

DESA Working Paper No. 108

ST/ESA/2011/DWP/108

July 2011

Macroeconomic Policy for Growth and Poverty Reduction: An Application to Post-Conflict and Resource-Rich Countries

Degol Hailu and John Weeks

Abstract

A fundamental shift in macroeconomic policy thinking is taking place. This shift opens a space for implementing policies that promote growth and reduce poverty in developing countries. In this paper, policies for post-conflict and resource-rich economies are outlined. Fiscal policy would focus on revenue mobilization, scaling-up public investment, and preventing over-heating. Monetary policies would revive the financial sector, prevent inflationary pressures and stimulate private sector investment. Exchange rate policies should focus on achieving slow depreciation and maintaining international competitiveness. These policies should not be considered in isolation from each other, but in coordination.

JEL Classification: E6, E5, H3, O23, B50, D74, Q32

Keywords: Macroeconomics, fiscal policy, monetary policy, exchange rate policy, conflict, natural resources, economic development, heterodox economics

Degol Hailu (email: degol.hailu@undp.org) is Economic Policy Advisor, United Nations Development Programme (UNDP). He was the Acting Director of the International Policy Centre for Inclusive Growth in Brasilia, formerly known as the International Poverty Centre.

John Weeks (email: jw10@soas.ac.uk) is Emeritus Professor of Development Economics, School of Oriental and African Studies, University of London. He is author of many books and scholarly articles on developing countries. His most recent policy work has been for the Central Bank of Kenya.

Comments should be addressed by email to the authors.

Contents

Policy Coordination	2
Short- and Long-Term Policy Interventions	3
Macroeconomic Policy for Post-conflict Countries	4
Macroeconomic Policy for Resource-Rich Countries	7
Country-Specificities and Limitations in Implementation	10
Concluding Remarks.....	10
Notes	11
References	12
Appendix: Algebra of Short-term Macroeconomic Policy	14
Tables	
1. Macroeconomic Policy Options for Post-conflict Countries	6
2. Macroeconomic Policy Options for Resource-rich Countries	9

UN/DESA Working Papers are preliminary documents circulated in a limited number of copies and posted on the DESA website at <http://www.un.org/en/development/desa/papers/> to stimulate discussion and critical comment. The views and opinions expressed herein are those of the author and do not necessarily reflect those of the United Nations Secretariat. The designations and terminology employed may not conform to United Nations practice and do not imply the expression of any opinion whatsoever on the part of the Organization.

Typesetters: *Meriam Gueziel, Valerian Monteiro*

United Nations
Department of Economic and Social Affairs
2 United Nations Plaza, Room DC2-1428
New York, N.Y. 10017, USA
Tel: (1-212) 963-4761 • Fax: (1-212) 963-4444
e-mail: esa@un.org
<http://www.un.org/en/development/desa/papers/>

Macroeconomic Policy for Growth and Poverty Reduction: An Application to Post-Conflict and Resource-Rich Countries

Degol Hailu and John Weeks

After several decades of a narrow focus on controlling inflation and reducing fiscal deficits, discussions of macroeconomic policy have returned to fostering growth and development. The IMF's Chief Economist, Olivier Blanchard¹ has stated that "in the age-old discussion of the relative roles of markets and the state, the pendulum has swung—at least a bit—toward the state". He added: "macroeconomic policy has many targets and many instruments" and "monetary policy has to go beyond inflation stability".² Justin Yifu Lin, Senior Vice President and Chief Economist of the World Bank, has also argued the need for a "New Structural Economics", emphasizing industrial development as the way out of poverty.³

In formal terms, the pendulum is swinging from orthodox towards more heterodox macroeconomic policy. What do these-terms mean? First, by "orthodox", we mean policy derived from the theoretical framework of efficient markets and quick adjustment to full utilization of resources. If an economy has an automatic tendency to full employment within a time period acceptable to policymakers, then, by definition, macroeconomic management is unnecessary. If that full employment outcome is unique, given the parameters of the economy, then there is no justification for macroeconomic intervention. In this case, monetary and fiscal policies should be neutral, and the exchange rate should "float" without intervention.

We use the term "heterodox" to refer to macroeconomic policy derived from imperfect market clearing. The imperfection can manifest itself in several forms: incomplete clearing, as in labour markets with persistent unemployment; market clearing with multiple prices ("false trading"); and/or clearing in the context of imperfect competition. At the macroeconomic level, inefficient market clearing implies that an economy does not automatically adjust to its full potential output. These inefficiencies justify public intervention, designed specifically for each country context.

Among the analytical and practical shortcomings of orthodox macroeconomic policy was its advocacy of a *de facto* neutral or contractionary fiscal and monetary policy. Equally problematic was the implicit or explicit view that this policy stance was appropriate for all countries, a mistake that alternative policy proposals should not repeat. If we define orthodox macroeconomic policy as the "thesis", the appropriate policy is not its "antithesis".

Instead, this paper presents a set of macroeconomic policies which are likely to promote growth and reduce poverty. We explore these policies in the specific circumstances of two groups of developing countries. The first are countries affected by conflict. According to the latest *World Development Report*, "one-and-a-half billion people live in areas affected by fragility, conflict, or large-scale, organized criminal violence" (World Bank, 2011, p.1). The report also notes that 96 developing countries have experienced conflict and violence in the last ten years.

The second group consists of resource-rich countries that export hydrocarbons (oil and gas) and minerals. There are about 3.5 billion people living in the 56 resource-rich developing countries, where more

than half of export proceeds come from the natural resource sector. In 29 of them, export proceeds from hydrocarbons as a share of total exports is about 59 percent. In 27 countries, exports of minerals make up 57 percent of export proceeds (IMF, 2010).

In what follows, we discuss how macroeconomic policy can be tailored to the above groups of countries. The paper is organized as follows. The next section highlights the need for policy coordination to best achieve the objectives of macroeconomic policy. The following section provides a list of policy options for post-conflict and resource-rich countries. The penultimate section discusses the need for designing these policies, taking country specificities into consideration. Concluding remarks are then provided.

Policy Coordination

At the minimum, Governments have four macroeconomic objectives: achieving potential growth; maintaining sustainable internal and external accounts; preventing a destabilizing rate of inflation; and poverty reduction. If, as the orthodoxy argues, an economy has an automatic tendency to full employment, then policy coordination is a trivial matter. This is because interventions would be few and infrequent.

Under the orthodoxy, the generally accepted analytical framework for the coordination of macroeconomic policy in open economies is the Mundell-Fleming model (Fleming 1962; Mundell 1963). This model concludes that if a government operates a flexible exchange rate regime, then fiscal policy is ineffective in influencing the level of output. This conclusion implies that monetary policy must bear the major burden of macroeconomic management. If this conclusion were valid, there would be very little scope for macroeconomic management. This is because the first priority of monetary policy would be control of inflation.

However, the Mundell-Fleming model contains an internal contradiction in its logic, which renders the conclusion invalid.⁴ For instance, a model anchored on a flexible exchange rate regime ignores the impact of exchange rate changes on the price level.⁵ For instance, in the “small country” case, the logically complete story of a monetary expansion would be:⁶

- an increase in the money supply results in a trade deficit; with perfect capital flows, this deficit is instantaneously eliminated by depreciation of the currency;
- depreciation of the currency raises the price level *via* the prices of imports;
- the price increase lowers the real money supply, which makes the real depreciation less than the nominal;
- therefore, monetary policy would not be completely effective because of the price effect on the real money supply and the real exchange rate.

This logical sequence implies that the effectiveness of monetary policy to manage the level of output depends on two parameters. The first is the marginal propensity to import, which determines the impact of a devaluation or depreciation on the domestic price level. The second key parameter is the sum of the elasticities of export and import volumes with respect to the real exchange rate. This combined elasticity determines the required magnitude of the real change in the exchange rate to equilibrate the current account.⁷

The above parameters are extremely important for our analysis. For resource-rich countries, the supply of mineral or oil exports is frequently not exchange rate elastic. This is because prices are quoted in world currencies such as the dollar or Euro and world demand is price inelastic. It is also the case that

resource-rich countries can have high import shares. These two characteristics tend to reduce the usefulness of monetary policy for macroeconomic management. In the case of post-conflict countries, exports may be supply inelastic due to disruption of markets, destruction of infrastructure, disruption in land tenure systems and population shifts.

In sum, economic theory does not produce a rule for the relative effectiveness of monetary and fiscal policy when the exchange rate is flexible, either in general or specifically for resource-rich and post-conflict countries. In contrast, there is no analytical controversy that fiscal policy is relatively more effective than monetary policy when the exchange rate is fixed. The fixed exchange rate consideration is important as most post-conflict and resource-rich countries adopt such a regime. Resource-rich countries actively manage their currencies, especially the exporters of hydrocarbons.

Once the analytical inconsistency of the Mundell-Fleming model is acknowledged, we can address appropriate principles of policy coordination; where fiscal, monetary and exchange rate policies are not considered in isolation from one another. The analysis of how each of these macroeconomic instruments can be designed for strong growth in resource-rich and post-conflict countries needs to be preceded by a clarification of how they interact and support or undermine one another.

The minimum goal of coordination is to prevent the different policy instruments from conflicting with one another. The Tinbergen principle states that successful outcomes require the number of policy objectives be matched by the number of policy instruments (summarized in Arrow, 1958). As noted above, a government has several simultaneous and complementary policy objectives at the macroeconomic level. These objectives require an equal number of instruments, which would be found among the fiscal, monetary as well as exchange rate management tools.

Zambia provides a clear example of the contradictory use of policy instruments in a mineral-rich country. In the mid-2000s, in an attempt to prevent appreciation of the Kwacha provoked by rising copper prices, the Bank of Zambia carried out foreign exchange purchases (sold Kwacha). At the same time, the Bank conducted open market operations to prevent the money supply from exceeding limits set by an IMF agreement. The intention of the first instrument was to increase the availability of the domestic currency, while the second had the opposite effect (Weeks, *et al.*, 2007).

Short- and Long-Term Policy Interventions

An active macroeconomic policy would have complementary short-term and medium-term components. The short-term component relies on the current fiscal budget, tax instruments as well as complementary monetary and exchange rate measures for countercyclical intervention. Countercyclical intervention can be institutionalized as part of normal macroeconomic policy (Hailu and Weeks, 2009).⁸

Countercyclical expenditures that can be implemented effectively are closely related to a country's level of development. The more developed a country, the more are the alternatives. Where a substantial proportion of the labour force is in wage employment, governments can implement a range of cash transfer programmes including unemployment benefits, pensions and family allowances (Weeks, *et al.* 2004). Even faced with implementation constraints such as low population densities and weak road links, some sub-Saharan governments have successfully carried out temporary employment schemes, or "cash for work" projects.

These projects involve quickly-initiated and rapidly-completed activities using employment-intensive techniques that have a large component of repair and maintenance. For instance, in 2009, in response to the recent global financial and economic crisis, the Government of Sierra Leone implemented an employment programme, which created jobs for 14,000 workers.⁹

The medium-term objective is to increase the productive potential of the economy and “crowd-in” private investment. This discussion invariably provokes reference to a phenomenon and analysis named Dutch Disease. The term is applied to large financial flows, mainly resource revenues and foreign aid. But the term is not always applied with precision of definition, nor are the associated “Dutch Disease effects” always rigorously specified.¹⁰ A formal analysis emerged that was intended to apply to small countries experiencing a sudden and substantial increase in the value of commodity exports (Corden and Neary 1982, Van Wijnbergen 1984). This analysis, however, has major pitfalls. First, the formal version is a general equilibrium, full-employment model, which severely limits its relevance. Second, and more analytically serious, the concept has lost its specificity due to attempts to generalize the analysis (see the critique in McKinley, 2005).

Because of its ambiguities, we do not use the term ‘Dutch Disease’. Instead, we identify the characteristics of post-conflict, resource-rich countries that influence the design of macroeconomic policy. First, both groups have large inflows of foreign exchange that are insensitive to the real exchange rate, and have a strong affect on its nominal value. For resource-rich countries, this is a result of the nature of global markets for natural resource commodities. The large development assistance and humanitarian inflows to post-conflict countries are completely insensitive to exchange rates, at least in the medium-term.

Second and related to the first, these large inflows of foreign exchange are not associated *ex ante* with substantial employment generation. This is obvious for development assistance which, by and large, is not designed to generate significant employment. In the case of hydrocarbons and minerals, it is due to the low employment-intensity of production. The comparative experiences of Algeria and Morocco are revealing. The Algerian economy is oil-driven. Morocco is not resource dependent and has a vibrant manufacturing sector, mainly textiles and garments. In Algeria, female employment in the non-agricultural sector is only about 12 percent. In Morocco, the figure is 33 percent. These disparities have been explained by capital-intensive oil production in Algeria and labour-intensive manufacturing exports in Morocco (Ross, 2008).

The third characteristic of interest for policy design is the relative insensitivity of public revenue to national income. The scope for rapid revenue mobilization is limited, especially in post-conflict countries. In some cases, the majority of the labour force may not be in wage employment. In other cases, taxes are limited by the relatively large size of the informal economy, destruction of productive capital and reduced capacity to generate public revenue. In resource-rich countries, revenues depend largely on how favourable royalties and corporate taxes are.

In the context of these general observations, our proposed macroeconomic policy for post-conflict and resource-rich developing countries can be summarized as follows:

Macroeconomic Policy for Post-conflict Countries

The central challenge for a government of a post-conflict country is achieving a social consensus for peace. While macroeconomic policies are not the primary mechanism to achieve social peace, their fundamental goal should be to contribute to that end, not to make it more difficult.

First, and most fundamental, is that macroeconomic policy should avoid adding the pain of austerity measures to the legacy of conflict. The struggle over limited resources is a common cause of or contributing element to conflict. *Ex ante* or *ex post* fiscal austerity, aggravated by a tight monetary stance, can exacerbate social tensions that cause or rekindle conflict and violence. For instance, investments in social services explain the relatively peaceful legacy of Ghana. In the mid-1990s, conflict broke out in the northern region, in a dispute between the Konkomba and Nanumba communities. However, substantial government spending on infrastructure and social welfare schemes—such as the Program of Action and Measures to Address the Social Costs of Adjustment (PAMSCAD)—contributed to the containment of violence and the restoration of peace (Snyder and Bhavnani, 2005).

Second, discrimination in the distribution of expenditures should be avoided. This may seem obvious. However, one common form of allocating expenditures (through targeting) is often socially discriminatory in practice or perceived as such (see critique in Cramer and Weeks, 2002). An obvious example is a post-conflict policy that provides benefits to ex-combatants. While apparently conflict reducing, this policy can flounder on the often intractable problem of identifying who was a combatant. Identification becomes an extremely delicate political exercise when the conflict was between a formal army and irregular insurgents, with the task being easy for the former and ambiguous for the latter (Özerdem 2008). If a country has pronounced ethnic regional inequalities, means testing of benefits can appear as politically motivated discrimination. There can also be problems in community-targeting methods. Community leaders can use access to benefits as a way of rewarding friends and punishing adversaries, which could have harmful impacts on social cohesion.

According to the World Bank (2011, p. 4): “For every three years a country is affected by major violence (battle deaths or excess deaths from homicides equivalent to a major war), poverty reduction lags behind by 2.7 percentage points.” Hence, the most important economic objectives in a post-conflict country are poverty reduction and maintaining economic growth near potential, while doing both in a manner perceived as equitable and fair across social groups.

In the short-term, a major objective of public expenditure would be to fill the aggregate demand gap created by the collapse of private sector investment and exports. This implies employment creation, for instance through non-discriminatory public works and other social assistance programmes. As economic collapse reduces revenue collecting capacity, support for public expenditure from external sources is essential for recovery. In providing this support, conditionalities that are demand depressing as well as unduly austere deficit and inflation targets need to be avoided. In general, fostering recipient ownership is good development cooperation (Weeks, *et al.* 2005; and Cramer, Stein and Weeks 2006).

The collapse of revenue capacity implies that governments need to exhaust all feasible sources. The major revenue source for many low-income post-conflict countries is trade taxes. While maintaining some of these may have negative effects on exports in normal circumstances, this is unlikely to be the case in a post-conflict context. Compared to the major barriers to export growth, disruption of marketing channels and productive capacity, the tax regime will be a minor element. The fiscal expansion can be accommodated by monetary policy through bond sales and/or by monetization.

Given the large trade deficits that characterize a post-conflict country, active exchange rate management cannot be avoided. Real depreciation through adjustment of nominal rates can be used to restore competitiveness. This management is all the more essential because of the typically large flows of development assistance that are frequently unstable and unpredictable (Weeks 2009a).

The focus for medium-term macroeconomic policy is essentially *public sector-led growth in anticipation of private sector recovery*. Besides the temporary employment creation, public expenditure can lower private sector costs through the repair, reconstruction and expansion of infrastructure. On the revenue side, deepening political stability should allow broadening the tax base (especially by reducing evasion). The growth fostered by short-term policy might allow for the diversification of the revenue regime into direct taxes.

Monetary strategy should strengthen financial institutions to mobilize private resources for investment. Two important sources would be remittances from people who fled during conflict and asset hoards accumulated during the period of political instability. The former is frequently cited as an untapped source to fund investment. Realizing the developmental potential of remittances requires carefully designed mechanisms that channel funds into the formal banking system, yet do not provoke fears of unjustified taxation (Toporowski, *et al.* 2009). Reviving the financial sector would tap into asset hoards. Essential to strengthening financial institutions as well as central bank capacity to implement policy will be the progressive reduction of the use of foreign currencies in domestic commerce.

An almost universal characteristic of post-conflict countries is a large trade gap that implies reliance on official development assistance to an unsustainable extent. Therefore, it is essential that post-conflict recovery be export-driven to create a sustained growth process. Export-driven growth requires, among other policies, conscious management of the exchange rate to foster external competitiveness.

The summary of policy options discussed above is found in table 1.

		<i>Objectives and Actions</i>	<i>Comment</i>
Short-term	Fiscal Policy	<i>Expenditure:</i> Compensate for temporary lack of private investment and exports; focus on employment creation with public works programmes	Public expenditure will be dependent on external funding, creating the likelihood of policy constraints
		<i>Revenue:</i> Maintain taxes on imports and levies on price inelastic exports	Narrow revenue base is a common characteristic of post-conflict countries; hence, every revenue source need to be exploited
	Monetary Policy	Bond sales to accommodate fiscal expansion, or by monetization (which also supports exchange rate competitiveness)	Bond markets may not exist or the market is too narrow to be effective
	Exchange Rate Policy	Slow real depreciation or devaluation through adjustment of nominal rate compared to export competitors	The immediate task may be to prevent excessive depreciation due to trade deficits while achieving short-term price competitiveness
Medium-term	Fiscal Policy	<i>Expenditure:</i> Public investment to repair infrastructure and “crowd in” private investment	Major medium-term problem may be low private investment
		<i>Revenue:</i> Broaden and diversify tax base; tax remittances	Increase tax collection to reduce reliance on external assistance
	Monetary Policy	Reduce use of foreign currencies; support development of financial intermediaries; create secure stores of financial wealth	The challenge may be reducing the use of foreign currencies, requiring a balance between a stable national currency and export competitiveness
	Exchange Rate Policy	Consider “crawling peg” to get a slowly depreciating real exchange rate	The central problem is shifting resources to tradeables and export diversification

Macroeconomic Policy for Resource-Rich Countries

At a superficial level, the design of macroeconomic policy for resource-rich countries would seem a simple task. The policy goals should be quite obvious—strong growth, economic diversification and poverty reduction. With rare exceptions, these countries are not constrained by the supply of foreign exchange, nor should the governments be budget constrained. The combination of obvious goals and relative lack of constraints would seem to be a recipe for success.

But appearances are misleading. Many resource-rich countries have failed to achieve growth, diversification and poverty reduction compared to countries without natural resource endowments. Researchers have offered ostensibly analytical accounts of the frequent failures to achieve the development potential that should accompany natural resource endowments. The Dutch Disease, mentioned above, is one of these stories, and in recent years, some discussions of corruption and conflict have been influential. Although methodologically problematic, researchers have argued that resource-rich economies do not experience stable and sustained growth over time (Sachs and Warner, 2001). High rates of poverty and inequality are common (Ross, 2007). Resource wealth typically aggravates the onset, intensity and duration of conflict (Collier and Hoeffler, 2004).

Indonesia is among the few exceptions in terms of diversifying its economy. Petroleum became a minor contributor to foreign exchange earnings. The share of oil and gas in domestic revenues *declined* from 49 percent in 1982 to 23 percent in 2005. Two major policies contributed to this success: a) direct support to agriculture and industry (mainly manufacturing textiles and footwear) through subsidies and tax incentives; and b) at a later stage, careful transitions from import substitution to export-led growth.

The examples at the other extreme are Nigeria and Yemen, which are dependent on petroleum for over ninety percent of their exports. Botswana also suffers from high unemployment, related to reliance on capital-intensive diamond mining and cattle exports. The economy is not adequately diversified. Labour-intensive manufacturing still contributes no more than 4-5 per cent of GDP. The total unemployment rate averaged 22 per cent for the two decades up to 2006. The youth unemployment rate was 33 per cent.¹¹

As Brunnschweiler and Bulte (2008, p. 617) note, however: “economic advisors should be aware that natural resources do not necessarily spell doom for development. Instead, their exploitation can be a valuable part of a sustainable development strategy”. It is our hypothesis that the failure to realize the development promise of natural resource endowments is the result of inappropriate macroeconomic policy.

Our argument is that resource-rich countries experience frequent periods of dramatic foreign exchange inflows. These periods of dramatic price increases result in sudden appreciations of their currency unless the public authorities prevent it. The appreciation undermines the profitability of all other tradable goods, which results in a decline of manufacturing and agriculture. This is not the Dutch Disease process, which is specified in the analytical context of full employment, then transferred—inappropriately—to economies with substantial resources.

Public authorities need to intervene to prevent the market distortions created by the resource boom. The major tasks of macroeconomic policy in the short-term are preventive: preventing excessive overheating of the economy; preventing appreciation of the exchange rate; and preventing relative price changes that would make the short-term a precursor of a medium-term with declining tradable sectors.

Fiscal policy should be carried out with a discipline that prevents excessive increases in aggregate demand and accumulates a reserve of revenue that can be drawn upon when export prices fall. There is plenty of experience in this area. For instance, Timor Leste followed the Norwegian model and set up a Petroleum Fund in 2005. The fund is expected to total US\$8 billion by 2012 (Gomes and Hailu, 2009). In Angola, revenues generated by an oil price higher than the “reference level” are not spent, but deposited in an oil reserve fund. While saving a portion of revenues might make sense, excessively diverting resources away from critical investments is not developmental, especially in the least-developed countries where public investments are crucially needed.

On the revenue side, income from the resource sector needs to be maximized. However, there are many challenges. Multinational companies often negotiate “lock-in contracts” with low royalty and tax rates. These contracts are meant to deal with the so-called “time-inconsistency problem”: the notion that there is uncertainty as to whether agreements are honoured or reversed in the future. In Peru, companies have been able to negotiate fixed tax rates for up to 10 years. The experiences of Zambia and Chile provide a good example of contrasts. In Chile, the state-owned company holds a 39 percent stake in the mining sector. The company pays a 29 percent tax rate. By contrast, the Zambian government holds a nominal 10 percent stake in Anglo American with no dividends received up to 2007. The estimates show that Zambia loses about US\$50 million per annum in foregone tax revenues due to exemptions, concessions, refund claims and provisions (Bova, 2009; Fraser and Lungu, 2007).

Monetary policy often supports fiscal policy through use of the central bank rate to restrain credit. However, the central bank rate is not always an effective instrument. Attempts to constrain credit growth may result in dysfunctionally high commercial bank rates that undermine productive investment. To complement a policy of moderately high interest rates, the central bank can employ instruments that act on the balance sheets of commercial banks and influence their capacity to expand credit. Regulation of reserves is a useful approach.

Exchange rate policy is straight-forward, the strategy is managing the currency to prevent appreciation. With foreign exchange reserves, maintaining a fixed exchange rate is a relatively easy task. There is potential conflict between the central bank constraining credit growth and entering into foreign exchange purchases to manage the currency. As noted above, acting on commercial bank balance sheets is the mechanism to manage this conflict.

In the medium-term, fiscal policy plays the most important role. Public investment becomes the major instrument to promote the central policy objective—growth and diversification of the non-resource tradable sectors. Provision of infrastructure should focus on directly facilitating tradable production. One of the most frequent and obvious symptoms of a dysfunctional resource-rich economy is the construction boom. Investments in trade related transport and technical education to support agriculture and manufacturing are some of the alternative public investments that can foster tradeables.

On the revenue side, policies need to focus on broadening the tax base and introducing direct taxes. Reducing excessive inequality creates a virtuous cycle of increases in household incomes. This would enlarge the domestic market by raising consumption and stimulating labour demand. These, in turn, would increase income and public revenue (Hailu and Soares, 2009).

Monetary policy needs to focus on facilitating private investment to diversify into non-resource tradeables and support exchange rate management. Chile has been successful in its economic diversification strategy. While mining makes up about two-third of exports, it only employs less than one percent of the labour force. The strategy entailed policy incentives to the private sector designed to promote wine-making, fruit-culture and salmon farming. These included credit and subsidies for these sectors as well as support for R&D spending (Hailu, *et al.*, 2011; Havro and Santiso, 2008).

A free floating exchange regime is not likely to work in protecting the non-resource tradeable sectors. The policy need is to focus on maintaining a constant real exchange rate to diversify into other non-resource tradeables. The recent international food price increases indicate that global demand for agricultural produce presents new export opportunities. Uzbekistan’s experience provides another appropriate policy lesson. The country experienced shocks due to declines in the price of its major exports, mainly energy. The policy makers, however, took actions to diversify the country’s exports. Between the periods 1995-1999 and 2003-2006, non-oil exports as a share of total exports had increased by 12 percent. Investments in domestic agriculture led to a decrease in the share of food in total imports from 22 percent to 9 percent (McKinley, 2008b).

The basic elements of the macroeconomic policy framework for resource-rich economies are given in table 2.

Table 2: Macroeconomic Policy Options for Resource-rich Countries

Table 2: Macroeconomic Policy Options for Resource-rich Countries			
		<i>Objectives and Actions</i>	<i>Comment</i>
Short-term	Fiscal Policy	<i>Expenditure:</i> Prevent over-heating and create a reserve fund for countercyclical intervention and investment	Major task is to restrain recurrent expenditure
		<i>Revenue:</i> Maximize income from resource flows by setting appropriate royalties and tax rates	Vigilance is required to prevent revenue loss from transfer pricing and other tax evasion mechanisms
	Monetary Policy	Use central bank rate and regulation of commercial bank reserves to prevent excessive inflationary pressures	Private sector investment in non-tradable sectors may be main source of inflationary pressure
	Exchange Rate Policy	Employ fixed exchange rate regime to prevent nominal appreciation	Immediate task may be to tackle trade deficit
Medium-term	Fiscal Policy	<i>Expenditure:</i> Public investment to encourage and facilitate diversification into non-resource tradeables	Typical problem in resource-rich countries is the relative or absolute decline of non-resource tradeables
		<i>Revenue:</i> Broaden direct tax base; prevent excessive inequality	Challenges to policy include inequality, corruption and failure to diversify tax base
	Monetary Policy	Facilitate private investment to diversify into non-resource tradeables and support exchange rate management	Central banks need to balance monetary expansion, with the fixed real exchange rate, from overheating pressures
	Exchange Rate Policy	Maintain constant real exchange rate to diversify tradeables	Key to successful long-term development

Country-Specificities and Limitations in Implementation

The feasibility and success of macroeconomic policy will depend on specific policy designs adapted to each country's unique characteristics. This caveat applies to countries that may have many features in common. For example, Liberia and Sierra Leone are both post-conflict, least-developed countries exporting similar products. However, a fiscal expansion of the type that was successful in Sierra Leone is unlikely to be feasible in Liberia because of the high degree of dollarization of the Liberian economy (Weeks, 2011). Similarly, Nigeria and Cameroon are both petroleum exporters, but the former can exercise an independent monetary policy while the latter cannot. The constraint arises because of currency arrangements. In the less flexible form, as in the case of Cameroon, a country adopts the currency of another country or enters a common currency agreement, such as in the CFA or franc (now Euro) zone in West Africa. The more flexible form of this constraint is a fixed link to another currency, such as the arrangement between Lesotho and South Africa.

The practical result of such currency arrangements is that the major monetary and exchange rate tools are not available. All that remains of monetary policy is a limited scope to issue bonds and conduct financial sector oversight. Fiscal policy is also limited, restricted to allocation of expenditure and adjustment of tax coverage and rates. Even without a formal deficit rule, financing expenditures is difficult with a common currency because of restrictions on issuing bonds. The macroeconomic guidelines developed in this paper, therefore, do not fully apply to the countries constrained by currency agreements.

Concluding Remarks

This paper has provided recommendations for the design of macroeconomic policy for resource-rich and conflict-affected countries. As discussed above, the countries in these groups have special characteristics. The feasibility and success of macroeconomic policy will depend on a policy design adapted to their specific needs and challenges.

Prior to the hegemony of the Washington Consensus, macroeconomic policy involved the management of priorities and trade-offs, in which policy instruments were used to seek an outcome chosen by national governments. This pragmatic approach was abandoned and policy tools decommissioned by a shift to an ideological belief in the self-correcting nature of markets. With the shock of the recent global recession, fundamental rethinking is taking place in macroeconomic debates. Those who support a rational and pragmatic approach to economic policy must celebrate the demise of the orthodoxy of balanced budgets, deflationary monetary policy and non-interventionist currency regimes.

A heterodox framework has a better chance of promoting growth and reducing poverty. As discussed above, this involves fiscal policy that would focus on mobilizing domestic revenue, scaling-up public investment and preventing over-heating. Monetary policies would revitalize the financial sector, avert inflationary hikes and stimulate private sector investment. Exchange rate policies would focus on maintaining international competitiveness. For best results, policy coordination is necessary.

Notes

- 1 <http://blog-imfdirect.imf.org/bloggers/olivier-blanchard/>
- 2 See <http://autenticidadept.wordpress.com/2011/05/26/the-future-of-macroeconomic-policy-nine-tentative-conclusions/>
- 3 http://www.wider.unu.edu/events/annual-lecture/en_GB/04-05-2012/_files/85615690402103392/default/press%20release%20for%20WIDER%20annual%20lecture%2015%20Justin%20Lin%20Maputo_.pdf
- 4 A full technical presentation including algebraic derivation, is found in Weeks (2008), and a later revision in Weeks (2009b).
- 5 A typical treatment where price effects are ignored is found in Romer:
...[T]he exchange rate does not affect money demand...

The fact that the LM curve is vertical means that output for a given price level – that is, the position of the AD curve – is determined entirely in the money market... [S]uppose that government purchases rise. This change shifts the IS curve to the right... At a given price level this leads only to appreciation of the exchange rate and has no effect on output. (Romer 1996, 207).

In their introduction to the discussion of flexible exchange rates, Dunn and Milner point out the price effect of exchange rate changes: “Since the exchange rate, rather than the balance of payments, moves constantly, domestic prices of traded goods are affected” (Dunn and Mutti 2004, 434). On the following and subsequent pages, exchange rate changes are analyzed assuming all prices are fixed. For example, they write, “...depreciation also increases domestic prices of tradable goods... *The original increase in the domestic money supply remains intact...*” (p. 436, emphasis added). However, in what they call a “monetarist” analysis the price effect of exchange rate changes renders monetary policy ineffective except in the short run. No comment is made on the implicit contradiction between the standard Mundell-Fleming argument and the “monetarist” analysis, though they are presented within a few pages of each other (Dunn and Mutti 2004, 438-440).

- 6 “Small country” refers to the case of a country for which changes in its exports and imports would not affect world prices. This is the case for almost all developing countries, with China being one of the rare exceptions.

- 7 The formula is:

$$\epsilon_{y,m} = [(1 - a_3)\epsilon_T] / [a_3 + \epsilon(1 - a_3)\epsilon_T]$$

$\epsilon_{y,m}$ is the effectiveness of monetary policy,

a_3 is the marginal propensity to import (assumed equal to the average), and

$\epsilon_{y,m}$ is the sum of the export and import volume elasticities with respect to the real exchange rate.

- 8 The effect of countercyclical policy is to render fiscal policy demand-neutral over the economic cycle. Described by Gardner Ackley and Walter Heller as eliminating “fiscal drag”, the concept of fiscal drag is central to an active macroeconomic policy. It produces the key insight that for a given level of expenditure, a fiscal deficit may be an indicator that tax rates are too high rather than too low. This would be the case if an economy below its potential were shifted ex machina to full potential with unchanged expenditure and tax rates, at which level the budget would be in surplus, and aggregate demand would fall short of aggregate supply. In this case, taxation is too high, even though the public budget is in deficit. Ackley defined fiscal drag as follows in testimony before the US Congress: “a constant set of tax rates and a constant level (total) of Government expenditures exerts an increasingly restrictive influence as time passes... [O]ver the years we need to offset much or all of the drag in order to permit the growth of demand to keep up with the growth of potential output.” (Ackley 1965). Also, see Heller (1966). The algebra of fiscal drag is simple. Let Y be national income, and I and G be private investment and government expenditure. Let μ be the marginal propensity to consume and the marginal propensity to tax. Assume that at a less than full potential level of income, saving equals investment and the public budget is balanced. In the simple case of a closed economy, national income equals:

$$Y_0 = \mu [I_0 + G_0]$$

$$\mu = 1 [1 - \alpha (1 - \beta)] \text{ the multiplier.}$$

Given the propensity to consume, the marginal propensity to save out of post-tax income is $(1 - \alpha)(1 - \beta)$, so the level of saving is:

$$S_0 = [(1 - \alpha)(1 - \beta)] Y_0$$

If by magic income rose to its full potential level, Y_f , total leakages would exceed total injections because saving would exceed investment and the public budget would be in surplus. National income would fall back to Y_0 . Reducing tax rates eliminates the fiscal drag and

- 9 The International Labour Organization calls such projects as “labour-intensive public works”. The ILO website provides further information on short-term employment programmes. <http://www.ilo.org/public/english/employment/recon/eiip/index.htm>
- 10 The term refers to the economic effects of the discovery of petroleum in the North Sea off the coast of the Netherlands in the second half of the twentieth century. In the consensus view, the foreign exchange inflows that resulted from petroleum extraction caused the Dutch guilder to appreciate, undermining the production of all other tradable commodities. There is less agreement about other alleged effects, e.g. so-called expenditure switching and wage inflation.
- 11 Figures are from the World Development Indicators database of the World Bank

References

- Ackley, Gardner (1965). Written Testimony, evidence given to the Sub-committee on Fiscal Policy of the Joint Economic Committee, United States Congress, July, Washington, D.C.
- Arrow, Kenneth (1958). “Tinbergen on Economic Policy”. *Journal of the American Statistical Association* 53.
- Bova, Elva (2009). “The Implications of Mine Ownership for the Management of the Boom: A Comparative Analysis of Zambia and Chile”. NCCR (Swiss National Centre of Competence in Research) Trade Working Papers No. 2009/13.
- Brunnschweiler, Christa N., and Erwin Hendricus Bulte (2008). “Linking Natural Resources to Slow Growth and More Conflict”. *Science*, 320, pp. 616-617.
- Collier, Paul, and Anke Hoeffler (2004). “Greed and Grievance in Civil War”. *Oxford Economic Papers*, 56, pp. 563-595.
- Corden, Max, and J. P Neary (1982). “Booming Sector and De-industrialisation in a Small Open Economy”. *Economic Journal* 92.
- Cramer, Christopher, Howard Stein and John Weeks (2006). “Ownership and Donorship: Analytical Issues and A Tanzanian Case Study”. *Journal of Contemporary African Studies* 24 (3), pp. 415-436
- Cramer, Christopher, and John Weeks (2002). “Macroeconomic Stabilization and Structural Adjustment”. In Wayne Nafziger and Raimo Vayrynen (eds). *The Prevention of Humanitarian Emergencies*. Basingstoke: Palgrave for UNU/WIDER, Helsinki.
- Dunn, Robert M Jr, and Mutti, John H. (2004). *International Economics*. Sixth Edition. New York: Routledge.
- Fleming, Marcus (1962). “Domestic Financial Policies under Fixed and under Floating Exchange Rates”. IMF Staff Papers 9, International Monetary Fund, Washington, D.C.
- Fraser, Alastair, and John Lungu (2007). “For Whom the Windfalls? Winners and Losers in the Privatisation of Zambia’s Copper Mines”. Available at: www.minewatchzambia.com.
- Gomes, Rui A., and Degol Hailu (2009). “One Instrument, Many Targets: Timor-Leste’s Macroeconomic Policy Challenge”. One Pager No. 93, International Policy Centre for Inclusive Growth (IPC-IG), Brasilia.
- Hailu, Degol, Sara Rendtorff-Smith, Cosmas Ochieng, and Uyanga Gankhuyag (2011). “Conflict Prevention in Extractive Economies: The Role of Economic Policies”. Policy and Programme Document, Discussion Paper, United Nations Development Programme (UNDP), New York.
- Hailu, Degol, and John Weeks (2009). “Can Low Income Countries Adopt Counter-cyclical Policies?” One Pager 92, International Centre for Inclusive Growth (IPC-IG), Brasilia.
- Hailu, Degol, and Sergei Suarez Dillon Soares (2009). “What Explains the Decline in Brazil’s Inequality?” One Pager No. 89, International Policy Centre for Inclusive Growth (IPC-IG), Brasilia.
- Humphreys, Macartan, Jeffrey D. Sachs and Joseph E. Stiglitz (eds) (2007). *Escaping the Resource Curse*. New York: Columbia University Press.
- Havro, Gøril Bjerkhol, and Javier Santiso (2008). “To Benefit from Plenty: Lessons from Chile and Norway”. OECD Development Centre Policy Brief No. 37, Paris.

- Heller, Walter (1966). *New Dimensions of Political Economy*. Cambridge, Mass: Harvard University Press.
- IMF (2010). "A Multi-Donor Trust Fund for IMF Capacity Building Technical Assistance in Managing Natural Resource Wealth". Program Document, International Monetary Fund, Washington, D.C.
- McKinley, Terry (2008a). "Resource Abundance: A Curse or a Blessing?". In Terry McKinley and Katerina Kyrili (eds). *The Resource Curse*. Centre for Development Policy Research (CDPR) Development Digest No. 1, December, SOAS, London.
- McKinley, Terry (2008b). "Uzbekistan: From Import Substitution to Export Boom". In Terry McKinley and Katerina Kyrili (eds). *The Resource Curse*. CDPR Development Digest No. 1, December, SOAS, London.
- McKinley, Terry (2005). "Why is the 'Dutch Disease' always a disease? The macroeconomic consequences of scaling up ODA". Working Paper 10, International Poverty Centre, Brasilia.
- Mundell, Robert (1963). "Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates". *American Economic Review* 53, pp. 112-119.
- Nafziger, Wayne, and Raimo Vayrynen (eds) (2002). *The Prevention of Humanitarian Emergencies*. Basingstoke: Palgrave for UNU/WIDER, Helsinki.
- Özerdem, Alpaslan, and Sukanya Podder (with Sorcha O'Callaghan and Sara Pantuliano) (2008). "Reinsertion Assistance and the Reintegration of Ex-Combatants in War to Peace Transitions". Thematic Working Paper Number 4, Centre for International Cooperation and Security, University of Bradford.
- Romer, David (1996). *Advanced Macroeconomics* New York: McGraw-Hill.
- Ross, Michael L. (2008). "Oil, Islam, and Women". *American Political Science Review*, 102 (1), pp. 107-123.
- Ross, Michael L. (2007). "How Mineral States Can Reduce Inequality". In Macartan Humphreys, J. D. Sachs and J. E. Stiglitz (eds). *Escaping the Resource Curse*. New York: Columbia University Press.
- Sachs, Jeffrey D., and Andrew M. Warner (2001). "The Curse of Natural Resources". *European Economic Review*, 45, pp. 827-838.
- Snyder, Richard, and Ravi Bhavnani (2005). "Diamonds, Blood, and Taxes: A Revenue-Centered Framework for Explaining Political Order". *Journal of Conflict Resolution*, 49 (4), pp. 563-597.
- Toporowski, Jan, Sanjay Krishnan, Juan Pablo Pashcoa and John Weeks (2009). *Remittances Strategy Framework for Sustainable Development in Sierra Leone*. Freetown: UNDP.
- Van Wijnbergen, Sweder (1984). "Inflation, Employment, and the Dutch Disease in Oil-Exporting Countries: A Short-Run Disequilibrium Analysis". *Quarterly Journal of Economics*, 99 (2).
- Weeks, John (2008). "The Effectiveness of Monetary Policy Reconsidered". Technical Paper 3, International Policy Centre, UNDP, Brasilia.
- Weeks, John (2009a). *The Impact of the Global Financial Crisis on the Economy of Sierra Leone: A Report for UNDP Freetown and the Ministry of Finance and Economic Development, Republic of Sierra Leone*. Freetown: United Nations Development Programme.
- Weeks, John (2009b). "The Effectiveness of Monetary Policy Reconsidered". Working Paper 202, Political Economy Research Institute, Amherst, Massachusetts.
- Weeks, John (2011). "Countercyclical Policy for Africa: Institutional and Economic Feasibility". *International Journal of Public Policy* 7 (1/2/3), pp. 112-133.
- Weeks, John, David Anderson, Christopher Cramer, Degol Hailu, Alemayehu Geda, Rank Muhereza, Matteo Rizzi, Eric Ronge, and Howard Stein (2005). *Supporting Ownership: Swedish Development Cooperation with Kenya, Tanzania and Uganda, Volume 1, Synthesis Report*. Stockholm: SIDA.
- Weeks, John, Nguyen Thang, Rathin Roy and Joseph Lim (2004). *Seeking Equity within Growth: The macroeconomics of poverty reduction, case study of Vietnam*. Hanoi: UNDP.
- Weeks, John, Shruti Patel, Allan C. K. Mukungu and Venkatesh Seshamani (2007). *Kwacha Appreciation, 2005-2006: Implications for the Zambian Economy*. Lusaka: UNDP.
- World Bank (2011). *World Development Report: Conflict, Security, and Development*. World Bank, Washington, DC.

Algebra of Short-term Macroeconomic Policy

Successful short term macroeconomic policy seeks to hold the economy near “full capacity” while preventing “overheating”. The definition of both terms, full capacity and overheating, is operationally specific to each country. Successful macroeconomic outcomes must be consistent with a sustainable balance of payments and manageable inflation. Achieving the appropriate balance requires careful use of available policy instruments. Without an effective monetary policy, the tools available to stabilize the level of output are fiscal policy and exchange rate management. When there are underutilized resources, both instruments can be used to stimulate output. This section considers the algebra of a stimulus package for countries in which all instruments are available.

Currency intervention and fiscal expansion can have potentially negative effects that require careful management. The income elasticity of public revenue is typically less than unity in resource rich and conflict affected countries. This means that a fiscal expansion has a weak revenue effect, creating the possibility of an unsustainable fiscal deficit. Simultaneously, there would be an increased and possibly unsustainable trade deficit. The policy goal is to prevent the latter through devaluation or depreciation, which is potentially inflationary.

Algebra facilitates the identification of the appropriate balance between increased expenditure and devaluation.^a The rate of growth of the real demand for output (y) for a time period can be specified as the weighted sum of the growth of autonomous expenditures times the multiplier:

$$y = \beta[a_1i + a_2g + a_3x - a_4z], \quad \Sigma a_i = 1, \quad \text{for } y < y^* \text{ (potential output constraint)}$$

The lower case letters i , g , x and z are the rates of change of categories that are exogenous with respect to national income, including the exchange-rate-induced components of trade (private investment, government expenditure, exports, and the exchange rate determined component of imports, respectively). The a_i terms are the shares in national income of each variable, while α is the multiplier. Exports have an autonomous component whose rate of change is x^o , and a component determined by the real exchange rate. Imports are a function of national income and the real exchange rate, with the former subsumed in the multiplier. Define ε_x and ε_z as the elasticities of exports and imports with respect to the real exchange rate, p as the price level and α the marginal propensity to import:

$$\begin{aligned} x &= x^o + \varepsilon_x e^* \\ z &= \delta y - \varepsilon_z e^* \end{aligned}$$

The change in the real exchange rate (e^*) is the change in the nominal rate (e) minus the rate of inflation (p). The *ceterus paribus* rate of inflation is the pass-through rate of a devaluation (the marginal propensity to import, δ).

$$\begin{aligned} e^* &= e - p = e - \delta e = (1 - \delta)e \\ x &= x^o + \varepsilon_x(1 - \delta)e \\ z &= \delta y - \varepsilon_z(1 - \delta)e \end{aligned}$$

^a The following model is from Weeks (2011), where it is developed in detail.

These can be substituted into the growth of demand equation. Interpret x^o as an external shock to export demand, and assume that it causes depressed expectations rendering the growth of private investment zero. Macroeconomic policy seeks to prevent national income from falling ($y = 0$). To simplify, define a_3/a_2 as α and let $(\varepsilon_x + \varepsilon_y) = \varepsilon_T$. If the trade elasticities are positive, ($\varepsilon_T > 0$), a real devaluation improves the trade balance (Marshall-Lerner condition).^b For zero growth, the real demand equation is:

$$\begin{aligned} 0 &= a_2g + a_3x^o + a_3\varepsilon_T(1 - \delta)e \\ 0 &= g + \alpha x^o + \alpha\varepsilon_T(1 - \delta)e \end{aligned}$$

For any shock to exports (x^o), the relationship between the change in government expenditure and the devaluation is determined by three parameters - the ratio of exports to government expenditure, the real exchange rate elasticity of trade, and the propensity to import. If the exchange rate is constant, the government expenditure that stabilizes output is:

$$g = -\alpha x^o$$

For no increase in government expenditure, stabilizing output requires the nominal devaluation to be:

$$e = -x^o/[\varepsilon_T(1 - \delta)]$$

The relationship between e and g for zero growth is shown in the upper right quadrant of Figure 1. The upper left quadrant relates the nominal exchange rate to its inflationary effect (e and p), on the assumption that all inflation is imported and the world rate of inflation is zero. These assumptions imply that any inflation is the result of the exchange rate effect on domestic import prices. An obvious extension of the algebra would include an explicit domestic structural component (Weeks 2009c).

The lower left quadrant links the change in the real exchange rate to the trade deficit (e^* and $X-Z$).^c An export shock decreases national income and increases the trade deficit. Assume that the government must return to the initial trade deficit within one time period or suffer an unsustainable loss of reserves. Regaining the initial trade deficit requires a real devaluation of e^* , which implies a nominal devaluation of e_1 . This sets the lower limit of the devaluation, which determines the feasible range for the increase of government expenditure to prevent a fall in output ($g > g_1$).

Two other policy goals of the government may constrain decision making. In Figure 1 in the upper right quadrant, there is a feasible policy range below an “inflation limit” and above a “deficit limit”. If the inflation rate acceptable to policymakers is below p_1 , then no combination of devaluation and increased expenditure is consistent with restoring the trade balance and stabilizing output in the short run, though it would be possible with a series of devaluations in the medium term. The algebra and diagram demonstrate the necessity for policy coordination and, specifically, exchange rate management.

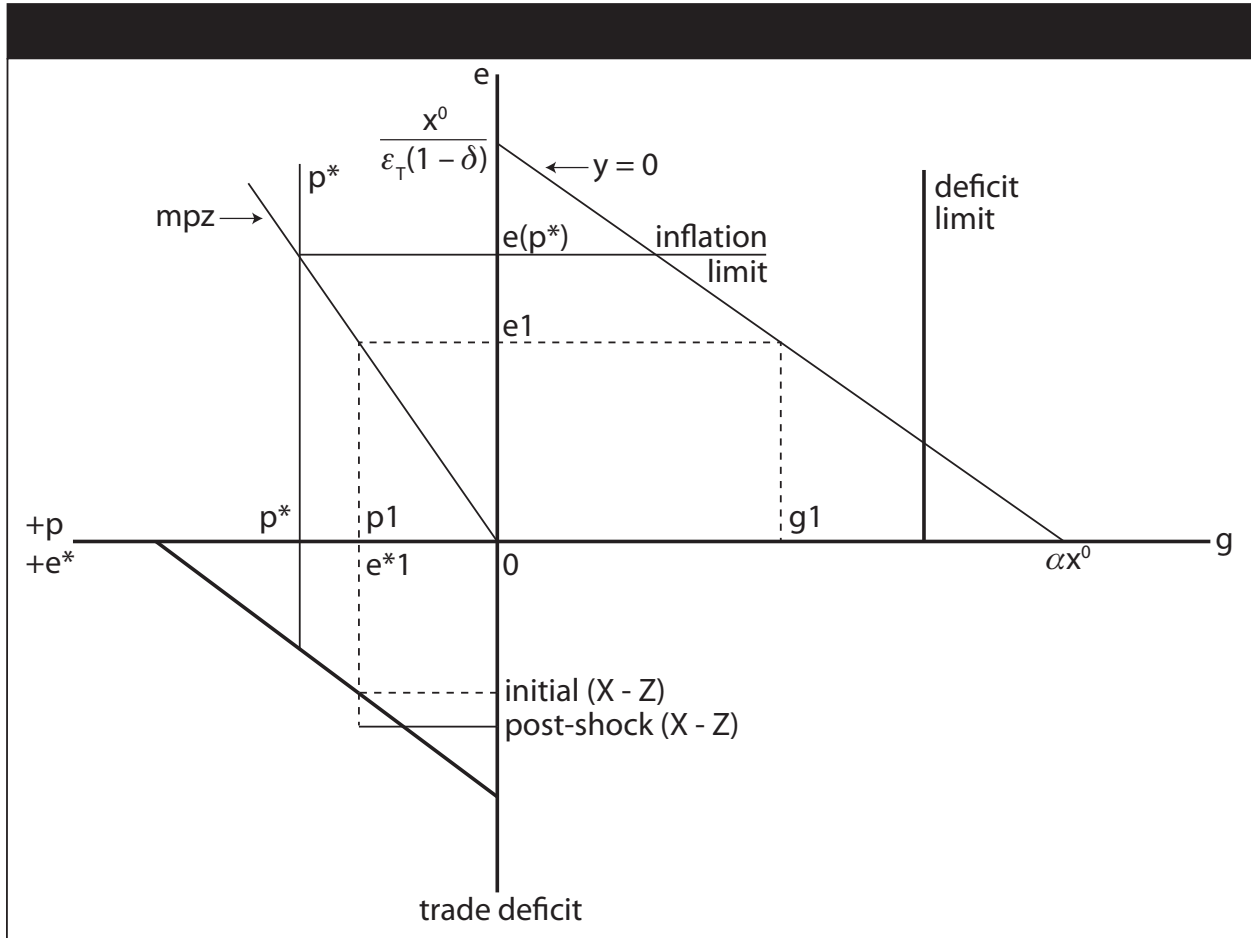
Leaving the currency to float when public expenditure increases can result in excessive inflation as the depreciation seeks balance of trade sustainability. If the policy limit for the fiscal deficit were below what is generated by expenditure increase g_1 , there might remain a feasible short-term space involving a small expenditure increase and a large devaluation. Whether this combination would be feasible depends on the trade elasticities.

^b The more familiar condition of greater than unity refers to the nominal exchange rate and export and import values.

^c Figure 1 is a simplified presentation. It does not include the effect of changes in national income on import demand.

If at the initial conditions, the fiscal deficit is close to that set by donors and lender “benchmarks”, and/or the inflation rate is near its conditionality limit, the government has no space for a policy response to the export shock. It is this policy constrained situation to which African leaders in 2009 objected in clear and unambiguous terms. Those objections are specified in the Freetown Declaration,^d adopted unanimously by the finance ministers of over thirty-five countries.

Figure 1: Policy Coordination for countercyclical intervention



d The declaration was adopted on 12 August 2009, by the Caucus of African Governors of the IMF, World Bank and African Development Bank. The full text can be found at http://www.mofed.gov.sl/index2.php?option=com_content&do_pdf=1&id=99. The Caucus is an annual meeting of finance ministers to discuss the issues which would arise at the subsequent IMF-World Bank meeting, which in this case was held in Istanbul in October 2009.