrian refugees when it came to marriage. They feared that Lebanese men would take advantage of the vulnerability of Syrian girls and would pay lower dowry than for the Lebanese girls. Married women in Al Ein (North Beka'a) also felt threatened and wary of a growing tendency among the men of marrying Syrian women. There are instances of Lebanese women expressing a fear of downgrade in their rights and freedoms under the influence of a much more conservative Syrian community.

### *V.3. Stabilization for Social Cohesion*

**202. Coping is not enough when the crisis is moving exponentially and the ability to react to it is at best moving linearly.** The mounting social tensions and lack of social cohesion can have drastic consequences, especially in a country with Lebanon's history, if not adequately addressed in crisis



recovery planning and the design of the stabilization needs. This section reflects some measures that may help immediately improve social interaction across the host and refugee communities, and also contribute towards enhancing the social resilience of the Lebanese population in the medium to long term.

**203. Livelihood opportunities and access to services for both refugees and host communities need to be addressed on an equitable basis.** The distributive impact of such programs should extend uniformly across the two communities, instead of exclusively targeting one or the other group in a certain geographic or demographic division. Within such programs, young women and men could be specifically targeted as they are the most fragile and at risk of adopting bad coping mechanisms. Likewise, urgent firefighting efforts may be put in place to increase and improve access to public infrastructures and services for both communities. On the psycho-social side, more spaces for leisure and social activities should be organized to ease the growing sense of claustrophobia that is creeping into Lebanese society.

**204. Sustainable and meaningful stabilization in Lebanon can be achieved through conflict sensitive programming and prioritization of the crisis recovery needs.** It would therefore be necessary to be mindful of the following key principles for promoting greater social cohesion. First, service provision to Syrians refugees cannot be perceived by local population as being “at their expense”. Service delivery should target impoverished neighborhoods where Syrian refugee communities live alongside lower income Lebanese communities.<sup>100</sup> Only by targeting both host and refugee communities will more sustainable impact be achieved. Second, principles of impartiality should be applied while avoiding perceptions of favoritism. A ‘Do no Harm’ approach must be adopted in the implementation process such as for selection of the area of operation, staff, suppliers and donors. Third, while stabilization support should be needs based, it is of equal importance to take into consideration existing political and sectarian fault-lines so as to actively ensure impartiality of service delivery. Active monitoring systems to assess beneficiary serves and conflict sensitivity assessment should be established and mainstreamed. More effective conflict sensitive elements have to be incorporated to avoid further escalation between host communities and refugees—for instance assistance to Syrian refugees could pass through supporting Lebanese families. Furthermore, conflict sensitive programming and conflict mitigation programs targeting Lebanese communities will have to be implemented to avoid further erosion of social cohesion within Lebanese society.

**205. Applying the above principles will require local and central government agencies and ministries, as well as local elders and religious leaders, to sensitize and gear aid delivery, development planning and implementation capacities.** At the municipal level, instituting conflict mitigation mechanisms in collaboration with civil society would be a significant step forward. In addition, local mechanisms to prevent or mitigate conflicts must be activated for communities that are vulnerable to escalation of violent conflict. Local elders and religious leaders need to be involved in dispute resolution. Both the Lebanese and Syrians traditionally tend to look towards respected local actors in helping resolve disputes. For the Syrians, sheiks or religious leaders were most often cited as resource people who could be trusted to mediate on their behalf. Lebanese look more toward political parties for help or trusted individuals in the “village”. Neither group turns to the government. In the short-term, inter-religious dialogue and people-to-people activities can mitigate upcoming tensions and avoid escalation of distrust and growing xenophobia against Syrians.

**206. Peace Education can be a very useful training tool focusing on communication skills, non-violence, and promoting values of acceptance and tolerance among teachers teaching Syrian children.** This can help address rising tensions between Lebanese and Syrian children reported in many schools. Working on the school environment can include working with teachers, students, school administration and parents. Human rights education can also be a strong tool for safeguarding refugee

<sup>100</sup> Such as neighborhoods in Tripoli, Bourj Hammoud in the Metn, among others.

rights and reduce tensions. Human rights education can include working with the Lebanese Security Forces, especially Security General dealing with refugees at the entry border points, as well as communal leaders and CSOs working with the host communities.

**207. Positive messaging through print and electronic media needs strengthening.** The Lebanese media plays a major role in shaping citizens' opinions and impacting their choices, hence, it can play a positive role in reducing the rising tensions in the country. Media practitioners, at both institutional and reporter levels, could be targeted for training on sensitivities of the conflict. In addition, a media campaign conveying positive messages to both the Lebanese and the Syrian communities should be developed. Initiatives such as the Media Charter for Ethics in Lebanon that was launched in May 2013 and the Journalists' Pact for Strengthening Civil Peace in Lebanon that was launched in June 2013 can help journalists to become better professionals and agents of peace, simultaneously decreasing the levels of biased reporting and tension.

**208. Stronger awareness of and protection against gender-based violence must be actively promoted.** Activities and awareness sessions on sexual and gender-based violence with both Lebanese and refugee communities should be organized in order to inform and sensitize on the causes and consequences of any kind of gender-based violence. Referral mechanisms complemented by increased access to specialized protection services should be put in place.

**209. Stronger efforts are needed to stabilizing Lebanese-Syrian social interaction and cohesion.** Efforts should be made to fight negative attitudes and preconceptions towards the Syrian refugees. Spaces for dialogue between the two communities should be created in order to discuss issues, concerns, cultural differences and to find collective solutions to the different problems. The action can also include creation of community projects and inter-cultural activities where both communities can participate. Host communities should necessarily participate in decision-making affecting their ways of living.

## SECTION III:

### INFRASTRUCTURE IMPACT OF THE SYRIAN CONFLICT

#### Executive Summary<sup>101</sup>

**210. The sustained influx and sheer number of Syrian refugees coming into Lebanon over the last two years have severely strained the capacity and performance of Lebanon's physical infrastructure.** The country's infrastructure, already stressed and constrained, was ill-prepared to cope with a surge in usage. The cash-strapped and under-capacitated local and municipal governments are severely impacted by the crisis as they have to extend basic services and tend to the immediate needs of both the refugees and the host communities. For the purposes of this report, the Infrastructure Sector includes the water and sanitation, municipal services including solid waste management, electricity and transport sub-sectors.

**211. Over 2012-14, the fiscal cost of the Syrian conflict on infrastructure is estimated at USD589 million, while USD1.1 billion would need to be spent to restore access and quality of Lebanon's infrastructure to its pre-crisis level** (based on the baseline refugee influx projections for 2014). Table 18 below provides a sector breakdown of these impact and stabilization (needs) assessments. Detailed tables identifying the various components of the impact and stabilization assessments are available at the beginning of each sector chapter.

**212. Policy, institutional and capacity development challenges in the Water Supply and Sanitation (WSS) Sector:** The water sector in Lebanon has been repeatedly identified as a high-priority sector where immediate action is required to deal with several key challenges, which include balancing supply augmentation with demand management; completing the reform agenda; increasing levels of cost recovery; ensuring equity of distribution; increasing levels of wastewater collection and treatment; increasing the efficiency of irrigation water use; and, improving the management of groundwater resources.

**213. Crisis impacts and stabilization needs in the Water Supply and Sanitation Sector:** Already facing acute pre-crisis challenges of balancing supply augmentation with demand management, the Lebanese WSS sector must now meet an additional estimated water demand of 26.1 million m<sup>3</sup>/year, equivalent to 7 percent of the pre-crisis demand. The cumulative fiscal impact over 2012-14 reaches approximately USD18 million. It is estimated that between USD340-375 million will be required over the period 2012-14 for stabilization interventions required to reinstate pre-crisis levels of WSS services to host and refugee communities. These include: (1) humanitarian relief interventions such as distribution of bottled and tanked water, chlorination kits and storage tanks to the most vulnerable populations; (2) additional capital and operation and maintenance costs associated with the restoration of access to water supply and sanitation including short-term infrastructure/equipment and restoration of services in schools and urgent sanitation interventions; and, (3) medium-term planning activities for the acceleration of infrastructure investments and institutional reforms such as storage and transfer infrastructure, distribution network rehabilitation and replacement, water and wastewater treatment and irrigation expansion and improvement.

**214. Policy, institutional and capacity development challenges in Solid Waste Management and Municipal Sectors:** Direct responsibility for Solid Waste Management (SWM) lies with the

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<sup>101</sup> Ayaz Parvez (World Bank) contributed to the infrastructure section integration.

municipalities, the Ministry of Interior and Municipalities (MOIM), the Ministry of Environment (MOE) and the Council for Development and Reconstruction (CDR). Currently there exist 42 Unions of Municipalities in Lebanon to address common issues. However, very little collaboration takes place despite the high transaction costs associated with fragmented delivery systems. While municipalities are responsible for operating all collection and treatment systems, they suffer from lack of resources as well as operational solid waste management experience, preventing them from delivering services effectively. In 2006, both the MOE and CDR prepared a 10-year municipal SWM master plan which proposed an integrated approach to SWM involving collection and sorting, recycling, composting, and landfilling. It called for managing uncontrolled dumpsites and defining guidelines for the treatment of special waste. However, lack of public funding and consensus on the location of proposed facilities further eroded all prospects for implementation.

Table 16. Impact and Stabilization Assessments for the Infrastructure Sectors

|   | 2012   | 2013    | 2014                          |                           | Cumulative<br>2012/14         |
|---|--------|---------|-------------------------------|---------------------------|-------------------------------|
|   |        |         | baseline<br>Refugee<br>Influx | High<br>Refugee<br>Influx | Baseline<br>Refugee<br>Influx |
| (in million of Lebanese Pounds)             |        |         |                               |                           |                               |
| Impact assessment                           | 32,311 | 312,991 | 543,183                       | 685,235                   | 888,485                       |
| Electricity                                 | 24,120 | 256,275 | 473,355                       | 592,448                   | 753,750                       |
| Water and Sanitation                        | 8,191  | 7,571   | 11,337                        | 14,698                    | 27,099                        |
| Solid Waste Management & Municipal Services | -      | 49,145  | 58,491                        | 78,089                    | 107,636                       |
| Transportation infrastructure               | -      | -       | -                             | -                         | -                             |
| Stabilization (Needs) assessment            | 72,361 | 594,106 | 975,702                       | 1,664,282                 | 1,642,169                     |
| Electricity                                 | 58,793 | 322,605 | 85,928                        | 281,903                   | 467,325                       |
| Water and Sanitation                        | 8,141  | 133,866 | 370,893                       | 422,854                   | 512,900                       |
| Solid Waste Management & Municipal Services | 5,427  | 72,511  | 212,859                       | 232,607                   | 290,797                       |
| Transportation infrastructure               | -      | 65,125  | 306,023                       | 726,918                   | 371,148                       |
| Current spending                            | 8141   | 153,162 | 227,633                       | 318,083                   | 388,936                       |
| Capital spending                            | 64,220 | 440,943 | 748,070                       | 1,346,199                 | 1,253,233                     |
| (in million of US dollars)                  |        |         |                               |                           |                               |
| Impact assessment                           | 21     | 208     | 360                           | 455                       | 589                           |
| Stabilization (Needs) assessment            | 48     | 394     | 647                           | 1,104                     | 1,089                         |
| Current spending                            | 5      | 102     | 151                           | 211                       | 258                           |
| Capital spending                            | 43     | 292     | 496                           | 893                       | 831                           |
| (in percent of GDP)                         |        |         |                               |                           |                               |
| Impact assessment                           | 0.0    | 0.5     | 0.8                           | 1.0                       | 1.3                           |
| Stabilization (Needs) assessment            | 0.1    | 0.9     | 1.4                           | 2.3                       | 2.4                           |

Source: Government of Lebanon World Bank staff estimates and calculations.

**215. Crisis impacts and stabilization needs in Solid Waste Management and Municipal Sectors:** Lebanon's local governments and municipalities are highly dependent on central government transfers, have a weak local revenue base, and have a backlog of investment needs that far exceed available resources. Consequently, a markedly visible decline in the level and quality of municipal services has already resulted from the sudden and sharp increase in demand and utilization by Syrian refugees. Solid waste generation has doubled in several areas, which is contributing to ground water contamination, pollution of water resources and spread of water-borne disease. Both municipal revenues and

expenditures are expected to see a major shortfall in 2013 and 2014. This will further restrict the capacity of municipalities to deliver basic services and fund minimum maintenance of their already dilapidated assets. The cumulative fiscal impact over 2012-2014 on solid waste management reaches approximately USD71 million (baseline refugee scenario). It is estimated that between USD193-206 million will be required over 2012-14 for stabilization interventions in the municipal sector including: (1) the closure and rehabilitation of open and uncontrolled municipal solid waste dumps; (2) establishment of composting, separating and landfilling facilities, and; (3) extension of financial support to host municipalities to cover the expected additional operational and capital expenditures.

**216. The June 2010 Policy Paper for the Electricity Sector (endorsed by the GoL), aims at improving service delivery and reducing the sector's large fiscal burden.** The paper outlines policy, investments and reforms aimed at increasing the level and quality of electricity supply, managing demand growth, decreasing the average cost of electricity production, increasing revenues and improving sector governance. Although there has been progress in the implementation of planned reforms and investment, there is continuing concern over the need to fully institutionalize the implementation of the GoL's Policy Paper for the electricity sector. Significant investments and reform programs need to be brought fully under the management of existing institutions to prevent the electricity program from being affected by the challenges posed by Lebanon's political economy.

**217. Crisis impacts and stabilization needs in the Electricity Sector:** Lebanon's electricity sector had insufficient installed capacity, low efficiency, high losses and inadequate infrastructure, resulting in poor reliability, inadequate levels of supply and extensive load-shedding. Increased demand due to the incoming Syrian refugee population is estimated at 213 MW by end-2013 and 362 MW by end-2014. The current fiscal cost of providing electricity to the refugees is estimated at USD170 million for 2013 and USD393 million for 2014, as refugee numbers are projected to increase. The interventions required to reinstate pre-crisis levels of electricity include: (1) capital investment in generation capacity and associated transmission and distribution networks; and, (2) institutional capacity and technical assistance for project preparation and implementation. It is estimated that between USD310-440 million will be required by end-2014 for stabilization interventions.

**218. Policy, institutional and capacity development challenges in the Transport Sector:** Weak capacity, inefficient allocation of resources, and institutional fragmentation constitute the main challenges in the transport sector. For roads, lack of resources and strong political interferences have limited the capacity of the Ministry of Public Works and Transport (MPWT) to systematically plan and prioritize recurrent and capital investments. In addition, several agencies are involved in the management of the road network in Lebanon, often with overlapping mandates and responsibilities. While the capacity of local contractors is generally adequate, the works are often not executed to standards due to weak supervision, political interferences and procurement inefficiencies. A lack of asset management systems and coordinated planning for road maintenance and rehabilitation in Lebanon has been felt since 2001. The MPWT estimated that it will require a total of about USD1.3 billion in order to overcome the maintenance backlog, in addition to approximately USD100 million yearly to properly maintain the main network. The public transport system also suffers from poor regulation and enforcement, while the trucking industry is highly fragmented and operated by an outdated fleet.

**219. Crisis impacts and stabilization needs in the Transport Sector:** Lebanon's transport network is generally in fair to poor condition and is over-saturated, particularly in the Greater Beirut Area. While the Syrian crisis did not have direct fiscal impact on the government expenditures in the sector, it has affected Lebanon's transport sector in the form of: (1) increased wear and tear of the road and transport network; (2) substantial increase in traffic volumes causing congestion; and (3) a near halt of Lebanon's thriving transit business particularly for freight. It is estimated that the Greater Beirut Area will witness a 15-25 percent traffic increase which can reduce speeds and increase travel times by about 20-30 percent during the peak hours. Transit trucking services have decreased by over 65 percent following the crisis,

particularly for Lebanese trucks. In order to restore transport sector performance to pre-crisis level, investments ranging between USD246-525 million are required over the period 2013-14 for the baseline and high refugee influx scenarios respectively. These investments can be categorized as follows: (1) asset preservation primarily including enhanced road maintenance; (2) capacity increases including network reconstruction, widening and expansion; (3) public transport solutions such as mass transit; and, (4) freight and transit sector interventions such as compensation to transport operators.

## I. WATER AND SANITATION SECTOR<sup>102</sup>

**220.** Prior to the Syrian crisis and the consequent influx of refugees into Lebanon, the GoL faced a significant development deficit in providing access to and quality of, water and sanitation services. While 79 percent of the pre-crisis Lebanese population had access to the potable water network, continuity of supply was low and averaged 7.6 and 13 hours/day in the summer and winter seasons, respectively. Pervasive water shortages have triggered the development of an informal private sector, providing an alternative, albeit largely uncontrolled, source of water supply. As a result of the large influx of refugees into Lebanon through August 2013, demand for water is estimated to have increased from 335 MCM/year to 361.1 MCM/yr. The stabilization assessment estimated the short-term costs required to reinstate pre-crisis levels of WSS service to host and refugee communities as per population estimates up to December 2014 would include: (1) humanitarian relief intervention; (2) capital and O&M costs associated with the restoration of access to water supply and sanitation including short-term infrastructure/equipment and restoration of services in schools and urgent sanitation interventions and; (3) Medium-term planning activities.

Table 17. Impact and Stabilization Assessments for the Water and Sanitation Sectors

|   | 2012  | 2013                | 2014                          |                           |
|---|-------|---------------------|-------------------------------|---------------------------|
|   |       |                     | Baseline<br>refugee<br>influx | High<br>refugee<br>influx |
|   |       | (in million LBP)    |                               |                           |
| Impact Assessment                               | 8,191 | 7,571               | 11,337                        | 14,698                    |
| Capital and O&M Expenditure by all RWE's        | 8,191 | 7,571               | 11,337                        | 14,698                    |
| Stabilization (Needs) Assessment                | 8,141 | 133,866             | 370,893                       | 422,854                   |
| Restore Access and urgent sanitation            | 8,141 | 96,179              | 144,268                       | 196,729                   |
| Infrastructure Planning and Immediate Execution | -     | 37,688              | 226,625                       | 226,125                   |
|   |       | (in million of USD) |                               |                           |
| Impact Assessment                               | 5.4   | 5.0                 | 7.5                           | 9.7                       |
| Stabilization (Needs) Assessment                | 5.4   | 88.8                | 246.0                         | 280.5                     |
| Memorandum item:                                |       |                     |                               |                           |
| Humanitarian relief interventions               | 2.8   | 57.3                | 57.3                          | 108.4                     |

Source: World Bank staff estimates and calculations.

### 1.1. Analysis of Pre-Crisis (Baseline) Conditions

**221.** Since the end of the 1975-1990 civil war, the state of the Lebanese Water and Sanitation (WSS) Sector has lagged behind national levels of economic development. This is largely due to the spatial and temporal variations in water availability, delayed implementation of critical storage, distribution and treatment infrastructure and the incomplete institutional reforms needed to enable

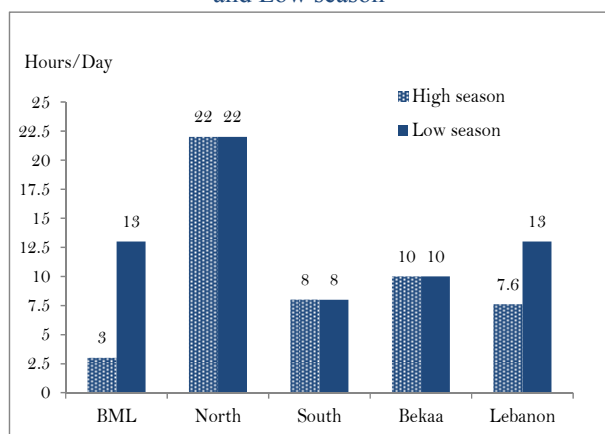
<sup>102</sup> This chapter was prepared by Claire Kfoury (World Bank), with contributions from Paul Shanahan and Ken Maskall (UNICEF), Sam Coxson (DAI), Manfred Scheu (GIZ) and staff from the UNDP and UNRCO, and the collaboration of staff from the Ministry of Energy and Water, from the Beirut Mount Lebanon Water Establishment, from the Beka'a Regional Water Establishment, from the South Lebanon Water Establishment, and from the North Lebanon Water Establishment.



sustainable operations and cost-recovery of sector institutions.<sup>103</sup> Thus, even prior to the onset of conflict in neighboring Syria, and the consequent influx of refugees into Lebanon, the GoL faced a significant development deficit in providing access to and quality of WSS services.

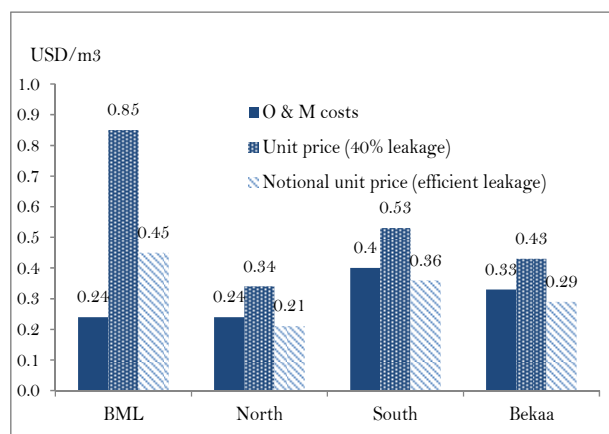
**222. Though 79 percent of the pre-crisis Lebanese population had access to the potable water network,<sup>104</sup> continuity of supply was low** and averaged 7.6 and 13 hours/day in the summer and winter seasons respectively (World Bank, 2009-Figure 69). Water supplied to the highly urbanized Beirut and Mount Lebanon (BML) area for example, where approximately half of the Lebanese population lives, has steadily dwindled over the past 10 years with residents receiving as little as three hours per day of publically supplied water in the summer since 2005.

Figure 69. 2008 Continuity of supply by RWE, High and Low season



Source: 2008 Continuity of supply by RWE, High and Low season

Figure 70. Unit Price vs O&M cost



Source: RWE 2008 Ref: Per 2010

**223. The pervasive shortage of water supply further triggered the development of an informal private sector** providing alternative, albeit largely uncontrolled, water supply through private wells, gallons, bottled water and water trucks, often at a higher cost and lower quality than public network water. The opportunity costs of inadequate public water supply provision have been estimated to amount to 1.3 percent of GDP (World Bank, 2009). The cost of environmental degradation has further been estimated at 1.1 percent of GDP (World Bank, 2011).

**224. Pre-crisis studies further indicated a correlation between connection to the public network and geographic location (World Bank, 2008).**<sup>105</sup> Among the 20 percent of unconnected households for example, 54 percent reported that there was no public network available in their area. Prior to the crisis, low-income households were more likely not to be connected to public water service due to their location within the Beka'a valley and the North (World Bank, 2008). The Beka'a valley and North are the areas with the highest proportion of influx of refugees (UNHCR, 2013), further exacerbating the impact of the crisis on the water sector today.

<sup>103</sup> Principal institutional players in the WSS include the MOEW, the RWE's, the Litani Water Authority, CDR, the Ministry of Finance, Ministry of Environment and Ministry of Agriculture. Capital expenditures have historically been financed by CDR and the MOF, with MOEW and the various RWE's responsible for operation and maintenance (O&M) and smaller infrastructure investments

<sup>104</sup> Ministry of Energy and Water, National Water Sector Strategy, 2010.

<sup>105</sup> Low correlation between access to the water public service (i.e. connection to the public network) and poverty, with only 3 percent of pre-crisis unconnected households claiming that they "cannot afford" or "don't want to pay" for water.

**225. Prior to the crisis, service quality in the Lebanese WSS sector also lagged behind international standards of practice** as measured by the quality and number of hours of available water supplied per day (and associated water pressure). While many public sources of water supply were chlorinated, many households relied on the use of bottled water for drinking, thus signaling dissatisfaction with the quality of water provided through the public network. Furthermore, as a large majority of households relied on the use of individual storage reservoirs (placed on rooftops to increase water pressure to the household), water quality was also directly affected by the frequency of reservoir maintenance, namely through regular cleaning. Users' reliance on the informal private sector for water supply from largely uncontrolled groundwater sources further compounded the problem of water quality across Lebanon. Finally, wastewater discharged in to the environment with little or no treatment, further exacerbated the situation.

**226. The pre-crisis cost of health impacts of water and sanitation problems in Lebanon was high** with Dysentery, Hepatitis A and typhoid the leading types of water-borne diseases with children under five (UNICEF, 2010). The Lebanon State of Environment (2001) reported the pre-crisis cost of health impacts at USD7.3 million per year and the costs of excess bottled water consumption at about USD7.5 million. The 2004 World Bank "Cost of environmental degradation report," estimated the cost of inadequate potable water, sanitation and hygiene at 1-1.2 percent of GDP.

**227. The pre-crisis tariff structure was (and still is) based on a fixed annual fee for a contractual volume of water of 1 m<sup>3</sup>/day/household and does not incentivize water demand management.** Based on total billed revenues, a unit price per m<sup>3</sup> of water sold in 2009 is provided in Figure 2 (and reflects water losses of 40 percent). The unit cost of service delivery O&M was sufficient to recover the unit O&M cost of service provision. Low billing collection was thus long the main contributor of the poor financial performance of the Regional Water Establishments (RWE's).

**228. The water sector in Lebanon has long been identified as a high-priority sector where immediate action is required to deal with several key challenges namely:** (1) balancing supply augmentation with demand management; (2) completing the reform agenda; (3) increasing levels of cost recovery; (4) ensuring equity of distribution; (5) increasing levels of wastewater collection and treatment; (6) increasing the efficiency of irrigation water use; and (7) improving the management of groundwater resources. As described below, the influx of Syrian refugees to Lebanon has further exacerbated the need for, and challenges of, implementing urgent, results-oriented investment and reform in the WSS sector.

## *1.2. Impact Assessment<sup>106</sup>*

**229. As a result of the large influx of refugees into Lebanon through August 2013, demand for water is estimated to have increased by 26.1 million m<sup>3</sup>/year (MCM/yr), equivalent to 7 percent of the pre-crisis demand of 335 MCM/yr.** This reflects a net estimated demand of 80 liters/person/day for the refugee population. Assuming 25 percent losses in distribution leaks, the gross water demand from the refugee population (i.e. the volume that must be put into production in order to reach refugees) is 106 liters/person/day and is the basis for calculation of O&M and capital impact on the various RWE's<sup>107</sup> as per Table 18 and Table 19 below.

<sup>106</sup> See the Water and Sanitation appendix for the scope and methodology used in this section assessment.

<sup>107</sup> Demand by pre-crisis population can only be estimated since meters are not used, and is approximated by the MOEW at 160 liters/per/day (NWSS, 2010).

**230. The total quantifiable net impact in 2012 was thus an estimated USD5.43 million equivalent to LBP8.15 billion and reflects the additional capital and O&M expenditures and/or projections made by each RWE as a result of the additional demand due to the influx of refugees.**

Table 18. O&M expenditure by regional water establishments

|       |  | 2012       | 2013       | 2014       |             |
|-------|--|------------|------------|------------|-------------|
|       |  |            |            | Low influx | high influx |
| BML   | O&M Projected  | 50,236,000 | 50,900,667 | 51,615,333 |             |
|       | O&M Actual   | 48,376,871 | 54,000,000 | 56,000,000 |             |
|       | Impact delta   | -1,859,129 | 3,099,333  | 4,384,667  |             |
|       | Impact delta Adjusted  | -371,826   | 619,867    | 876,933    | 1,227,707   |
|       | 2011 - 2014 O&M Total Impact (USD)   |            |            |            | 2,724,507   |
| North | O&M Projected  | 7,288,667  | 21,982,697 | 23,539,263 |             |
|       | O&M Actual   | 7,954,667  | 22,982,697 | 25,039,263 |             |
|       | Impact delta   | 666,000    | 1,000,000  | 1,500,000  | 2,100,000   |
|       | 2011 - 2014 O&M Total Impact (USD)   |            |            |            | 5,266,000   |
|       | O&M Projected  | 4,412,000  | 15,094,667 | 16,088,000 |             |
| Bekaa | O&M Projected Adjusted based on actuals between 2006 and 2010 (equivalent to 10 percent of the original projected) | 441,200    | 1,509,467  | 1,608,800  |             |
|       | O&M Actual   | 1,328,767  | 2,409,467  | 3,855,147  |             |
|       | Impact Delta (adjusted)  | 887,567    | 900,000    | 2,246,347  | 3,144,885   |
|       | 2011 - 2014 O&M Total Impact (USD)   |            |            |            | 7,178,799   |
|       | O&M Projected  | 27,268,000 | 20,002,000 | 20,500,000 |             |
| South | O&M Actual   | 27,405,572 | 20,252,000 | 20,800,000 |             |
|       | Impact Delta   | 137,572    | 250,000    | 300,000    | 420,000     |
|       | 2011 - 2014 O&M Total Impact (USD)   |            |            |            | 1,107,572   |
|       | TOTAL O&M Impact (USD)   | 1,691,139  | 2,769,867  | 4,923,280  | 6,892,592   |
|       | TOTAL O&M Impact ('000 000 LBP)  | 2,537      | 4,155      | 7,385      | 10,339      |

Source: MOEW, RWE data/discussions and WB Staff Calculations

Table 19. Capital expenditure by regional water establishments

|       |  | 2012       | 2013       | 2014        |             |
|-------|--|------------|------------|-------------|-------------|
|       |  |            |            | Low influx  | high influx |
| BML   | Capital Projected  | 14,074,667 | 21,380,667 | 28,934,667  |             |
|       | Capital Actual   | 33,658,201 | 18,000,000 | 14,467,333  |             |
|       | Impact Delta   | 0          | -3,380,667 | -14,467,333 | 0           |
|       | 2011 - 2013 Capital Total Impact (USD)   |            |            |             | 0           |
|       | Capital Projected  | 20,827,333 | 22,000,000 | 24,000,000  |             |
| North | Capital Actual   | 21,494,000 | 22,666,000 | 25,000,000  |             |
|       | Impact Delta   | 666,667    | 666,000    | 1,000,000   | 1,100,000   |
|       | 2011 - 2013 Capital Total Impact (USD)   |            |            |             | 3,432,667   |
|       | Capital Projected  | 6,213,333  | 6,213,333  | 7,000,000   |             |
|       | Capital Projected Adjusted based on actuals between 2006 and 2010 (equivalent to 38 percent of the original projected) | 2,361,067  | 2,361,067  | 2,500,000   |             |
| Bekaa | Capital Actual   | 3,597,303  | 3,597,303  | 3,597,303   |             |
|       | Impact Delta (Adjusted)  | 1,236,236  | 1,236,236  | 1,097,303   | 1,207,033   |
|       | 2011 - 2013 Capital Total Impact (USD)   |            |            |             | 4,776,807   |
|       | Capital Projected  | 5,395,976  | 14,526,667 | 12,000,000  |             |
|       | Capital Actual   | 7,235,391  | 14,876,667 | 12,500,000  |             |
| South | Impact Delta   | 1,839,415  | 350,000    | 500,000     | 550,000     |
|       | 2011 - 2013 Capital Total Impact (USD)   |            |            |             | 3,239,415   |
|       | TOTAL Capital Impact (USD)   | 3,742,318  | 2,252,236  | 2,597,303   | 2,857,033   |
|       | TOTAL Capital Impact ('000 000 LBP)  | 5,613      | 3,378      | 3,896       | 4,286       |

Source: MOEW, RWE data/discussions and WB Staff Calculations

**231. An additional economic cost of USD143 million, associated with the diversion of 26 million m<sup>3</sup>/year as a result of the influx of refugees, is also noted and reflects the cost of alternative water sources provided by the informal water sector described above. This is based on the cost of these alternative water sources which can reach over USD5.5 per m<sup>3</sup> per day (equivalent to approximately 20 times the cost of public water).<sup>108</sup>**

**232. Environmental and health impacts arising from deficits in water supply access and quality and waste water management practices are severe,** particularly for vulnerable populations living in excessively crowded areas. Unregulated disposal of wastewater to surface waters and contamination of groundwater through poorly located and constructed domestic latrines, agricultural and other chemical residues and poor sludge disposal practices pose acute risks to the health of those relying on unmonitored groundwater sources for drinking water.

**233. Women and girls further carry a disproportionate level of responsibility in both sourcing and managing domestic water for consumption to maintain health and livelihood resilience in their home.** This is particularly significant among communities hosting Syrian refugees, the most vulnerable of which comprise households headed by women (UNICEF, 2013). Competing demand for safe drinking water between host and refugee communities in poorly serviced areas may exacerbate tensions within an already volatile social, economic and political environment (UNICEF, 2013).

### 1.3. Stabilization Assessment

**234. The stabilization assessment estimated the short term costs required to reinstate pre-crisis levels of WSS service to host and refugee communities as per population estimates up to end-2014** (Table 20) namely: (1) humanitarian relief intervention; (2) capital and O&M costs associated with the restoration of access to water supply and sanitation including short-term infrastructure/equipment and restoration of services in schools and urgent sanitation interventions and; (3) Medium-term planning.

<sup>108</sup> As per data from Beirut Mount Lebanon Water Establishment. The yearly gauge tariff for 1m<sup>3</sup>/household/day is just over USD100/household/year.

Table 20. Baseline and high Refugee Projections  
(through December 2014)

|                    | Low refugee influx |           | High refugee influx |           |
|--------------------|--------------------|-----------|---------------------|-----------|
|                    | Refugee            | Lebanese  | Refugee             | Lebanese  |
| BML                | 278,565            | 2,000,486 | 402,974             | 2,000,486 |
| North              | 559,750            | 913,265   | 809,738             | 913,265   |
| Bekaa              | 533,270            | 565,355   | 771,432             | 565,355   |
| South              | 192,881            | 869,776   | 279,023             | 869,776   |
| Subtotals          | 1,564,465          | 4,348,882 | 2,263,168           | 4,348,882 |
| Total per scenario | 5,913,347          |           | 6,612,050           |           |

Source: UNHCR, UNDP, UNICEF, and WB staff

Table 21. Humanitarian interventions cost estimate

| Stabilization Action 1: Humanitarian Relief Interventions  | Low     | High    |
|--|---------|---------|
| BML  | 83,570  | 120,892 |
| North  | 167,925 | 242,922 |
| Bekaa  | 159,981 | 231,430 |
| South  | 57,864  | 83,707  |
| Total vulnerable refugees (30 percent of total)  | 469,339 | 678,950 |
| Total stabilization relief cost (USD million) over 14 months at 122USD/person/7months for 30 percent of refugee population | 114.5   | 165.6   |
| LBP ('000 000)   | 171,778 | 248,496 |

Source: WB Staff Calculations

**235. Humanitarian relief interventions:** These include the distribution of tanked water, household water filters, hygiene kits, water storage tanks, installation of latrines, rehabilitation of toilets and shower facilities, etc. to the most vulnerable populations at an estimated cost of USD122/individual/7 months (UNICEF, 2013). Thirty percent of Syrian refugees are estimated to be vulnerable and in need of immediate relief interventions (UNICEF, 2013). The total stabilization cost of humanitarian interventions is thus: USD114.5 million (LBP171.7 billion) and USD165 million (LBP248 billion) for baseline and high scenarios respectively (Table 21). The breakdown in 2012, 2013 and 2014 is provided in Table 24.

**236. Restoration of access and Urgent Sanitation:** which include: (1) the capital and O&M cost associated with restoring water supply service delivery as per the ratios in Table 5; and (2) capital and O&M costs of modular, onsite wastewater treatment facilities to provide sanitation services in priority hot-spot areas with dense host and refugee populations. The access indicator is “number of people connected to the public water network”. The quality of access is “number of hours of water available per day, restored to pre-crisis continuity of supply”. The three categories of users are: (1) additional Lebanese population projected to receive access by 2014 as needed to return to pre-crisis trends; (2) Syrian refugees with current access,<sup>109</sup> and (3) Syrian refugees without access requiring capital investments and additional O&M to gain access by end-2014.

Table 22. Pre-crisis capital and O&M ratios  
per RWE

|       | O&M Ratios<br>(USD/person) | Cap Ratio<br>(USD/person) |
|-------|----------------------------|---------------------------|
| BML   | 21.1                       | 12                        |
| North | 31.4                       | 29                        |
| Bekaa | 42.7                       | 67                        |
| South | 30.7                       | 22                        |

Source: WB staff

Table 23. Summary of Restoration

| Restoration of Access (Capital and O&M)  | Baseline<br>refugee<br>influx | High<br>refugee<br>influx |
|--|-------------------------------|---------------------------|
| Beirut and Mount Lebanon   | 20,870                        | 25,770                    |
| North  | 51,850                        | 68,365                    |
| Bekaa  | 88,375                        | 113,980                   |
| South  | 27,760                        | 32,977                    |
| Sub-Total (LBP million)  | 188,855                       | 241,091                   |
| Equipment/Short term infrastructure (UNICEF 2013 data)<br>Billion LBP                    | 20,250                        | 20,250                    |
| School WSS rehabilitation (260 schools at 15,000<br>USD/school - UNICEF 2013 data) - USD | 5,850                         | 5,850                     |
| Urgent Sanitation (ref UNICEF 2013 Calculations - LBP<br>million)                        | 24,300                        | 24,300                    |
| Sub-Total (LBP million)  | 50,400                        | 50,400                    |
| Total (LBP million)  | 239,255                       | 291,491                   |

Source: WB Staff Calculations

<sup>109</sup> As per UNHCR Shelter Survey August 2013 data, 74.9 percent of Syrian refugees live in rented accommodations. Of those, 50 percent are assumed to have no access to WSS.

**237. Restoration of access also includes urgent and short term infrastructure.** Urgent equipment includes booster pump rehabilitation, water well rehabilitation, electrical grid reconnection to key distribution plant and additional point of use metering installations. Additional short-term infrastructure might include leakage prevention on existing networks, network extensions and temporary storage reservoirs). Restoration of access to approximately 260 schools was also included in the stabilization calculation (UNICEF, 2013). The stabilization needs for increasing access to water are thus summarized in Table 23. The breakdown in 2012, 2013 and 2014 is provided in Table 24.

**238. Beyond December 2014, several significant infrastructure investments and institutional reforms must be made to reduce the development deficit in the WSS sector,** the foundation for which can and should be deployed in the period between now and December 2014. These medium-term interventions include investment in: (1) storage and transfer infrastructure; (2) distribution network rehabilitation and replacement; (3) water and wastewater treatment and; (4) sustainable irrigation expansion and improvement. With improved water service delivery standards, GoL must then proceed to implementing volumetric metering and a phased, albeit hastened, reduction in unsustainable groundwater mining.

**239. MOEW's National Water Sector Strategy is a detailed and comprehensive document which details the GoL's WSS development plan in the medium and long-term.** As GoL's principal WSS development plan, the NWSS informed the World Bank's 2012-2016 Country Water Sector Assistance Strategy (CWRAS) <sup>110</sup> as well as the development strategies of other development partners and agencies. It is thus critical to ensure that efforts to meet the objectives of GoL's development strategy are sustained and accelerated as a result of the influx of refugees. A list of priority activities which should be given high priority for implementation by December 2014, and which will directly sustain GoL's long-term development plan are further included in the stabilization assessment as per Table 24 below. Stabilization efforts must also include components of the NWSS which seek to bring forward both institutional and technical innovations which raise the efficiency of billing collection and put the overall management of water resources in Lebanon on a more sustainable footing.

Table 24. Infrastructure planning for the Water and Sanitation Sector

| Infrastructure Planning and Immediate Execution (for which construction could begin immediately) |                            |
|--|----------------------------|
|  | (in USD, unless specified) |
| 1. Urgent drainage works   | 500,000                    |
| 2. Construction of bulk water supply storage reservoirs  | 55,000,000                 |
| 3. Rehabilitation and extension of distribution networks   | 45,000,000                 |
| 4. Engineering studies for large infrastructure works (dams, interbasin transfers etc)           | 25,000,000                 |
| 5. Wastewater collection network construction  | 50,000,000                 |
| Total (USD)  | 175,500,000                |
| Total (million LBP)  | 264,566                    |

Source: WB Staff Calculations

**240. Stabilization efforts should urgently identify measures to mitigate environmental health risks** in high-demand/low-service locations where risk multipliers may have critically compounding impacts. Local stabilization efforts and water supply management structures established to serve these

<sup>110</sup> World Bank Country Water Sector Assistance Strategy, Report No 68313 LB, identified the following objectives: (1) improved, sustainable and affordable water supply; (2) sustainable water resources management and allocation to priority uses; (3) putting wastewater on a sustainable footing; (4) profitable and sustainable irrigated agriculture; (5) strengthened sector oversight and reform implementation and (6) improved efficiency of public expenditures.

areas should meaningfully address the social and protection concerns of women and girls, particularly through the security-sensitized siting of communal water and sanitation systems. Security and stability must remain key factors of consideration within the planning process together with the establishment of local water supply management arrangements related to further stabilization efforts.

**241. The displacement of private water providers brought about by the progressive formalization of un-regulated private water service providers** may pose further stability risks which again demand that sensitive and transparent management agreements to be forged. In order to maximize the potential social benefits which might accrue from improved service provision, consideration should be given to the targeting of new water supplies and sanitation upgrades to serve health facilities (especially Maternal Health and Midwifery centers) and schools (particularly primary schools, vocational schools and those with boarding accommodation).

**242. Finally, stabilization efforts should give priority to populations that are not served, as a grounding principle**, with indicators of a minimum acceptable level of service guiding the priority-setting process during planning stages. Safe water quality, service affordability, reliability, inclusive management and equity of access are all key determinants of service sustainability and should remain the hallmark of water and sanitation stabilization efforts.



## II. SOLID WASTE MANAGEMENT AND MUNICIPAL SECTORS<sup>111</sup>

**243.** *Lebanon's local governments and municipalities are characterized by high dependence on central government transfers, a weak local revenue base, and a backlog of investment needs by far exceeding available resources. Consequently, a markedly visible decline in the level and quality of municipal services has already resulted from the suddenly increased demand and utilization by Syrian refugees. Solid waste generation has doubled in several areas with high concentration of refugees, and is also contributing to ground water contamination, pollution of water resources and spread of water-borne disease. Both municipal revenues and expenditures are expected to witness a major shortfall in 2013 and 2014 due to lower revenues to the Independent Municipal Fund. This will further restrict the capacity of municipalities to deliver basic services and fund minimum maintenance of their already dilapidated assets. It is estimated that between USD193-206 million will be required over 2012-14 for stabilization interventions in the municipal sector including: (1) the closure and rehabilitation of open and uncontrolled municipal solid waste (MSW) dumps; (2) establishing composting, separating and landfilling facilities; and (3) extending financial support to host municipalities to cover the expected additional operational and capital expenditures. This figure excludes the investment costs associated with the Waste-to-Energy plants planned for Beirut and Mount Lebanon under the 2010 Solid Waste Management (SWM) Strategy and the ensuing National Master Plan for SWM (2013).*

Table 25. Impact and Stabilization Assessments for Solid Waste Management

|                                  | 2012  | 2013   | 2014                          |                           |
|----------------------------------|-------|--------|-------------------------------|---------------------------|
|                                  |       |        | Baseline<br>Refugee<br>Influx | High<br>Refugee<br>Influx |
|                                  |       |        | (in million of LBP)           |                           |
| Impact assessment                | -     | 49,145 | 58,491                        | 78,089                    |
| Current spending                 | -     | 26,532 | 31,356                        | 46,431                    |
| Capital spending                 | -     | 22,613 | 27,135                        | 31,658                    |
| Stabilization (Needs) assessment | 5,427 | 72,511 | 212,859                       | 232,607                   |
| Current spending                 | -     | 27,135 | 31,507                        | 46,431                    |
| Capital spending                 | 5,427 | 45,376 | 181,352                       | 186,176                   |
|                                  |       |        | (in million of USD)           |                           |
| Impact assessment                | -     | 33     | 39                            | 52                        |
| Stabilization (Needs) assessment | 4     | 48     | 141                           | 154                       |

Source: Government of Lebanon, UNICEF, UNHCR, and World Bank staff calculations.

<sup>111</sup> This chapter was prepared by Sateh Chafic El-Arnaout (World Bank) with support from Wafa Charafeddine and Ibrahim Chahrour (CDR) and General Salem (Ministry of Interior and Municipalities), and input from UNDP. The consulting firm i2-ideas supported the analytical work in this chapter.



## *II.1. Municipal Services Pre-Crisis Conditions*<sup>112</sup>

### **II.1.A. The Urbanization Challenge**

**244. With the bulk of Lebanon's population living in urban areas (87 percent),** it is estimated that around 64 percent reside in large agglomerations mostly in the metropolitan areas of Beirut and its surrounding suburbs and along Lebanon's coastal area (Tripoli, Saida, Tyr) and along the Beirut to Zahleh road (UN-HABITAT, 2011). This extensive urban sprawl has led to a dramatic increase in the cost of public service provision and infrastructure assets.

**245. Rural-to-urban migration traditionally dates back to well before Lebanon's independence.** This is attributed to the limited economic opportunities offered as a result of the gradual degradation of the agriculture sector. Coupled with that is the lack of basic services and poor connectivity with urban centers that led to the growth of peri-urban areas around major and secondary cities and towns. Urbanization accelerated also during the civil war period (1975-1990) and following successive Israeli aggressions on Lebanon (1978-2006).

**246. The recent influx of refugees from the Syrian conflict is a reminder of Lebanon's legacy as a safe haven for refugees.** Since the 1920s, large number of refugees including Palestinians, Armenians, Syrians, Iraqis, Kurds, and others have been flowing into Lebanon, escaping the devastating impacts of armed and political conflicts in their own countries. Most of those refugees settled in and around the main urban areas in what started as refugee camps, some of which evolved into becoming regular neighborhoods (e.g., Burj Hammoud) while others turned into informal settlements (UN-HABITAT, 2011).

### **II.1.B. The Housing Challenge**

**247. Lebanon has been facing a housing crisis for the past three decades.** A large segment of the low- and middle-income population suffers from limited housing affordability. Also, the absence of appropriate spatial, regulatory and fiscal policies that guide both urbanization and housing supply has exacerbated the housing crisis in the country. Housing supply is concentrated in Beirut, Mount Lebanon and other large agglomerations such as Tripoli and the main cities. Also, the absence of a buoyant rental market is a serious impediment to affordable housing in Lebanon. Past government policies have long encouraged housing ownership at the expense of housing rental.

**248. Escalating land prices and the absence of affordable housing has led to the development of marginalized poverty pockets and informal areas.** These are located at the fringes and/or in the deteriorated areas and historic cores of Lebanese cities. Low-income and poor dwellers resort to living in informal areas characterized by poor housing conditions and limited access to basic urban services and infrastructure.

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<sup>112</sup> This section relied on a sample of qualitative and quantitative data gathered from government sources and UN Agencies as well as humanitarian and development actors (see References). These were analyzed based on a number of assumptions that are presented in the text. One of the major practical challenges faced was the availability of municipal finance data, and especially time series data (that is, data measured over time at uniform time intervals) in order to assess changing impacts and costs over time. The work consisted of literature reviews, discussions with key officials, and focus groups meetings in Northern Lebanon and the Beka'a involving local community representatives and refugees from Syria. The World Bank is grateful to all the individuals involved as well as to all governmental and non-governmental agencies who shared valuable information, knowledge and experience under this exercise. The Solid Waste Management Appendix describes the quantitative methodology used.

### II.1.C. The Developmental Challenge of Border Areas with Syria

**249. Lebanon's northern and eastern border areas with Syria have long remained marginal in the national development process.** These have the highest incidence of poverty as compared to other regions in Lebanon and are marked by considerable infrastructure deficits and sub-standard municipal services (especially in solid waste collection and disposal). Power outages and water shortages are a regular occurrence and most municipalities and villages are not served neither by a sewerage system nor wastewater treatment facilities. The road network density and quality is low and transportation connections to the Cazas' and Governorates' capitals are unreliable. Also, the small and fragmented land tenure has limited the adoption of effective production technologies and economies of scale in agricultural production. The above has given rise to a growing number of pockets of urban and rural poverty surviving predominantly on cross-border smuggling of merchandise, people and illicit goods.

### II.1.D. The Solid Waste Management Challenge

**250. Institutional Responsibilities and Sector Strategy:** In 2006, both the MOE and the CDR prepared a 10-year municipal SWM master plan which proposed an integrated approach to SWM involving collection and sorting, recycling, composting, and landfilling and called for managing uncontrolled dumpsites and defining guidelines for the treatment of special waste (MOE/UNDP/ECODIT/2011). Municipalities became institutionally responsible for street sweeping and waste collection, however, responsibility for treatment and disposal were not well defined, with CDR overseeing the management of major landfills and some municipalities overseeing others on an *ad hoc* basis (as is case of Zahle). Lack of public funding and consensus on the location of proposed facilities further eroded all prospects for implementation. Following that, a Council of Ministers Decision 55 (dated 1/9/2010) advocated Waste-To-Energy (WTE) technologies in large cities, and renewed the government's commitment to Integrated Solid Waste Management (ISWM) in the rest of country while also exploring the feasibility of WTE systems (see Box 5 below). This was followed with the CoM Decision in 2013 allocating the responsibility for treatment and disposal to the central government.

**251. Waste Collection:**<sup>113</sup> In Beirut and Mount Lebanon (excluding the Caza of Jbail), waste collection from curbside containers and other designated disposal areas is provided by "Averda" and transported to two sorting plants in Aamrousieh and Quarantina respectively. In the Al Fayhaa municipalities (Tripoli, Mina and Beddawi), "Lavajet" assumes that service. Outside Beirut and Mount Lebanon, municipalities continue to assume responsibility for carrying out SWM operations (sweeping, collection and disposal). Municipalities either use their own waste collection vehicles and workers or outsource the service to private contractors. Towns with no municipal councils typically piggyback on the collection and disposal system of neighboring municipalities based on mutual agreement, or illicitly (MOE/UNDP/ECODIT/2011). Also, while solid waste storage and collection is better managed in urban areas, a variety of methods have been used for storing and collecting refuse in rural areas. Oil drums have been used for storage and transport has varied from open trucks to enclosed compactor trucks. Some communities have had a daily collection service, others less frequent collections.

<sup>113</sup> The quantities of domestic wastes are normally expressed as a generation rate, that is, the average weight of solid waste produced by one person in one day. Solid waste generation rates in Lebanon vary between 0.75 kg/capita/day in rural areas (North, South, Nabatiyeh and Beka'a) to 1.1 kg/capita/day in urban areas (Beirut and most of Mount Lebanon) (MOE, 2010). Several municipalities have developed their own SWM services and are providing this service quite successfully and cost-effectively. Among these is the Municipality of Zahleh that is providing solid waste collection and disposal at a cost of USD40/ton. For the purpose of this report, we have taken an average solid waste generation rate to be equal to 0.93 kg/capita/day with municipal solid waste (MSW) making up about 90 percent of the total solid waste stream generated (MOE, 2010). Also, the unit cost of USD40/ton was adopted as the basis for estimating the additional financial burden on municipalities.

### **Box 5. The 2006 and 2010 Solid Waste Management Strategies**

SWM is considered a priority issue in Lebanon. Whereas a dramatic improvement has been achieved in terms of collection and street sweeping (without, however, a demand-management effort to reduce waste), a major problem resides in the remaining SWM chain management and its cost-effectiveness: from segregation to proper disposal.

#### **The 2006 SWM Strategy**

The COM initially approved the Household SWM Strategy proposed by CDR, pursuant to Decision No.1 dated 28/6/2006, but the implementation of the comprehensive plan was perceived as very costly. Accordingly, CDR started studying several contracting proposals and alternative methods for securing funding sources, in order to reduce the cost. This included resorting to low interest loans, risk reduction, and increasing competition by allowing Lebanese contractors to participate in the supply of equipment, as well as in the construction, treatment, and landfill works. CDR submitted these proposals to the COM, which approved in its Decision No. 88, dated 10/11/2007 to: (1) commission a committee formed of representatives of the MOIM, MOE, MOF, and CDR, which will work under the supervision of the Prime Minister. This Committee shall propose the proper solutions for the Plan tender in the light of the options provided by CDR, to be submitted to the COM for approval; and (2) extend the sweeping, collection, and landfill contracts for 3 years under the same conditions, in order to ensure continuity of work.

The Strategy approved by the COM was based on the following principles: recycling and composting to the greatest extent possible in order to reduce the quantity of dumped waste; and distribution of recycling, sorting, and composting plants on all Cazas, with one or more sanitary landfill in each service area. For this purpose, Lebanon was divided into four service areas: BML, SL, NL, and BB. The Plan also considers the provision of incentives to municipalities whose lands will be used as sorting stations, composting plants, sanitary landfills, or incinerator centers. Moreover, the plan gave incentives to municipalities on the basis of USD2 per ton for hosting a sorting and composting facility and USD4 per ton for hosting a sanitary landfill.

#### **The 2010 SWM Strategy**

The formulation of the SWM strategy revolved along ways and means, siting, financing, and prerogatives. Moreover, a committee was set up, headed by the Prime Minister, and including the Ministers in charge of the Ministry of Displaced, MOE, MOEW, MOIM, OMSAR; and the CDR President, to formulate the Plan. The SWM Plan, which was endorsed by the COM in September 2010, was formulated along these principles:

1. Consider the WTE in large cities by considering waste as a source of energy.
2. Implement the 2006 Plan in the remaining parts of the country by also considering the WTE option.
3. Engage the private sector and facilitate its involvement in various SWM stages through turnkey or different options.
4. Mandate the MOE and CDR to merge the two proposed strategies in conjunction with the above.
5. Mandate the MOEW to propose legislation, allowing the private sector to produce and sell the energy generated through the WTE process.
6. Provide incentives to the municipalities that will host the SWM activities including WTE, segregation, composting, recycling, and landfilling through an increase of IMFU transfers that will be determined by the MOF and the MOIM.
7. Mandate the CDR in coordination with the MOE to select an international consulting firm to: (1) propose a suitable solution and best alternative that fits the Lebanese context; (2) carry out due diligence to short list only proven technologies; (3) assess and categorize the companies; (4) elaborate the tender; (5) evaluate the bids; and (6) supervise the implementation.
8. Mandate the MOE to select an international consulting firm to supervise the implementation of the Plan in conjunction with its timetable and ensure quality assurance.
9. Mandate the MOE to select a local consulting firm to elaborate an awareness campaign to raise the WTE public acceptability.

Sources: CDR (2008); Lebanon CEA ERS Background Paper (2010); and COM Decision of September 1, 2010.

**252. Waste Disposal:** The most intractable problems concerning solid waste management in Lebanon center on the treatment and disposal of waste, an issue which has become highly controversial. It is estimated that around 51 percent of all municipal solid is landfilled, 32 percent is dumped, and the remaining 17 percent is recovered through sorting and composting. Except for three (3) sanitary landfills (Naameh, Zahleh and Bsalim), solid wastes in Lebanon are disposed of in open dumps, along roads, into ravines, roadside gullies, stream beds and rivers. Coastal communities typically use the seashore as a dumping ground leading to severe marine pollution problems (MOE/UNDP/ECODIT/2011). In 2010, the MOE counted about 670 open dumps throughout the country with 27 priority dumpsites requiring immediate attention.

**253. Finally, some recovery for recycling already takes place in Lebanon.** Scavengers remove domestic wastes from street containers in Beirut, and recycle aluminum cans, paper and card. Used paper is sold by paper and cardboard consumers, and cardboard is also scavenged systematically from municipal waste, for recycling. There is also some plastic recycling with some secondary plastic used to be sent to Syria for recycling.

### II.1.E. The Municipal Challenge

**254. As of 2013, Lebanon has 1,008 municipalities organized according to Legislative-Decree 118 dated June 30, 1977.** These are distributed among six administrative regions (called *Mohafaza*) and 25 sub-regions (called *Caza*), not including Beirut. The largest Mohafaza is the Beka'a and the smallest is the capital Beirut. In 2003, the Parliament approved Law 522 (dated 16/07/2003) to establish two new Mohafazas by splitting the Mohafaza of the North into North and Akkar and the Beka'a into Beka'a and Baalbeck-Hermel, bringing the total number of Mohafazas to eight. The corresponding application decrees, however, were never developed.

**255. Municipal councils are elected for 6-year terms by their constituency and consist of 9, 12, 15, 18, or 21 members depending on the size of the constituency, and 24 members (for Beirut and Tripoli only).** Municipalities are responsible for local services such as, maintenance of water and wastewater networks, street lighting, waste disposal, internal roads, public spaces and gardens, recreational facilities, as well as urban planning in coordination with the Directorate General of Urban Planning. Unions of municipalities are formed from a number of neighboring municipalities to address common issues. The Unions' decision-making authority rests with the Council of the Union and at an executive authority headed by the President of the Council of the Union (MOIM, 2009). Currently there exists 42 Unions of Municipalities in Lebanon. However, very little collaboration takes place despite the high transaction costs associated with fragmented delivery systems.

#### *Municipal sector issues*

##### At the supply side:

- ▶ High dependence on central government transfers and weak local revenues base;
- ▶ High dependence on a non-conditional and highly cyclical revenue sharing system (ImF);
- ▶ Weak incentives for reforms through the ImF allocative system;
- ▶ Municipal borrowing (*sub-sovereign*) not allowed.

##### At the demand side:

- ▶ Backlog of municipal investments exceeding available resources (*asset rehabilitation & new capital projects*);
- ▶ Rapid urbanization and urban sprawl exerting pressure on existing municipal infrastructure and services;
- ▶ Economies of scale lacking due to spiraling number of municipalities and difficulties in entering into municipal PPP transactions.

**256. Municipal revenues consist of combined recurrent municipal revenues (own-source taxes and fees) as well as the intergovernmental grant transfers.** The transfers are distributed directly to each municipality through the Independent Municipal Fund (IMF) administered by the Ministry of

Interior and Municipalities. However, despite significant administrative autonomy, municipalities have weak administrative capacities, and inadequate municipal revenues for the proper maintenance of municipal infrastructure and assets. The successive political disruptions and increased strain on public finance have considerably worsened the local government financial position (see Box above).

## *II.2. Impact Assessment*

### **II.2.A. Increasing Rural-to-Urban Migration**

**257. With Lebanon adopting an “Open Door” refugee policy characterized by the liberal admission of refugees from the Syrian conflict,** the country is facing severe social and economic challenges. With the outbreak of the Syrian conflict in March 2011, large numbers of refugees (Syrians, Palestinians) and Lebanese returnees sought refuge in Lebanon. They are mainly concentrated in urban centers in North Lebanon and the Beka’a. Around 45 percent of Lebanese villages in North Lebanon and Beka’a have seen their population more than double since January 2013. Even prior to the arrival of the refugees, the host areas in Lebanon (North Lebanon and Beka’a) had already the highest incidence of poverty as compared with other regions in Lebanon. According to the latest poverty study conducted in 2008, over 63 percent of people live under the poverty line in the northern area of Akkar. In Tripoli, the capital of the north, the figure is 58 percent, and in Hermel and the West Beqaa, poverty levels are at 33 percent and 31 percent, respectively.

**258. In Beirut, Sidon and Tyre, Palestinian refugees who fled from Syria are already overflowing Palestinian camps established by the UN Relief and Works Agency program for Palestinian refugees (UNRWA).** Also, Lebanese who returned from living and working in Syria due to the conflict are exerting additional pressure on local services and infrastructure. With the refugees dispersed among the population, and heavily concentrated in poorer areas, their presence has become a heavy burden.

**259. Also, given the increasing influx of refugees and, considering the mounting pressure on municipal services in the rural areas of the country** (where most of the refugee population is concentrated), the country is expected to experience increased rural-to-urban migration. Increased population density and overcrowding will exacerbate the current poor level of public services and will increase demand for housing and shelter. Pressure on land will increase, and the unplanned urbanization will take a toll on Lebanon’s urban heritage and environment with higher concentrations and quantities of wastewater and solid waste contributing to increased pollution load on water and land resources.

### **II.2.B. Additional Burden on Municipal Services**<sup>114</sup>

**260. Lebanon is shouldering a disproportionate share of the refugee burden socially, politically and economically.** The arrival of large numbers of refugees have stretched beyond capacity the provision of basic needs and services such as clean water, waste water treatment and, waste management. With the pre-existing social and physical infrastructure constrained, increased demand and utilization only depreciated these further. This is becoming more critical with the emergence of informal settlements at the fringes of towns. Such a situation is contributing to ground water contamination, the pollution of water resources and the spread of water-borne disease. With municipal services coming under considerable strain, donor agencies as well as international and local NGOs have intervened to alleviate the burden to some extent.

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<sup>114</sup> The Appendix on Solid Waste Management includes a report on a field visit to the district of Akkar and a round table event organized by the World Bank convened nine Mayors from the District of Akkar to discuss the socio-economic challenges resulting from the large influx of refugees from the Syrian conflict



**261. As for Solid Waste, the current crisis has doubled the quantity generated in several areas,** mainly those with high concentration of refugees causing severe challenges for solid waste collection and disposal as well. The impact of the increased waste load on the natural environment is major particularly in terms of surface and ground water, marine and soil pollution. Even if measures are taken to improve the collection and treatment of waste, any treatment options would take considerable time to construct and operate so serious impacts from increased uncontrolled dumping should be expected. Also, packaging material used to deliver food and other aid assistance to refugees can have a negative impact on the environment. In addition, the quantities and types of medical waste are expected to increase given that many refugees are seeking medical treatment. Thus, this waste stream is expected to increase which in itself causes additional severe environmental and public health problems given that medical waste is currently not collected nor treated separately from municipal waste (with the exception of a few large hospitals).

### II.2.C. Weaker Municipal Finances

**262. Both municipal expenditures and revenues are expected to see a major shortfall in 2013 and 2014.** At the municipal expenditures level, municipalities have reported significant increase in both direct and indirect expenditures. A number of municipalities have exhausted their resources in trying to support both their communities and the refugee population.

**263. At the municipal revenues side, given the anticipated lower economic growth in 2013 and 2014, a reduction in own revenues as well as in inter-governmental transfers are to be expected.** The is the result of a reduction in central government revenues from customs, Value-Added Tax (VAT) and other sources which contribute to the proceeds of the Independent Municipal Fund. This will further restrict the capacity of municipalities to deliver basic services and fund minimum maintenance of their often dilapidated assets. Also, a slowdown in economic activities will impact the municipalities own-revenues derived from the tax based on the lease value of all rental or occupied residential and commercial property.

### II.2.D. Spiraling Housing Crisis

**264. Syrian refugees are reportedly located in more than 1,500 settlements including in 145 of the municipalities considered to be among the poorest and most underdeveloped in Lebanon.** Also, the effective closure of the Syrian border has further limited traditional sources of goods, services and economic opportunities in the area. Refugees sought shelter in these areas given their proximity to Syria and their affordability compared to other parts of Lebanon.

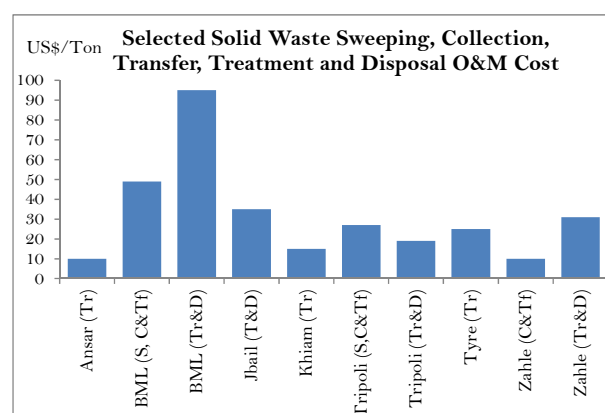
**265. According to UNHCR data, most (65 percent) Syrian refugees/families are living in rented accommodation.** This comprises primarily of shared apartments but also includes living in empty houses, shops, schools and unfinished buildings. The limited number of Syrian refugees living with host families (both Lebanese and Syrian) creates a social and financial impact on host families due to overcrowding and increased family expenditures. This phenomenon is contributing also to the worsening of housing conditions and living environments as a result of compromised lighting and ventilation and little concern to the safety and quality of added structures. Some refugees suffer from inadequate access to basic services and many use informal ways to hook to the electricity network or to access water. Also, although settlements and transit sites are easier to run, both the Government and aid agencies did not advocate for these. Instead, aid agencies decided to invest in collective shelter such as schools and public buildings.

Table 26. Districts with Highest Share of Syrian Refugees

| Most Impacted Districts | Ratio of<br>Refugees/Lebanese<br>Population<br>(in percent) |
|-------------------------|---|
| West Beka'a             | 43  |
| Zahlehh                 | 40  |
| Minieh-Danieh           | 28  |
| Akkar                   | 24  |
| Koura                   | 21  |
| Baalbeck                | 20  |
| Rachaya                 | 18  |
| Tripoli                 | 16  |
| Zgharta                 | 16  |
| Batroun                 | 15  |
| Chouf                   | 13  |
| Hermel                  | 10  |

Source: UNHCR.

Figure 71. Varying regional cost structure 1/



Source: Lebanon CEA ERS Background Paper (2010).

1/ IMFU CDR figures are on a commitment basis, whereas IMFU MOF figures are on a disbursement basis, hence the discrepancy in the figures in the first quadrant. Tr: treatment cost; Tr&D: treatment and C&Tf: collection and transfer cost; S, C&Tf: sweeping, collection and transfer cost. O&M cost varies with gas disposal cost; prices. Recycling resale is unknown for BML; compost is distributed free of charge.

**266. Rising housing demand coupled with limited housing supply has led to significant rent hikes especially in Northern Lebanon and the Beka'a.** Also, the capacity of host communities and relatives to provide shelter is nearing the point of exhaustion in many parts of the country. In some municipalities, the unforeseen increase in population density has led to higher rents and growing difficulties for the poorer households to find suitable shelter. Affordable housing is now harder to find for both Lebanese and Syrians as landlords are raising rents.

**267. Prior to the Syrian conflict, most of the Syrian unskilled workers lived in informal areas renting small apartments, where a group of 4 or 5 workers shared a room.** These have now been joined by their families and are renting additional space to accommodate the additional family members. As affordable shelter options fade, refugees are turning to improvised shelters. New arrivals are gathering in informal tented settlements and make shift camps. Some workers who used to live in small tented settlements are sub-leasing additional space to accommodate families fleeing Syria. While tented camps comprise a small proportion of the total refugee population (6 percent), their number has risen to 383 settlements hosting 46,042 persons. They consist of 20-50 tents in small areas, often with little or no sanitation or protection against the summer heat and cold winters. They are mostly located in flood-prone areas on the periphery of towns and are managed by one main tenant (Shaouish).

Table 27. Distribution of Refugees' population in Tented Settlements in Lebanon

|               |            |
|---------------|------------|
| Beka'a        | 68 percent |
| North         | 27 percent |
| South         | 4 percent  |
| Mount Lebanon | 1 percent  |

Source: UNHCR, 2013



### *II.3. Stabilization Assessment*<sup>115</sup>

#### **II.3.A. Increasing Opportunity Cost**

**268. It is clear that the large influx of refugees from the Syrian conflict is having serious fiscal costs on Lebanon and is further straining the social and economic infrastructure of the country.** With the increased demand for municipal services, a marked decline in the level and quality of municipal services is being noted. Also, a number of long-term development activities in host communities were put on hold as a result of the crisis.

**269. While such increases in public expenditure go uncompensated,** solutions provided so far by UN agencies and humanitarian organizations are meeting the needs only for a limited time frame. Hence, Lebanon could be hosting the refugees for a protracted period with considerable long-term economic and social impacts. Also, with the housing reconstruction process in Syria expected to be long, many of the refugees would elect to stay in Lebanon even after the end of the war (i.e., 400,000 destroyed households and another 800,000 not fit to be inhabited).

#### **II.3.B. A Shared Responsibility**

**270. The inclusion of the host communities as part of the assistance provided by humanitarian organizations to refugees remains limited.** Such support is often modest in scope and scale resulting in tensions between the refugees and the host communities. Hence, while the primary responsibility for protecting and assisting refugees' lies with the host country, international burden-sharing initiatives and emergency financial assistance to Lebanon are needed. These would assist the country in shouldering the heavy burden in meeting its international obligations in this regard.

**271. Addressing Lebanon's vulnerability to the socio-economic impacts of the refugee crisis is important for the country's political stability.** Strengthening the host communities' resilience by investing in much-needed infrastructure is urgently required. Such an approach would both address the chronic developmental deficit between urban and rural areas and demonstrate to the host community that the burden of hosting the refugees is a shared responsibility with the international community.

#### **II.3.C. Need for Transformational Investments in the Municipal Sector**

**272. The proposed stabilization investments in the municipal sector are limited to the ones that are within the legal mandates of municipalities in Lebanon.** These include mainly solid waste management and municipal roads rehabilitation. They also represent the biggest share of municipal expenditure and have been the two most affected municipal activities as a result of the influx of refugees. In view of the above, support to both current and capital municipal expenditures is proposed through a three-pronged response strategy. This promotes transformational projects and addresses core environmental issues at the local level:

- ***Pillar-1: Rehabilitate and close municipal solid waste dumps:*** A total number of 504 municipal waste dumps were identified over the Lebanese Territory (MOE/UNDP/ELARD/May 2011). Also, and as part of the Government's Master Plan for the closure and rehabilitation of open and

<sup>115</sup> The "Stabilization Assessment" for municipal services is built around two key policy assumptions. The first is that the Government's open door refugee policy will become restrictive beyond 2014. The second is that, no formal stand-alone refugee settlements are expected to be established by the Government and that refugees will ultimately become integrated spatially within urban centers and villages.

uncontrolled municipal solid waste (MSW) dumps, a number of priority dumps were identified for rehabilitation and/or closure<sup>116</sup>. Remedial measures differed from one dump to the other based on the complexity of the case and the availability of alternative waste management solutions. Implementation of project activities under Pillar-1 would be the joint responsibility of the Ministry of Environment, CDR and relevant municipalities.

- ***Pillar-2: Establish composting, separating and landfilling facilities (excluding Waste-to-Energy plants)***: An Inter-Ministerial Committee was established by the Council of Ministers Decision 55 (dated 1/9/2010) for the preparation of the National Waste Management Strategy. The strategy has identified a number of sector investments pertaining to composting, waste separation and landfilling facilities outside Beirut and Mount Lebanon. CDR has prepared a list of relevant investments in secondary cities and rural areas of Lebanon that are considered as a priority under the implementation of the Strategy.
- ***Pillar-3: Financial Support to host municipalities to cover the expected additional operational and capital expenditures in 2013 and 2014***: The current crisis has considerably increased operational (OPEX) and capital municipal (CAPEX) expenditures as a result of the increase in the quantity of municipal solid waste generated in the areas of high refugee concentration. This is important for environmental and public health reasons and given the limited financial resources available at both central and local levels. Pillar-3 excludes all capital investments in MSW included under the first two pillars.

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<sup>116</sup> These do not include: (1) the Tripoli dump, which has already been rehabilitated; (2) the Bourj Hammoud dump, which has been closed since 1997 with plans for turning it into a wastewater treatment plant for Mount Lebanon and; (3) the controlled waste disposal facilities in Naameh, Bsalm, Zahleh, and Baalbeck.

### III. ELECTRICITY SECTOR<sup>117</sup>

**273.** *Already weak and inefficient before the crisis, the Lebanese electricity sector is causing a massive drain on government resources in the form of subsidies to Electricité du Liban at nearly 4 percent of GDP. The sector is, therefore, ill-prepared for the shock of additional demand created by the influx of Syrian refugees. The cost to the government of providing this additional electricity supply is estimated at USD16 million, USD170 million, and up to USD393 million for 2012, 2013 and 2014, respectively. The total demand for electricity by the Syrian refugee population is estimated to rise to between 251 MW and 362 MW by end-2014, depending on the number of refugees. The capital cost required to meet this increased demand would be USD440 million at end-2014 in the high refugee influx scenario. Adequately responding to the impact of the Syrian crisis will require acceleration and strengthening of current government programs, short-term emergency interventions, and immediate engagement with international donors.*

Table 28. Impact and Stabilization Assessments for the Electricity Sector

| Indicator   | Pre-crisis | Crisis |         |                               |                           |
|---|------------|--------|---------|-------------------------------|---------------------------|
|   |            | 2012   | 2013    | 2014                          |                           |
|   |            |        |         | Baseline<br>refugee<br>influx | High<br>refugee<br>influx |
| (in million LBP, unless otherwise indicated)  |            |        |         |                               |                           |
| Impact assessment   | 0          | 24,120 | 256,275 | 473,355                       | 592,448                   |
| Cost to GoL of electricity supply to Syrian refugees                                      | 0          | 24,120 | 256,275 | 473,355                       | 592,448                   |
| Demand due to Syrian refugees (MW)  | 0          | 33     | 213     | 251                           | 362                       |
| Average hours of power for Lebanese population (hrs. average)                             | 18.3       | 18.0   | 16.5    | 16.2                          | 15.3                      |
| Additional cost to consumers for alternative supply to make-up lost generation. (USDM/yr) | 0          | 28,643 | 312,053 | 622,598                       | 723,600                   |
| Stabilization (Needs) assessment  | 0          | 58,793 | 322,605 | 85,928                        | 281,903                   |
| Capital cost to meet increased demand (USDM)  | 0          | 58,793 | 322,605 | 70,853                        | 266,828                   |
| Institutional Capacity and Project Implementation Assistance                              | 0          | -      | -       | 15,075                        | 15,075                    |
| (in million USD)  |            |        |         |                               |                           |
| Impact assessment   | 0          | 16     | 170     | 314                           | 393                       |
| Stabilization (Needs) assessment 1/   | 0          | 39     | 214     | 57                            | 187                       |

Source: MOEW, and World Bank staff calculations.

#### III.1. Analysis of Pre-Crisis (Baseline) Conditions

**274.** The ‘shock’ of increased electricity demand caused by the Syrian crisis has created additional stress on the already weak electricity system and underscored its lack of resilience. Even prior to the Syrian crisis and the ensuing influx of Syrian refugees, Lebanon’s electricity sector had reached a point where reliability and service delivery had become significant impediments to economic development and where fiscal sustainability was unattainable without major reform. The sector’s issues stem from very weak governance, low consumer confidence in the sector, high relative cost of electricity

<sup>117</sup> This chapter was prepared by Simon J. Stolp (World Bank) with support from Dr. Raymond Ghajar and Nada Boustani (Ministry of Energy and Water).

production, high non-technical and technical losses, lack of necessary investments, and an overall poor track record of reforms.<sup>118</sup>

### III.1.A. Development Deficit - Demand-Supply Gap

**275. EdL currently has 2,019MW of installed generating capacity available at peak – only 63 percent of current peak demand of 3,195 MW.** In addition to simply having insufficient installed generating capacity, the efficiency of the existing system is below normal levels due to poor maintenance, deterioration of facilities, high losses and the need for reinforcement of the transmission network.

**276. Deteriorating and inadequate infrastructure has resulted in poor reliability and insufficient levels of supply of electricity.** Service delivery standards are low by comparison with other countries with similar GDP/capita. Prior to the Syrian crisis, Lebanon suffered extensive load-shedding, with supply cuts in Beirut of at least 3 hours per day, and up to 12 hours per day outside of Beirut. With some new, temporary, barge-mounted power generation capacity coming online in 2013, the national average daily power supply is calculated to be 18.3 hrs/day. The majority of consumers are forced to rely on costly, environmentally unfriendly, small diesel generation to provide the balance of their electricity requirements.

### III.1.B. Fiscal Sustainability

**277. The sector is causing a massive drain on government resources in the form of subsidies to EdL;** around 4 percent of GDP. Even with the decline of oil prices, the electricity tariff in Lebanon is still far below cost recovery level and is inadequate to fully cover either the cost of fuel to the electricity sector or any of its enormous investment needs. With tariffs set at below cost recovery, high system losses and low revenue collections, the sector is entirely reliant on public resources to subsidize the purchase of fuel for power generation. The sector cost the government USD2.2 billion in subsidies in 2012, up from USD1.7 billion in 2011.

### III.1.C. Addressing Sector Challenges and Issues

**278. In recognizing the critical need to address electricity sector issues, the GoL's June 2010 policy paper<sup>119</sup> for the electricity sector** outlines policy, investments and reforms aimed at increasing the level and quality of electricity supply, managing demand growth, decreasing the average cost of electricity production, increasing revenues, improving sector governance—all aimed at ultimately improving service delivery and reducing the fiscal burden that the sector places on public resources. The Policy Paper includes a set of well-articulated short-, medium- and long-term measures aimed at addressing the issues listed above, including a range of governance reforms, and reforms to improve the supply and cost of services (see the Electricity Sector Appendix).

**279. The Government of Lebanon has committed USD1.2 billion in public resources to finance the initial investments outlined in its Policy Paper,** the full range of short-, medium- and long-term investments and reforms outlined in the Policy Paper are budgeted at around USD6 billion. The Paper recognizes the limitations of public resources to finance this investment, and assumes private sector and development partner finance of around USD3.2 billion and USD1.5 billion respectively.

<sup>118</sup> Further detail on the issues and challenges facing the sector is included in the Electricity Sector Appendix.

<sup>119</sup> The World Bank contributed to the development of this policy paper through its policy dialogue with the Government, various technical assistance funded by the Lebanon Trust Fund; and through Bank funded studies into Liquefied Natural Gas (LNG supply), Corporatization of EdL, and Energy Efficiency for Lebanon. World Bank and donor programs in Lebanon are described in Electricity Sector Appendix.

**280. Although implementation of the Government's reform and investment programs is well underway this implementation is still far from completion.** If early investments to increase levels and reliability of electricity supply are not accompanied by reforms and investments aimed at a concomitant increase in production efficiency, lower fuel costs and increased revenue generation, the fiscal situation in the sector will only worsen. Until these programs are implemented, Lebanon's electricity sector will continue to underperform, remain a significant burden on public resources, and be highly vulnerable to the shock of increased demand brought about by the displacement of a significant Syrian population to Lebanon. Further details on the progress that the GoL has made in the implementation of its Policy Paper for the Electricity Sector are included in the Electricity Sector Appendix.

**281. There is also concern at the need to fully institutionalize the implementation of the proposed policy reforms for the electricity sector.** At the moment this implementation is for the most part being undertaken by a large group of individual consultants employed by the Ministry of Energy and Water (MoEW). Significant investments and reform programs need to be brought fully under the management of existing institutions lest the electricity program become subject to the vagaries of Lebanon's political economy.

### *III.2. Impact Assessment*

#### *III.2.A. Impact of the Crisis on the Lebanese Electricity Sector*

**282. The influx of a significant Syrian population to Lebanon due to the ongoing crisis is placing additional stress on an already weak and inefficient electricity system.** The most immediate impact of this additional refugee population (both refugees and more affluent diaspora) is significant additional demand for electricity, namely:

- Connection of improvised refugee accommodations to the electricity grid;
- Increased residential load, where refugees are being hosted in Lebanese households;
- Increased residential load, where refugees are renting accommodation;
- Increased load from hotels and other rented accommodations, where occupancy is above normal rates.

**283. The Lebanese electricity system was already unable to meet demand prior to the crisis.** This additional demand is therefore being met either through privately operated generators where these can be afforded, or reduction in supply to the baseline Lebanese population. The following analysis and figures are based on the assumptions listed below:

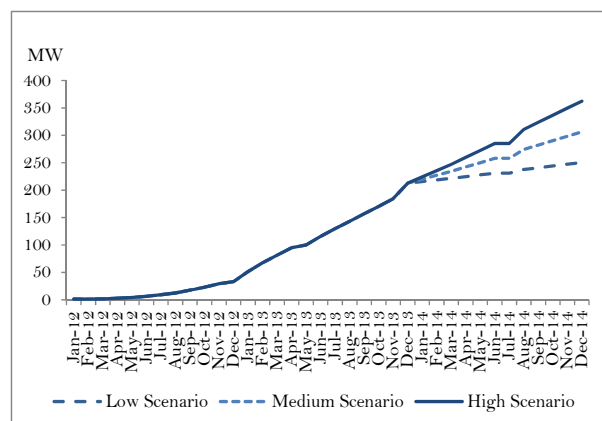
- Population figures and population distribution by category of accommodation provided by UNHCR
- Consumption patterns estimated for various types of accommodation ranging from 3kW average for an apartment in Beirut, to 1.0kW for less advantaged refugees. The average consumption per person has, thereby, been estimated at around 930 kWh/year, (50 percent or less of estimates for Lebanese residential consumption of 1,900 kWh/year).
- Electricity payment rates for refugees that follow payment rates for the Lebanese population.

#### *Post Crisis Development Deficit – Additional Electrical Demand*

**284. Analysis undertaken by the MoEW in conjunction with the World Bank, estimates an increased demand due to the incoming Syrian refugee population of 213 MW by December 2013.** The total demand for electricity by the Syrian refugees (in the baseline influx scenario) is estimated to rise

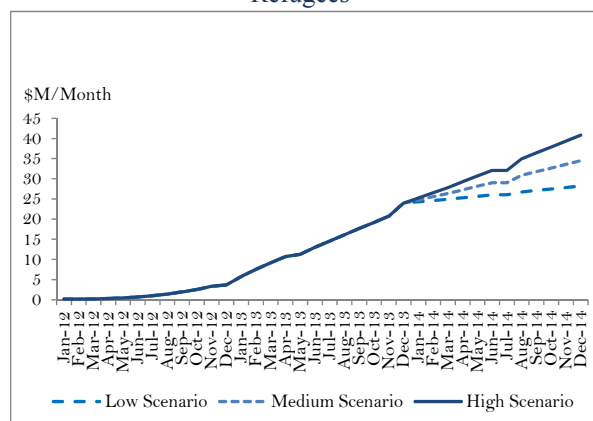
to 251 MW by the end of 2014. Based on unit costs for recent purchase of large combined cycle gas turbine generation in Lebanon (USD915/kW) and an additional 30 percent cost for transmission and distribution networks to support new generation, the capital cost required to meet this increased demand at the end of 2013 would be USD253 million, or USD310 million by end-2014 (Table 28).

Figure 72-Increase in Electricity Demand (MW)



Source: MOEW and World Bank Calculations. Low scenario is the baseline scenario.

Figure 73-Cost to GoL for Electricity Supply to Refugees



Source: MOEW and World Bank Calculations. Low scenario is the baseline scenario.

### III.2.B. Cost to Government of Supplying Electricity to the Syrian Refugees

**285. Based on an average production cost of 23.69c/kWh,<sup>120</sup> the cost of providing 213 MW of electricity supply to the Syrian population is estimated at USD170 million for 2013.<sup>121</sup>** This cost is expected to rise to USD354 million for 2014 as refugee numbers continue to increase. This estimate takes into account the various types of accommodation being used by Syrian refugees and conservatively assumes that electricity consumption is paid for at prevailing tariffs,<sup>122</sup> by refugees living in host households, rented accommodations and hotels. It should be noted that this cost would have been borne by the Government irrespective of the influx of Syrian refugees. However, it would have provided supply to Lebanese consumers instead.

### III.2.C. Cost to Lebanese Consumers of Alternative Electricity Supply

**286. Given that grid supply of electricity to the Syrian refugee population is diverted from Lebanese consumers, there is a direct cost to Lebanese consumers** in terms of lower supply levels, and/or the cost required to meet this lost supply through more costly private generation. It is estimated that average available hours of power to Lebanese consumers will drop from 18.3 hrs/day to 16.5 hrs/day in December 2013—a 10 percent reduction in available power supply. Assuming that Lebanese consumers will make-up this loss in power supply by paying for private generators either directly or through municipal supply arrangements, there is an additional economic cost of providing electricity to Syrian refugees, of roughly USD206 million in 2013, rising to USD432 million in 2014,<sup>123</sup> which is borne directly by Lebanese consumers. The environmental cost of this additional reliance on diesel generation has not been calculated but should also be considered.

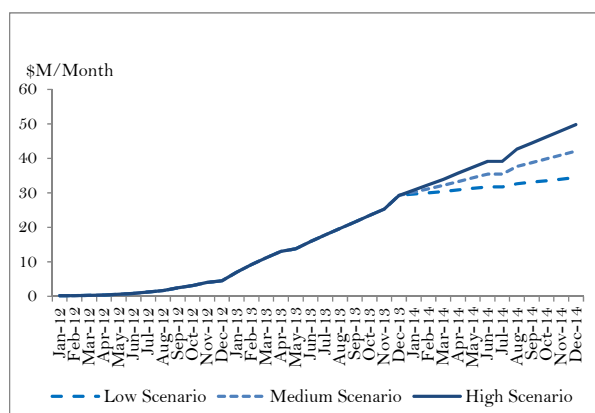
<sup>120</sup> Calculated from all sources of power available by end of 2013 including barge mounted generation, including fuel, operation and maintenance.

<sup>121</sup> Based on medium scenario for refugee population.

<sup>122</sup> Prevailing tariffs only meet a fraction of the average cost of electricity production.

<sup>123</sup> Based on medium scenario for population increase.

Figure 74. Cost to Lebanese consumers of alternative electricity supply



Source: MOEW and World Bank Calculations. Low scenario is the baseline scenario.

### III.3. Stabilization Assessment

**287. Summary Needs and Costs:** The interventions required to reinstate pre-crisis levels of electricity supply to the Lebanese population, and meet the additional demand of the Syrian refugees include: (1) capital investment in generation capacity and associated transmission and distribution networks to meet the additional demand by the Syrian refugees; and (2) supporting the implementation of the Government's development plans through institutional capacity and technical assistance for project preparation and implementation. Table 28 summarizes the cost of providing this support based on low- and high-case refugees estimates up to December 2014.

**288. Stabilization needs will be best achieved by accelerating the implementation of the government development plan for the electricity sector.** For the Lebanese electricity sector to meet the short-term demand created by the Syrian crisis, and also longer-term sector goals of resilience, service delivery and fiscal sustainability, it is recommended that the program of reforms and investments that the Government of Lebanon is already implementing continues. In some cases this program can be accelerated, or priorities reallocated to emphasize and meet short term needs.

**289. Short Term – Stabilization through support to existing programs and projects:** The Lebanese Government has already committed USD1.2 billion to the implementation of its reform and investment program. These funds have now been fully committed and significant projects are already underway. These projects represent the best means to economically increase electricity supply in the short to medium term. These projects must be continued, and, where possible accelerated with any additional required financial resources.

**290. In order to further bolster electricity supply, a number of short- and mediumterm projects already are planned by MoEW,** but for which funding is not currently available. This could also be accelerated to make-up the additional demand for electricity that would be required by the Syrian refugees by end-December 2014. The total capital cost required to meet the additional demand created by Syrian refugees could be as high as USD440 million by the end of 2014.

**291. Support for Institutional Capacity:** The most significant risk to the completion of the above mentioned projects, and short-term improvement in electricity supply, is limited and depleting institutional capacity within the Lebanese Government. The electricity sector program if the Ministry of



Energy and Water is for the most part being implemented by a large group of individual consultants employed by the Ministry. Due to the current political situation in Lebanon, the Lebanese government has faced difficulties in providing authorizations and allocating budget to continue the employment of this team. Implementation of the above-mentioned program and projects is now in jeopardy due to the possible dissolution of the contracted team that is implementing the electricity sector program.

**292. The donor community could provide immediate support to ensure sufficient institutional capacity to oversee implementation of MoEW's existing investment program.** It is estimated that the annual budgetary requirement to maintain the implementation team currently employed by MoEW is USD1.5 million. Furthermore, technical assistance should also be provided for project preparation, including feasibility and technical studies necessary to accelerate implementation of investment projects included in the Government's Policy Paper.

**293. Even with this short-term support, concern remains at the need to fully institutionalize the implementation of the Government's Policy Paper for the electricity sector.** Over the longer term, this capacity should be absorbed by existing institutional structures. Significant investments and reform programs need to be brought fully under the management of existing institutions lest the electricity program become subject to the vagaries of Lebanon's political economy. Longer term corporatization of EdL would support this process.

## IV. TRANSPORTATION SECTOR<sup>124</sup>

**294.** *The Syrian crisis affects Lebanon's Transport Sector by: (1) increased wear and tear of its road and transport network; (2) increased demand requiring added road and public transport capacity; and (3) transit losses. In terms of immediate (cash-based) impact assessment, the Syrian crisis does not have direct fiscal implications on government expenditures in the sector, as the impact so far has been primarily absorbed by transport users and operators. The crisis, however, has induced substantial private sector losses such as increased vehicle operating costs and accidents, increased congestion and travel times, and substantial losses to the trucking sector. Due to unavailability of data, these costs were not quantified in this assessment, at least not in monetary value. In terms of impact on key performance indicators: road networks with large refugee influx are expected to have traffic increases above 50 percent with associated vehicles operating costs and accidents; speeds in Beirut are likely to drop by up to 30 percent particularly during peak hours with substantial delays, congestion, and associated economic costs. The transit business for Lebanese trucks has dropped by about 80 percent resulting in substantial loss of revenues to truck operators. A stabilization assessment reveals that in order to restore sector performance to pre-crisis access and quality level, additional investments amounting to USD246-525 million are needed to cover the 2012-2014 period.*

Table 29. Stabilization Assessment for the Transportation Sector

|                                       | 2013                | 2014                          |                           |
|---------------------------------------|---------------------|-------------------------------|---------------------------|
|                                       |                     | Baseline<br>refugee<br>influx | High<br>refugee<br>influx |
|                                       | (in million of LBP) |                               |                           |
| Stabilization (needs) assessment      | 65,124              | 306,023                       | 726,918                   |
| A) Asset Preservation                 | 29,849              | 36,783                        | 59,848                    |
| i. Regional & Rural Roads Maintenance | 29,849              | 36,783                        | 59,848                    |
| B) Capacity Increase                  | 35,276              | 269,240                       | 667,070                   |
| i. Rural Roads Capacity Increase      | 35,276              | 43,115                        | 64,069                    |
| ii. Greater Beirut Public Transport   | -                   | 226,125                       | 603,001                   |
|                                       | (in million of USD) |                               |                           |
| Stabilization (needs) assessment      | 43                  | 203                           | 482                       |

Source: World Bank staff

**295. The Syrian crisis is an important incremental challenge to an already overloaded transport system in Lebanon.** The influx of 1.6 million refugees by 2014 in the baseline case—but significantly higher in the high refugee influx scenario—is likely to affect the sector through:

- A) Increased wear and tear of the road and transport network;
- B) Substantial increase in traffic on the network, requiring road and public transport capacity increase;
- C) Near halt of the transit business, particularly for freight.

**296.** This chapter describes the situation of the transport sector before the crisis, assesses the impact of the crisis of the network and estimates the fiscal implications to preserve the pre-crisis performance and

<sup>124</sup> This chapter was prepared by Ziad Nakat (World Bank).

quality of service in the sector. It should be noted that the focus of this assessment is primarily fiscal losses or costs. It should also be noted that activities at ports have not been assessed due to the ability of these facilities to shift business from import/export to transshipment. The impact on civil aviation and airlines was not considered given its relation to the broader tourism and trade sectors.

### *IV.1. Transportation in Lebanon Prior to the Syrian Crisis*

#### **IV.1.A. Asset Preservation**

**297. The road network in Lebanon is in generally fair to poor condition, particularly in lagging regions such as Akkar and the Beka'a.** Lebanon's road sector consists of a total of about 21,705 km. The main road network is mostly paved, consists of about 6,380 km and is classified as: (1) International Roads (529 km); (2) Primary Roads (1673 km); (3) Secondary Roads (1367 km); and (4) Internal Roads (2,811 km). Municipal and other local roads represent the remaining 15,325 km of the paved (for most part) and unpaved roads. The Ministry of Public Works and Transport (MPWT) estimates that about 15 percent of the main network is in good condition, 65 percent in fair condition, and 20 percent in poor condition. While there is no accurate survey of road condition (the last survey was done in 2002), it is common knowledge that the condition of the main network in lagging regions such as Akkar and the Beka'a is worse than the national average.

**298. Weak capacity and institutional fragmentation undermine the proper management of the road network.** Several agencies are involved in the management of the network: the main road network is officially under the responsibility of the MPWT, which focuses primarily on the maintenance and rehabilitation of this main network. Meanwhile, the Council for Development and Reconstruction (CDR) is usually entrusted, at the request of the Council of Ministers, with the construction and reconstruction of the International and Primary roads, given CDR's capacity in executing large projects. At municipal and local level, the delineation of responsibilities between the MPWT and municipalities remain unclear in many cases, at least in practice, and the MPWT is often compelled, by request from municipalities or in response to political pressure, to manage the construction and maintenance of a significant portion of the municipal and local roads. Government agencies do not have the capacity or in-house equipment to directly undertake road works, be it maintenance or new constructions, which are executed by local contractors under the supervision of CDR and/or MPWT offices in the regions (Muhafazat). While the capacity of local contractors is generally adequate, the works are rarely executed to standards due to the lack of financial resources, weak supervision, political interferences and procurement inefficiencies. Meanwhile, there is no clear and coordinated plan for road maintenance and rehabilitation in Lebanon, and no asset management systems have been used since 2001. The substantial lack of resources, the lack of incentives, and the strong political interferences in the road sector have largely limited the capacity of MPWT to properly plan and prioritize road works.

**299. Inadequate investments in the past in road maintenance had resulted in serious deterioration in road quality.** In the past decade, Lebanon was not spending enough on road maintenance to sustain its main road network at acceptable standards of quality. It is estimated that in order to remove all backlog maintenance on the main network, MPWT needed a total of about USD1.3 billion. In addition to the necessary funds for backlog removal, about USD100 million yearly to properly maintain the main network. The condition of the municipal network is also bad and requires additional resources. During 2008-2012, the MPWT has significantly increased its spending on road maintenance from USD39 million in 2008, to USD120 million and USD175 million in 2011 and 2012 respectively. While MPWT is responsible for only the main road network, it spends yearly about 25percent of its budget for the maintenance of municipal and local roads, given the lack of adequate financial and human resources in municipalities. This reduces the much needed resources for the maintenance of the main

network. Municipalities have also increased their spending on the maintenance of local roads, from USD4.3 million in 2008 to USD19.6 million in 2012.

**300. The legacy of poor maintenance has also resulted in costly retrofitting of the network.** Most of MPWT's capital expenditures in the road sector are allocated to the rehabilitation and reconstruction of the network due to poor maintenance and years of neglect, instead of building new roads. In addition, MPWT current expenditures on maintenance exceed capital expenditures, highlighting more urgent repairs (fixing potholes, drainage...) over more structural and sustainable repairs: from 2008 to 2012 MPWT spent an average USD100 million yearly on the maintenance of the network, compared to an average USD65 million yearly on construction/reconstruction for the same period. CDR has been focusing on the construction and reconstruction of the International and Primary roads and has seen its expenditures in the road sector doubling over the past five years, from about USD110 million in 2008 to USD210 million in 2012. It should be noted that CDR's expenditures in the road sector include important expenditures on road structures within Beirut (such as those financed under the UTDP project) as well as utility related works in urban/municipal areas, which overall account for almost 1/3 of its road sector expenditures.

**301. All road works in Lebanon are funded through the budget or loans.** There are no substantial dedicated taxes, tolls, or funds for financing the construction and maintenance of roads in Lebanon. The financing of road works, especially for the main network, is either through the budget/transfer from the Ministry of Finance to the implementing agencies (Ministry of Public Works, CDR, Ministry of Interior & Municipalities), or through loans mobilized and executed by CDR. Loans represent typically about 50percent of CDR's budget for roads, and the share of loans has been increasing in the past couple years.

Table 30. MPWT Yearly Road Maintenance Expenditures

| Category                           | 2008   | 2009   | 2010    | 2011    | 2012    | TOTAL   |
|------------------------------------|--------|--------|---------|---------|---------|---------|
| (In million of LBP)                |        |        |         |         |         |         |
| Total maintenance                  | 58,793 | 75,375 | 175,925 | 180,900 | 263,360 | 754,353 |
| Maintenance of International Roads | 3,015  | 3,015  | 20,050  | 25,175  | 37,235  | 88,490  |
| Maintenance of Main Roads          | 30,150 | 40,250 | 30,150  | 40,250  | 55,325  | 196,126 |
| Maintenance of Secondary Roads     | 4,975  | 7,085  | 10,100  | 20,050  | 39,195  | 81,405  |
| Maintenance of Internal Roads      | 452    | 151    | 65,275  | 50,200  | 64,370  | 180,448 |
| Maintenance of Other Roads         | 20,050 | 24,874 | 50,200  | 45,225  | 67,385  | 207,734 |
| (In million of USD)                |        |        |         |         |         |         |
| Total maintenance                  | 39     | 50     | 117     | 120     | 175     | 500     |

Table 31. MPWT Yearly Expenditures on Roads (Maintenance & reconstruction/new constructions)

|                     | 2008    | 2009    | 2010    | 2011    | 2012    | Total     |
|---------------------|---------|---------|---------|---------|---------|-----------|
| (In million of LBP) |         |         |         |         |         |           |
| Total               | 120,148 | 156,780 | 293,510 | 303,008 | 367,830 | 1,241,276 |
| Maintenance         | 58,793  | 75,375  | 175,925 | 180,900 | 263,360 | 754,353   |
| Construction        | 61,355  | 81,405  | 117,585 | 122,108 | 104,470 | 486,923   |
| (In million of USD) |         |         |         |         |         |           |
| Total               | 80      | 104     | 195     | 201     | 244     | 823       |

Table 32. Total Road Sector Expenditures

|                | 2008                | 2009    | 2010    | 2011    | 2012    | Total     |
|----------------|---------------------|---------|---------|---------|---------|-----------|
|                | (In million of LBP) |         |         |         |         |           |
| Total          | 290,044             | 369,640 | 515,566 | 642,649 | 710,637 | 2,528,837 |
| MPWT           | 120,148             | 156,780 | 293,511 | 303,008 | 367,831 | 1,241,278 |
| CDR            | 163,413             | 196,578 | 202,458 | 315,068 | 313,259 | 1,191,078 |
| Municipalities | 6,482               | 16,281  | 19,598  | 24,572  | 29,547  | 96,480    |

#### IV.1.B. Asset Expansion and Capacity Increase of Transport System

**302. Lebanon transport network is over-saturated, particularly in the Greater Beirut Area.** High population density, increased income levels, and increased motorization have all resulted in a rapid increase in traffic volumes, particularly in the Greater Beirut Area (GBA). Traffic volumes in GBA's main arterials are in the range of 50 to 80 thousands vehicles per day, with peak hour volumes reaching 7000 vehicles per hour on the northern approach to Beirut (Dbaye & Jal Eddib). Peak hour speeds range between 30 km/h on main arterials to less than 10km/h on local streets. There are currently about 1.2 million vehicles in Lebanon, of which about 50percent circulating in GBA. Most users rely on private vehicles to meet their transportation needs and private cars consist of over 80percent of vehicles circulating in GBA.

**303. Early interventions focused on alleviating traffic on critical intersections in GBA.** The priority interventions had focused on increasing the capacity of the existing road network in Greater Beirut by building grade separation at critical intersections, and regulating traffic with traffic lights and parking meters. These interventions had been supported by the donor community through the Urban Transport Development Project (UTDP) and executed by CDR. There are plans to further expand the road network in Greater Beirut, particularly by building the Beirut and Jounieh bypasses which would divert important through traffic outside the city center. Nevertheless, the further expansion of the road network in GBA is difficult and costly due to the high cost of land and the mountainous terrain.

**304. The lack of a proper and reliable public transport system in Lebanon significantly limits the capacity of the network to accommodate the fast increasing demand.** The extent and capacity of the public transport system is very limited. There is form of mass transit in Lebanon, be it a regular intercity railway, a Light Rail Transit (LRT) or a Bus Rapid Transit (BRT), despite Lebanon high population density and relatively short distances, particularly in GBA, which generally favors such type of systems. The government is planning to introduce mass transit systems in GBA since expansion of urban roads alone cannot resolve urban congestion in the absence of a high capacity public transport system, as witnessed all over the world. Public transport in Lebanon is primarily provided by taxis and minibuses. There are about 33,000 formal (registered) taxis, 4,000 formal minibuses and 2,200 formal buses in Lebanon. There also is an estimated additional 55,000 informal taxis, 16,000 informal minibuses and 3,500 informal buses. It is estimated that at least 50 percent of the taxi fleet operates in GBA. The enforcement of the quality and emission standards, as well as adherence to official tariffs, is significantly lacking, particularly outside Beirut be it for the formal or informal public transport fleet. While there are a

number of bus and taxi companies, the sector remains highly fragmented and mostly consisting of one taxi or microbus owned and operated by one individual. The Government of Lebanon has recently approved a budget of about USD33.5 Million for the purchase of 250 buses to be operated by 3 private operators, as a first stage to revitalize public transport in Beirut. The regulation of the public transport is ensured by the Ministries of Transport (licensing of companies, fare setting, planning) and Interior (licensing of vehicles and drivers, vehicle inspection). The Ministry of Interior, through the Internal Security Forces, is also responsible for the enforcement of the traffic law, including public transport.

#### IV.1.C. Freight and Transit Activities

**305. There is currently no operational railway in Lebanon.** Three railway lines existed before the Lebanese Civil War: the coastal railway line from Naqoura in the South through Saida, Beirut, Tripoli and to the Syrian border then to Homs in Syria. The old Beirut-Damascus line is now obsolete, given the steep gradient that does not allow the operation of modern railways, and the same goes for the line linking Riyaq in the Beka'a valley to Homs. While the tracks and rolling stock have largely deteriorated and/or disappeared following years of neglect, the right of way is still preserved on certain sections. The Government of Lebanon is considering building a railway link between Tripoli port and the Syrian border to position the Tripoli port as a main import port for the Syrian hinterland (Homs, Hama...) and Iraq.

**306. Freight services are provided by a trucking sector that is highly fragmented and with a generally outdated fleet.** There are about 15,000 trucks of over 3,500 kg capacity in Lebanon.<sup>125</sup> In contrast, Syria had about 45,000 trucks before the crisis. In contrast, Saudi Arabia has 200,000, Kuwait has 40,000 and the UAE has 80,000 trucks. Most trucking companies own only one truck although there are a few small fleets (up to 100 trucks maximum) being operated. Owner-operators represent about one-third of the total Lebanese common carrier truck fleet, and other owners employ drivers for their trucks. While drivers should be Lebanese citizens by law, there are significant numbers of Syrian drivers. This lack of consolidation in the industry has led to inefficiencies in managing the trucking fleet and in a lack of coordination to optimize services to users. Meanwhile, the current truck fleet is in old and in poor physical condition with an average age of the fleet at 25 years with trucks more than 30 years old still commonly used. The poor state of the Lebanese truck fleet is explained in part by a lack of competition and in part by the lack of incentives for investment in the trucking industry. Although proposals have been made to reduce import duties on new trucks and to give tax incentives for investment in trucking companies, they have not been acted upon, leaving the Lebanese international trucking industry at a competitive disadvantage.

**307. The trucking sector, particularly transit, has been experiencing an increase in its activity.** There were an estimated 105,000 trucks in 2010 that crossed the Lebanese borders from Lebanon heading primarily to Syria and Gulf Cooperation Council (GCC) countries, as well as to Iraq and Jordan. While most of these trucks were Syrian trucks (about 50 percent), Lebanese trucks represented a substantial 30 percent of the total. Prior to the Syrian crisis, truck charged an estimated USD1,800 for a Beirut-Baghdad trip.

### *IV.2. Impact of the Syrian Crisis on the Transport Sector and Stabilization Needs*

#### IV.2.A. Asset Preservation

**308. The Syrian crisis did not yet have direct fiscal implications on the Government expenditures in the sector, as the impact so far has been primarily absorbed by private transport users and operators.** As of today, there have not been noticeable increases in public expenditures linked to the

<sup>125</sup> There are about 175,000 privately operated “pick up” trucks (over 500 kg) which are not part of this analysis.



Syrian crisis. Transport sector's budget and expenditures have largely continued as planned before the crisis and there has not been a noticeable change in the pattern of expenditures.<sup>126</sup> However, the crisis has induced substantial private sector losses such as increased vehicle operating costs and accidents, increased congestion and travel times, and substantial losses to the trucking sector. Given the focus on the fiscal impact, and the unavailability of data, these costs were not quantified in this assessment, at least not in monetary value. The remaining of the assessment therefore focuses on the stabilization needs to restore the performance of the sector to pre-crisis levels.

**309. The influx of Syrian refugees increased the wear and tear of the road network, particularly due to supply trucks.** Outside Beirut, Syrian refugees tend to mostly have lower income than their Lebanese host communities, and, therefore, lower motorization rates. Refugees are meeting their travel needs using small motorbikes, purchasing second hand vehicles and/or using existing public transport such as minibuses and taxis. Therefore, in terms of overall traffic volumes, the number of trips generated by a given population of Syrian refugees is much lower than the number of trips generated by an equal population of a host community. Nevertheless, the composition of traffic generated by refugees is different and includes a larger share of heavy supply trucks carrying food, medicine and construction material. It is these trucks that cause most damages to roads. Given the lack of recent traffic counts, it is difficult to accurately estimate the increase in traffic and its composition. For the purpose of this analysis, a conservative assumption was made, whereby the increase of wear and tear of the road network caused by a Syrian refugee is 50 percent less than that of a member of the host community. This only applies to regions with high concentration of Syrian refugees. The wear and tear of the road network was neglected in regions with Syrian refugees less than 25 percent of their population.

**310. Preserving the road network to similar pre-crisis conditions would require an additional USD44-60 million spending on maintenance.** These figures are based on the road maintenance expenditures from MPWT for the past few years, the assumption on traffic increase discussed above and the baseline and high scenarios of refugee numbers of 1.56 million and 2.26 million, respectively by the end of 2014. Most of the wear and tear will occur in regions with high refugee influx such as Akkar, Tripoli/Minieh-Dinnieh, and Koura in the North, and Zahlehh, Baalbeck, and Hermel in the Beka'a. Table 29 summarizes the expected additional yearly expenditures on road maintenance due to the Syrian crisis.

#### IV.2.B. Asset Expansion and Capacity Increase of Transport System

**311. Regions witnessing high influx of Syrian refugees would also need the expansion of their road network capacity to maintain proper access, with a cost estimate of USD50-66 million** (Table 29). While traffic volumes will not be uniformly distributed through the network, some regions will witness very little increases (in the range of 5 percent) while others with high refugees influx will witness traffic increases in the ranges of 50-70 percent (e.g., Akkar, Baalbeck, Tripoli/Minieh-Dinnieh, Zahlehh). Regions having traffic increases over 50percent would necessarily require road capacity increase, in addition to regular maintenance. The capacity increase could take the form of reconstruction of roads in poor condition, the expansion and increase of the number of lanes on some existing roads and/or the construction of new roads. Depending on the refugee scenario, it is estimated that USD50-66 million would be required to expand the road capacity in those regions with high Syrian influx.

**312. In addition, the influx of Syrian refugees is overloading an already saturated network in GBA, further exacerbating its traffic congestion problems.** Affluent Syrian families, concentrated in the GBA, have brought their cars into Lebanon. Other refugees are either purchasing new vehicles (second hand) or utilizing existing public transport. In addition to those trips generated by refugees living

<sup>126</sup> Road maintenance expenditures have risen in the past year due to the mobilization by the Government to remove the backlog maintenance. As discussed with MOPWT, such increase was planned and not linked to the Syrian crisis.



in GBA, there will be a significant number of trips generated between GBA and other regions (e.g., Akkar, Zahleh) by refugees seeking labor and/or services in GBA, and by supply trucks from the port of Beirut. Accounting for trips generated within GBA and to/from GBA, it is estimated that the crisis will result in traffic increases in GBA in the range of 15-25percent, depending on the scenario. This will have large negative impacts on the network, particularly during peak hours, reducing speeds and increasing travel times by about 20 to 30percent. The northern approach to Beirut, which is currently the most congested section, would be particularly affected given the high concentration of refugees in northern Lebanon.

**313. Preserving speeds to pre-crisis level would therefore require an increase of the transport network capacity in GBA through investments in additional road infrastructure and in mass transit solutions.** While essential to the economy and to Beirut's quality of life and competitiveness, such critical investments are costly due to the high price of land required for expanding road capacity in Beirut, and to the generally high cost of mass transit systems. Such investments are therefore planned in 3 phases, with each phase costing about USD1 billion. In order to estimate the relative impact of the crisis, the analysis assumes the construction of some of this critical infrastructure, with the stabilization cost reflecting the share that is generated by the Syrian refugees as a fraction of the overall investment cost. This share was estimated as a function of the traffic generated due to the Syrian refugees relative to the pre-crisis overall traffic levels. The need assessment for the baseline case scenario assumes that phase I is started and the share of the refugee-related traffic is 15 percent, while the high case scenario assumes that phases I and II are launched together (given more severe congestion and hence more immediate infrastructure) and the share of the refugee-related traffic is at a conservative 20 percent. This puts the share related to the Syrian crisis (the need assessment) at USD150 million for the baseline case scenario and USD400 million for the high case scenario.

#### IV.2.C. Freight and Transit Services

**314. The Syrian crisis also has had a severe impact on freight services, particularly the transit business.** The number of trucks carrying goods from Lebanon has decreased by over 65 percent since the crisis. Lebanese transit trucks have been particularly hit, witnessing an 80 percent decrease (most operating transit trucks to/from Lebanon are currently Syrian trucks). Lebanese truckers now face additional risks (e.g., insecurity, longer distances to avoid hotspots, bribes for warring parties), and no financial insurance as most insurance companies are no longer insuring trucks going through Syria. While the crisis has led to an increased demand in the Lebanese market for truck services due to the large number of refugees, this local increase cannot alone offset the losses from the transit business. It is estimated that to compensate for these losses, domestic demand has to triple/quadruple, and this is difficult to materialize in the near future even with a high number of Syrian refugees. Meanwhile, the influx of refugees has created sharp market distortions in the demand for trucks in the different regions within Lebanon and regions with high number of refugees sometimes witness an undersupply of trucks, which compounded with security concerns and bad roads in these regions, have led to substantial increases in transport cost by trucks. These internal distortions are not likely to persist, however, as truckers will readjust to internal new markets. But the loss of transit business remains difficult to compensate for.

**315. Efforts could, therefore, focus on restoring the transit business.** Truckers have been looking for ways to continue their transit business, through alternative sea routes served by ro-ro ships. This is currently being implemented at modest scale between the ports of Beirut/Tripoli, to Egypt and Turkey from where trucks would drive to destinations. This, of course, would increase the costs to Lebanese truckers and substantially reduce their capacity to compete. If the Syrian crisis persists over longer periods, the Lebanese trucking sector might lose important markets in Iraq and GCC which will be supplied by alternative routes.

Table 33. Number of Transit Truck Traffic originating in Lebanon to Neighboring Countries

| Country | Year   |       |         |
|---------|--------|-------|---------|
|         | 2010   | 2012  | 2013 1/ |
| Syria   | 57320  | 22295 | 17324   |
| Iraq    | 9971   | 5641  | 4666    |
| Jordan  | 8523   | 7475  | 3292    |
| GCC     | 27733  | 17401 | 6572    |
| Other   | 1451   | 1415  | 594     |
| Total   | 104998 | 54227 | 32448   |

1/ Figures available for January to June, were adjusted to give a yearly number

Table 34. Number of Transit Trucks Arriving in Lebanon by Nationality

| Truck Nationality | Year   |       |       |
|-------------------|--------|-------|-------|
|                   | 2010   | 2012  | 2013  |
| Lebanese          | 31769  | 13342 | 6660  |
| Syrian            | 56235  | 32202 | 22470 |
| Other             | 25432  | 13754 | 3482  |
| Total             | 113436 | 59298 | 32612 |

## APPENDIX

### I. Macro-Economic Impact Assessment

**316.** This annex details the econometric analysis and macro-framework used to assess the impact of the Syrian conflict on Lebanon's economy.

#### Import Consumption and Investment Data

**317.** Lebanon suffers from a lack of recent national accounts data. The latest collected national accounts statistics date back to 2010. This implies that the GDP figures for 2012 cannot be used since they are not available. In light of the limited data availability, import data was employed to estimate consumption and investment trends and impacts and use these estimates in the World Bank macro-framework model (called RMSM-X) for Lebanon.

**318.** Import data are obtained, at the monthly frequency, from the Lebanese customs. Using bridge tables, the import data are converted from the HS8 classification to the broad economic classification (BEC). This conversion procedure yields data for imported consumption and investment on a monthly basis for the period January 2009 to June 2013. Based on the BEC classification, two series for import consumption and investment were obtained: one including fuel and the other excluding fuel. Making such a distinction is of importance because import consumption displays considerable spikes in 2011 and 2012. The spikes in consumption are attributable to the official recording of fuel imported by EdL, the national electricity company. Also, fuel smuggling from Syria to Lebanon was reportedly a common occurrence prior to 2011. The advent and intensification of the Syrian conflict largely disrupted the smuggling activity from Syria to Lebanon and led to fuel being officially exported from Lebanon to Syria since the onset of the conflict (as detailed in the Trade Impact section of Chapter 1).

**319.** Lebanon heavily relies on imported goods for consumption and investment. If imported consumption (investment) account for a relatively stable share of total consumption (investment), then the values for total consumption and investment, two major components of nominal GDP, can be implied (or imputed). More specifically, let  $C_{import}$  and  $C_{domestic}$  denote imported and domestic consumption. The relationship between imported and domestic consumption is given by:<sup>127</sup>

$$\alpha C_{import} + (1 - \alpha) C_{domestic} = C_{total}$$

If the share of import consumption to total consumption ( $\alpha$ ) is stable, then values for total consumption can be imputed. When the share of import consumption (with no fuel) to total consumption is compared for the years 2009 and 2010 (the two years for which national account data is available) the shares are, respectively, 0.30 and 0.32. Similarly, the share of investment consumption to gross domestic investment for the years 2009 and 2010 are, respectively, 0.26 and 0.24. This shows that the ratio import consumption (investment) to total consumption (investment) are relatively stable.

#### Econometric Assessment of the Impact of the Syrian Crisis

**320.** A vector autoregressive (VAR) model is employed to examine the effect of the Syrian conflict on consumption and investment.<sup>128</sup> Let  $\Delta C_t$  denote the growth rate in imported consumption in month  $t$ .

<sup>127</sup> A similar relationship can be written for investment.

<sup>128</sup> A VAR model is a system of equation in which each endogenous variable is related to its own lags as well as to lags of all the other endogenous variables in the system.

Similarly, let  $\Delta I_t$  denote the growth rate in investment in month  $t$ . The Byblos/AUB consumer confidence index as well as cement deliveries<sup>129</sup> are employed as endogenous variables in the VAR. Denote by  $\Delta CCI_t$  the growth rate in the consumer confidence index and  $\Delta CC_t$  the growth rate in cement deliveries.

**321.** A Syrian conflict dummy variable is employed as an exogenous variable in the VAR. The Syrian conflict dummy variable takes the value one after July 2012, and takes the value zero otherwise. While the Syrian conflict started earlier than 2012, the sample is partitioned into pre- and post-July 2012 based on the significant widening of the spread between Lebanon's Eurobond yield and the EMBIG yield of other emerging markets (i.e., Lebanon's component of the EMBIG) on that date.

**322.** The VAR model for consumption is given by:<sup>130</sup>

$$\begin{aligned}\Delta C_t &= \alpha + \beta_1 \Delta C_{t-1} + \beta_2 \Delta CCI_{t-1} + \delta_1 D_t + \varepsilon_{1t} \\ \Delta CCI_t &= \alpha + \beta_3 \Delta C_{t-1} + \beta_4 \Delta CCI_{t-1} + \delta_2 D_t + \varepsilon_{2t}\end{aligned}$$

where the import and consumption data are de-seasonalized before estimating the VAR. The coefficient  $\delta_1$  measures the impact of the Syrian crisis on consumption. The estimates for the dummy variables in the two VARs show a decrease in consumption and investment by, respectively, 2.6 percent and 1.2 percent.

### Aggregating to the Total Consumption and Investment

**323.** Import consumption and investment data are available until June 2013. The values of import consumption and investment for the year 2013 are computed by dividing total consumption (investment) by the average ratio, across the sample, of consumption (investment) in the first six months of year to consumption (investment) for the full year.

**324.** Total consumption (with and without fuel) is subsequently obtained by dividing the estimated import consumption for the year 2013 by its respective shares of total consumption. The values for total consumption with and without fuel are subsequently averaged to obtain a figure for total consumption. Total investment is obtained similarly by dividing import investment by its share of total investment. For the year 2011, the proportion of investment with fuel to total consumption is employed while the share of import investment with no fuel to total consumption is employed for the years 2012 and 2013. This is due to the fact that fuel investment imports are of importance only in 2011 (when additional fuel was imported to generate electric power Lebanon).

**325.** The baseline scenario (with conflict) is obtained from the Bank's RMSM-X model. The counterfactual (no Syrian conflict) is constructed by netting out the effect of the Syrian conflict from consumption and investment (i.e., by increasing consumption by 2.6 percent and investment by 1.2 percent). The difference between the counterfactual and the baseline scenario (the delta) provides an estimate of the cost of the Syrian conflict for the years 2012 and 2013. The computations indicate a decrease in nominal GDP by 2.9 percent for each of 2012 and 2013 (the delta).<sup>131</sup>

<sup>129</sup> Cement deliveries is one component of the BdL's coincident indicator and is used as a proxy for economic activity.

<sup>130</sup> A similar VAR model which replaces consumer confidence with cement deliveries as an endogenous variable is employed for investment.

<sup>131</sup> It should be noted that it is unknown, a priori, whether the GDP deflator increased or decreased due to the conflict. On the one hand, it can potentially increase due to population growth (influx of refugees) pushing the deflator up (e.g., through increased consumption of non-tradables). But the Syrian conflict also drives GDP growth down which would push inflation down too. Given that it is unclear which of these two effects dominate, and with limited data to test these hypotheses, a zero net impact was assumed so that the GDP deflator is unchanged.

## II. Trade Sector Appendices

### Appendix to Conflict, Trade and Food Prices

#### *Trends in Supply and Demand Conditions for Selected Food Products*

##### 1. Vegetables

**326.** Potatoes, Tomatoes and Carrots and Turnips are among the main vegetable products traded with the region. In potatoes, Lebanon exhibits a trade surplus with the region, while a deficit in tomatoes and carrots and turnips (with almost insignificant exports of these two). Neither for tomatoes nor for carrots and turnips have import flows been disrupted by the conflict. Imports of carrots & turnips have been relatively stable, while those of tomatoes have doubled in value since 2011, for a combination of an increase in prices and an increase in quantities imported. Trade in potatoes also seems largely unaffected by the conflict in the neighbor country.

Table 35: Trends in Trade and Unit Values for Vegetables

| Potatoes                                       |         |             |         |             | Tomatoes  |         |             |         |             |
|--|---------|-------------|---------|-------------|---|---------|-------------|---------|-------------|
|  | Imports | Unit Values | Exports | Unit Values |   | Imports | Unit Values | Exports | Unit Values |
| 2010   | 1871    | 3.99        | 6193    | 2.43        | 2010  | 6356    | 0.33        | 27      | 0.26        |
| 2011   | 2512    | 3.93        | 7826    | 4.46        | 2011  | 5573    | 0.3         | 761     | 0.61        |
| 2012   | 3922    | 3.93        | 6306    | 4.96        | 2012  | 9882    | 0.39        | 1042    | 0.39        |
| 2013*  | 2628    | 5.21        | 2510    | 3.95        | 2013*   | 9512    | 0.46        | 343     | 2.96        |
| Main Destinations: Syria, Jordan, Iraq         |         |             |         |             | Main Destinations: Qatar, Oman, Saudi Arabia, Ivory Coast |         |             |         |             |
| Main Sources: Saudi Arabia                     |         |             |         |             | Main Sources: Syria                                       |         |             |         |             |
| Carrots & Turnips                              |         |             |         |             |   |         |             |         |             |
|  | Imports | Unit Values | Exports | Unit Values |   |         |             |         |             |
| 2010   | 6356    | 0.33        | 27      | 0.26        |   |         |             |         |             |
| 2011   | 5144    | 0.3         | 76      | 0.31        |   |         |             |         |             |
| 2012   | 5854    | 0.32        | 62      | 0.28        |   |         |             |         |             |
| 2013*  | 3861    | 0.25        | 14      | 1.27        |   |         |             |         |             |
| Main Destinations: Saudi Arabia, Kuwait, Syria |         |             |         |             |   |         |             |         |             |
| Main Sources: Syria, Turkey                    |         |             |         |             |   |         |             |         |             |
| Source: Customs, Lebanon                       |         |             |         |             |   |         |             |         |             |

##### 2. Fruits

**327.** The main fruit products that are traded with the region are citruses and bananas, both cases in which Lebanon is a net exporter. Export values and prices have remained relatively stable since 2010, which suggest these markets have not been severely affected by the conflict.

Table 36: Trends in Trade and Unit Values for Fruits

| Fruits   |         |             |         |             |                                  |             |         |             |      |
|--|---------|-------------|---------|-------------|----------------------------------|-------------|---------|-------------|------|
| Citrus   |         |             |         | Bananas     |                                  |             |         |             |      |
|  | Imports | Unit Values | Exports | Unit Values | Imports                          | Unit Values | Exports | Unit Values |      |
| 2010   | 737     | 0.63        | 16931   | 0.14        | 2010                             | 50          | 0.20    | 17650       | 0.17 |
| 2011   | 554     | 0.63        | 26930   | 0.21        | 2011                             | 75          | 0.41    | 10323       | 0.24 |
| 2012   | 539     | 0.54        | 18749   | 0.18        | 2012                             | 295         | 0.63    | 17060       | 0.28 |
| 2013*  | 218     | 0.24        | 10270   | 0.20        | 2013*                            | 141         | 0.56    | 9027        | 0.29 |
| Main Destinations: Kuwait, Saudi Arabia, Syria |         |             |         |             | Main Destinations: Syria, Jordan |             |         |             |      |
| Main Sources: Syria                            |         |             |         |             | Main Sources:                    |             |         |             |      |
| Source: Customs, Lebanon                       |         |             |         |             |                                  |             |         |             |      |

### 3. Meats

**328.** Imports of sheep have declined since 2010, partly because those sourced from Syria, which accounted for one third of total imports in 2010, collapsed to virtually zero in the last years, and partly due to a decrease in domestic demand due to reduced tourist inflows. Imports from outside the region (e.g., Australia) also fell sharply during the period.

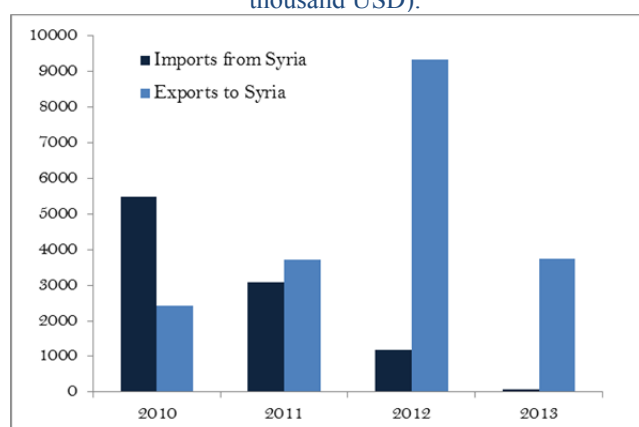
Table 37: Trends in Trade and Unit Values for Meats

| Meats   |         |             |         |             |
|---|---------|-------------|---------|-------------|
| Sheep   |         |             |         |             |
|   | Imports | Unit Values | Exports | Unit Values |
| 2010  | 44838   | 3.35        | 1360    | 4.21        |
| 2011  | 16500   | 2.30        | 0       |             |
| 2012  | 11348   | 2.02        | 0       |             |
| 2013*   | 7472    | 2.13        | 466     | 0.94        |
| Main Destinations: Qatar, Saudi Arabia        |         |             |         |             |
| Main Sources: Australia, Syria, France, Spain |         |             |         |             |
| Source: Customs, Lebanon                      |         |             |         |             |

### 4. Oils & Fats

**329.** Market conditions are likely to have changed due to the conflict for the case of sunflower oil. Although overall imports have been on the rise since 2010, the trade balance with Syria has changed dramatically. Imports of Syrian sunflower oil almost tripled exports of Lebanese sunflower oil to Syria in 2010, while in 2012 Lebanese exports to Syria were about 9 times greater than Syrian exports to Lebanon of the same product.

Figure 75: Bilateral Trade in Sunflower Oil with Syria (in thousand USD).



Source: Customs, Lebanon.

Table 38: Trends in Trade and Unit Values for Oil and Fat (Sunflower Oil)

|       | Imports | Unit Values | Exports | Unit Values |
|-------|---------|-------------|---------|-------------|
| 2010  | 23,734  | 1.29        | 3,339   | 1.01        |
| 2011  | 37,507  | 1.75        | 5,191   | 1.09        |
| 2012  | 53,317  | 1.61        | 10,460  | 1.32        |
| 2013* | 27,960  | 1.66        | 3,924   | 1.60        |

Main Destinations: Syria

Main Sources: Egypt, Saudi Arabia, Syria, Turkey

Source: Customs, Lebanon.

### *Testing for Price Effects Associated with the Conflict*

**330.** Given that Lebanon is a relatively open economy, prices of food products that are traded in international markets are to some extent linked to international price fluctuations. If regional supply and demand conditions have changed, as for some of the cases discussed above seem to suggest, these should induce departures in the relationship between domestic and international prices.

**331.** To obtain an approximation of the effect of the Syrian conflict on food prices, a two-step Engle-Granger cointegration framework is used, and a break in the price relationship between Lebanese and international prices is tested for. The break is tested for toward the beginning of the conflict in April 2011, in alternative later dates (when the conflict escalated), and in earlier dates as ‘placebo’ as to rule out spurious results.

**332.** Consistent data on domestic and international prices are available to test for these effects for the cases of grains and flours, meats and meat products, oils and fats, and fruits.<sup>132</sup> For grains and flour products, domestic prices are paired with an international price index for grains; for meats and meat products, they are paired with the international prices of beef, chicken and lamb; for oils and fats, they are paired with an international index of the same characteristics, while for fruits, they are paired with international prices of bananas (EU reference) and oranges. The analysis is conducted for the period 2005m1-2012m10.<sup>133</sup>

**333.** Before proceeding with the cointegration analysis, some transformations and tests on the price series are performed, namely:

- (1) We assumed a linear growth rate for July and August 2006, when growth rates for domestic prices were reported jointly for the pair of months.
- (2) We drop the exchange rate from the analysis since it has been fixed against the US dollar for the whole of the period considered, hence being identical to a constant in the model.
- (3) Augmented Dickey Fuller tests are performed on the (log) price series, as well as on their first

<sup>132</sup> International prices are sourced from the World Bank’s Pink Sheet, World Bank DECPG.

<sup>133</sup> The cointegration framework is due to Engle and Granger (1987). The choice of the data period is based on data availability. For meat and meat products and fat and oil products, the period goes until 2012m12 due to data availability.



differences. All log-level price series are found to be non-stationary, with the exception of international prices for bananas and oranges (with marginal rejections of the null of no unit root). All first differences (price changes) are found to be stationary, which reveals the expected behavior: the price series display unit roots in levels, and are stationary in first differences.

**334.** The first step of the Engle-Granger procedure consists of estimating a long-run static relation between average domestic prices in Lebanese pounds,  $p_{i,t}$  and international prices dollars,  $p^*_{j,t}$  (the price of the dollar in Lebanese pounds has been fixed for the whole of the period under analysis). We augment the standard equation by including a step dummy “D” to allow for a break in the long run relationship given by the conflict starting in April 2011. This step dummy takes the value 0 until March 2011, and 1 thereafter. The estimable long run relationship is (1):

$$p_{i,t} = \beta_0 + \beta_1 D_t + \beta_2 p^*_{j,t} + u_t \quad (1)$$

**335.** Lebanese food market  $i$  is integrated with the world’s market if prices in Lebanon share a (stochastic) trend with international prices, such that there exists a linear combination of  $p_i$  and  $p^*_j$  that renders  $u$  in equation (1) stationary. The coefficient of interest in (1) that captures the price effect on Lebanese products associated with the Syrian conflict is  $\beta_1$ , and its interpretation is conditional on the international prices and the Lebanese being cointegrated, and on the absence of other factors that could affect the relationship in (1) during the same period of the conflict in Syria.<sup>134</sup>

**336.** In order to minimize the possibility of spurious results, we use alternative dates for the definition of the crisis dummy. Earlier dates are used as placebo, and later dates are used to control for the possibility that price effects only materialized as the conflict escalated, and not immediately after it started. In total, 21 models are estimated for each food market considered, with the crisis dummy being defined with 21 alternative breaks, starting in January 2010, and ending in September 2011.

**337.** In the second stage, we look at the dynamics, also allowing for a break in the error correction model mechanism by including a step dummy “D” defined as above. The following relation is estimated:<sup>135</sup>

$$\Delta p_{i,t} = \alpha_0 + \alpha_1 D_t + \sum_{n=1}^p \beta_n \Delta p_{i,t-n} + \sum_{n=1}^p \gamma_n \Delta p^*_{j,t-n} + \delta \hat{u}_{t-1} + \varepsilon_t \quad (2)$$

From equation (2) we obtain information on short and long run dynamics.

**338.** Short Run:

- (1) Short run responses of current price changes in Lebanon to current price changes in international prices, as well as responses to own and international lagged price changes.
- (2) Changes in the growth rate of prices in Lebanese food products after the border closure (given by the coefficient  $\alpha_1$ ).

**339.** Long Run: whether the regions are integrated, and a measure of integration (this is an alternative way of testing for market integration). If  $i$  and  $j$  are integrated, then prices share a long run stochastic trend. In the short run, misalignments from the equilibrium may exist, and they are captured in  $\hat{u}$ . If  $\delta <$

<sup>134</sup> When the price series are cointegrated, then the estimator is super-consistent, although it may be biased in small samples. A word of caveat of the estimates reported here is that they are subject to the “post hoc ergo propter hoc”, after this, therefore because of this.

<sup>135</sup> Given the short length of our price series, we restrict the lag length to 1.

0, these are corrected period after period. If no correction process exists (either because  $\delta = 0$  or  $\delta > 0$ ), then there is no long run relationship between the two price series. Therefore, the negative sign and the significance of this coefficient constitute another test of market integration. Its size is a measure of integration and indicates how much of the disequilibrium is corrected every period. The more efficiently markets work, the faster information flows, and therefore, the faster these short run disequilibria will be corrected.

## Results

**340. Domestic markets for grains and for meats show systematic co-movement with world prices.** Indeed, in the 21 models run, the coefficient on the speed of adjustment is statistically significant. For grains, disequilibria are corrected more slowly (3-4 percent per period) than for meats (8-13 percent per period). The market of fats and oils seems to be weakly integrated with world markets, with the speed of adjustment being weakly statistically significant only for the last 8 models and quite small (1.5-1.7 percent). The market for fruits shows no sign of integration with world markets. This implies that the crisis effects estimated through the framework outlined above are only valid for grains and meats, and more weakly so for fats and oils.

Table 39: Speed of Adjustment Coefficients for Alternative Specifications and Food Products 1/

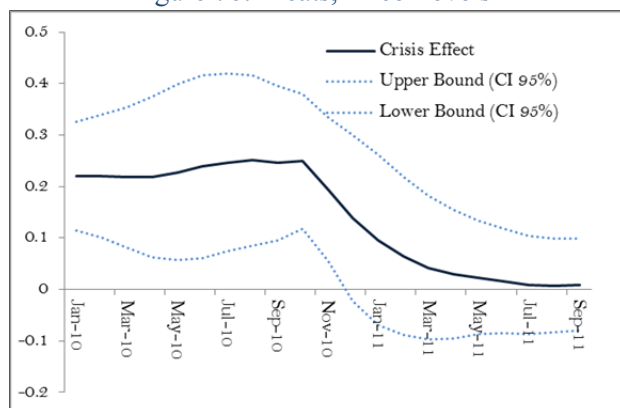
|                | Date of Crisis<br>Break | Speed of Adjustment Coefficients |           |          |             |
|----------------|-------------------------|----------------------------------|-----------|----------|-------------|
|                |                         | Fruits                           | Grains    | Meats    | Fats & Oils |
| Placebo Models | 10-Jan                  | 0.0002                           | -0.032*** | -0.127** | -0.0129     |
|                | 10-Feb                  | -0.002                           | -0.033*** | -0.124** | -0.0132     |
|                | 10-Mar                  | -0.001                           | -0.035*** | -0.121** | -0.0142     |
|                | 10-Apr                  | -0.002                           | -0.034*** | -0.117** | -0.014      |
|                | 10-May                  | -0.002                           | -0.034*** | -0.114** | -0.0141     |
|                | 10-Jun                  | -0.003                           | -0.035*** | -0.127** | -0.014      |
|                | 10-Jul                  | -0.003                           | -0.034*** | -0.127** | -0.0145     |
|                | 10-Aug                  | -0.003                           | -0.034*** | -0.140** | -0.0151*    |
|                | 10-Sep                  | -0.003                           | -0.031*** | -0.152** | -0.0149     |
|                | 10-Oct                  | -0.005                           | -0.032*** | -0.080*  | -0.015      |
|                | 10-Nov                  | -0.007                           | -0.033*** | -0.080*  | -0.0151     |
|                | 10-Dec                  | -0.005                           | -0.033*** | -0.090** | -0.0152     |
|                | 11-Jan                  | -0.005                           | -0.034*** | -0.094** | -0.0154     |
|                | 11-Feb                  | -0.005                           | -0.034*** | -0.097** | -0.0156*    |
|                | 11-Mar                  | -0.005                           | -0.034*** | -0.099** | -0.0160*    |
|                | 11-Apr                  | -0.004                           | -0.035*** | -0.100** | -0.0162*    |
|                | 11-May                  | -0.005                           | -0.035*** | -0.100** | -0.0163*    |
|                | 11-Jun                  | -0.005                           | -0.035*** | -0.100** | -0.0167*    |
|                | 11-Jul                  | -0.004                           | -0.036*** | -0.101** | -0.0166*    |
|                | 11-Aug                  | -0.004                           | -0.037*** | -0.102** | -0.0168*    |
|                | 11-Sep                  | -0.005                           | -0.037*** | -0.102** | -0.0170*    |

Source: WB staff calculations, based on data from Ministry of Trade.

1/ \*\*\* indicates significance at 1 percent, \*\* at 5 percent, and \* at 10 percent.

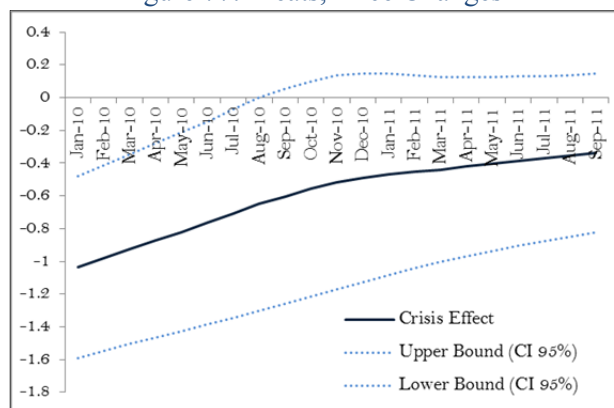
**341. Movements in prices in the meats markets, characterized by a reduction in levels and in price changes, precede the crisis, and hence are seemingly unrelated to the Syrian conflict.** Figure 76 shows the estimate of the level dummy in the meats market, suggesting a price reduction over time. Figure 77 shows the estimate of the price change dummy in the same market, also suggesting a reduction in the rates of change in prices, roughly starting in the same period (November 2010). In both cases, these changes seem to be unrelated to the Syrian crisis.

Figure 76: Meats, Price Levels



Source: WB staff calculations, based on data from MoET.

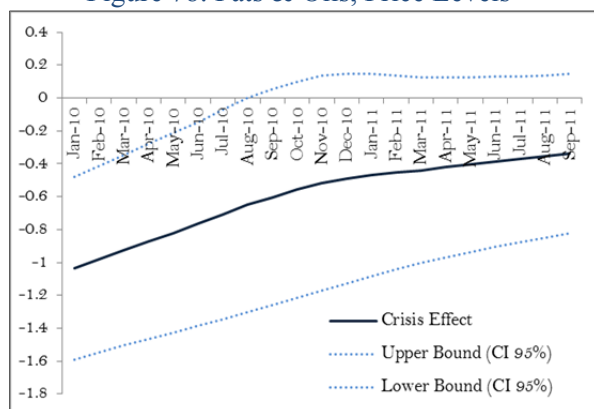
Figure 77: Meats, Price Changes



Source: WB staff calculations, based on data from MoET.

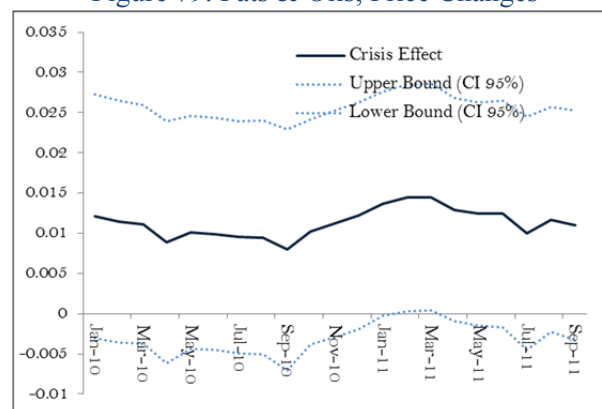
**342.** Similarly, the price increases evidenced by the data in the markets of fats and oil products in Lebanon seem to precede the Syrian conflict instead of being caused by them (Figure 78 and Figure 79). However, the increased demand for Lebanese sunflower oil coming from Syria that was revealed in the trade data analyzed above suggest that some upward pressure on prices is to be expected.

Figure 78: Fats &amp; Oils, Price Levels



Source: WB staff calculations, based on data from MoET.

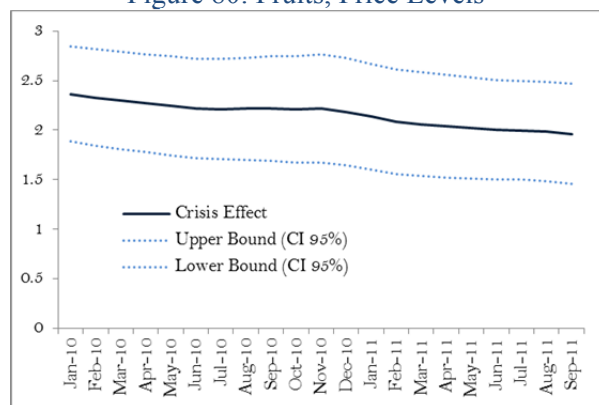
Figure 79: Fats &amp; Oils, Price Changes



Source: WB staff, based on data from MoET.

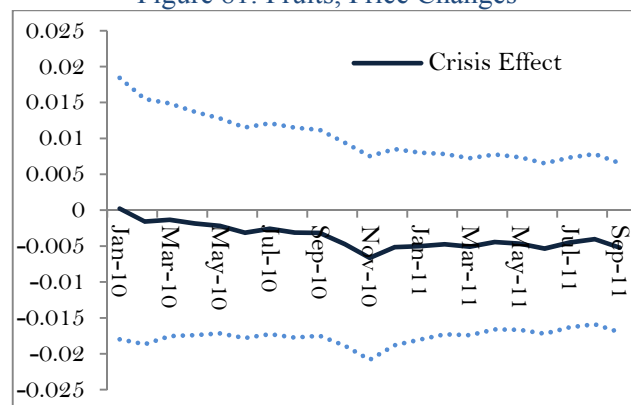
**343.** Finally, the data for the fruits markets reveal no price effects that can be linked to the Syrian conflict (Figure 80 and Figure 81).

Figure 80: Fruits, Price Levels



Source: WB staff calculations, based on data from MoET.

Figure 81: Fruits, Price Changes



Source: WB staff calculations, based on data from MoET.

## Appendix to Impact on Trade Sector

**344. While several indicators suggest the impact of the Syrian conflict started to be felt in 2012, the impact likely materialized earlier in one of Lebanon's most important export sectors: tourism.**

Travel exports, which comprised 50 percent of commercial services exports in 2010, have been particularly vulnerable, with the value and share dropping in the first year of the conflict (Figure 13 and Figure 14)—though the extent to which this drop is solely attributable to the Syrian conflict is unclear as domestic political instability during the first half of 2011 strongly impacted confidence, as observed, for example, by a surge in the deposit dollarization rate that pre-dates the Syrian conflict (Figure 19 page 43). Financial services flows, comprising 7.5 percent of commercial services exports in 2010, and in particular banking, have also been disrupted. But how these trends have continued into 2012 and 2013, and the extent to which the Syrian crisis is responsible for these changes, is difficult to assess with the available aggregate data.<sup>136</sup> For example, although financial services exports experienced a negative growth rate of over 40 percent between 2010 and 2011, the exposure to Syria in the sector is relatively modest. Lebanese banks had made a strong regional push since the mid-2000s, and this impact on financial sector exports could be driven by economic activity in other Arab Spring countries (Egypt in particular).

**345. Lebanon stands to continue losing through disruptions in tourism flows.** Tourism is one of Lebanon's leading services export sectors with inflows representing a major source of revenue, and is one of the sectors most severely impacted by the Syrian crisis. According to Lebanon's balance of payments, tourism spending as a share of GDP totaled 5.7 percent in 2010, and World Bank staff estimate the figure to have fallen to 5.0 percent in 2011 and 4.5 percent in 2012. The World Tourism Organization estimates total tourism receipts in 2010 closer to 22 percent of GDP (39 percent of total exports). This figure dropped to 18 percent of GDP in 2011 (28 percent of total exports), amounting to a decline of USD1.1 billion.

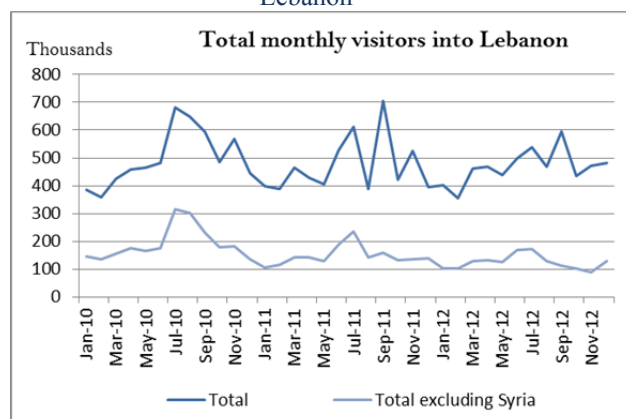
**346. Visitors from all parts of the world have steadily declined since 2010.** Excluding Syrian and Lebanese nationals, the number of visitors into Lebanon declined by 23 percent between 2010 and 2011 and a further 15 percent in 2012. To a large extent, this reflects bans, formal or informal, that several countries have placed on travel to Lebanon due to several security incidents, arguably mostly the result of infighting in Syria spilling over to Lebanon. Tourists are no longer crossing by land through Syria (the only land access to Lebanon aside from Israel), and Arab countries (excluding Syria) represent 53 percent of tourists in 2010. Visitors from other regions of the world have also declined, most notably Asia and Europe, as the Syrian crisis has increased the general public perception of danger in the Middle East in non-Arab countries.

**347. The large inflows of Syrians are somewhat compensating these declines, as the tourism sector is in part catering to the increased demand of domestic services.** For example, as detailed in the tourism section, occupancy rates of lower-end hotels have been more resilient than upper-end hotels, particularly in regions in the North, Beka'a, and Beirut. Nevertheless, occupancy rates still declined into 2012 and restaurant business continued to drop off.

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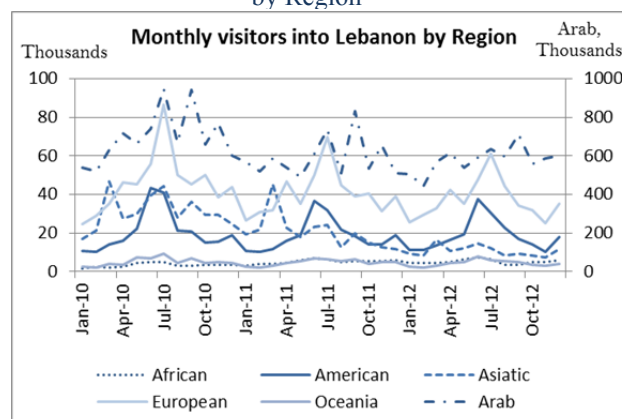
<sup>136</sup> Data on services exports are only available through June 2012, thereby precluding firmer conclusions. In addition, only data on cross-border trade (mode 1) and consumption abroad (mode 2) can be collected in the dataset as these are reported in the Balance of Payments statistics of countries' national accounts. One should be aware that FDI (commercial presence or mode 3) remains an important channel for foreign providers to supply services. This is particularly true for Lebanon's banking sector.

Figure 82: Evolution of Total Monthly Visitors into Lebanon



Source: Ministry of Tourism. Note: Excludes Lebanese nationals.

Figure 83: Evolution of Monthly Visitors into Lebanon by Region



Source: Ministry of Tourism. Note: Arab countries excludes Lebanese nationals and Syria.

### The Spatial Impact within Lebanon

**348. The absence of regional trade data makes the spatial impact of the Syrian crisis via the trade channel difficult to assess precisely.** As a best approximation, World Bank enterprise survey data for 2006 is used to assess the regional distribution of exporting firms operating within different sectors. The assessment on trade flows shows that particular sectors at a disaggregated level have been affected. For example, exports of transport goods to the affected countries decreased almost 90 percent between 2010 and 2012 and mechanical and electrical exports also declined. While this level of disaggregation is not available in the survey data, evidence suggests that the outskirts of Beirut could be particularly impacted. In fact, many of exporting firms in the transport sector are located outside of Beirut in Jisr El Basha and Karantina. The same is true for construction, with 32 percent located in Mkalles and 27 percent in Beirut, as well as Corniche El Naher, Dekwaneh, and Mansourieh.

**349. The majority of surveyed firms exporting manufacturing goods or business services are located within Beirut.** Thirty-eight percent of manufacturing firms were located in Beirut, with the remaining firms fairly evenly distributed throughout 36 other cities in the survey. Seventy-nine percent of companies exporting business services were located in Beirut and 13 percent in Sin El Fil.

### Appendix to Export Vulnerability

**350.** Indexes of vulnerability of Lebanon's future merchandise export flows induced by reductions in Syria's economic activity or GDP are computed following the methodology of Hollweg et al. (2012). Export vulnerability depends first on the overall level of export exposure, measured as the share of exports to foreign markets in gross domestic product, and second on the sensitivity of exports to fluctuations in foreign gross domestic product. The methodology to compute sensitivities uses the gravity model of international trade to estimate the elasticity of Lebanon's exports with respect to changes in Syria's GDP using data from 2006 to 2010. Exports are distinguished between commodities and differentiated products (the subset of merchandise exports that are not commodities). Combining this elasticity with export exposure provides an indication of the impact of changes in foreign demand on Lebanon's exports.

**351.** Computations suggest that if the GDP of Syria were to contract by 1 percent, Lebanese differentiated product exports would contract by 0.002 percent relative to 2010 GDP, equivalent to USD742,487 (Table 40). The impact on commodities is substantially smaller, amounting to USD3,712.

What drives this low vulnerability is low sensitivity of exports to Syrian GDP fluctuations coupled with low dependence of Lebanon's exporters on this market. If the GDP of Syria were to contract by 1 percentage point, then the decrease in Lebanon's differentiated (commodity) exports to Syria would be 0.58 (0.05) percentage points. And differentiated product exports to Syria amounted to less than one half of a percent of GDP in 2010 and commodity exports less than 0.03 percent.

Table 40: Vulnerability of Lebanon's exports to Syrian economic activity, 2010 1/

|                         | Sensitivity<br>(elasticity) | Exposure<br>(export-to-GDP ratio, %) | Vulnerability<br>(share of GDP, %) |
|-------------------------|-----------------------------|--------------------------------------|------------------------------------|
| Commodities             | 0.045                       | 0.025                                | 0.00001                            |
| Differentiated products | 0.580                       | 0.422                                | 0.00245                            |

Source: WB staff computations.

1/ The vulnerability is measured as the effect of a 1 percent reduction in GDP of Syria.

## Appendix to Simulation of Increased Trade Costs on Trade Flows and Welfare

**352.** In order to analyze the impact of the Syrian conflict on Lebanese imports we use the “SMART” toolkit: a market access simulation package designed by the World Trade Integrated Trade Solution (WITS). The toolkit is a partial equilibrium modeling tool, which means that the analysis only considers the effects of a given policy action in the market(s) that are directly affected.

**353.** The main advantage of the partial equilibrium approach to the analysis of trade costs shocks is its minimal data requirement. In fact, the only required data for the trade flows is trade cost (tariff or equivalent) and a three behavioral parameters: the import demand elasticity, the substitution elasticity and the supply elasticity. One disadvantage of the approach is that it is very sensitive to these parameters.

**354.** The SMART focuses on one importing market and its exporting partners. It assesses the impact of a change in trade costs scenario by estimating new values for trade flows. The setup of SMART is that, for a given good, different countries compete to supply (export to) a given home market. The focus of the simulation exercise is on the composition and volume of imports into that market. Export supply of a given good by a given country supplier is assumed to be related to the price that it receives in the export market. The degree of responsiveness of the supply of export to changes in the export price is given by the export supply elasticity, which is assumed to be infinite (the “price taker” assumption).

**355.** The SMART relies on the Armington assumption to model the behavior of the consumer. In particular, the adopted modeling approach is based on the assumption of imperfect substitution between different import sources. Within the Armington assumption, the representative agent maximizes its welfare through a two stage procedure. First, given a general price index, she chooses the level of total consumption on a composite good. The relationship between changes in the price index and the impact on total spending is determined by a given import demand. Second, within this composite good, she allocates the chosen level of spending among the different varieties.

**356.** In the SMART modeling framework, a change in trade costs affects not only the price index of the composite good but also the relative prices of different varieties, which will affect the aggregate level of spending on that good as well as the composition sourcing of that good. Both channels affect bilateral trade flows.

**357.** SMART reports the results of any trade cost shock on trade flows (i.e. imports from different sources). It also decomposes those trade effects in trade creation and trade diversion. Trade creation is defined as the direct increase in imports following a reduction on the trade costs associated to good *g* from country *c*. If the trade cost reduction does not apply to other countries, then imports of good *g* from country *c* are further going to increase due to the substitution away from imports of good *g* from other countries that becomes relatively more expensive. This is the definition of trade diversion.

**358.** For the importing country, reducing the costs of importing from a partner lowers the domestic price of the variety coming from that country. For the same expenditure level, consumers can now import more of the variety coming from the partner. In this case, trade diversion is neutral as it does not affect the overall imported quantities but reallocates market shares among exporting partners. However, for exporting countries, the total trade effect is made of trade diversion and trade creation.

**359.** To analyze the impact of increased trade costs, these were treated as additional ad-valorem tariffs on imports from Syria and from the affected countries mentioned above. Four alternative scenarios were considered. The induced shock was added to the current tariff schedule corresponding to each product line, and the impact on import values and on welfare was analyzed. In the first scenario, the increase in trade costs was assumed equal to the median increase in import unit values observed in products proceeding from the group of affected countries between 2011 and 2012.<sup>137</sup> The benefit of such an assumption is that it provides product specific changes in transport costs. The problem lies in the fact that unit value trends are affected by factors other than transport costs. For that reason, as a sensitivity analysis, scenarios 2, 3 and 4 assume trade costs to increase by 10, 25 and 50 percent respectively, due to the Syrian conflict, homogeneously for all products being imported from the group of affected countries.<sup>138</sup>

**360.** Increases in trade costs with the region will have differentiated impacts by sector. This is because of specificities in the regional patterns of trade, and because evidence from import unit value changes suggests that sectors such as vegetables, wood and wood products and, surprisingly, machinery and electric components have seen important increases in trade costs.

**361.** Chemicals, minerals, foodstuffs and stone and glass products are likely to experience substantial drops in import values. Imports of foodstuffs from affected countries (mainly from Syria) are likely to fall by 6.9 percent, imports of minerals by 4.9 percent, or imports of chemicals, by 12.5 percent. Part of these import reductions from affected countries will be compensated by increased imports from more expensive sources. Indeed, the increased trade costs with the region are projected to re-orientate Lebanese demand for imported chemicals from extra-region by 1 percent, for rubber and plastic products by 0.7 percent, or for foodstuffs by 0.4 percent. Overall, however, the value of imports is expected to fall (see Table 42, Table 43 and Table 44 of the Trade Sector Appendices for the expected import changes by type of product, with assumed increases in trade costs of 10 percent, 25 percent, and 50 percent).

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<sup>137</sup> The universe of Lebanese imports in this scenario is reduced to 83.5 percent of total imports, since it was not possible to compute the variation in unit values over the period for all products.

<sup>138</sup> The simulations were conducted using the Single Market Partial Equilibrium Simulation Tool (SMART), which is described in details in this appendix.



Table 41: Trade Effects of Increased Transportation Costs by Type of Product – Simulation Based on Unit Values

| type                     | Imports pre-Shock |          | Proportional Change (percent) |          |
|--------------------------|-------------------|----------|-------------------------------|----------|
|                          | Not Affected      | Affected | Not Affected                  | Affected |
| 01-05 Animal             | 730,531           | 34,024   | 0.1                           | -3.1     |
| 06-15 Vegetable          | 534,891           | 92,101   | 0.4                           | -5.7     |
| 16-24 Foodstuffs         | 1,181,576         | 105,889  | 0.4                           | -6.9     |
| 25-27 Minerals           | 3,496,551         | 766,257  | 0.6                           | -4.9     |
| 28-38 Chemicals          | 1,473,978         | 205,516  | 1.0                           | -12.5    |
| 39-40 Plastic / Rubber   | 482,080           | 239,849  | 0.7                           | -2.3     |
| 41-43 Hides, Skins       | 71,893            | 342      | 0.1                           | -13.2    |
| 44-49 Wood               | 482,889           | 52,222   | 0.5                           | -8.2     |
| 50-63 Textiles, Clothing | 599,533           | 20,402   | 0.2                           | -9.0     |
| 64-67 Footwear           | 127,730           | 2,883    | 0.1                           | -1.6     |
| 68-71 Stone / Glass      | 1,626,486         | 332,605  | 1.4                           | -9.5     |
| 72-83 Metals             | 1,305,320         | 144,907  | 0.4                           | -4.7     |
| 84-85 Mach/Elec          | 1,636,908         | 16,266   | 0.1                           | -15.8    |
| 86-89 Transportation     | 1,141,488         | 947      | 0.0                           | -61.4    |
| 90-97 Miscellaneous      | 578,450           | 9,253    | 0.2                           | -20.9    |

Source: WB staff calculations based on WITS data.

Table 42: Trade Effects of Increased Transportation Costs by Type of Product – Simulation Based on 10 percent Increase in Trade Costs

| type                     | Imports pre-Shock |            | Proportional Change (percent) |          |
|--------------------------|-------------------|------------|-------------------------------|----------|
|                          | Not Affected      | Affected   | Not Affected                  | Affected |
| 01-05 Animal             | 786,283.10        | 37,587.40  | 0.3                           | -7.9     |
| 06-15 Vegetable          | 917,293.70        | 119,066.70 | 0.3                           | -4.9     |
| 16-24 Foodstuffs         | 1,255,081.00      | 113,934.20 | 0.7                           | -12.2    |
| 25-27 Minerals           | 5,265,817.00      | 769,850.70 | 1.6                           | -15.7    |
| 28-38 Chemicals          | 1,530,178.00      | 206,445.70 | 1.0                           | -11.4    |
| 39-40 Plastic / Rubber   | 498,611.00        | 240,286.40 | 1.7                           | -8.3     |
| 41-43 Hides, Skins       | 77,584.00         | 425.9      | 0.0                           | -10.9    |
| 44-49 Wood               | 550,064.20        | 52,523.00  | 0.4                           | -6.9     |
| 50-63 Textiles, Clothing | 722,409.50        | 21,379.50  | 0.1                           | -7.5     |
| 64-67 Footwear           | 136,182.40        | 3,007.70   | 0.0                           | -1.5     |
| 68-71 Stone / Glass      | 1,656,402.00      | 332,851.20 | 1.6                           | -13.0    |
| 72-83 Metals             | 1,352,683.00      | 147,103.50 | 0.3                           | -6.8     |
| 84-85 Mach/Elec          | 1,878,829.00      | 22,991.20  | 0.1                           | -9.6     |
| 86-89 Transportation     | 1,502,577.00      | 1,054.50   | 0.0                           | -15.2    |
| 90-97 Miscellaneous      | 710,969.70        | 25,565.70  | 0.3                           | -12.7    |

Source: WB staff calculations based on WITS data.

Table 43: Trade Effects of Increased Transportation Costs by Type of Product – Simulation Based on 25 percent Increase in Trade Costs

| type                     | Imports pre-Shock |          | Proportional Change (percent) |          |
|--------------------------|-------------------|----------|-------------------------------|----------|
|                          | Not Affected      | Affected | Not Affected                  | Affected |
| 01-05 Animal             | 786,283           | 37,587   | 1.0                           | -31.9    |
| 06-15 Vegetable          | 917,294           | 119,067  | 1.0                           | -18.1    |
| 16-24 Foodstuffs         | 1,255,081         | 113,934  | 2.0                           | -32.8    |
| 25-27 Minerals           | 5,265,817         | 769,851  | 4.1                           | -40.6    |
| 28-38 Chemicals          | 1,530,178         | 206,446  | 2.7                           | -31.7    |
| 39-40 Plastic / Rubber   | 498,611           | 240,286  | 4.7                           | -22.3    |
| 41-43 Hides, Skins       | 77,584            | 426      | 0.2                           | -41.1    |
| 44-49 Wood               | 550,064           | 52,523   | 1.5                           | -27.6    |
| 50-63 Textiles, Clothing | 722,410           | 21,380   | 0.4                           | -26.7    |
| 64-67 Footwear           | 136,182           | 3,008    | 0.6                           | -36.9    |
| 68-71 Stone / Glass      | 1,656,402         | 332,851  | 4.1                           | -33.2    |
| 72-83 Metals             | 1,352,683         | 147,104  | 1.2                           | -23.9    |
| 84-85 Mach/Elec          | 1,878,829         | 22,991   | 0.3                           | -36.4    |
| 86-89 Transportation     | 1,502,577         | 1,055    | 0.0                           | -44.9    |
| 90-97 Miscellaneous      | 710,970           | 25,566   | 0.9                           | -38.0    |

Source: WB staff calculations based on WITS data.

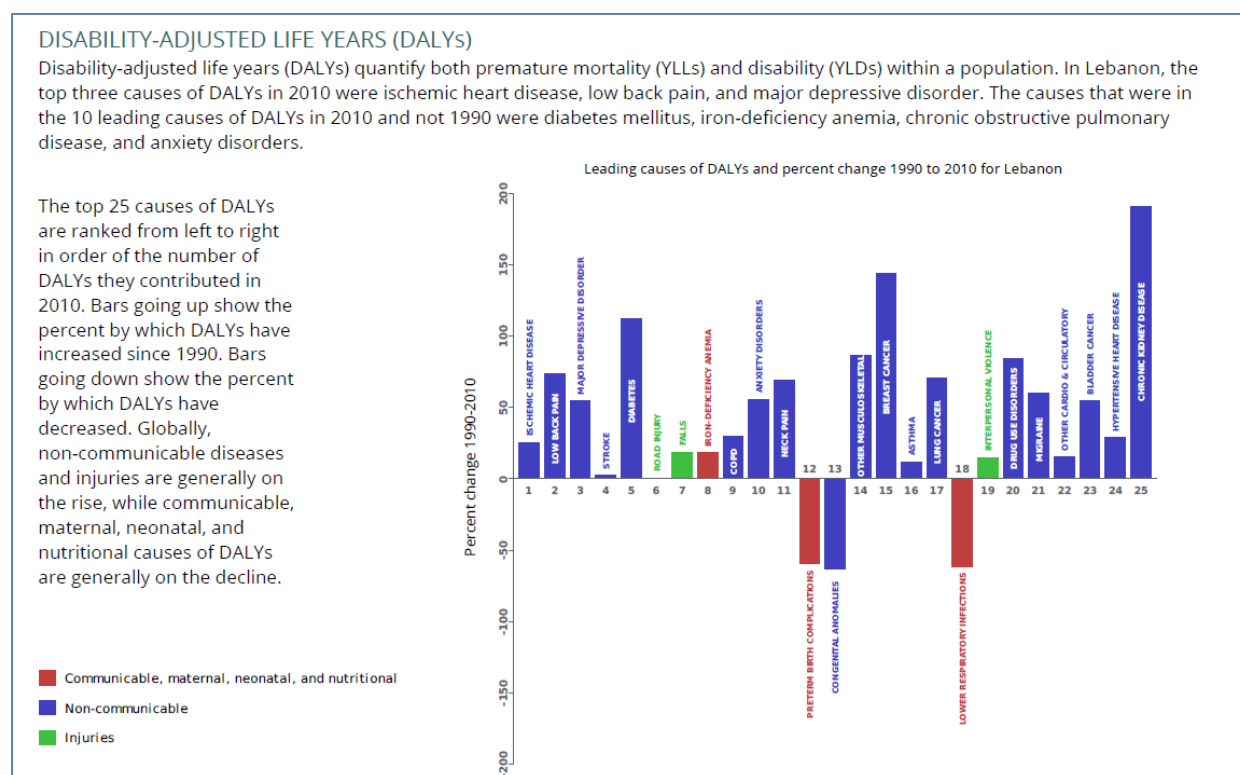
Table 44: Trade Effects of Increased Transportation Costs by Type of Product – Simulation Based on 50 percent Increase in Trade Costs

| type                     | Imports pre-Shock |          | Proportional Change (percent) |          |
|--------------------------|-------------------|----------|-------------------------------|----------|
|                          | Not Affected      | Affected | Not Affected                  | Affected |
| 01-05 Animal             | 786,283           | 37,587   | 2.0                           | -63.1    |
| 06-15 Vegetable          | 917,294           | 119,067  | 1.9                           | -35.5    |
| 16-24 Foodstuffs         | 1,255,081         | 113,934  | 3.8                           | -64.0    |
| 25-27 Minerals           | 5,265,817         | 769,851  | 8.0                           | -80.4    |
| 28-38 Chemicals          | 1,530,178         | 206,446  | 5.3                           | -62.5    |
| 39-40 Plastic / Rubber   | 498,611           | 240,286  | 8.8                           | -43.4    |
| 41-43 Hides, Skins       | 77,584            | 426      | 0.3                           | -79.7    |
| 44-49 Wood               | 550,064           | 52,523   | 2.9                           | -54.1    |
| 50-63 Textiles, Clothing | 722,410           | 21,380   | 0.9                           | -52.9    |
| 64-67 Footwear           | 136,182           | 3,008    | 1.1                           | -72.9    |
| 68-71 Stone / Glass      | 1,656,402         | 332,851  | 8.2                           | -65.7    |
| 72-83 Metals             | 1,352,683         | 147,104  | 2.4                           | -47.1    |
| 84-85 Mach/Elect.        | 1,878,829         | 22,991   | 0.6                           | -72.6    |
| 86-89 Transportation     | 1,502,577         | 1,055    | 0.0                           | -89.1    |
| 90-97 Miscellaneous      | 710,970           | 25,566   | 1.8                           | -74.5    |

Source: WB staff calculations based on WITS data.

### III. Health Sector Appendix

Figure 84: Changing disease profile in Lebanon, 1990 to 2010



Source: Institute for Health Metrics and Evaluation (2013).

Table 45: Health cost estimates

|  | 2011  | 2012    | 2013      | 2014                          |                        |
|--|-------|---------|-----------|-------------------------------|------------------------|
|  |       |         |           | Baseline<br>refugee<br>influx | High refugee<br>influx |
| (in million of LBP, unless otherwise indicated)  |       |         |           |                               |                        |
| Total cost   | 956   | 34,537  | 245,950   | 285,653                       | 403,465                |
| Primary care (at USD 30 per PHC visit, including drugs and diagnostics, upgrading PHC) | 103   | 3,705   | 45,900    | 50,160                        | 62,799                 |
| Preventive health (immunization, surveillance, outreach)                               | 2     | 61      | 396       | 466                           | 674                    |
| Secondary and tertiary care (at 10% referral rate; MOPH reimbursements)                | 851   | 30,771  | 199,654   | 235,027                       | 339,992                |
| Memorandum item:   |       |         |           |                               |                        |
| Projected number of refugees   | 5,668 | 204,826 | 1,329,000 | 1,564,465                     | 2,263,168              |

Source: World Bank staff.

Table 46: Sensitivity Analyses—Model Specifications

| Model # | Specifications   |  |  |
|---------|--|--|--|
|         | PHC cost per visit<br>(including drugs and<br>diagnostics) | Secondary and<br>tertiary referral<br>rate | Secondary and tertiary reimbursement rate        |
| 1       | USD 30   | 6 percent                                  | MOPH rate (approx USD 988 on average)            |
| 2       | USD 50   | 6 percent                                  | MOPH rate (approx USD 988 on average)            |
| 3       | USD 30   | 6 percent                                  | Private sector rate (approx USD 2730 on average) |
| 4       | USD 50   | 6 percent                                  | Private sector rate (approx USD 2730 on average) |
| 5       | USD 30   | 10 percent                                 | MOPH rate (approx USD 988 on average)            |
| 6       | USD 50   | 10 percent                                 | MOPH rate (approx USD 988 on average)            |
| 7       | USD 30   | 10 percent                                 | Private sector rate (approx USD 2730 on average) |
| 8       | USD 50   | 10 percent                                 | Private sector rate (approx USD 2730 on average) |

Source: World Bank staff.

## IV. Education Appendix

Table 47. Costs for Sections and Students in Basic Education for 2013/14

|  | Estimate                             |
|--|--------------------------------------|
|  | (In LBP, unless otherwise indicated) |
| Cost Per Student                                   |                                      |
| Student Contribution in School Fund (Registration) | 150,000                              |
| Average Book costs                                 | 45,000                               |
| Student Contribution in Parents Council Fund       | 90,000                               |
| School infrastructure and equipment depreciation   | 250,000                              |
| Total  | 535,000                              |
| Section Cost                                       |                                      |
| Teaching and Administrative Costs                  |                                      |
| Contractual teachers                               |                                      |
| Hourly Average Cost 1/                             | 19,000                               |
| Hours per one working day                          | 7                                    |
| Working Days per year                              | 170                                  |
| Level of Effort (admin and teaching)               | 2                                    |
| Sub-total for Teaching and Administrative Costs    | 35,691,500                           |
| Medical Care                                       | 2,500,000                            |
| Transportation Expenditure per Student             | 4,000                                |
| Working Days per year                              | 170                                  |
| Number of Students per Section 2/                  | 18                                   |
| Sub-total for Transportation Fees                  | 12,240,000                           |
| Maintenance and Infrastructure                     | 1,500,000                            |
| Furniture and equipment                            | 4,000,000                            |
| Cost per student per section in public system      | 3,107,306                            |
| Cost of prefab per student                         | 2,625,000                            |
| Cost per student per section in Prefab 3/          | 6,017,306                            |
| Cost per student in second shifts                  | 975,000                              |

Source: World bank staff based on government data.

## V. Social Safety Net Appendix

Figure 85- Social Safety Nets in Lebanon

| Program Name                                       | Program Type                                | Implementing Agency                        | Targeting Method | Number of Beneficiaries | Expenditure L.L Millions | Year |
|--|---|--|------------------|-------------------------|--------------------------|------|
| Agricultural exports subsidy ("Export Plus")       | Price subsidies and ration cards            | Ministry of Economy and Trade              | Categorical      | n.a.                    | 31,650                   | 2010 |
| Education: scholarships                            | Fee waivers, education, and health benefits | Ministry of Education and Higher Education | Categorical      | 200,000                 | 450                      | 2009 |
| Education allowance                                | Fee waivers, education, and health benefits | Ministry of Education and Higher Education | Categorical      | n.a.                    | 154,500                  | 2010 |
| Health Fee Waivers in Public and Private Hospitals | Fee waivers, education, and health benefits | Ministry of Public Health                  | Categorical      | 2,113,500               | 322,500                  | 2010 |
| Mazout diesel subsidy                              | Price subsidies and ration cards            | Ministry of Finance                        | Universal        | —                       | 45,000                   | 2010 |
| National Poverty Targeting Program (NPTP)          | Fee waivers, education, and health benefits | Ministry of Social Affairs                 | PMT              | 40,000                  | 21,366                   | 2012 |
| Tobacco subsidy                                    | Price subsidies and ration cards            | Ministry of Finance                        | Universal        | —                       | 45,000                   | 2008 |
| Transfer to Electricité du Liban (EdL)             | Price subsidies and ration cards            | Ministry of Energy and Water               | Universal        | n.a.                    | 1,800                    | 2010 |
| Welfare program                                    | Not specified                               | Ministry of Social Affairs                 | Not specified    | 11,965                  | 115,633                  | 2012 |
| People At Risk Program                             | Not specified                               | Ministry of Social Affairs                 | Categorical      | 1,247                   | n.a                      | 2012 |
| Vocational training programs                       | Training                                    | Ministry of Social Affairs                 | Geographical     | 3,202                   | n.a                      | 2012 |
| Disability Program                                 | Fee waivers, education                      | Ministry of Social Affairs                 | Categorical      | 7,608                   | n.a                      | 2012 |
| Protection of Services for Disabled                | health benefits                             | Ministry of Social Affairs                 | Categorical      | 23,252                  | 8,000                    | 2012 |
| Wheat subsidy (producers)                          | Price subsidies and ration cards            | Ministry of Economy and Trade              | Categorical      | n.a.                    | 18,000                   | 2010 |

Source: The Way Forward for Social Safety Nets in the Middle East and North Africa, World Bank 2012, MOSA

## VI. Employment and Livelihoods Appendices

Table 48: Simulations Results for Baseline scenario of Syrian Refugees in 2014

|   | 2012          | 2013           | 2014           |  | 2012       | 2013       | 2014       |
|---|---------------|----------------|----------------|--|------------|------------|------------|
| GDP Growth ( percent points)                  | 0.60 percent  | 2.70 percent   | 1.00 percent   |  |            |            |            |
| Total investment                              | 1.10 percent  | 7.40 percent   | 9.80 percent   |  |            |            |            |
| Formal labor demand                           | 1.00 percent  | 2.50 percent   | 3.50 percent   |  |            |            |            |
| Share informal labor supply ( percent points) | 0.80 percent  | 5.90 percent   | 6.60 percent   |  |            |            |            |
| Emigration of Lebanese                        | 18 percent    | 162 percent    | 201 percent    |  |            |            |            |
| Total Unemployment ( percent points)          | 1.30 percent  | 7.90 percent   | 8.80 percent   |  |            |            |            |
| Production by sector                          |               |                |                | Total labor supply by skill and age                            |            |            |            |
| Agriculture                                   | 0.40 percent  | 2.50 percent   | 3.20 percent   | Low skilled  |            |            |            |
| Energy  | 0.40 percent  | 2.30 percent   | 3.10 percent   | Youth  | 70 percent | 70 percent | 90 percent |
| Industry                                      | 0.70 percent  | 4.30 percent   | 5.10 percent   | Non youth  | 10 percent | 90 percent | 10 percent |
| Construction                                  | 0.40 percent  | 3.90 percent   | 6.30 percent   | Medium skilled   |            |            |            |
| Transport                                     | 0.60 percent  | 3.10 percent   | 3.90 percent   | Youth  | 70 percent | 80 percent | 10 percent |
| Services                                      | 0.60 percent  | 3.40 percent   | 4.10 percent   | Non youth  | 20 percent | 30 percent | 40 percent |
| Trade   | 0.50 percent  | 3.20 percent   | 4.10 percent   | High skilled   |            |            |            |
| Public administration                         | -0.10 percent | -0.30 percent  | -0.30 percent  | Youth  | 20 percent | 30 percent |            |
|   |               |                |                | Non youth  | 80 percent | 00 percent | 80 percent |
| Unemployment by skill ( percent points)       |               |                |                | Informal labor supply by skill and age                         |            |            |            |
| Low skilled                                   | 1.20 percent  | 7.30 percent   | 8.20 percent   | Low skilled  |            |            |            |
| Medium skilled                                | 2.00 percent  | 11.00 percent  | 12.20 percent  | Youth  | 10 percent | 60 percent | 60 percent |
| High skilled                                  | 0.40 percent  | 2.70 percent   | 2.90 percent   | Non youth  | 10 percent | 30 percent | 50 percent |
| Unemployment by age ( percent points)         |               |                |                | Medium skilled   |            |            |            |
| Low skilled                                   |               |                |                | Youth  | 00 percent | 40 percent | 90 percent |
| Youth   | 2.20 percent  | 11.90 percent  | 13.30 percent  | Non youth  | 20 percent | 30 percent | 40 percent |
| Non youth                                     | 0.20 percent  | 1.90 percent   | 2.10 percent   | High skilled   |            |            |            |
| Medium skilled                                |               |                |                | Youth  | 40 percent | 60 percent | 70 percent |
| Youth   | 3.00 percent  | 15.10 percent  | 16.90 percent  | Non youth  | 90 percent | 60 percent | 40 percent |
| Non youth                                     | 0.90 percent  | 6.00 percent   | 6.80 percent   |  |            |            |            |
| High skilled                                  |               |                |                | Share informal labor supply by skill and age ( percent points) |            |            |            |
| Youth   | 0.50 percent  | 3.40 percent   | 3.80 percent   | Low skilled  |            |            |            |
| Non youth                                     | 0.20 percent  | 1.80 percent   | 2.00 percent   | Youth  | 80 percent | 10 percent | 70 percent |
| Average Formal Wage                           |               |                |                | Non youth  | 10 percent | 70 percent | 80 percent |
| Low skilled                                   |               |                |                | Medium skilled   |            |            |            |
| Youth   | -3.20 percent | -12.90 percent | -14.60 percent | Youth  | 70 percent | 60 percent | 00 percent |
| Non youth                                     | -1.70 percent | -10.20 percent | -11.10 percent | Non youth  | 10 percent | 10 percent | 40 percent |
| Medium skilled                                |               |                |                | High skilled   |            |            |            |
| Youth   | -4.90 percent | -18.10 percent | -21.40 percent | Youth  | 10 percent | 70 percent | 70 percent |
| Non youth                                     | -3.30 percent | -14.10 percent | -15.10 percent | Non youth  | 00 percent | 20 percent | 30 percent |
| High skilled                                  |               |                |                |  |            |            |            |
| Youth   | -0.70 percent | -4.90 percent  | -6.50 percent  |  |            |            |            |
| Non youth                                     | -0.70 percent | -4.10 percent  | -4.50 percent  |  |            |            |            |

Table 49: Simulations Results for high Scenario of Syrian Refugees in 2014

|   | 2012          | 2013           | 2014           |  | 2012          | 2013          | 2014           |
|---|---------------|----------------|----------------|--|---------------|---------------|----------------|
| GDP Growth ( percent points)                  | 0.60 percent  | 2.70 percent   | 2.10 percent   |  |               |               |                |
| Total investment                              | 1.10 percent  | 7.40 percent   | 12.30 percent  |  |               |               |                |
| Formal labor demand                           | 1.00 percent  | 2.50 percent   | 2.50 percent   |  |               |               |                |
| Share informal labor supply ( percent points) | 0.80 percent  | 5.90 percent   | 9.40 percent   |  |               |               |                |
| Emigration of Lebanese                        | 18 percent    | 162 percent    | 325 percent    |  |               |               |                |
| Total Unemployment ( percent points)          | 1.30 percent  | 7.90 percent   | 11.80 percent  |  |               |               |                |
| Production by sector                          |               |                |                | Total labor supply by skill and age                            |               |               |                |
| Agriculture                                   | 0.40 percent  | 2.50 percent   | 4.10 percent   | Low skilled  |               |               |                |
| Energy  | 0.40 percent  | 2.30 percent   | 3.90 percent   | Youth  | 8.70 percent  | 67.70 percent | 123.20 percent |
| Industry                                      | 0.70 percent  | 4.30 percent   | 6.60 percent   | Non youth  | 2.10 percent  | 14.90 percent | 25.40 percent  |
| Construction                                  | 0.40 percent  | 3.90 percent   | 7.70 percent   | Medium skilled   |               |               |                |
| Transport                                     | 0.60 percent  | 3.10 percent   | 4.90 percent   | Youth  | 10.70 percent | 74.80 percent | 135.50 percent |
| Services                                      | 0.60 percent  | 3.40 percent   | 5.20 percent   | Non youth  | 4.20 percent  | 26.30 percent | 45.30 percent  |
| Trade   | 0.50 percent  | 3.20 percent   | 5.10 percent   | High skilled   |               |               |                |
| Public administration                         | -0.10 percent | -0.30 percent  | -0.40 percent  | Youth  | 1.20 percent  | 9.30 percent  | 16.80 percent  |
|   |               |                |                | Non youth  | 0.80 percent  | 5.00 percent  | 8.60 percent   |
| Unemployment by skill ( percent points)       |               |                |                | Informal labor supply by skill and age                         |               |               |                |
| Low skilled                                   | 1.20 percent  | 7.30 percent   | 10.60 percent  | Low skilled  |               |               |                |
| Medium skilled                                | 2.00 percent  | 11.00 percent  | 16.00 percent  | Youth  | 9.10 percent  | 64.60 percent | 106.40 percent |
| High skilled                                  | 0.40 percent  | 2.70 percent   | 4.40 percent   | Non youth  | 2.10 percent  | 15.30 percent | 26.10 percent  |
| Unemployment by age ( percent points)         |               |                |                | Medium skilled   |               |               |                |
| Low skilled                                   |               |                |                | Youth  | 11.00 percent | 71.40 percent | 119.00 percent |
| Youth   | 2.20 percent  | 11.90 percent  | 16.20 percent  | Non youth  | 4.20 percent  | 27.30 percent | 46.80 percent  |
| Non youth                                     | 0.20 percent  | 1.90 percent   | 3.30 percent   | High skilled   |               |               |                |
| Medium skilled                                |               |                |                | Youth  | 1.40 percent  | 10.60 percent | 18.60 percent  |
| Youth   | 3.00 percent  | 15.10 percent  | 21.10 percent  | Non youth  | 0.90 percent  | 5.60 percent  | 9.40 percent   |
| Non youth                                     | 0.90 percent  | 6.00 percent   | 9.80 percent   | Share informal labor supply by skill and age ( percent points) |               |               |                |
| High skilled                                  |               |                |                | Low skilled  |               |               |                |
| Youth   | 0.50 percent  | 3.40 percent   | 5.70 percent   | Youth  | 0.80 percent  | 5.10 percent  | 7.60 percent   |
| Non youth                                     | 0.20 percent  | 1.80 percent   | 3.10 percent   | Non youth  | 0.10 percent  | 0.70 percent  | 1.20 percent   |
| Average Formal Wage                           |               |                |                | Medium skilled   |               |               |                |
| Low skilled                                   |               |                |                | Youth  | 0.70 percent  | 4.60 percent  | 6.90 percent   |
| Youth   | -3.20 percent | -12.90 percent | -16.60 percent | Non youth  | 0.10 percent  | 1.10 percent  | 2.20 percent   |
| Non youth                                     | -1.70 percent | -10.20 percent | -15.30 percent | High skilled   |               |               |                |
| Medium skilled                                |               |                |                | Youth  | 0.10 percent  | 0.70 percent  | 1.00 percent   |
| Youth   | -4.90 percent | -18.10 percent | -24.00 percent | Non youth  | 0.00 percent  | 0.20 percent  | 0.40 percent   |
| Non youth                                     | -3.30 percent | -14.10 percent | -18.90 percent |  |               |               |                |
| High skilled                                  |               |                |                |  |               |               |                |
| Youth   | -0.70 percent | -4.90 percent  | -8.90 percent  |  |               |               |                |
| Non youth                                     | -0.70 percent | -4.10 percent  | -6.50 percent  |  |               |               |                |

### Description of Task Measures

**362.** The task measures used in this chapter follow Acemoglu and Autor (2011) who used composite measures of O\*NET Work Activities and Work Context Importance scales as follows:

- **Analytical** includes: Analyzing data and information; Thinking creatively; Interpreting information for others.
- **Interpersonal** includes: Establishing and maintaining personal relationships; Guiding, directing and motivating subordinates; Coaching/developing others
- **Routine Cognitive** includes: Importance of repeating the same tasks; Importance of being exact and accurate; Structured vs unstructured work
- **Routine Manual** includes: Pace determined by speed of equipment; Controlling machines and processes; Spend time making repetitive motions
- **Non Routine Manual Physical** includes: Operatizing vehicles, mechanized devices, or equipment; Spend time using hands to handle, control or feel objects, tools or controls; Manual dexterity; Spatial orientation
- **Offshorability** includes: Face to face discussions (reverse); Assisting and caring for others (reverse); Performing for or working directly with the public (reverse); Inspecting equipment, structures or materials (reverse); Handling and moving objects (reverse); Repairing and maintaining medical equipment (reverse); Repairing and maintaining electronic equipment (reverse).



## VII. Model and Details Underlying the Poverty Estimates

**363. The impact of the Syrian conflict on poverty in Lebanon is estimated based on a global CGE model (GTAP).** This model includes a specific calibration for Lebanon's economy. To estimate the conflict impact, the following variables are shocked: (1) the headcount of refugees migrating from Syria to Lebanon; (2) the headcount of labor force increase due to Syrian immigration; (3) the change in Lebanon's disposable income arising from refugee assistance; and (4) the general change in Lebanon's real GDP due to the conflict.

**364. For 2014, we simulate two simulations based on a baseline and a high Syrian refugee influx into Lebanon.** In the first simulation, we consider a one third increase in Lebanon's population,<sup>139</sup> an increase in labor force (based on the observed labor participation rates of the Syrian refugees before emigration) of 32.1 percent,<sup>140</sup> an increase in income of 6 percent, and a reduction of GDP by 10.3 percent (over the period of 2012 through 2014).<sup>141</sup> In the second simulation, we simulate the implications of a higher influx of refugees into Lebanon in 2014, which would result in population growing by additional 13.8 percent, labor force by 13.4 percent, income by 3.1 percent, and GDP by 4.2 percent.<sup>142</sup>

**365. Our results suggest that the Syrian crisis would impact Lebanon through higher inflation and lower wages.** Specifically, in the first scenario—the baseline refugee influx— consumer prices increase by 4.7 percent due to the increase in domestic income and demand. Factor incomes would, however, fall in nominal terms by 2.6 percent, mainly due to the reduction in nominal wages by 23.7 percent. However, if we exclude labor incomes of the Syrian immigrants from the general factor income calculations (which represent about 9 percent of all factors), we estimate that Lebanese factor incomes will fall only by 0.4 percent in nominal terms. In real terms, those are expected to shrink by 5.1. In the second scenario, which is characterized by an increase in real GDP and disposable income, the increase in consumer prices is 0.4 percent (and 0.9 percent for factor incomes). Because this increase is achieved with a reduction in nominal wages by 10 percent, the actual increase in Lebanese factor incomes is 2.2 percent. In real term, Lebanese households' income is expected to increase by 1.8 percent.

**366. Given the estimated pressures on wages and prices stemming from the Syrian conflict, the Lebanese poverty headcount is projected to rise by 170,000 people.** Simulations using household expenditures data show that, between 2012 and 2014, poverty in Lebanon was projected to continue its downward path in the absence of the Syrian conflict. In its presence, however, about 120,000 Lebanese are estimated to have been pushed into poverty in 2013, which is about 2.9 percent of the Lebanese (pre-conflict) population. If the current patterns were to continue, by 2014, another 50,000 are expected to join the ranks of the poor. By 2014, the rate of poverty incidence in Lebanon would therefore be 3.9 percent higher due to the impact of the Syrian conflict. At the same time, the existing poor (about one in seven Lebanese) would be pushed deeper into poverty.

<sup>139</sup> 33.3 percent of population increase represents an estimated inflow of 1.45 million people for the initial population of Lebanon equal to 4.35 million.

<sup>140</sup> This estimate is based on the statistic of the existing refugees of which 51.9 percent are in productive age and of which 62.1 percent were employed before escaping Syria.

<sup>141</sup> This is based on the estimate that annual GDP of Lebanon falls annually by 2.9 percent as a result of the crisis.

<sup>142</sup> Because CGE models, such as GTAP, generally assume the change in real GDP to be an endogenous variable, we allow the overall factor efficiency to adjust uniformly in order to facilitate an exogenously determined real GDP change. Also, because refugees are assumed to bring certain income to the country from an unknown source, we similarly allow the level of income to be determined exogenously in the model at the small cost of breaking the global general equilibrium (with little consequence for Lebanon given its small size in the global economy).

## VIII. Water and Sanitation Sector Appendix

### Scope and Methodology of the Assessment

**367.** The impact and stabilization assessments were performed per the following geographic distribution, reflecting the sectoral distribution of associated Regional Water Establishments (RWE's) namely: (1) Beirut and Mount Lebanon (Aley, Baabda, Chouf, El Meten, Jbeil, Kesrwan) (BML); (2) South (Bent Jbeil El Nabatieh, Hasbaya, Jezzine, Marjaayoun, Saida, Sour); (3) North (Akkar, Bchare, El Batroun, El Koura, El Minieh-Dennie, Tripoli, Zgharta) and (4) Beka'a (Baalbek, El Hermel, Rachaya, West Beka'a, Zahleh).

**368.** Impact needs were calculated for the period spanning 2011 (defined as pre-crisis and further detailed to March 2011 where data is available) to December 2014 (defined as the "impact period"). The stabilization needs were calculated for the period up to December 2014.

**369.** *Impact Assessment:* The impact of the influx of Syrian refugees into Lebanon on the water sector is measured by the difference between (1) public expenditure on publically-provided sector services during the impact period, and (2) public expenditure on publically provided sector services that would have been incurred had the influx not taken place. Unforeseen expenditures that could be explained by factors other than the Syrian refugee influx are subtracted from the expenditure outturn. The following few remarks should be noted:

- *Actual* water availability in Lebanon is insufficient to meet domestic, industrial or commercial needs, particularly in the summer months (May – October). Available data used as part of the assessment were frequently provided as aggregates that do not reflect important geographic variation across Lebanon. Further, the lack of a central source of information on domestic water consumption, and a lack of volumetric metering at the household level also impeded a detailed estimate of consumption and therefore demand.
- The impact of the significant increase in population due to the Syrian crisis has been most tangible through the reduced availability of water per person. Increasing the volume of water available to households is possible through either: (1) increasing the volume supplied or (2) reducing water consumed and/or lost. Consequently, the total impact due to the crisis is relatively lower than the impact that would have been calculated, had additional water been available for distribution to larger populations. Until such time that water supply infrastructure (e.g., dams, inter-basin transfers) and/or water demand measures (e.g., volumetric metering, reduction in water use, rehabilitation of distribution networks) are made, the water available will continue to decline in indirect proportion to increases in population.
- The impact analysis quantifies the baseline and additional costs incurred on the regional populations serviced by the regional water establishments only. This is to reflect the distinction inherent in the fact that in response to the pervasive shortage of water supply across Lebanon, host communities and refugees (whether connected to the public water network or with no/reduced access) rely on alternative sources of domestic water supply principally via a widespread informal private sector. The analysis further provides a qualitative description of the impact associated with increased reliance on the informal private sector, for which data is particularly scarce.
- The institutional and operational capacity of the 4 RWE's, which are responsible for the production and distribution of domestic water supply, is particularly low. As a result, between

2006 and 2010, the Beka'a Regional Water Establishment (BRWE) for example only spent an average of 10 percent of its projected O&M budget. Similarly, the South Lebanon Water Establishment (SLWE) spent an average of 38 percent of its projected O&M budget. The Impact Assessment calculations thus adjust the projected O&M expenditures to reflect a more accurate estimate of net impact and this by assuming the O&M expenditures for 2011, 2012 and 2013 to be 15 percent of projected O&M budgets for the BRWE, thereby reflecting a modest improvement in meeting O&M targets in one of the regions most significantly impacted by the influx of refugees. Similarly, the O&M expenditure figures for the Beirut Mount Lebanon Water Establishment (BMLWE) reflect expenditures made that are independent of the influx of refugees (co-financing O&M of Greater Beirut Water Supply Project and Janna dam for example) and have therefore been discounted by 75 percent to reflect the impact of refugees.

**370.** *Stabilization needs assessment* estimates the difference in (1) expenditure that would have been needed between January 2012 and December 2014 to maintain the pre-conflict level of quality and access to public services for the host communities and Syrian refugees and (2) the spending that would have occurred in the same period had the Syrian conflict not occurred. The following few remarks should be noted:

- UNHCR Shelter Survey (August 2013) estimates that over 74.9 percent of Syrian refugees are living in rented accommodation with 19.4 percent living with host families. As such, the stabilization needs assessment assumed that within the “rented accommodation” category, 50 percent of Syrian refugees are living in households/structures with access to public water service which would be maintained/improved as per the anticipated pre-crisis host community projections. The remaining 50 percent were assumed to be in need of access to the public network (i.e. living in tents, warehouses or other structures with no access to the public network) and are therefore included in stabilization plans to increase network coverage to the December 2014 host + refugee population.
- The assessment further distinguishes between: (1) immediate humanitarian relief efforts needed to restore access to and quality of water, sanitation and hygiene to refugee communities in particular and (2) short term actions required to restore service to both host and refugee communities, as per projections up to December 2014. The assessment further includes the urgent need to restore water, sanitation and hygiene services to approximately 260 schools as well as urgent equipment needed to restore service levels in those areas most impacted by the crisis.

While GoL's development plans included the implementation and/or preparation of several large infrastructure works which predated the crisis (such as the Greater Beirut Water Supply Project, Janneh dam, Damour dam, Bisri Dam and others), the stabilization assessment only includes those projects which are likely to make additional volumes of water available by 2014 as part of the stabilization, while recognizing the inherent complementarity of the various projects under GoL's national water and sanitation development plans.

## IX. Solid Waste Management Sector Appendix

### Quantitative Analysis Methodology

#### Background

**371.** The Municipal Law (Law Decree No. 118/77 and its amendments) is the law that regulates the municipal work in Lebanon. However; municipalities are divided into two groups: 41 municipalities are subject to the Public Accounting Law while the other municipalities are subject to decree No. 5595/82. Municipalities in the selected sample are subject to decree No. 5595/82 with budget line items divided into six different categories:

1. Administrative Expenses (ADMIN) is comprised of eleven line items;
2. Equipment, Maintenance, and Public Hygiene Expenses (OPEX) is comprised of sixteen line items;
3. Capital Expenses (CAPEX) is comprised of twelve line items;
4. Services and Assistances is comprised of twelve line items;
5. Different Expenses is comprised of nine line items; and
6. Reserved is comprised of one line item.

**372.** Under the OPEX category, the sixteen line items in the Equipment, Maintenance, and Public Hygiene Expenses category are:

1. Equipment: related to the maintenance of technical and IT equipment, applied informatics programs and vehicles. It also includes expenses related to vehicles spare parts and oil;
2. Furniture: includes all expenses related to purchasing furniture, office Equipment: includes expenses for technical equipment, photocopying machines, map drawing machines, engineers, painters and surveyor's kits, computer software programs, information networks and all the technical equipment and information technologies. It also includes weapons and their accessories and equipment for heating and cooling;
3. Maintenance of Equipment and Vehicles: includes all expenses equipment such as desks, cupboards, curtains, rugs, chairs and all other office equipment;
4. Public Hygiene: includes all expenses related to seeds and saplings for public parks and streets, veterinary, laboratory and agricultural materials and all hygiene expenses;
5. Building Maintenance: includes all expenses related to restoration and rehabilitation, alteration and reparation of buildings and maintenance of electrical constructions;
6. Vehicles' procurement: includes all expenses related to buying cars, trucks, bicycles, tanks, buses, and ambulances etc...;
7. Pest Control: includes the price of pesticides and all expenses related to pest control;
8. Cleaning Supplies: includes the price of cleaning tools and materials, disinfection and sterilization of all cleaning supplies;
9. Oil: includes the expenses related to the production of electricity by generators, heating workplaces and liquid hydrocarbons that are used for vehicles;
10. Transportation and Moving Expenses: includes all the transport expenses of employees while doing their jobs inside or outside Lebanese territory;
11. Allowances for Daily Workers: includes the daily workers' wages;
12. Electrical Consumption Expenses: includes the price of electricity in municipal buildings, Electrical posts lighting roads, and temporary subscription in electrical generators;
13. Water Subscription Expenses: includes the water subscriptions, the price of transporting water by water tankers and all expenses related to water;

14. Maintenance of Public Roads: includes all expenses related to bridging and paving street holes, constructing and renovating walls, putting up street signs and widening dangerous roads to ensure traffic safety. It also includes renting vehicles, buying fuel, snow patching, securing water networks, maintaining bridges and rebuilding destroyed ones, removing violation, removing debris caused by nature, forests and touristic sites conservation, public parks and sidewalks maintenance;
15. Maintenance of Water Networks: includes all expenses related to the maintenance of pumps, networks (including the replacement of unserviceable parts), canals, wells and water treatment. It also includes expenses related to water treatment plants for sedimentation, filtering, processing and pumping drinking water or irrigation or sewage; and
16. Maintenance of Electrical Grid: includes all expenses related to maintaining electrical grid and repairing malfunctioning electrical equipment;

**373.** Under the CAPEX category, the expenses that are included in the twelve line items in the Capital Expenses category are:

1. Establish Buildings: includes all expenses related to constructing buildings in various stages until delivered;
2. Establish Public Lighting: includes all expenses related to all types of electrical constructions and installations for lighting transmission and distribution lines and all constructions related to public lighting to become ready for use;
3. Establish Water Systems: includes all expenses related to dredging, building networks, reservoirs and refineries, backfilling, paving, digging wells, dams, lakes and stations for pumping, refining and processing water to be ready for use;
4. Establish Sewer Systems: includes all expenses related to dredging, building networks, backfilling, paving, plants and stations for pumping, refining and processing sewage to be ready for use;
5. Establish Public Roads, Sidewalk and Gutters: includes all expenses related to constructing roads, excavations, building support walls and bridges, ferries, building canals for irrigation or drainage, building sidewalks, paving and buy asphalt to be ready for use;
6. Establish Gardens: includes all expenses related to establishing gardens until delivered ready for use;
7. Establish Playgrounds and Swimming Pools: includes all expenses related to establishing playgrounds and swimming pools until delivered ready for use;
8. Establish Other Entities: includes all expenses related to work in forests, caves, touristic sites, slaughterhouse, waste incinerator, popular markets, public libraries, and cultural, sports and health centers as well as constructions which were not mentioned in the previous line items;
9. Studies Expenses: includes all expenses related to courses, counseling and monitoring;
10. Expropriation Indemnities: includes all expenses related to compensations necessary for any acquisitions done by the municipality;
11. Purchase of Buildings: includes all expenses related to buying centers for municipalities, residential and specialized buildings; and
12. Purchase of Real Estate: includes all expenses related to purchasing private lands for the municipalities;

### **Methodology for calculating the OPEX and CAPEX**

#### Available Municipal Expenditures Data:

- Actual expenditures for a national sample of 718 municipalities for years 2007, 2008 and 2009. The national sample represents 82 percent of Lebanon's population.

- Actual expenditures for a Caza sample of 71 municipalities from the Caza of Akkar for year 2012. The Caza sample represents 70 percent of the total population of the Caza of Akkar. Also, the Caza sample consists of a representative mix of municipal councils varying in size between 9 and 25 members (9; 12; 15; 18; 21 and 24 members).

Available Municipal Population Data:

- Lebanon's population as well as the refugees' population per Caza as provided by UNHCR;
- The Caza of Akkar population per municipality.

**FOR THE CAZA OF AKKAR:**

- No Conflict Scenario: The increase in municipal expenditure in 2012 is calculated for the Caza sample of 71 municipalities based on population figures for both the Caza sample and the Caza as a whole.
- Conflict Scenario (Baseline and High): The unit increase in expenditure in 2012 is then multiplied by the number of expected refugees for each quarter in 2013 and 2014 based on baseline and high expectations in Akkar as provided by UNHCR.

**FOR THE REMAINING CAZAS:**

- No Conflict: The information available in the national sample of 718 municipalities was used to construct the sample baseline for each Caza. The baseline for the Caza is constructed by dividing the data of the sample baseline of the Caza by the number of population of the selected municipalities of the sample; then, the result is multiplied by the population of the specific Caza.
- Conflict (Baseline and High): The impact of the refugees for each Caza is calculated by dividing the actual impact of refugees in Akkar by the number of refugees in Akkar, then the result is multiplied by the number of refugees in each Caza.

**Methodology for Solid Waste Management Expenditures:**

**374.** The quantities of domestic wastes are normally expressed as a generation rate, that is, the average weight of solid waste produced by one person in one day. Solid waste generation rates in Lebanon vary between 0.75 kg/capita/day in rural areas (North, South, Nabatiyeh and Beka'a) to 1.1 kg/capita/day in urban areas (Beirut and most of Mount Lebanon) (MOE, 2010). Several municipalities have developed their own SWM services and are providing this service quite successfully and cost-effectively. Among these is the Municipality of Zahleh that is providing solid waste collection and disposal at a cost of USD40/ton.

**375.** For the purpose of this report, we have taken an average solid waste generation rate to be equal to 0.93 kg/capita/day with municipal solid waste (MSW) making up about 90 percent of the total solid waste stream generated (MOE, 2010). Also, the unit cost of USD40/ton was adopted as the basis for estimating the additional financial burden on municipalities. The total cost of municipal collection and disposal per year is determined based on the following formula:

$$\text{Cost of Waste} = \text{Population} * (0.93/1000) * 0.9 * 40 * 365.$$

The expenditure trend is calculated for solid waste management for the years 2007, 2008, 2009, 2010, 2011, and 2012. A projection of the expenses, without the impact of the refugees from Syria is derived for the years 2013 and 2014 on a quarterly basis.



## Report on Field Visit to the District of Akkar: Saturday August 17, 2013

### Participants:

Mr. Hana Youssef Makdisi, President of Municipality of Ramah ; Mr. Mayez Al Kachi, President of Municipality of Aaouainat; Mr. Abdo Abdo, President of Municipality of Qbaiyat; Dr. Antoine Moussa, President of Municipality of Al Nahriye wa Bestan Al Hersh; Mr. Omar Massoud, President of Municipality of Aandqet; Mr. Hamza Moustapha Al Ahmad, President of Municipality of Machta Hassan; Mr. Khaled Sweiden Al Badawi, President of Municipality of Jermneya and Rameh; Dr. Rami Haddad, President of Municipality of Aaidamoun-Cheikhlar; Dr. George Youssef, President of Municipality of Menjez.

And

Dr. Sateh El-Arnaout, Sector Leader, Sustainable Development Dept., World Bank; Mr. Mahmoud Batlouni, President, Innovative Institutional IDEAS ; Mrs. Reem Kaedbey Research Assistant, Innovative Institutional IDEAS ; Mr. Charbel Dakkane Technical Assistant, Innovative Institutional IDEAS

A round table event organized by the World Bank convened nine Mayors from the District of Akkar to discuss the socio-economic challenges resulting from the large influx of refugees from the Syrian conflict. The World Bank is grateful to Dr. George Youssef (Mayor of the Municipality of Menjez) for facilitating and hosting the event. The key findings from the above consultation exercise are detailed as follows:

Shelter for refugees has emerged as a core issue. It was reported that rental prices have skyrocketed while at the same time availability has plummeted. Residents complain that they have been priced out of their own housing market and young men wanting to marry are unable to find affordable options to establish a new family. There was a very strong view from host communities that specific sites for housing refugees need to be established.

Municipalities felt that they are reaching breaking point, and that camps are one part of a solution. They considered that camps would lessen the strain on municipal services, and allow for better targeted and more cost-effective assistance. They also felt that camps would improve security in their communities, whilst providing a safer environment for the refugees. As for the refugees' population, the lack of rental affordability has forced large families to share smaller accommodation.

The area suffers also from a severe infrastructure deficit, well before the influx of refugees early 2012. The first challenge facing municipalities is the collection and disposal of municipal waste. While the amount of waste has multiplied considerably, collection frequency has not increased since the start of the crisis. Also, in 2012, the solid waste contractor has requested a 100percent increase to his 2011 contract.

The second challenge facing municipalities is the poor and unreliable supply of potable water from the North Lebanon Water Authority. It was reported that, while some municipalities lack any water networks, others suffer from a rapidly decaying water grid (dating back to the 1960s) with no plans for renewal or expansion in sight. All the municipalities reported a marked increase in the cost of water pumping (fuel for generators, etc.) as a result of increased water demand resulting from the influx of refugees. Water wells are being over-exploited and there is an urgent need to identify complementary sources of water.

The third challenge facing municipalities is the proper disposal of wastewater in the absence of a sewerage network and wastewater treatment facilities. It was reported that the rate of emptying the septic tanks has increased significantly from a monthly to a 10-day frequency. This has severely impacted the water quality of wells that remains a serious concern throughout the area.

Environmental concerns were major. These centered on the increasing hygiene problems of the refugees, mosquitos from inadequate sanitary conditions, water pollution from the increased disposal of sewage and municipal waste as well as the expected increase in tree logging for heating purposes.

On the supply side, the Mayors voiced their serious concerns regarding international NGOs operating in the area. They were critical of their activities and qualified their work as ineffective. The Mayors stressed the need for promoting equity in aid programs between the vulnerable Lebanese and refugees' population. However, they all agreed to the need to improve the municipalities' infrastructure and to the empowerment of municipalities in the planning and implementation of local development projects.

Finally, the idea of establishing a Multi Donor Trust Fund (MDTF) managed by the World Bank was welcomed. The MDTF would finance demand-driven municipal projects such as the rehabilitation and expansion of municipal infrastructure and the financing of complementary municipal services to the refugees' population (i.e. solid waste management, etc.). Some suggested also the financing by the MDTF of labor-intensive public works programs benefiting the host municipalities and to be implemented by labor from the refugees' community.

## **X. Electricity Sector Appendix**

### **Annex 1. Challenges and Issues facing the Lebanese Electricity Sector**

#### **Level and quality of electricity supply**

**376.** A capital investment program to develop 1000-1500 MW of new production, and to rehabilitate and provide fuel conversion (subject to availability of gas fuel) of existing generation capacity will address the short and medium term needs for reliable low-cost electricity generation. However, this investment will also require strengthening of transmission and distribution systems.

#### **Cost of Electricity Production**

**377.** A key problem is that Lebanon is entirely dependent on oil imports to meet its energy needs. Lebanon is a signatory of the Arab Gas Pipeline project which is connecting Egypt, Jordan, Syria and Lebanon, however expected supplies of Egyptian natural gas have never been fully realized, and today seem more distant than ever. Significant investment has been allocated to the construction of gas infrastructure and power generation plants designed to operate on natural gas, and therefore in the absence of such gas, fuel costs and electricity production are extremely high.

**378.** Although Lebanon has commenced preparations for exploration and development of possible off-shore gas reserves, most estimates suggest that if these reserves are proven to be commercial, they would still take 8-10 years to realize gas supply to Lebanon's power sector.

**379.** In light of the lack of available alternatives for short-medium term gas supply, several studies were undertaken by the World Bank on the potential economic benefits of liquefied natural gas (LNG). These studies have concluded that Lebanon should immediately develop LNG re-gasification facilities to allow gas supply for power generation, even if only in limited locations, in order to reduce the overall cost of fuel-supply. Ministry of Energy and Water, and the Ministry of Finance are now pursuing development of LNG import facilities on a BOO basis. Even under a worst case scenario, this development is expected to save the Lebanese government USD130 million? per annum.

#### **Fiscal sustainability: Tariff Structure, Revenues – Billings and Collections**

**380.** The sector accumulates huge debt with little to show for it. The poor electricity service provided by EdL is costing the Government massive amounts in the form of subsidies which continue to increase (USD2.2 billion in 2012 vs. USD1.7 billion in 2011).

**381.** Subsidies are required to cover insufficient revenues due to a poorly structured tariff set far below cost recovery; poor operational and financial performance by EdL including (1) high network losses (>30 percent of production) and poor billing and collection (<60 percent billing rate); (2) continued use of expensive fuel (diesel) in two major power plants designed to use natural gas; and (3) high O&M cost of all power plants including high technical losses (15 percent) resulting in very high production costs (around US 20cents/kWh).

**382.** It is recommended, in the context of the its Government's proposed reform and investment program, that in the short to medium term the Government revises the tariff structure and rates to move towards cost-recovery and ensure financial sustainability of the sector. The Government has broadly outlined plans to restructure and raise tariffs in its Policy Paper for the electricity sector, once the level of reliability and supply of electricity has been improved. If the Government does not implement tariff reforms then substantial subsidies will continue to be necessary.

**383.** Even if tariffs are re-structured and raised to meet cost-recovery requirements, EdL's lack of performance in collecting revenues would continue to weigh on the fiscal health of the sector and its requirement for subsidization. Metering, billing and collection are highly inefficient. Technical losses are estimated at about 15 percent, while another 18 percent in losses are explained by illegal connections. Out of the 60 percent of the power produced that EdL actually bills, about 90 percent on average is eventually collected annually – meaning that only around 55 percent of electricity supplied to consumers is actually paid for.

**384.** The Ministry of Energy has taken steps to restructure its distribution and retail operations by outsourcing these functions to the private sector through three regional contracts with Distribution Services Providers. The Bank has given in-principle support for this effective decentralization of distribution services, as a key reform necessary to improve service delivery and reduce the significant losses that are contributing to the need for subsidies. Although contracts are in place these are yet to show significant improvement in revenue collection and will need to be carefully monitored and managed in order to achieve the intended outcomes.

#### **Sector Governance and Institutions (Electricite du Liban – EdL)**

**385.** The inability of the electricity sector to provide low-cost, basic service delivery, and its reliance on Ministry of Finance for ongoing massive subsidization, are closely related to the poor governance of the sector and the lack of implementation of much needed reform of EdL.

**386.** A major problem is the legal status of EdL as a non-commercial “Etablissement Public”, which puts EdL's staff under the status of civil servants, with an inadequate pay scale to retain competent managers and technical staff and career management rules incompatible with the operation of a utility. EdL's staff is, on average about 58 years old and it is currently losing around 150 staff per year to retirement out of about 2,300 current employees.

**387.** EdL's current legal status and lack of management autonomy and capacity have resulted in its weak financial and operational performance and have made the company incapable of managing and overseeing electricity sector reform or implementing major investments in the sector.

**388.** Although there have been recent improvement in accounting and financial reporting systems and EdL is about to complete audit of its accounts to 2012, its management systems for the most part remain outdated and ineffective.

**389.** Over the medium-term, Law 462 should be amended to allow the possibility of full corporatization of EDL as a public company, without the uncertainty and controversy created by very short-term deadlines for undefined unbundling and privatization. If it is decided to retain unbundling and privatization objectives within the amended law, it is strongly recommended that those actions be triggered only after an adequate transition period in which EDL performance improvements are given enough time to succeed.

**390.** In the longer term, the Government of Lebanon could consider further sector re-structuring through unbundling, and part or full privatization of generation and distribution to further improve performance of the sector, once the above action plan has been implemented and improvements in the performance of EdL have had the chance to succeed.

**391.** The corporatization of EdL is planned under the Government's Policy Paper for the Electricity Sector, however little has yet to be done to implement recommendations for corporatization of EdL.

## **Annex 2. Progress on the Government's short-term program**

**392.** The Government's short-term program (budgeted at USD1.2B) is currently under implementation with the following progress:

### **Level and Quality of Supply**

**393.** Procurement of new power stations and associated transmission strengthening is underway (the Bank informally supported the development of bidding documentation for some of this procurement). The government's plan to alleviate the shortage of reliable capacity by 2016 allocates USD855 million to new power generation, comprising:

- a) Rehabilitation of the Zouk and Jieh steam power plants. Bids are ongoing for this work under IsDB financing, which will:
  - a. Restore their generating capacity, adding 209 MW
  - b. Extend their operational lives for 10 years after completion of the rehabilitation
  - c. Take 2 to 4 years, depending on whether units are rehabilitated sequentially or in parallel
- b) Temporary power barges at Zouk and Jieh will maintain output while the rehabilitation is taking place. Contracts have been awarded for this barge-mounted generation and they are supplying for 270MW.
- c) Installation of 272 MW of dual-fuel reciprocating engines at Zouk (192MW) and Jieh (78MW), to be completed in 2014. A preferred bidder has been identified for both power stations. Contract signed and work has begun. Zouk new Power Plant take over is expected in November 2014 and Jieh new Power Plant in August 2014.
- d) Construction of a second CCGT power plant of around 538 MW (on HFO) and 569 MW (on NG) at the Deir Ammar (Beddawi) site, adjacent to the existing station. Contract signed. Estimated completion in 2015.
- e) IPP projects are also planned, in order to add a further 1500 MW of capacity by 2016. However, the Kuwait Fund is currently financing through a grant a feasibility study for the IPP projects.
- f) The government has also set a target for renewable generating capacity to reach 12 percent of the total installed capacity by 2020. A wind atlas has been prepared, and the Bank has recently completed a study into development of a wind power market in Lebanon. Studies have also been completed of hydropower potential, including short-term rehabilitation of existing hydropower.

**394.** Government priorities for capital investment also include strengthening transmission network capacity and reduce network losses. Projects currently under construction or being tendered include:

- a) Completion of Mansourieh 220kV line (USD1M);
- b) Transmission reinforcement for new generation connection. Projects were all assigned to preferred bidders and are currently in progress when it comes to the administrative and legal processes.

### **Cost of Electricity Produced**

**395.** The Bank provided several earlier studies on the potential benefits of LNG supply as a source of fuel for power generation, including through the Emergency Power Sector Reform Capacity Reinforcement Project.

**396.** The Ministry of Energy and Water is now planning an LNG re-gasification PPP that will initially provide gas fuel to the Beddawi power station in the north of the country. Ministry of Finance has expressed support for this development as a means to immediately reduce subsidies for fuel purchase. An expression of interest for development sponsors has been released, well-recognized international

companies short-listed, and a Request for Proposals is now under development (the GoL is considering a World Bank Partial Risk Guarantee and MIGA sovereign risk guarantee to support this transaction)

**397.** The Bank supports the MoEW in its development of LNG supply, however this development needs to proceed with due rigor. The Bank is encouraging MoEW to hire an international legal advisor (in addition to the technical and project management consultant that it has already hired) to assist with contract negotiations for the LNG Terminal Use Agreement. The Bank is also encouraging MoEW to formally establish a gas unit within the Ministry with sufficient capacity to manage the LNG transaction and ongoing contracts, and is preparing technical assistance to support the establishment of this unit.

### **Fiscal Sustainability – Tariffs, Revenues**

**398.** MoEW has executed three regional contracts with Distribution Service Provider that will allow the private sector to provide services to improve the performance of the electricity distribution network, thereby reducing losses, and improving billings and collections for electricity supply. IFC has provided financing for one of the Distribution Service Providers.

**399.** These contracts faced early difficulties with the transfer of contracted EdL employees, a situation that was exacerbated by political divisions and resulted in demonstrations that temporarily halted EdL operations.

**400.** It remains too early to tell if these contracts will indeed achieve their aims of reducing technical and non-technical losses and improving billing and collection of electricity revenues;

**401.** In addition to improving revenue collections, and reducing losses, MoEW needs to implement a tariff adjustment plan that considers changes to both the level and structure of electricity tariffs to increase sector revenues and cost-recovery. MoEW argues that its initial priority is to meet electricity demand, in order to develop the political leverage to raise tariffs.

### **Sector Governance**

**402.** Several consultants have worked on plans to corporatize EdL, however implementation of serious reform of governance structures, corporatization of EdL and formation of an independent regulator are yet to proceed. A roadmap for corporatization of EdL was developed under the Emergency Power Sector Reform Capacity Reinforcement Project, however implementation remains delayed by continuing lack of political consensus around this issue.

**403.** There is also concern at the need to fully institutionalize the implementation of the GoL's Policy Paper for the electricity sector. At the moment this implementation is for the most part being undertaken by a large group of individual consultant under the employ of MoEW. Significant investments and reform programs need to be brought fully under the management of existing institutions lest the electricity program become subject to the vagaries of Lebanon's political economy.

### **Energy Efficiency**

**404.** Lebanese Centre of Energy Conservation (LCEC), UNDP-CEDRO and World Bank studies have shown that with minimal Government investment in a range of energy efficiency and demand side management programs, considerable reduction in electricity demand and consequent savings to GoL are possible. The establishment of MoEW's energy efficiency program, initially through UNDP-CEDRO support, has been a shining success. LCEC is now incorporated as a government funded agency under the Ministry of Energy and Water, and has been assigned budget to promote various energy efficiency

initiatives. The Bank has supported LCEC through an early study on energy efficiency priorities, and then later studies on the development of thermal building standards, and a solar water heater program. Opportunities remain to expand energy efficiency investments.



### **Annex 3. Current Donor and World Bank engagement in the sector**

#### **1) DONOR AND PRIVATE SECTOR ENGAGEMENT**

**405.** Donor support, particularly through technical assistance, has been critical in the formation of the Government's Policy Paper, and will continue to be critical to the implementation of the electricity sector investment and reform program. Significantly, donor support and in particular donor financing will provide momentum for implementation of the full breadth of investments and reforms called for in the Government's Policy Paper for the Electricity Sector – comprehensive implementation is an absolute necessity if the electricity sector is to meet basic standards of service delivery and return to a state of fiscal sustainability.

**406.** The World Bank has suggested that the Government convene a donor conference to present the Government's plans for the sector and priority projects indicated above, and seek their technical and financial contributions to the Government's reform and investment program.

**407.** Significant opportunities exist for technical assistance to the sector, particularly in the reform and restructuring of sector governance and in the corporatization of EdL, and in institutionalizing the implementation of the Government's reform and investment program. Donor supported technical assistance could also enable the government to better manage and monitor the performance of Distribution Services Contracts, to ensure that this critical first step towards decentralizing management of service provision succeeds. This technical assistance could also provide entry points for financing of EdL reform and performance improvements. Donor engagement in this area will be critical to ensuring sufficient momentum for reforms to be fully implemented.

**408.** As earlier mentioned, the Government of Lebanon also intends to supplement public financing through financing resources of development partners in the medium term. IFIs and donors have recognized the urgent need for capital investment in Lebanon's electricity sector, and have indicated a willingness to support the Government in meeting its financing needs for the sector.

**409.** The financing needs of the electricity sector and the subsidies needed to finance sector investments are enormous and would be an intolerable drain on the government budget if they were to be met only by public financing. Lebanon may be able to attract private investment in electricity production and distribution in the medium to long-term, however, private sector finance will only be possible where the Government has undertaken necessary preparatory work, including legal and regulatory development.

**410.** A range of Public-Private Partnership (PPP) options are available to Government, which would enable the private sector to finance electricity sector infrastructure either wholly or in part. Private finance would best suit the development of electricity generation, or LNG facilities, where the Government would also benefit from private sector experience in the management, operation and maintenance of these facilities.

**411.** However, in order for PPP arrangements to be successful and provide cost-effective outcomes for Government, they must be supported by appropriate legal and regulatory development, and successful implementation of some of the other policy actions outlined above – including minimum cost-recovery tariffs. The Government must commence the necessary groundwork for PPP now, in order to enter into successful arrangements in the longer term. A draft PPP law is now under consideration – this law would provide clarity around PPP arrangements and benefit any future projects in the electricity sector.

**412.** Other forms of PPP, including service and management contracts, would allow the Government to access private sector management skills without finance, and these should be considered as a means of supporting EdL's management of the sector.

## **2) WORLD BANK ENGAGEMENT**

**413.** The Bank has already played a useful role in supporting the development of the Government's Policy Paper for the Electricity Sector – a critical first step in meeting service delivery requirements and reducing the sector's need for ongoing massive subsidization. It has also supported the development of LNG supply which will immediately reduce MoF fuel subsidies to the sector, and the development of energy efficiency programs and renewable energy development.

**414.** The Bank can continue to provide support for reform and appropriately targeted investment in the sector, both directly, and by assisting the Government to convene broader donor support for these reforms and investments. The momentum provided by comprehensive donor engagement will be critical to seeing through the full breadth of reforms and investments necessary to improve service delivery and reduce the cost of the sector to public finances.

**415.** The Bank is continuing to support LNG development as a source of low cost fuel for power generation, and is currently discussing with the Government the provision of a Partial Risk Guarantee, and MIGA guarantees, to support this development. Although this engagement does not cover the full breadth of necessary reforms and investment within the sector, it has allowed the Bank to remain a valuable partner to Ministry of Energy. This engagement will also support immediate reduction in fuel subsidies from MoF to the sector, and reduce the overall cost of service delivery in the sector.

**416.** Other key areas of Bank support, that are critical for improved service delivery and reduced subsidization, could be:

- Improvement in governance and institutional performance, through commercialization and improved performance management in EdL, and eventual corporatization of EdL.
- Decentralization and privatization of distribution service delivery – initially through support for management and monitoring of Distribution Services Contracts, and longer term through consideration of full privatization of the distribution sector.

**417.** The Bank's engagement in either of these areas will be contingent upon the Government's desire for this support, and upon sufficient political will to tackle these sensitive reforms. The Government is already active in both of these areas.

**418.** There are also possibilities for financing support to improve service delivery through infrastructure development, particularly where this is aimed at reducing the overall cost of supply. Although Ministry of Finance has made a general request for Bank financing, the Ministry of Energy and Water has not yet defined a project for potential World Bank financing. MoEW has, however, indicated that financing could be requested for future transmission projects, renewable energy projects (in particular refurbishment of existing hydropower stations), a possible pilot wind-power project, and for a program of investments to reduce energy consumption in public buildings and facilities.

**Annex 4. Proposed Reforms in June 2010 Policy Paper on the Electricity Sector in Lebanon**

- Improving sector governance by effectively corporatizing EdL in accordance with commercial principles, and building its management capacity to improve the technical and financial performance of the sector;
- Increasing the supply of electricity (to meet demand) by an additional 700MW in the medium term, and a further 800MW in the longer term;
- Reducing the fiscal burden created by the sector by revising the electricity tariff structure and setting rates that will over time result in the fiscal sustainability of the sector;
- Reducing the cost of power production through investments in low cost fuel supply (Liquefied Natural Gas (LNG))
- Reducing network losses, increasing the efficiency and reliability of supply, and enabling increased power flow from new generation, by strengthening of transmission and distribution systems;
- Improving the performance of electricity distribution, billing and collection through decentralization and private sector engagement;
- Promoting renewable energy, energy efficiency and energy savings; and
- Promoting public-private partnerships to modernize the operations of the sector.

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