



The Macroeconomics of Post-Conflict Economic Recovery

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Introduction

This paper analyzes the macroeconomic aspects of the aftermath of civil conflict. We review and assess initial macroeconomic conditions, and key macroeconomic outcomes, in post-conflict countries. We then assess the implications of orthodox stabilization and policy reform measures that post-conflict economies pursue. The paper is structured as follows: Following this introduction we outline initial conditions in post-conflict economies in Section 1. In Section 2 we examine macroeconomic outcomes in post-conflict economies, using a panel of 81 developing countries with annual data from 1964 to 2002. Twenty eight of the countries experienced at least one episode of civil conflict during this period; 22 of the conflict countries transitioned to a post-conflict state for at least a year. We combine the analysis of the data with evidence from the literature. In Section 3 we assess the implications of macroeconomic stabilization and policy reform efforts that post-conflict economies are made to pursue. We conclude in the last section.

1. Post-conflict initial conditions

Knowledge of initial conditions at the end of conflict is useful to understand the consequences of conflict and to help determine the appropriate policy measures for sustaining the peace and stimulating economic recovery. Certain aspects of initial conditions tend to be similar, such as a relatively high risk of war onset: War often generates new grievances and aggravates existing ones. Weapons might proliferate and society might have become acculturated to violence. Thus, consolidating peace would be

a major preoccupation of all policies. At the same time the need for economic growth and promoting human development would be much more acute in post-conflict economies due to the destruction wrought by warfare.

Second, economic policy is typically poor at the onset of peace. Post-conflict countries start with an average Country Policy and Institutional Assessment Index (CPIA) score, from the World Bank, of only 2.41, compared with a developing country average of 3.00. This is the case across the whole range of macroeconomic, structural and social policies.¹ Thus, the typical post-conflict country is in dire need of reform. However, the typical post-conflict government is weak: It may take time to establish effective control over the entire country, and also civil war tends to weaken government institutional capacity, notably due to loss of human resources, destruction of government facilities and disruption of processes.

The type of post-conflict transition and the resulting balance of power among contending parties vary. A winner-take-all victory, as in Uganda, or a successful independence struggle, as in Timor-Leste, presents a different political economy than a negotiated settlement that leads to power-sharing arrangements, as in Cambodia.² The early post-conflict period may be a relatively easy time for reform in a winner-take-all victory when the winner is not the government in power, as in Uganda in 1986. In such circumstances people expect change, and old vested interests may have been weakened or eliminated.

Conflict risk factors also vary. They include natural resource dependence;³ poor growth performance;⁴ horizontal and vertical inequalities;⁵ and religion, race, or ethnicity. With political risk factors, fostering political and economic inclusion becomes

a key challenge. If natural resources are the culprit, their management, including the revenues they generate, would be the key challenge.

2. Post-conflict macroeconomic outcomes

We examine and explain macroeconomic outcomes in post-conflict economies, focusing on growth; capital flight; seigniorage, money demand, and inflation; and aid flows. We generate descriptive statistics on these variables using a panel of annual data on 81 developing (non-OECD) countries. Twenty-eight of these countries experienced at least one episode of civil war between 1964 and 2002. The remaining countries enjoyed peace throughout this period. Twenty-two of the conflict countries transitioned to a post-conflict episode. The panel is unbalanced. Thus, the actual number of observations varies across variables. The countries are listed as an appendix. We analyze the descriptive statistics in conjunction with evidence from the literature.

We follow Gleditsch *et al*⁶ to define civil war as a violent conflict between a government and an organized opposition group. We use a threshold of 1,000 battle-related deaths in total during the conflict, and consider only the country where the conflict is fought as being at war. We assume a decade-long post-war period. The conflict data are from the Uppsala Conflict Data Program (UCDP)/ International Peace Research Institute (PRIO) Armed Conflict Dataset Version 4-2006.⁷

Growth

Table 1 contains statistics on annual economic growth during and after civil war. The statistics are based on 380 war episodes, 167 post-conflict episodes, and 410 pre-war episodes (defined as five years prior to war onset) for conflict countries; and 1,900

observations for non-conflict countries. The statistics indicate a rebound in GDP growth from 2.5% during wartime to 4.9% post-war. Correspondingly, per capita income growth jumps from 0.19% during wartime to 2.4% post-war. In fact, GDP and per capita income growth rates are higher post-war relative to peacetime in conflict countries and to non-conflict countries.

The rebound in post-war GDP growth is unsurprising. War disrupts economic activity, contracting income. Thus, the mere resumption of pre-war economic activity would result in a relatively high post-war economic growth rate, given the fact of computing the growth rate over a low base. Economic theory also predicts a higher post-war growth rate. In the short-to-medium term, the neo-classical growth model predicts high post-conflict growth because the marginal productivity of capital would be high due to a reduced capital stock.⁸ In the longer term, growth could be higher or lower relative to pre-war, depending, in particular, on the effects of war on the efficiency parameter – which captures institutions. War could also have a negative long-term impact on the human capital stock – and hence on growth – through permanent emigration and the spread of morbid diseases like HIV/AIDS. Collier *et al*⁹ and Collier and Hoeffler¹⁰ suggest that the effects of war on institutions are negative and that, thus, the long-term effects of war on growth are negative. However, Bellows and Miguel¹¹ provide some econometric evidence suggesting that civil war has had a positive long-term impact on institutions in some parts of Sierra Leone. If this is true for the country as a whole, it could imply a higher long-term growth than would have occurred in the absence of war.

Table 1: War and Economic Growth Performance

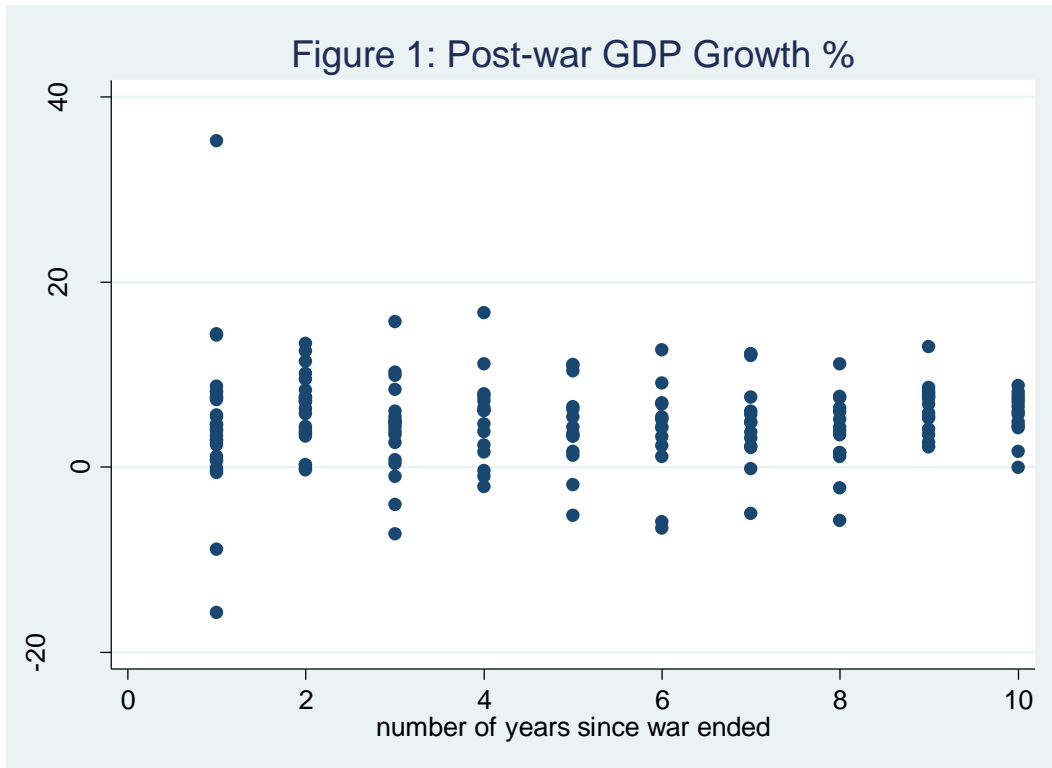
	Conflict countries					Non-Conflict countries
	5 years prior to war	Wartime	First 5 post-war period	Second 5 post-war period	Overall post-conflict decade	
Per capita income growth %	1.4	0.19	2.3	2.5	2.4	1.6
GDP growth %	4.0	2.5	4.9	4.9	4.9	3.9
Per capita income (constant 2000 US\$)	870	881	748	822	779	2890

Notes: For conflict countries there are 410 peacetime episodes, 380 war episodes and 167 post-war episodes. There are 1,900 observations for non-conflict countries. Industry comprises mining, manufacturing (also reported as a separate subgroup), construction, electricity, water, and gas. Source: Conflict data: Gleditsch *et al*¹²; all others: World Development Indicators¹³.

Figure 1 reveals no clear temporal pattern in post-conflict growth. Average GDP growth rate ranges from 6.4% in the ninth post-conflict year to 3.8% in the sixth. However, there is considerable variation in GDP growth performance across observations. The coefficient of variation is 110%. There are 18 episodes of negative growth out of the total of 167 observations. This suggests that positive or high post-war growth cannot be taken for granted. Table 2 presents the negative growth episodes. The growth episodes show no obvious temporal pattern in terms of when they occur during the post-conflict period. An important agenda for future research would be to explain the circumstances underlying the negative growth in these countries.

The absence of a clear temporal pattern in post-conflict growth contradicts Collier and Hoeffler's¹⁴ finding that the main surge in growth is in the middle of the post-conflict decade rather than right after the end of conflict. Collier and Hoeffler base their finding on growth regression results with post-conflict dummies as additional explanatory

variables. That the results are based on only 34 post-conflict episodes is a major limitation of the Collier and Hoeffler study. In fact, the crucial result about the growth surge in the middle of the post-conflict decade is based on 13 post-conflict episodes.



Source: GDP growth: World Development Indicators¹⁵.

Table 2: Negative Growth Episodes

Country	Year	Number of years since war ended	GDP growth %
Ethiopia	1992	1	-8.9
Morocco	1992	3	-4.0
	1993	4	-1.0
	1995	6	-6.6
	1997	8	-2.2
	1999	10	-0.1
Nicaragua	1990	1	-0.1
	1991	2	-0.2
	1993	3	-0.4
Nigeria	1975	5	-5.2
	1978	8	-5.8
South Africa	1990	2	-0.3
	1991	3	-1.0
	1992	4	-2.1
Sri Lanka	1972	1	-0.4
Sudan	1978	6	-5.9
	1979	7	-5.0
Zimbabwe	1984	5	-1.9

Source: World Development Indicators 2006

Capital flight

Table 3 presents annual capital flight flow estimates (percent of GDP) for 77 countries in our panel over the period 1971 to 2000. There are about 360 war and 250 post-war episodes. The table suggests that capital flight flows – outflows of capital from an economy – are higher post-war relative to wartime in conflict countries, and to peacetime both in conflict and non-conflict countries. We use the Cline¹⁶ measure of capital flight. The merit of this measure is that only capital that actually leaves the economy is considered as flight capital. Thus, once capital has left the economy of Cambodia, say, whatever income it generates is not considered as accruing to Cambodia and is therefore excluded from Cambodia's current account balance for the purpose of

computing this capital flight measure. Other capital flight measures, such as World Bank,¹⁷ consider unrepatriated income from capital that has already left the economy as capital flight. Hence, such measures might be considered to overstate the magnitude of capital flight based on the intuitive notion of capital flight as capital leaving or fleeing an economy.

The Cline measure is a variant of the “residual” measure, which estimates capital flight as the residual between an economy’s sources and uses of foreign exchange. In the Cline measure, changes in gross foreign public debt and net foreign investment constitute the sources of foreign exchange. The current account balance and increase in reserves constitute uses of foreign exchange. However, private capital income retained abroad is excluded from the current account balance. Specifically, Cline subtracts reinvested foreign direct investment income (abroad and domestically) and credit items, such as travel and other investment income. Consequently, the Cline estimates of capital flight tend to be smaller than most other estimates.

Table 3: Post-War Capita Flight Flows %GDP

Capital flight measure	Conflict countries			Non-conflict countries
	5 years prior to war onset	Wartime	Post-war	
Cline	-1.0	-0.12	0.04	-2

Source: conflict data: Gleditsch *et al*¹⁸; capital flight: IMF unpublished data.

By the Cline measure, average annual capital flight flows go from -1% of GDP during peacetime, to -0.12% during wartime, to 0.04% post-war. Davies¹⁹, using a panel of 75 countries, and Collier *et al*²⁰ (2004), also using a large panel dataset, find that the increase in capital flight during wartime is statistically significant, controlling for other

factors. Furthermore, the authors find that there is no tendency for capital flight to decrease in the post-war period and that, rather, there is some evidence suggesting that it does increase. The behaviour of capital flight during and after civil war in our panel is thus consistent with the econometric evidence from the literature.

One explanation for why capital flight is higher after war is that it might be fuelled by aid inflows, which tend to surge post-war. Lensink *et al*²¹, using a panel of 84 countries, find foreign aid to be a positively significant determinant of capital flight. Boyce²² reports external debt as a significant positive determinant of capital flight in the Philippines. Ndikumana and Boyce²³, using a panel of 30 Sub-Saharan African countries, also reach a similar conclusion for the region. Dollarization might also help explain higher levels of capital flight after war. With dollarization, foreign currency still in the country might be imputed to capital flight.

One major implication of the finding that capital flight increases during and after war is that a large stock of flight capital would accumulate abroad from countries that have experienced civil war. The challenge will therefore be for post-conflict governments to formulate policy to encourage repatriation of this capital stock. Davies²⁴ reports that, post-war, capital flight is differentially sensitive to inflation: In post-conflict economies, a percentage point increase in inflation differentially increases annual capital flight flows by about 0.005 to 0.01 percentage points of GDP, a substantial effect at high inflation rates. Thus, low inflation represents a potentially potent tool for curbing capital flight and inducing its repatriation in high-inflation post-conflict economies.

Seigniorage, money demand, and inflation

Table 4 presents estimates of seigniorage and its currency-in-circulation and bank reserves components for 65 countries in the panel.²⁵ There are 290 civil war and 160 post-war episodes. Currency union countries are excluded because membership of a currency union constrains access to seigniorage. Former communist countries are also excluded in part because they lack the required data.

The table indicates that seigniorage rises during war by close to one percentage point of GDP from a pre-war mean of 1.9% of GDP to 2.7%. Furthermore, the composition of seigniorage changes from peacetime to wartime: Bank reserves seigniorage rises from an average of 0.66% of GDP five years prior to war onset for conflict countries to 1.7% during war, and falls to 0.92% in the post-war decade. On the other hand, seigniorage from currency decreases from 1.2% of GDP five years prior to war onset, to 1% during war, and rises to 1.1% post-war. Third, post-war, seigniorage declines but remains higher than its peacetime level. Adam *et al*²⁶, using a panel of 65 developing countries, obtain similar descriptive statistics and produce econometric evidence finding that the increase in seigniorage revenue during and after civil war is statistically significant.

An increase in wartime seigniorage is unsurprising. One reason is that financing needs increase. Military spending increases by nearly two percentage points of GDP.²⁷ On the other hand, the tax base, aid inflows, and the scope for borrowing tend to contract, constraining financing options towards money issue. Civil war might also raise the government discount rate and its preference for seigniorage: A higher risk of government demise might produce incentive incompatibility for fiscal restraint as the government

might not be in office to reap the benefits. Moreover, fiscal restraint might be irrational to the extent that restraining military expenditure increases the risk of government demise.

However, private agents are likely to reduce their real money balances in response to the ensuing inflation, and to war itself. If there is a permanent fall in money demand – due, for instance, to dollarization, capital flight or a retreat of the rural economy into subsistence activities – seigniorage capacity would be impaired, lowering post-war seigniorage relative to peacetime. On the other hand, if, post-war, the demand for money recovers, seigniorage capacity would be preserved. Adam *et al*²⁸ find that the demand for money contracts during wartime and further post-war, over and above the effects via income and inflation: During the post-conflict period, money demand declines by 21% relative to peacetime and a further 8% relative to wartime. The decline relative to wartime is statistically significant, overall and for currency demand.

Furthermore, the elasticity of money demand with respect to inflation increases in absolute terms, rendering money demand more sensitive to inflation. On the other hand, the income elasticity of money demand decreases. Consequently, even if income and inflation return to their pre-war levels, money demand would still be lower than pre-war.

War termination might expand financing options. Aid could surge and government access to credit might improve. However, post-conflict activities like demobilization and reconstruction tend to be costly. Thus, large financing needs may persist. Consequently, post-war seigniorage could be higher or lower than peacetime, depending on financing needs, aid inflows, government preferences, and private sector response through money demand and flight capital.

Table 4: Seigniorage

	Conflict countries					Non-Conflict countries
	5 years prior to war onset	Wartime	First 5 post-war period	Second 5 post-war period	Overall post-conflict decade	
Total seigniorage (% GDP)	1.9	2.7	2.2	2.3	2.1	1.9
Seigniorage from currency (% GD)	1.2	1.0	1.1	1.1	1.1	0.8
Seigniorage from bank reserves (% GDP)	0.66	1.7	1.1	1.2	0.92	1.1

Source: conflict data: Gleditsch *et al*²⁹; all others: International Financial Statistics April 2006.

The inflation experiences of post-conflict economies is extremely varied, raising questions about the usefulness of modeling or analyzing them within a single framework. Post-conflict inflation varies from -3% in Sierra Leone in 2002 to 7,500% in Nicaragua in 1990.³⁰ On the other hand, in Peru, which experienced wartime hyperinflation of 7,500% in 1990, post-conflict inflation plummeted to less than 4% between 2000 and 2002.³¹

Aid

Table 5 indicates that aid as a percentage of gross national income rises from 5.9% during wartime to 9.5% post-war. This is unsurprising, given the imperatives of maintaining the peace. This aid surge could have salutary as well as perverse macroeconomic effects. The salutary effects include improving domestic supply capacity and hence promoting growth, which, in turn, can reduce the risk of conflict. Collier and Hoeffler³² find that the typical post-conflict country experiences a growth spurt of two percentage points and that much of this growth spurt is due to aid. However, as already noted, the results are based on only 13 post-conflict episodes. Adam *et al*³³ also find that aid reduces reliance on inflationary seigniorage and boosts money demand in post-conflict economies. In this sense aid can be used to promote financial reconstruction, analogous to the role it plays in physical capital reconstruction.

Table 5: Aid

	Conflict countries					Non-Conflict countries
	Peacetime	Wartime	First 5 post-war years	Second 5 post-war years	Overall post-conflict decade	
Aid (% GNI)	4.3	5.9	10.8	7.7	9.5	8.4

Source: Conflict data: Gleditsch *et al*³⁴; Aid: World Development Indicators³⁵.

On the other hand, aid could induce real exchange rate appreciation, damaging external competitiveness. This would depend on whether the aid is absorbed or spent. In a post-conflict environment, much of the aid is likely to be spent – because of low government revenues – unless restrained by a stabilization program with the international financial institutions. The literature on the macroeconomic effects of aid tends not to distinguish between the different types of aid – such as project aid or budgetary support – which could have different macroeconomic implications.

Aid also has political economy and institutional effects. It can affect the risk of conflict through various channels. Azam³⁶ suggests that aid can enable the government to placate the opposition. Elbadawi and Ndung'u³⁷ find, empirically, that in a poor policy environment, aid flows increase the risk of conflict, but in a good policy environment aid flows reduce the risk of conflict and also have a positive effect on private and public investment.

Post-conflict on-budget aid is often dwarfed by off-budget aid.³⁸ In Afghanistan the “external budget” was roughly twice the size of the government’s “internal budget.”³⁹ The ensuing “dual” public sector poses considerable difficulties for financing peace-related needs in a coherent manner, and for ensuring longer-term sustainable development. It also reduces the government’s accountability to its citizens, since its

own budget process covers only a fraction of total spending in the country. Lastly, aid could also “crowd out” domestic fiscal capacities.⁴⁰

3. Implications of orthodox economic reform programs

Approaches to economic reform in developing countries have varied. These have been classified as populist programs involving wage and price controls, orthodox programs focusing on getting the fundamentals right, and heterodox programs combining elements of the other two approaches.⁴¹ We focus on the orthodox approach commonly used in recent reform programs supported by the international financial institutions in post-conflict economies. Such programs are complemented by fiscal adjustment and come in two forms. Money-based programs use restrictions on the rate of monetary expansion as a nominal anchor for inflation while using the exchange rate to maintain external balance. Exchange-rate-based programs use an exchange rate peg as a nominal anchor for inflation. We review the following components of such programs: macroeconomic stabilization, fiscal adjustment, financial sector reforms and external debt management.

Macroeconomic stabilization

Orthodox stabilization programs seek to reduce inflation through demand management with an accompanying fiscal adjustment. As stated, such programs are either money-based or exchange-rate-based. High rates of inflation could hurt economic growth, and ignite political unrest, endangering post-conflict peace. Thus, in principle, stabilizing high post-conflict inflation is consistent with consolidating peace. However, as discussed below, the distributional consequences of some forms of fiscal adjustment may

endanger the peace. Furthermore, tensions may arise between fiscal austerity and the need to finance peace building. For instance, Wood and Segovia⁴² report that in El Salvador programs essential to the peace agreement were delayed or scaled back because of the government's commitment to fiscal targets under agreements with the international financial institutions.

Money-based programs use targets for the growth of base money, and sometimes other monetary variables, as a nominal anchor for inflation. In low-inflation post-conflict economies, printing money offers an additional source of revenue to government which could be used to finance the peace process and stimulate employment and growth in the short run – provided any ensuing inflation is low or moderate. Thus, the imposition of tight targets on the rate of monetary expansion could be inappropriate in low-inflation economies. Furthermore, Elbadawi and Schmidt-Hebbel⁴³ provide empirical evidence that the demand for narrow money (M1) is highly unstable during the conflict cycle. In these circumstances, monetary targeting, as in some orthodox stabilization programs, may be inappropriate.

An exchange-rate-based program involves an exchange rate peg, assigning to the exchange rate the task of securing price stability with external balance achieved by restricting aggregate demand. Compared with money-based programs, such programs may be preferable in certain circumstances, such as when money demand is unstable, as discussed above. However, one disadvantage of exchange-rate-based programs is that doubts about the authorities' ability to defend the peg could produce a self-fulfilling run on the currency, forcing a devaluation.

Fiscal adjustment

Fiscal adjustment consists of measures aimed at raising tax revenues and improving public financial management so as to reduce budget deficits. Tax revenues tend to be low and public expenditure management poor in post-conflict countries, resulting in large budget deficits. Tax revenues were about 4% of GDP at the start of the post-conflict period in Uganda, Cambodia, and Afghanistan, and 8% in Guatemala.⁴⁴ The average for developing countries was about 18% of GDP in the 1980s and 1990s.⁴⁵

Tax reform is a key element of fiscal adjustment. Tax reform seeks to simplify the tax structure, and improve the efficiency, equity, and neutrality of the tax system.⁴⁶ Tax reform often consists of measures to broaden a typically narrow tax base; reduce tax evasion and ad hoc tax exemptions; and reduce trade and sales taxes with a compensating introduction/increase in value-added taxes. These measures may have significant distributional implications that could bolster or undermine post-conflict peace in societies where income inequalities are a risk factor for conflict.

Some reforms may be progressive: A simplified tax system reduces opportunities for tax evasion. Together with the elimination of special treatments, they tend to reduce the benefits enjoyed by the more influential and higher-income groups.⁴⁷ Also, a more neutral tax system may induce investment and employment.

The advantage of value-added taxes is that most of the cost of collecting the tax is borne by business, rather than the state. However, like the sales tax that they normally replace, value-added taxes are regressive. The extra accounting required in calculating value-added taxes could be taxing to business and the typically weak tax machinery in post-conflict countries. Furthermore, doubts have been raised as to the efficacy of value-

added taxes relative to trade taxes in societies with a large informal or rural sector which are likely to escape the value-added tax net.⁴⁸ Lastly, the argument against trade taxes is that they encourage inefficient domestic production, leading to a misallocation of resources. However, this argument applies only to import-competing production. Many manufactured imports, such as vehicles, attracting trade taxes in post-conflict economies are not produced domestically.

Tax reform policies recommended by multilateral donors tend to emphasize the need to raise tax revenues. Indeed, strong revenue mobilization can help to finance peacebuilding. However, there is a danger that tax revenue mobilization might target the formal sector, which is easy to tax, rather than seek to broaden the tax base and improve tax-collection efficiency: Faced with tough tax revenue targets, the fiscal authorities might have little alternative in the short term but to raise taxes on the formal sector. This, in turn, could discourage investment, hurt growth, and further narrow a typically narrow formal sector in post-conflict economies.

Unlike multilateral donors, bilateral donors sometimes emphasize the need to encourage investment through tax incentives in post-conflict countries. Such tensions tend to undermine tax reform efforts. Rodas-Martini,⁴⁹ Smoke and Taliercio Jr.,⁵⁰ Pires and Francino,⁵¹ and Ghani *et al*⁵² report that in Guatemala, Cambodia, Timor-Leste, and Afghanistan, a subset of donors were mainly concerned with generating a stable flow of revenues for government, while others were not. In Cambodia, for example, bilateral donors generally favored liberal tax incentives to attract investors while multilateral donors opposed them on grounds of the need for higher revenues. Boyce and O'Donnell also criticize the IMF for being ambivalent in its fiscal policy prescriptions for

Guatemala, giving rhetorical support to the peace accords' revenue-enhancement goals while urging the government to cut tariffs.⁵³

Boyce and O'Donnell⁵⁴ report some degree of conflict sensitivity by donors with respect to tax reform. The authors point out that the international financial institutions, despite being normally averse to trade taxes, recognized import duties as the most feasible source of revenue enhancement in Timor-Leste, Kosovo, and Afghanistan. Pires and Francino⁵⁵ add that in the case of Timor-Leste, the IMF even supported introduction of a levy on coffee exports.

Fiscal adjustment also involves reforms in expenditure management such as cuts in, and re-allocation of, government expenditures. These may have important distributional and security implications. In East Timor, budget allocations that reflected donor preferences to finance the police rather than the military, notwithstanding the popular legitimacy of the former resistance fighters in the latter, contributed to a new eruption of violence in March 2006.⁵⁶

Fiscal decentralization, often pursued as part of fiscal adjustment, involves devolving government spending and revenue-raising responsibilities from national or central governments to sub-national levels. The benefits of fiscal decentralization include improved efficiency of government finances through closer correspondence between the level, composition and quality of goods and services provided by governments and the preferences of beneficiaries.⁵⁷ It may also help to placate regional grievances, especially in previously neglected regions, and thus promote post-conflict peace. Fiscal decentralization may, however, complicate macroeconomic management, inducing coordination problems which may lead to soft budget constraints.⁵⁸

Financial sector reform

We review two categories of financial sector reforms: banking and currency reforms.

Banking reform: Conflict harms the banking system in a number of ways. Banks may suffer losses of capital and personnel. War can create large numbers of distressed borrowers and induce defaults since the judicial system might not be in the position to pursue defaulters. Furthermore, the banking systems of conflict countries are often already distressed and in need of reform prior to conflict.⁵⁹ Thus, reform of the banking system is often an urgent priority in the post-conflict period.

Orthodox banking sector reforms in post-conflict countries, like in non-conflict countries, often take the form of financial liberalization – restructuring and privatization of state banks, liberalization of interest and exchange rates, and relaxation of controls on credit and capital movement. However, financial liberalization in developing countries has often led to financial crises.⁶⁰ Caprio⁶¹ attributes this to perverse sequencing, with the more visible aspects of reform, such as interest rate deregulation and creation of stock exchanges, pursued before the development of basic infrastructure in finance – auditing, accounting, legal systems and basic regulations. The banking system in post-conflict economies is more vulnerable to distress and crises, due to the effects of conflict. Notably, 14 of Bosnia and Herzegovina’s banks have collapsed since the end of the war in 1995.⁶²

Currency reform: Currency reform is widespread in post-conflict countries, assuming various forms. First is the introduction of a new currency, which usually occurs when a new state is formed, as in Eritrea in 1997, which introduced the nakfa following its war of independence with Ethiopia. A national currency is a symbol of sovereignty. Its

introduction may also serve as a source of revenue to government (seigniorage), and increase policy flexibility by allowing the use of monetary policy in macroeconomic management. On the other hand, political uncertainties may add a large risk premium to domestic interest rates, hurting investment and growth. A new currency, and the scope for monetary base expansion which comes with it, could also be a source of inflation. Also, introduction of a new currency could lead to destruction of household wealth when households are unable to convert their old currency before it ceases to be a legal tender. This could spark political unrest and threaten the peace.

Sometimes the existing national currency is replaced with a new one. This may be motivated by security considerations: The new government in Rwanda introduced a new currency in 1995 because members of the former Hutu government had fled the country with billions of francs looted from the central bank. They planned to use the looted currency to finance an insurgency against the new government.⁶³ The introduction of the new currency thwarted this move, reduced the deflationary impact of the stolen monetary base, and increased the policy credibility of the new government.⁶⁴ A new currency may also be introduced to replace a number of currencies issued by competing parties in a conflict: In Liberia, the new Liberian dollar was introduced in 2000 under an IMF staff-monitored program, replacing the existing JJ Roberts and Liberty banknotes.⁶⁵

Currency reform may take the form of legalizing the parallel circulation of foreign currencies, as in Montenegro in 1999, when the deutsche mark was adopted as legal tender alongside the Yugoslav dinar.⁶⁶ The intention was to lessen the destabilizing impact of the hyperinflation in Serbia.

Some post-conflicts countries, such as Timor-Leste in 2000, have adopted the dollar as legal tender. Such dollarization is normally a response to the widespread use of the dollar in economic transactions. Its macroeconomic implications involve the loss of seigniorage revenues, and monetary policy as a tool of macroeconomic management. On the other hand, dollarization reduces the transactions cost of foreign trade and could serve as an anchor on inflation, improving policy credibility. Dollarization may also serve as a temporary measure prior to the introduction of a new national currency.

Lastly, a currency board may be introduced, as in Bosnia and Herzegovina, in which the marka, introduced in 1997, was pegged to the deutsche mark and now is pegged to the euro. The disadvantage of a currency board is that it prevents the central bank from acting as a lender of last resort to distressed banks since the size of the monetary base is determined by the level of foreign reserves. Addison *et al*⁶⁷ suggest that this constraint may have contributed to a series of bank collapses in Bosnia and Herzegovina.

Debt management

In the post-conflict transition, many countries face a huge debt burden, much of which was accumulated prior to or during the conflict. To resume lending operations, the international financial institutions require that arrears be cleared, just as for non-conflict countries. Liberia's foreign debt stood at US\$4.8 billion in June 2007, over 600% of GDP.⁶⁸ Liberia could not qualify for debt relief from the international financial institutions until it cleared its debt to the IMF and World Bank, which made up over a quarter of the debt burden.

Such debt service payments and the debt overhang could undermine post-conflict peace and economic recovery by diverting resources from priority areas and discouraging investment and new lending. In fact, post-conflict countries are often unable to generate resources domestically to service their debt with the international financial institutions. They often have to borrow from bilateral donors or other third parties to service such debts, a process with considerable transactions costs.

Alvarez-Plaza and Brück⁶⁹ argue that the doctrine of odious debt should be invoked when creditors give loans to governments knowing that such funds would be misappropriated or otherwise not used for the benefit of the country. This would imply that such debts should be written off or treated on lighter terms.

Post-conflict countries, like other poor countries, stand to benefit from debt relief under the Heavily Indebted Poor Country (HIPC) Initiative, conceived by the international financial institutions to reduce the debt burden of heavily indebted poor countries. However, certain conditions have to be fulfilled, such as the preparation of a Poverty Reduction Strategy Paper (PRSP), and establishing “a track record of reform and sound policies through IMF and IDA-supported programs.”⁷⁰ For countries starting economic reform and the preparation of a PRSP from scratch at the end of conflict, it may be a long time before they can begin to benefit from debt relief under this initiative. Rwanda, Senegal, Sierra Leone, and Uganda reached the HIPC completion point during or prior to the post-conflict transition and received or are receiving the full benefits of the program. Burundi, the Democratic Republic of the Congo, Chad, and the Republic of the Congo are conflict or post-conflict countries receiving interim debt relief, not having reached the completion point. The Central African Republic, Cote d’Ivoire, Eritrea,

Liberia, Nepal, Somalia, and Sudan are pre-decision point conflict or post-conflict countries.

There is some special provision for post-conflict countries in the aid policies of the international financial institutions. However, this tends to be very modest. The IMF Emergency Post-Conflict Assistance program “provides emergency assistance to help member countries with urgent balance of payments financing needs in the wake of natural disasters or armed conflicts.”⁷¹ With the exception of Iraq, the amount of assistance to post-conflict countries has been small. Between 1996 and 2005, it ranged from US\$45 million dollars to Bosnia and Herzegovina, to US\$ 2.9 million to Guinea-Bissau.⁷² The World Bank’s International Development Association allocates aid on the basis of a “performance based allocation” mechanism, which features the Country Policy and Institutional Assessment index (CPIA). The aim is to ensure that good performers get a higher share of IDA available resources. The scheme makes provision for post-conflict countries to be provided with additional resources.

Conclusions

Post-conflict economies are distinctive in two ways. First is a higher risk of war occurrence leading to increased premium on peace, with risk factors varying across countries. Second is a poor policy environment, due, in part, to weaker institutional capacity for policy management. Thus, while economic reform is often an urgent priority, the distinctive circumstances of post-conflict countries are generally not taken into account in the design of the reform programs. Standard reform programs designed for poor countries are also applied to post-conflict economies. Consequently, the distributional and other political economy implications of such programs may sometimes

endanger the peace and undermine economic recovery from conflict. The distinctive circumstances of post-conflict countries would therefore need to be taken into account in the design of future reform programs to enhance the transition from conflict to sustained peace and economic recovery.

Appendix 1a: Civil War Episodes

Country	Civil war episode
Algeria	1991-
Bangladesh	1985-92
Burundi	1995-
Chad	1965-94, 1997-
Colombia	1978-
Congo-Brazzaville	1997-99, 2002
El Salvador	1979-91
Ethiopia	1966-91, 2002-
Guatemala	1966-95
Guinea-Bissau	1997-98
India	1985-
Indonesia	1975-92, 1997-
Morocco	1975-89
Nepal	1999-
Nicaragua	1978-79, 1981-89
Nigeria	1966-70
Pakistan	1971, 1974-77
Peru	1980-99
Philippines	1970-
Rwanda	1991-94, 1997-2002
Senegal	1997-2001
Sierra Leone	1992-2000
South Africa	1975-88
Sri Lanka	1971, 1983-2001
Sudan	1963-72, 1983-
Thailand	1974-82
Uganda	1978-79, 1981-91, 1994-
Zimbabwe	1974-79

Appendix 1b: Non-conflict countries

Antigua, Bahamas, Bahrain, Barbados, Belize, Benin, Bhutan, Bolivia, Botswana, Brazil, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chile, Costa Rica, Dominica, Ecuador, Equatorial Guinea, Fiji, Gabon, Gambia, Ghana, Grenada, Haiti, Honduras, Jamaica, Jordan, Kenya, Kuwait, Lesotho, Madagascar, Malawi, Mauritius, Oman, Paraguay, Qatar, Saudi Arabia, Seychelles, Solomon Islands, St Kitts, St Lucia, St Vincent, Suriname, Togo, Tonga, Trinidad, Tunisia, United Arab Republic, Uruguay, Vanuatu, Venezuela, Zambia.

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- ⁸ The neoclassical production function can be written as $Y = AK^\alpha L^\beta$ where Y is output, K is capital, L is labour, and A is the efficiency parameter. α and β , which are assumed to sum to unity, are the elasticities of output with respect to capital and labour.
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²⁵We estimate seigniorage as a percentage of GDP as:

$$seig_t = \frac{\Delta M_t}{Y_t}$$

Where seig is seigniorage (% GDP). M is the nominal monetary base. Y is nominal GDP. The subscript t denotes time. We also estimate the currency-in-circulation and bank reserves components of seigniorage using the above equation but with only the relevant component included in the monetary base.

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