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## THE MACRO MANAGEMENT OF COMMODITY BOOMS: AFRICA AND LATIN AMERICA'S RESPONSE TO ASIAN DEMAND

by

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## PREFACE

The Asian-driven commodity boom has affected the way emerging countries pursue macroeconomic policy. Raw-material exporters, the subject of this paper, have benefitted from increased revenues and have often used their windfalls to consolidate fiscal positions. Ensuring appropriate fiscal responses in a context of high commodity prices is not a straightforward affair, however, and Africa and Latin America as commodity-exporting regions have shown diverse and often contrasting responses to the question of fiscal management in a time of commodity boom.

This paper seeks to analyse the macroeconomic response of a sample of countries in these two regions, with emphasis on fiscal policy. Using a sample of 56 countries over 1987-1999 and 2000-2005, the authors compare fiscal responses in both regions before and during Asia's current commodity boom. They define selection and control groups for each region, based on the impact of commodity demand and prices in the economy.

The overall assessment of the net macroeconomic policy in these regions is cautiously optimistic. Commodity-exporting countries have realised clear benefits from the current boom, offsetting pro-cyclical fiscal policy and increasing foreign-exchange reserves. They have also broadened their client base for export, retired costly debt and improved credit profiles. Moreover, negative over-specialisation effects that might have resulted from the commodity boom have been less pronounced than is often feared.

These findings suggest that effective macroeconomic management is possible for resource-rich countries. The success of certain countries' policies in this field is a reassuring sign that shifting global wealth need not be squandered, but can make positive contributions to development.

Javier Santiso  
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## RÉSUMÉ

La forte croissance enregistrée par la Chine et l'Inde a permis aux pays exportateurs de matières premières d'améliorer substantiellement leurs termes de l'échange et d'enregistrer des afflux de capitaux conséquents. A long terme, le défi pour ces pays, aux institutions souvent fragiles, sera d'éviter de tomber dans la trappe de la malédiction des matières premières. Le travail ici présenté se propose d'analyser de manière comparée les réponses en matière de politiques économiques de la part des pays qui bénéficient de cette nouvelle manne, en contrastant en particulier les expériences africaines et latino-américaines. On souligne en premier lieu les liens macro-économiques entre les locomotives asiatiques (Chine et Inde) et ces deux régions. Ensuite, on discute les réponses économiques optimales face à ce choc de demande positif. Enfin, on présente les résultats empiriques et, en particulier, les réponses macro-économiques en matière budgétaire et commerciale des pays bénéficiaires puis on évalue les bénéfices et les défis aussi bien pour l'Afrique que pour l'Amérique latine.

**Mots clefs :** boom des matières premières; locomotives asiatiques; Afrique; Amérique latine; maladie hollandaise.

**Classification JEL :** F00; O11; 057; E62.

## ABSTRACT

Strong growth in China and India has led to improvements in raw-material exporting countries' terms of trade and attracted complementary finance. The long-term challenge for these countries, where institutions are often fragile, is to avoid the so-called "resource curse". This paper aims to provide a comparative perspective between policy choices in commodity-exporting countries, contrasting the experiences of Africa and Latin America. First, it highlights global macroeconomic links between the Asian Drivers (China and India) and these regions. Second, it discusses optimal policy responses from a macroeconomic and institutional perspective. Third, it presents empirical evidence on macroeconomic, particularly fiscal responses to Dutch disease and the specialisation effects caused by Asian Drivers' demand and assesses the benefits and challenges offered by the Asian Drivers from a macro perspective for both Africa and Latin America.

**Keywords:** commodity booms; Asian Drivers; Africa; Latin America, Dutch disease.

**JEL Classification:** F00; O11; O57; E62.

## I. INTRODUCTION

The “Asian Drivers” (AD), China and India, growing at unprecedented rates and rapidly integrating their huge labour forces into the world economy, have together accounted for over a third of global output growth every year since 2001. This has helped hold world growth above the four per cent threshold necessary to improve the terms of trade for primary-commodity producers. By investing their huge foreign exchange reserves in US securities, they have also contributed to low US interest rates and ratcheted up raw-material prices. This in turn has pushed down developing-country spreads and improved their firms’ access to private capital.

Commodity producers have benefited from higher global demand for their exports and from improved terms of trade. The Asian Drivers’ need to secure access to natural resources to fuel resource-intensive growth has attracted complementary finance to the commodity producers, both from the AD directly (*e.g.* infrastructure loans) and from global investors eager to cash in on the boom. In parallel, China’s and India’s growing demand for commodities has served to diversify export clients away from OECD countries. As a result, African and Latin American commodity exporters have enjoyed important windfall profits.

Such windfall profits imply challenges, particularly to macroeconomic policy. By diverting resources from non-raw material sectors and contributing to real exchange-rate appreciation, a price boom runs the risk of locking developing-country commodity exporters into what Leamer called the “raw-material corner”, with little scope for industrial progress or skills advancement. In order to avoid this “Dutch disease”, resource-rich Africa and Latin America must find ways to capitalise on windfall gains by promoting job-rich sectors. Policy responses such as managed currency floats, reduced short-term debt or higher foreign-exchange reserves and, above all, a countercyclical fiscal stance, may mitigate the negative effects of a raw-materials boom.

This paper looks at how macroeconomic policy in a sample of African and Latin American countries has dealt with the AD-related commodity boom. Comparing their macro responses to those of a control group, it examines consumer-price inflation indices, real effective exchange rates, official reserves and short-term debt, fiscal response functions and Dutch-disease indicators in order to assess the policy responses.

## II. IMPACT CHANNELS

The integration of the Asian giants into the world economy has dramatically changed the nature of global macroeconomic and financial interdependence (Reisen *et al.*, 2004). This has in turn shaped primary-commodity markets. This section identifies the main channels through which the Asian Drivers have affected the macroeconomic positions of commodity-exporting countries in Africa and Latin America, providing important opportunities for emerging economies. The sheer size of the Asian Drivers, their phenomenal rates of growth and their growing economic and political power re-shape the world economy. They provide both competition and opportunities across the board to major trading partners in OECD countries, to developing countries and to other emerging economies (for Africa see Goldstein *et al.*, 2006, and for Latin America see Santiso, 2007). These conduits differ from those that affect economies with important manufacturing sectors subject to increased Asian competition.

- Global output growth is a major determinant of primary-commodity prices. A recent estimate finds that world commodity prices move pro-cyclically with the growth rate of world industrial production, at around 1.5 per cent for every one per cent increase in world industrial output, with a one-quarter lag at the most (Bloch *et al.*, 2004).
- The barter terms of trade of primary commodities relative to finished goods rise if world industrial growth exceeds four per cent (Bloch *et al.*, 2004). High global growth has recently halted and reversed the secular decline of commodity prices since World War II. Meanwhile, as Kaplinsky (2006) shows, the greater China's participation in global finished-product markets, the more likely their prices will fall.
- Lower US interest rates (which closely govern variations in global interest rates) have a generally positive impact on world growth, as higher output prospects and lower storage costs lead to higher raw-material prices. The accumulation of foreign-exchange reserves by Asian countries and their investment in US Treasuries have contributed to lower US rates. By the end of 2005, China and Hong Kong, China had accumulated more than one trillion dollars in foreign-exchange reserves, of which 30 per cent were invested in US Treasury Bills, accounting for more than an eighth of all outstanding bills. In 2006, China began to lower the share of reserves invested in US treasuries.

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- A weakening US dollar will also raise raw-material prices through similar effects and because most commodity prices are denominated in US dollars.
- Recycling of petrodollars exceeded an estimated one trillion dollars by early 2007. As net exporters of capital, oil exporters also contribute to lowering the cost of capital for developing countries. Investors looking to recycle petrodollars or commodity dollars have engaged increasingly in the purchase of developing-country assets (Lubin, 2007).

### Asian Drivers' Impact on Determinants of Raw-Material Prices

The Asian Drivers' contribution to global output growth has been substantial, at least 35 per cent since 2001 (Table 1). Their own surging growth has helped maintain global output growth far above the four per cent threshold from which the terms of trade for primary-commodity producers improve (Goldstein *et al.*, 2006).

**Table 1: The Asian Drivers' Contribution to Global Growth, 2000-2007**

	2000	2001	2002	2003	2004	2005	2006	2007
Annual global growth (per cent)	7.0	5.0	4.8	6.1	8.0	7.1	6.7	6.7
China (see note)	18.1	27.2	30.0	27.8	23.8	27.2	28.1	27.9
India (see note)	5.9	7.0	7.5	8.9	7.3	8.2	7.7	7.9

*Note:* The contributions to world growth are calculated as each country's growth rate times its percentage share in world output divided by the sum of its growth rate plus the growth rate of the rest of the world, weighted by its share in world output. Calculations are on a PPP basis.

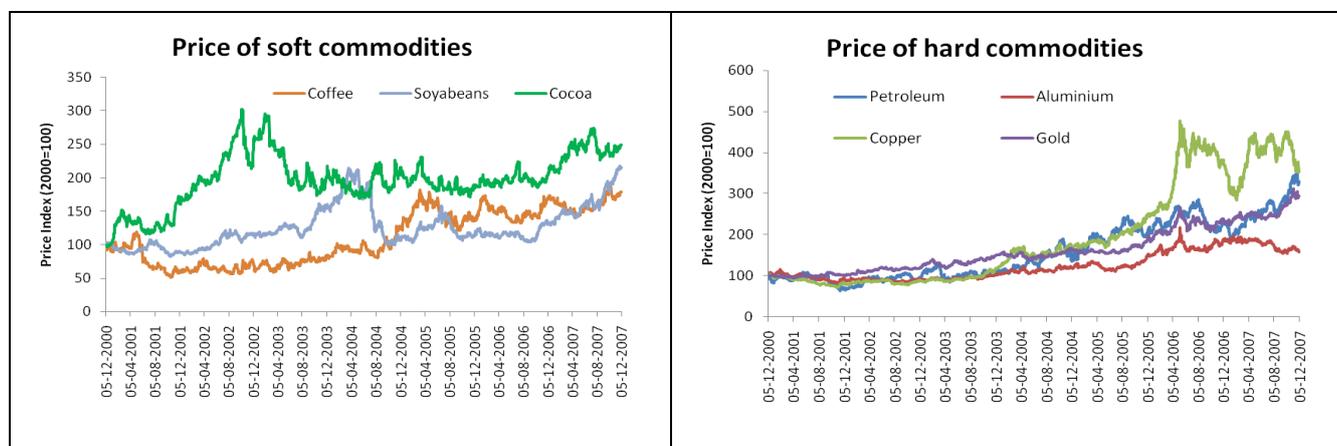
*Source:* Authors' calculation based on the IMF World Economic Outlook Database.

The China-driven "super cycle" — a significant rise in real commodity prices — has been propelled by the middle kingdom's urbanisation and industrialisation and reinforced by India's growth. Commodity prices climbed from historical lows at the beginning of the decade to unusual figures in 2007. Figure 1 shows this for oil, for industrial and precious metals and for soft commodities. These commodities weigh most heavily in African and Latin American export baskets and positively impact their growth. According to Collier (2007) the boom added nearly 2.5 percentage points to the growth of the typical African economy in both 2005 and 2006<sup>1</sup>.

1 Collier and Goderis (2007) also underscore the importance of distinguishing between non-agricultural (depletable, location bound) and agricultural (replenishable) resources.

Figure 1: Price Indices for Selected Commodities

(January 2001 = 100)



Source: OECD Development Centre and African Development Bank (2008), *African Economic Outlook 2008*, Paris, OECD

Volatility of demand tempers the benefits to African and Latin American exporters of China's and India's thirst for commodities. It arises partly from cyclical variations and partly from arbitrage between domestic production and imports. Goldstein *et al.* (2006) examine the volatility of demand (measured as the standard deviation around the trend) for commodity exports relevant to Africa. It rose between 2000 and 2004 for oil, cotton and industrial minerals except copper. Although it is difficult to separate the relative contributions of different factors, the rise may relate partly to China's and India's roles as swing producers, exporting when prices are high and stockpiling when (for cyclical or exceptional reasons) they are not as attractive<sup>2</sup>. Given the size of their economies, any behavioural change translates into volatility in world prices<sup>3</sup>.

- 2 Moreover, as multinational corporations produce a large share of manufacturing exports from China, high demand for raw materials partially reflects relocation of raw material demand from production sites elsewhere. Such adjustments do not occur without friction, which in turn may fuel demand volatility.
- 3 Another source of volatility lies in commodity-related capital inflows. FDI, portfolio equity flows and project loans have been on the rise for developing countries in recent years. Since the early 2000s, i.e. since the global re-emergence of China, foreign direct investments (FDI) in Africa have tripled. According to the African Economic Outlook 2007, the inward flows of FDI in Africa jumped from less than \$10 billion in 2000 to more than \$30 billion in 2005 (the total cumulated inflows over the period have passed the of \$100 billion threshold). The annual flow of FDI from China to Africa also has tripled since the beginning of the 2000s (Mühlberger, 2007). The Asian Drivers have become new actors in capital investment in African markets. China not only has increased its FDI in Africa, but also has multiplied loans and trade credit lines all around the continent (Goldstein *et al.*, 2006), particularly in countries for which oil and gas provide an important share of export proceeds. Natural resources, especially oil and the required network infrastructures are the destinations for Chinese project lending.

### III. THE MACROECONOMIC CHALLENGES OF COMMODITY BOOMS

The Asian commodity boom has produced stark macroeconomic policy challenges, bringing to the fore new problems relating to choices of currency regimes, ensuring countercyclical fiscal policy and reserve and asset management. A clear understanding of the character and persistence of the AD commodity boom is fundamental to macroeconomic policy formulation to deal optimally with its effects, which can change and shift over time. Goldstein *et al.* (2006) argue, for example, that prospective growth patterns of the Asian Drivers, especially China, could boost their domestic consumption and globalise services and eating habits. This would imply a shift in raw-commodity demand patterns away from iron ore, copper and other industrial minerals toward soft commodities.

#### Exchange Rates and Exchange-Rate Regimes

Sub-Saharan African countries, often heavily dependent on commodity exports, account for half of the world's "commodity-currency" countries. On average, movements in real commodity prices alone account for over 80 per cent of the variation in the real exchange rates of these 22 countries – a surprisingly strong result (Cashin *et al.*, 2003). While the variability of real effective exchange rates is similar across the various nominal exchange-rate regimes, the variability of relative prices takes a larger relative share of it in countries with pegged nominal rates. Theory (*e.g.* Chen and Rogoff, 2003) tells us that, for economies prone to frequent real external shocks, flexible nominal exchange rates facilitate the smoothing of real output to such shocks, especially when domestic wages and prices change slowly. Following a positive real shock (such as a rise in the world price of a key export), a nominal appreciation lowers the domestic price of exported goods (partially offsetting the rise in the international price) and reduces real wages in line with reduced labour demand. In contrast, when countries with inflexible nominal exchange rates experience such positive real shocks, prices and wages need to rise to ensure that employment and output are in equilibrium.

Most low-income countries have preferred managed floats (unsterilised intervention on the foreign exchange markets to target the real appreciation needed to accommodate the commodity boom) to either pure floats or nominal exchange-rate pegs, for good reasons (Buffie *et al.*, 2006):

- With a commodity boom (just as with a surge in aid), a pure float results in nominal appreciation and, with sticky prices and wages as well as complementary capital flows, in exchange-rate overshooting such that output contracts in the non-tradable sector and substitution effects drive the economy into recession.

- A currency peg allows a short-run spike in inflation. Bond sterilisation can dampen it, but at the cost of rising real interest rates, inciting further capital inflows. Sterilisation may also require bond sales on a scale exceeding the absorptive capacity of shallow domestic financial markets.

## Reserves

The rise of developing countries' international reserves from commodity-export windfalls has opened new issues related to their optimal level and management. With increasing international financial integration, considerations regarding reserve adequacy have shifted from an emphasis on trade (traditionally associated with the "three-months-of-imports" rule) to financial-account and balance-sheet fragilities (associated with the "Greenspan-Guidotti" rule that reserves should cover short-term debt). Since the classical Baumol-Tobin inventory model with fixed costs of depleting and replenishing reserves, the literature has focused on the optimal level that developing countries should have (Jeanne and Rancière, 2006). Reserves tend to allow a country to smooth domestic absorption in response to sudden stops but they also yield a lower return than the interest rate on a country's long-term debt. The optimal choice is not evident, however, because holding reserves involves social costs as well as financial costs.

## Fiscal Policy

Regardless of the exchange-rate regime, fiscal discipline is another basic requirement for avoiding macroeconomic complications with free capital flows. Because government generally serves as the conduit for mineral revenues to the rest of the economy, fiscal policy holds the key to managing booms (Gottschalk and Prates, 2007). According to Mundell (1962), once the capital account is open even imperfectly, monetary policy acquires a comparative advantage in dealing with external imbalances, with fiscal policy used to maintain internal balance. If governments do not use fiscal policy for stabilisation, they must use monetary policy for internal balance, thus violating the Mundell assignment rule. In countries with fiscally weak governments, the emergence of commodity booms may force such unstable assignments upon the authorities — i.e. fiscal policy does not tighten sufficiently to cope with the booms, monetary policy tries to hold down aggregate demand and in turn interest differentials widen, which reinforces the balance of payments surpluses. Confronted with commodity booms, governments should use fiscal policy to reduce demand for non-tradables, hence limiting unwarranted exchange-rate appreciation. They should aim to eliminate instability in aggregate demand and consequently real exchange rates by smoothing expenditure over time, which implies self-insuring against revenue downfalls. Next to expenditure restraint, revenue management is also important, for self-insurance and asset diversification. The ability to maintain expenditure during busts depends on prudence during booms.

## Resource Management: Theory and Guidelines

Economic theory offers useful insights into the optimal management of natural resources. One strand of literature focuses on the Hotelling Rule. The rationale behind this rule is arbitrage. A country should be indifferent between keeping a natural resource under the ground, in which

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case the return is the capital gain on the reserves, and selling it to invest the proceeds for a market rate of return. This requires that the price of the resource should grow at the world rate of interest and that under some conditions the rate of depletion should equal the demand elasticity times the world rate of interest (van der Ploeg, 2006). Another line of research investigates the optimality of the Hartwick Rule, which demands reinvestment of natural-resource revenues in productive assets. The World Bank has calculated that many resource-abundant economies do not follow the Hartwick Rule. In fact, many of them have negative genuine saving rates and become poorer each year (World Bank, 2006).

Asset accumulation should not rest with the central bank, but should cover the public sector as well. There are good reasons to save part of the commodity bonanza — but how much? The long-run saving rule can apply to depletable resources. It uses the expected rate of increase in the commodity price, divided by the extraction rate. To illustrate, if the expected price increase is one per cent annually and the extraction rate is three per cent (sufficient reserves for 33 years of extraction at the present rate), then the economy can consume one-third of the extraction proceeds. Conversely, given a judgment that the current commodity price far exceeds its long-run level, then government should save all of the above-normal proceeds.

Good theoretical reasons also argue for investing a substantial part of a windfall initially abroad, because the return to investment would fall below the world interest rate if it went entirely into domestic investment. Investing abroad offers an escape from diminishing returns. Governments can repatriate foreign assets gradually for domestic investment. They can employ the construction price-smoothing rule to dampen the rising capital costs typical of construction booms by deferring domestic investment until the booms abate. In practice, however, they may find an efficient balance between domestic and foreign assets politically difficult to sustain. Domestic debt repayment may solve this dilemma and be lucrative as long as domestic debt's cost exceeds expected foreign returns. It has the added advantage of making foreign asset accumulation difficult to reverse by future predator governments.

The management of commodity-price booms in low-income countries surely goes beyond the standard textbook prescription that might hold for OECD mineral producers like Australia or Canada. In all commodity exporters, the short-run growth effect of higher commodity prices is positive. In low-income countries, Collier and Goderis (2007), in a study covering 1960-2004, found a negative long-run effect for non-agricultural commodity exporters and a positive one for agricultural exporters. This could suggest a fundamental difference for the macroeconomic policies of hard and soft commodity exporters. Three factors relevant to any macroeconomic policy prescription can generate the adverse long-run effect, namely the classic "Dutch Disease", the "Leamer Triangle" and volatility.

### **Dutch Disease**

A surge in resource exports leads to a real appreciation of the county's exchange rate, and this hurts other exporters and producers in import-competing sectors. The phenomenon is known variously as the "Dutch Disease" (Corden and Neary, 1982), the "Gregory effect" and "de-industrialization". A resource boom affects the economy through resource-movement and spending effects. For Dutch disease to arise and become serious for policy, other sectors must

exist for which the rise in the real exchange rate creates problems of competitiveness. Torvik (2001) showed that the conventional Dutch-disease effects may be overturned if there are productivity spillovers in both tradable and non-tradable sectors. Adam and Bevan (2006) examine the case where public infrastructure investment generates an inter-temporal productivity spillover for both tradable and non-tradable production, but in a potentially unbalanced manner. For example public investment in rural roads will likely have more impact on the production of (non-tradable) food crops than on urban-based (tradable) manufactures and *vice versa* for, say, telecommunications infrastructure. Collier and Goderis (2007) find that Dutch Disease, although significant, can explain only a minor part of the long-run negative growth effect of higher non-agricultural commodity prices.

### The Leamer Triangle

This concept may have more relevance to the impacts of both the resource booms and the commodity price volatility that the Asian Drivers tend to exert on resource-rich economies. Leamer (1987), using a three-factor, multi-good model showed that resource-rich countries can take development paths very different from resource-poor countries. The corners of the Leamer Triangle represent three factors of production: labour, natural resources, and physical as well as human capital. A natural-resource discovery, for instance, swings a country's endowment point directly toward the resource corner. The Leamer analysis points to four problems connected to such a resource boom (see also Leamer *et al.*, 1999, and Alvarez and Fuentes, 2006). First, the absorption of low-skilled labour that goes along with the development of manufacturing is foregone; hence, inequality is deepened. Second, those manufacturing activities that do emerge are capital intensive and skill intensive. Third, human capital accumulation may be impeded, as skills in the resource sector are very specific and spillovers limited. Fourth, volatility in the prices of raw commodities may raise capital risk in resource-dependent, undiversified countries, which might deter investment and make it more difficult for other tradable activities to emerge.

### Volatility

Volatility is important for the growth paths of developing countries. Countries whose fundamentals have experienced significant variations (*e.g.* Brazil or Mexico in the 1990s) have had strong growth fluctuations, and the negative correlation between both variables has been stressed elsewhere too (Hnatkovska and Loayza, 2004). Aghion and Marinescu (2006) emphasise the effect of fiscal policy, where counter-cyclical budgets foster innovation and growth by easing the impact of shocks on innovating firms. Consistently, they find that pro-cyclical public-debt growth correlates negatively with economic growth. Therefore, countercyclical public-debt growth tends to enhance economic growth, especially with weak financial development. In practice, fiscal policy in many developing countries tends to display the opposite properties; it is pro-cyclical (Hausmann and Gavin, 1996). Government spending as a share of GDP goes up during booms and down in recessions, while deficits increase in booms and decrease in recessions. In some but not all commodity-exporting countries, governments act as "trustees" of national resources and are important recipients of the mineral rents. Tornell and Lane (1999) advanced a political explanation particularly relevant for commodity-dependent countries. When more resources are available (*i.e.* in booms), a "common pool problem" becomes more

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severe and the fight over common resources intensifies, leading to budget deficits. This problem seems less relevant for agriculture-based economies because they do not normally produce rents (the surplus of export revenue over the cost of production). In contrast, non-agricultural commodities provide persistent, location-specific rents, the bulk of which accrue to governments (Collier, 2007).

Table 2 below tries to summarise all of the foregoing, rather dense discussion of the optimal management of natural resources. It draws on the discussion to highlight the basic elements of a decision framework common to most commodity-exporting countries, associating those elements with essential rules that could make the paths to wise decisions clearer for policymakers in those countries.

**Table 2: Managing Public Sector Commodity Booms**

Decision	Rule
<p>How much to deplete?</p> <p>Arbitrage: The country should be indifferent between keeping the natural resource under the ground (in which case the return is the capital gain on the reserves) and selling it and getting a market rate of return on the invested proceeds.</p>	<ol style="list-style-type: none"> <li>Hotelling/Solow Rule: the price of a natural resource should grow at the world rate of interest and under some conditions the rate of depletion should equal the demand elasticity times the world rate of interest.</li> <li>The steady-state depletion rate is capital return minus population growth, so that societies with fast-growing populations should deplete their natural resources less rapidly.</li> </ol>
<p>How much to save?</p> <p>To maximise intergenerational HH utility, which saving rate sustains stable consumption per capita? Consuming rents from exhaustible resources is literally consuming capital.</p> <p>Stabilisation and diversification concerns rule the mid-term saving decision Fiscal policy is superior to monetary policy to deal with the first; active diversification involves use of funds for new activities (e.g. Norway and Chile).</p>	<ol style="list-style-type: none"> <li>Hartwick Rule. If there is no population growth, to sustain a constant income per capita all resource rents must be invested in capital, including education. If consumption per head were rising (falling) over time, social welfare could be increased if earlier (later) generations saved and invested less or consumed capital at the expense of later (earlier) generations.</li> <li>Commodity price smoothing rule. Unlike the savings generated by the Hartwick rule, these savings are intended to finance subsequent consumption during periods when the commodity price is below its long run path. There is thus a strong case for holding these assets in liquid form, which implies the acquisition of financial assets abroad.</li> </ol>
<p>How much to invest at home?</p>	<ol style="list-style-type: none"> <li>Excess return of home investment</li> <li>Construction price smoothing rule</li> </ol>
<p>How much to invest abroad vs. retire public debt?</p>	<p>Excess cost of public debt over global return</p>

Source: Based on discussion in van der Ploeg (2006) and Collier (2007).

## IV. SOME RECENT POLICY EVIDENCE

This section focuses on 2000-2005. It examines the extent to which authorities in the commodity-boom economies of Africa and Latin America followed the policy script outlined above and how this helped contain inflationary pressures, escape excessive specialisation effects, avoid being “Leamer-cornered” and reduce vulnerabilities to possible future currency attacks.

One can assess the Asian Drivers’ impact on these regions by decomposing demand effects and price effects in different commodity markets. Selection and control groups are defined in each region. Regarding the demand effect, the selection group includes countries where the Asian Drivers weigh particularly strongly in terms of shares of both a country’s export receipts and Gross Domestic Product (GDP). Countries displaying values below the regional median should fall into the control group (Table 3).

The price effect is captured differently, looking at the relationship between commodity prices and export shares. The methodology is similar to the one used by Kamin et al. (2006) who assess the impact of Chinese exports on U.S. import prices. Their hypothesis is that if Chinese export prices are lower or falling more rapidly than those of other countries, then those types of goods with particularly high or rising shares of imports from China should be experiencing low rates of price inflation. This should result in negative correlations across end-use sectors, between import price inflation and the level/change of import shares from China.

Likewise, we test if the increase in commodity import shares from China has affected commodity prices.

The hypothesis is that the rise in the Asian Drivers’ demand for commodities has boosted prices, creating a heterogeneous effect depending on trade structure and commercial partners for each country. Data come from the UN/Comtrade database, SITC *Revision 3* classification. Initially the estimated equation is as follows:

$$\Delta P_{i,t,\text{main\_com}} = \alpha_0 + \alpha_1 * \text{import\_AD}_{t,\text{main\_com}} + \alpha_2 * \text{import\_AD}_{t-n,\text{main\_com}} + v_{it}$$

where  $\Delta P_{i,t,\text{main\_com}}$  represents the percentage change in the price of the *main* commodity export for country *i* to the rest of the world,  $\text{import\_AD}_{t,\text{main\_com}}$  is the country’s import share for the commodity by the Asian Drivers at time *t* and  $\text{import\_AD}_{t-n,\text{main\_com}}$  is their initial import share.

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The last term in the equation is important because it captures initial conditions external to the demand for commodities. Ideally, import prices or unit values from China should be used to estimate the equation. However, due to data availability, we assume (and use) standard world market prices for all commodities. The main commodity export for each country is specified in columns Table 3. Then, global commodity indexes are used for each good. The parameter  $\alpha_1$  (not reported) is estimated for each country and captures the relationship between price fluctuations and import shares. Since both variables are in percentage change, the significance and magnitude of  $\alpha_1$  denote an effect of Asian demand on prices.

Finally, countries whose import share to the Asian Drivers was strong, and where import shares explained significantly the variability of its main commodity price, were included in the selection group. The final selection and control groups for both regions are presented in Table 3.

Table 3. Selection and Control Groups

Annual observations covering the period 2000-2005.

Latin America				Africa				
Country	Exports to Asian Drivers/Total Exports (Avg. 2003-05)	Memo: Exports to Asian Drivers/GDP (Avg 2003-05)	Main Export	Country	Exports to Asian Drivers/Total Exports (Avg. 2003-05)	Memo: Exports to Asian Drivers/GDP (Avg 2003-05)	Main Export	
Selection Groups	Chile	0.115	0.040	Copper	Benin	0.382	0.041	Raw cotton
	Peru	0.099	0.021	Metalliferous ores	Gabon	0.150	0.019	Petroleum
	Argentina	0.097	0.012	Petroleum	Senegal	0.141	0.035	Inorg acids
	Brazil	0.068	0.010	Transport equipment	Nigeria	0.105	0.017	Petroleum
	Uruguay	0.041	0.006	Meat	Tanzania	0.098	0.011	Gold
	Paraguay	0.029	0.006	Oil-seeds	Egypt	0.078	0.003	Fuel oils,nes
	Costa Rica	0.027	0.009	Electrical machinery	South Africa	0.045	0.012	Platinum
	Panama	0.024	0.002	Fish products	Mali	0.042	0.009	Gold
Control Groups	<b>L. America</b>			<b>Africa</b>				
	Colombia	0.009	0.002	Petroleum	Cote d'Ivoire	0.027	0.017	Cocoa
	Bolivia	0.009	0.002	Gas	Mozambique	0.026	0.007	Aluminium
	Mexico	0.007	0.002	Electrical machinery	Kenya	0.020	0.002	Tea
	Honduras	0.007	0.002	Coffee	Ghana	0.016	0.006	Cocoa
	Venezuela	0.006	0.002	Petroleum	Tunisia	0.010	0.004	Petroleum
	Guatemala	0.006	0.001	Clothing	Malawi	0.010	0.003	Tobacco
	Ecuador	0.005	0.002	Petroleum	Mauritius	0.009	0.003	Sugar
	Nicaragua	0.004	0.001	Coffee	Uganda	0.008	0.001	Coffee
					Algeria	0.007	0.002	Petroleum
				Niger	0.003	0.000	Uranium	
				Burkina Faso	0.000	0.000	Raw cotton	
				Botswana	0.000	0.000	Minerals	

*Note:* The dominant commodities per country in Africa were mainly gold (Burundi, Tanzania), textile fibres (Benin), petroleum (Egypt, Cameroon, Sudan, Senegal), non-ferrous metals (South Africa, Zambia), coffee (Ethiopia), apparel/clothing (Tunisia, Morocco) and tobacco (Zimbabwe). For Latin America the predominant commodities were petroleum (Venezuela, Colombia, Ecuador), copper (Chile), gas (Bolivia), metalliferous ores and metal scrap (Peru), and coffee, tea, cocoa and other grains (Honduras, Nicaragua, El Salvador).

The subsequent discussion is structured along the rising degree of endogeneity of macroeconomic variables. It starts by estimating fiscal response functions for the various country

groups, both for government spending and government deficits. It then takes the Greenspan-Guidotti indicators as evidence for the effectiveness of currency regimes employed and lower exposure to short-term debt achieved. This in turn leads to a discussion of inflation trends and developments in real effective exchange rates.

### Government Budget Response Function

Fiscal response functions are estimated for both government spending and budget deficits or surpluses (as percentages of GDP). For the first of two different estimation periods, the analysis assesses the degree of pro-cyclical behaviour for a set of Latin American and African countries during 1987-1999. Second, it focuses on the recent upsurge of commodity prices and the terms of trade for these countries, to assess their impact on public revenue management during 2000-2005. The equation is estimated for the whole sample of countries and for the selection and control groups. A Hausman test on each sample supports the fixed-effects estimation. The estimation procedure follows Alesina and Tabellini (2005) and Jimenez and Tromben (2006).

The following equation defines the first panel regression:

$$\Delta F_{it} = \beta_0 + \beta_1 * output\_gap_{it} + \beta_2 * F_{it-1} + \beta_3 * TOT_{it} + \beta_4 * Z_{it} + \varepsilon_{it}$$

where  $F_{it}$  is an indicator of fiscal policy (government expenditure). The output gap measures the business cycle,  $TOT_{it}$  is the terms of trade, and  $Z_{it}$  is a set of variable controls. Information on government expenditure and some controls for this period comes from the *World Development Indicators* (World Bank) and *International Financial Statistics* (IMF). The output gap is calculated as the log deviation of real GDP from its Hodrik-Prescott trend. Identically,  $TOT_{it}$  is a deviation of the terms of trade from its Hodrik-Prescott filtered trend, also obtained from the *World Development Indicators*. In this equation, a positive value for the output-gap coefficient ( $\beta_1$ ) denotes pro-cyclical behaviour. The measure compares the actual GDP (output) of an economy and the potential GDP (efficient output). When an economy has a positive or negative output gap, it runs at an inefficient rate, either overworking or underworking its resources. Theory suggests that a positive output gap will lead to inflation as production and labour costs rise.

For countries with full fiscal control, the null hypothesis is that varying output gaps, the terms of trade or AD shares in exports will not affect government spending; the authorities fully respect the only objective, to smooth government spending over different states of nature. In contrast, countries without fiscal control and hence with pro-cyclical behaviour (due to rent-seeking, fragile institutions, etc.) should show significant positive correlation coefficients for government spending and varying output gaps as well as the terms of trade. Many would find unsurprising such a positive association with AD export shares as well, arguing that the Asian Drivers tend to engage particularly in countries with weak governance scores.

The regression shows (Table 4a) that Latin America had significant pro-cyclical behaviour during 1987-1999, but not in 2000-2005, indicating increased fiscal control. The inconclusive results for Africa do seem to suggest a high degree of volatility in public spending.

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In the OECD group added for comparison, the results indicate fiscal discipline for both sub-periods as the output gap does not exert a significant impact on government expenditure.

Table 4a. Government Expenditure Response: All Countries

	1987-1999				2000-2005		
	Latin America	Africa	OECD		Latin America	Africa	OECD
output_gap	4.78e-11*	5.03E-11	2.53E-13	output_gap	2.53E-12	-5.8470e-10***	-3.02E-12
	[1.92]	[0.27]	[0.17]		[0.09]	[2.98]	[1.46]
lag_gov_exp	0.75***	0.4753***	0.7842***	lag_gov_exp	0.3450*	0.5717***	0.6558***
	[16.73]	[9.46]	[16.10]		[1.93]	[6.75]	[6.39]
terms_trade	8.07e-13*	-2.7668e-12***	2.48E-13	terms_trade	-1.85E-13	2.05E-13	-4.69E-14
	[1.79]	[2.70]	[1.36]		[0.89]	[0.32]	[0.23]
Observations	207	318	195	Observations	89	144	72
No. of id_gen	16	25	15	No. of id_gen	16	25	15
R-squared	0.6	0.28	0.65	R-squared	0.07	0.31	0.47

Absolute value of t-statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

The following regression takes into account the selection (Table 4b) and control (Table 4c) groups in each region in order to find further differences. Table 4b confirms the existence of pro-cyclical behaviour for the Latin American selection group during 1987-1999. During 2000-2005, the null hypothesis of non-significance for the output gap cannot be rejected, and therefore one can assume that non-cyclical prevailed. While the signs of the output gap turn from positive to negative in the African selection group (indicating a move toward an anti-cyclical stance), they are not significant in either period. In contrast, the African control group displays a surprisingly significant anti-cyclical response of public spending in both periods and for both explanatory variables, *i.e.* the output gap and the terms of trade. To confirm the robustness of results, a second set of regressions estimated for the samples used the growth rate of government expenditure. They neither added to nor modified the outcomes reported here.

Table 4b. Government Expenditure Response: Selection Group

	1987-1999			2000-2005	
	Latin America	Africa		Latin America	Africa
output_gap	3.8198e-11**	2.05E-10	output_gap	1.0716E-11	-2.14E-10
	[2.25]	[1.06]		[0.24]	[1.29]
lag_gov_exp	0.7746***	0.4904***	lag_gov_exp	0.6225*	0.2270***
	[13.30]	[7.33]		[1.79]	[2.71]
terms_trade	-4.2171E-13	-2.6502E-12	terms_trade	-1.8463E-13	3.3567E-12
	[0.51]	[1.02]		[0.41]	[0.78]
Observations	103	151	Observations	45	66
Number of id_gen	8	12	Number of id_gen	8	12
R-squared	0.68	0.3	R-squared	0.1	0.14

Absolute value of t-statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 4c. Government Expenditure Response: Control Group

	1987-1999			2000-2005		
	Latin America	Africa	OECD	Latin America	Africa	OECD
output_gap	7.2943E-11 [1.18]	-1.1254e-09** [2.07]	2.53E-13 [0.17]	-1.0326E-11 [0.43]	-1.5932e-09*** [4.00]	-3.02E-12 [1.46]
lag_gov_exp	0.7533*** [11.48]	0.4353*** [5.76]	0.7842*** [16.10]	0.11 [0.83]	1.0084*** [8.04]	0.6558*** [6.39]
terms_trade	9.5359E-13 [1.55]	-2.9224e-12** [2.54]	2.48E-13 [1.36]	-2.0351E-13 [1.40]	9E-14 [0.15]	-4.69E-14 [0.23]
Observations	104	167	195	44	78	72
Number of id_gen	8	13	15	8	13	15
R-squared	0.59	0.29	0.65	0.12	0.58	0.47

Absolute value of t-statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

The next step took government budget balances as a proxy (dependent variable) for fiscal policy. The data, expressed as percentages of GDP, come from The Economist Intelligence Unit, the OECD *African Economic Outlook* and Jimenez and Tromben (2006). The null hypothesis says that countries with fiscal discipline will show a significant positive correlation between government budget balances and varying output gaps and terms of trade. To save for bad days in good times is a precondition for governments' ability to smooth public spending over economic cycles. Absence of a significant positive correlation would indicate a pro-cyclical fiscal stance and hence potential macroeconomic complications, such as higher price levels for non-tradables leading to higher inflation levels and higher real currency appreciation than that warranted by the fundamental equilibrium exchange rate. Tables 5a through 5c report the results.

Table 5a. Government Budget-Balance Response: All Countries

	1987-1999			2000-2005		
	Latin America	Africa	OECD	Latin America	Africa	OECD
output_gap	5.45E-11 [1.49]	-3.62E-10 [0.60]	9.14E-13 [0.22] 0.85** [16.75]	output_gap	2.76E-11 [1.10]	1.05e-09*** [3.57] 11** [2.33]
lag_budg_bal	0.28*** [3.71]	0.1232 [1.31]	* [16.75]	lag_budg_bal	0.45*** [4.07]	0.08 [0.97] 0.33** [2.49]
terms_trade	1.00e-12** [2.42]	11*** [3.23]	13 [1.30]	terms_trade	2.84E-13 [1.39]	2.23E-14 [0.02] 12 [1.37]
Observations	146	140	167	Observations	90	138
No. of id_gen	15	23	15	No. of id_gen	15	23
R-squared	0.19	0.13	0.66	R-squared	0.27	0.11

Absolute value of t-statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 5b. Government Budget-Balance Response: Selection Group

	1987-1999			2000-2005	
	Latin America	Africa		Latin America	Africa
output_gap	5.76E-11 [1.19]	-1.16E-09 [1.40]	output_gap	1.65E-11 [0.60]	1.09e-09*** [3.63]
lag_budg_bal	0.24** [2.12]	0.1 [0.67]	lag_budg_bal	0.42*** [3.06]	0.11 [1.05]
terms_trade	2.08e-12** [2.34]	4.45e-11** [2.48]	terms_trade	9.95e-13*** [2.90]	-1.95e-11*** [2.87]
Observations	75	58	Observations	48	72
Number of id_gen	8	12	Number of id_gen	8	12
R-squared	0.15	0.21	R-squared	0.42	0.27

Absolute value of t-statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

Table 5c. Government Budget-Balance Response: Control Group

	1987-1999			2000-2005		
	Latin America	Africa	OECD	Latin America	Africa	OECD
output_gap	5.11E-11 [0.94]	2.2330e-09** [2.28]	9.14E-13 [0.22]	4.93E-11 [1.04]	1.20e-09* [1.79]	1.70e-11** [2.33]
lag_budg_bal	0.29*** [2.78]	0.08 [0.73]	0.85*** [16.75]	0.44** [2.55]	0.15 [1.16]	0.33** [2.49]
terms_trade	8.51E-13 [1.55]	1.7810e-10*** [2.75]	8.02E-13 [1.30]	1.53E-14 [0.06]	2.73E-13 [0.26]	1.19E-12 [1.37]
Observations	71	82	167	42	66	84
Number of id_gen	7	11	15	7	11	14
R-squared	0.21	0.15	0.66	0.22	0.08	0.23

Absolute value of t-statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

During 1987-99 in both Africa and Latin America shifts in the terms of trade played a significant role in explaining changes in government budget balances, which rose with the terms of trade. This terms-of-trade effect later lost significance in both regions (Table 5a), suggesting less direct dependence of government finance on raw materials. In the AD selection group (Table 5b), however, the terms of trade continued to exert an important impact on government budget balances. In both Africa and the OECD sample, the output gap has had significance in explaining budget balances since 2000, suggesting a stronger anti-cyclical fiscal stance, but no detectable statistical significance appears for the output-gap variable in Latin America. These findings suggest, perhaps surprisingly, that as the AD-driven commodity boom gained full traction, African countries on average outperformed Latin America in managing macroeconomic policy challenges and making monetary policy easier with anti-cyclical fiscal stances.

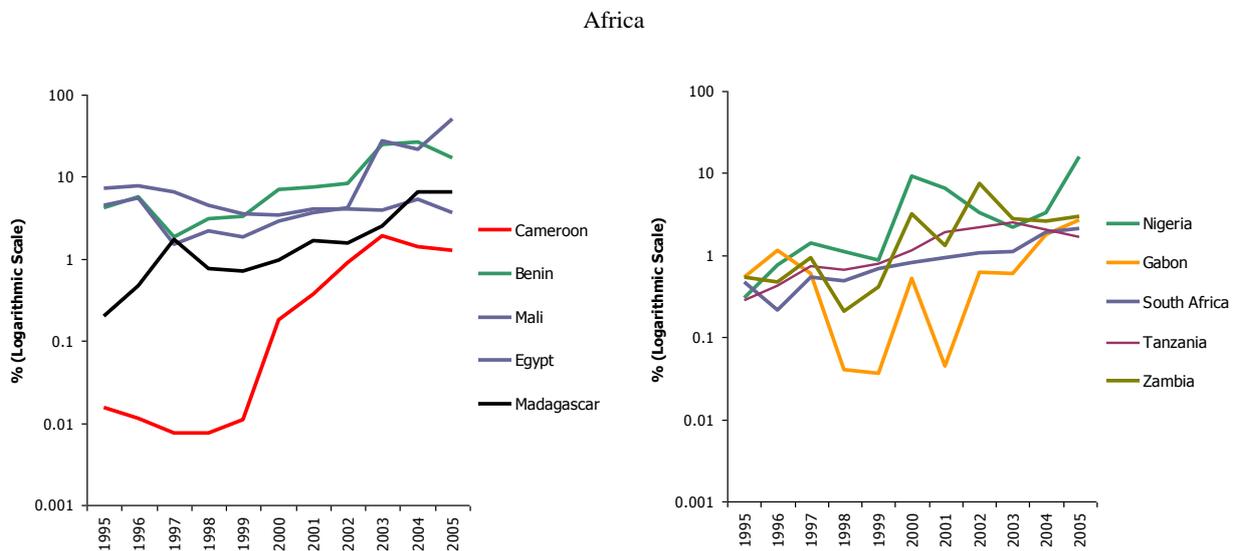
### Respecting the Guidotti-Greenspan Rule: Higher Reserves, Lower Debt

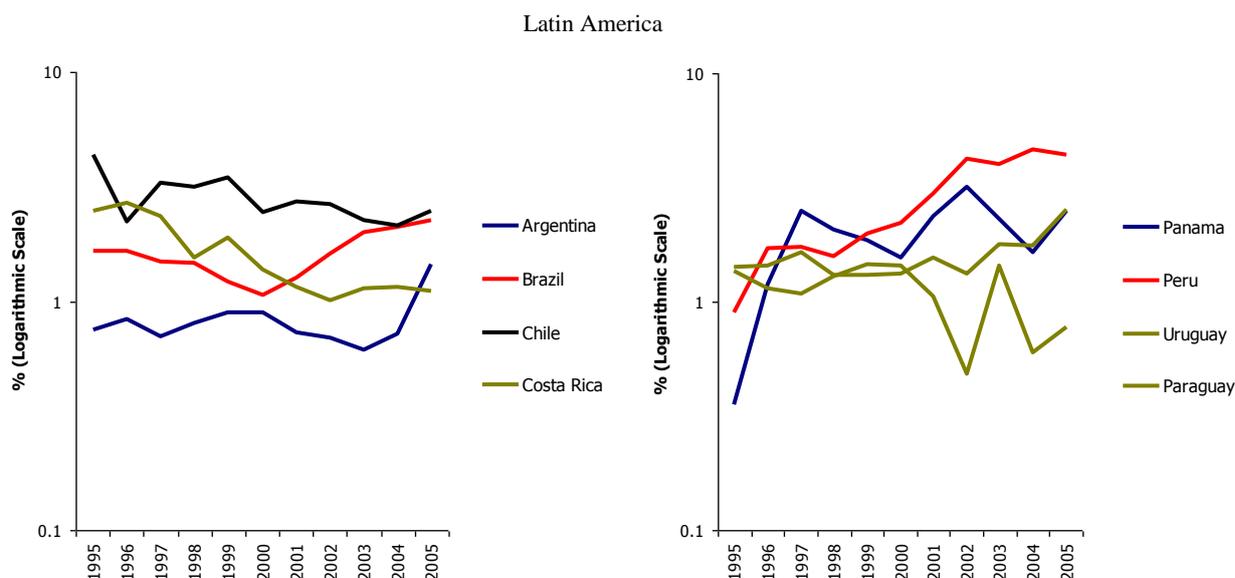
A rise in commodity proceeds should affect neither the level of foreign exchange reserves nor the level of short-term debt if a pure float in the exchange rate fully accommodates it. In theory, only the nominal exchange rate would appreciate, immediately on impact. Any other currency regime, from a hard peg to a dirty float, will translate into a rise of the Guidotti-Greenspan indicator, the level of official foreign exchange reserves as a fraction of the country's short-term foreign debt. For countries where this indicator has been below one, any rise above

one can be interpreted as a step toward lowered exposure to a speculative currency attack by foreign and domestic investors, as debt easily repaid is less than the reserves needed to defend the exchange rate.

Figure 2 relates official foreign exchange reserves and short-term external debt. Ideally, the indicator could broaden to include all liquid assets held abroad instead of official reserves only and all liquid liabilities, both external and domestic, but data availability precludes establishing such time series. The figure shows improvements in the Guidotti-Greenspan indicator to exceed one in all sample countries. The Asian Drivers' commodity boom has indeed worked to reduce vulnerability to future speculative attacks. Argentina, Cameroon and Gabon especially appear to have managed to shift away from the danger zone. The rest of the selection group countries show even more comfortable values.

Figure 2: Ratio of Foreign Exchange Reserves to Short Term Debt – Selection Group

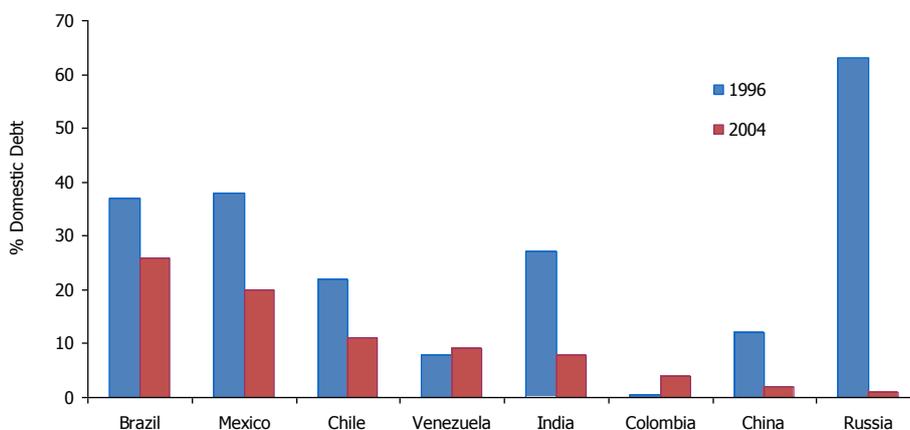




Source: OECD Development Centre, computed from the World Bank Global Development Finance Database, 2008.

Changes in debt composition, maturities and structure have contributed importantly to these improved indicators. Figure 3 displays some evidence for lower shares of short-term paper in total domestic debt. The risk posed by debt management to the current commodity boom has therefore differed greatly from that during prior commodity shocks, in particular the 1970s experience that ended up causing Latin America's 1980s debt crisis (Blommestein and Santiso, 2007). Since the global re-emergence of China, exchange rate-indexed debt also has come down throughout Latin America, most impressively in Brazil, where its share fell from 37 per cent of total public debt in 2002, the year of the crisis, to 2.3 per cent in early 2006. The reallocation towards more local-currency debt also induces a change in the risk profile of sovereign issuers. Foreign-currency debt is decreasing, although this has produced shorter debt maturities in some countries. Things are changing quickly, however, as some other emerging bond issuers begin to issue bonds in local currencies with maturities over ten years (*e.g.* Mexico).

Figure 3: Short Term Domestic Debt in Emerging Markets



Source: Blommestein and Santiso, 2007.

Over the past decade, current account surpluses in most emerging markets have enabled them to reduce external debt. This has helped to reduce a major source of vulnerability (to liquidity crises in particular), namely the net open forward positions in hard currencies taken by some central banks. Such positions played a key role in the collapse of the Thai baht in 1997 and were an important source of weakness for South Africa until it trimmed down its forward book in 2003.

In some cases, external debt has been reduced by drawing on reserves. In 2005, Brazil repaid the IMF and the Paris Club creditor countries, and in 2006 it paid off all its remaining Brady bonds (\$6.6 billion). Brady bonds had kick-started the emerging-market bond boom in the 1990s (albeit partly funded by new external debt), officially ending the debt restructuring process of the 1980s. Argentina followed the Brazilian example, repaying its outstanding debt to international financial institutions. In 2006, Nigeria became the first African country to cancel its Paris Club debt (\$30 billion), with one-third repaid and the rest forgiven. Self-insurance through reserve accumulation continues.

### **Inflation and Real Effective Exchange rates**

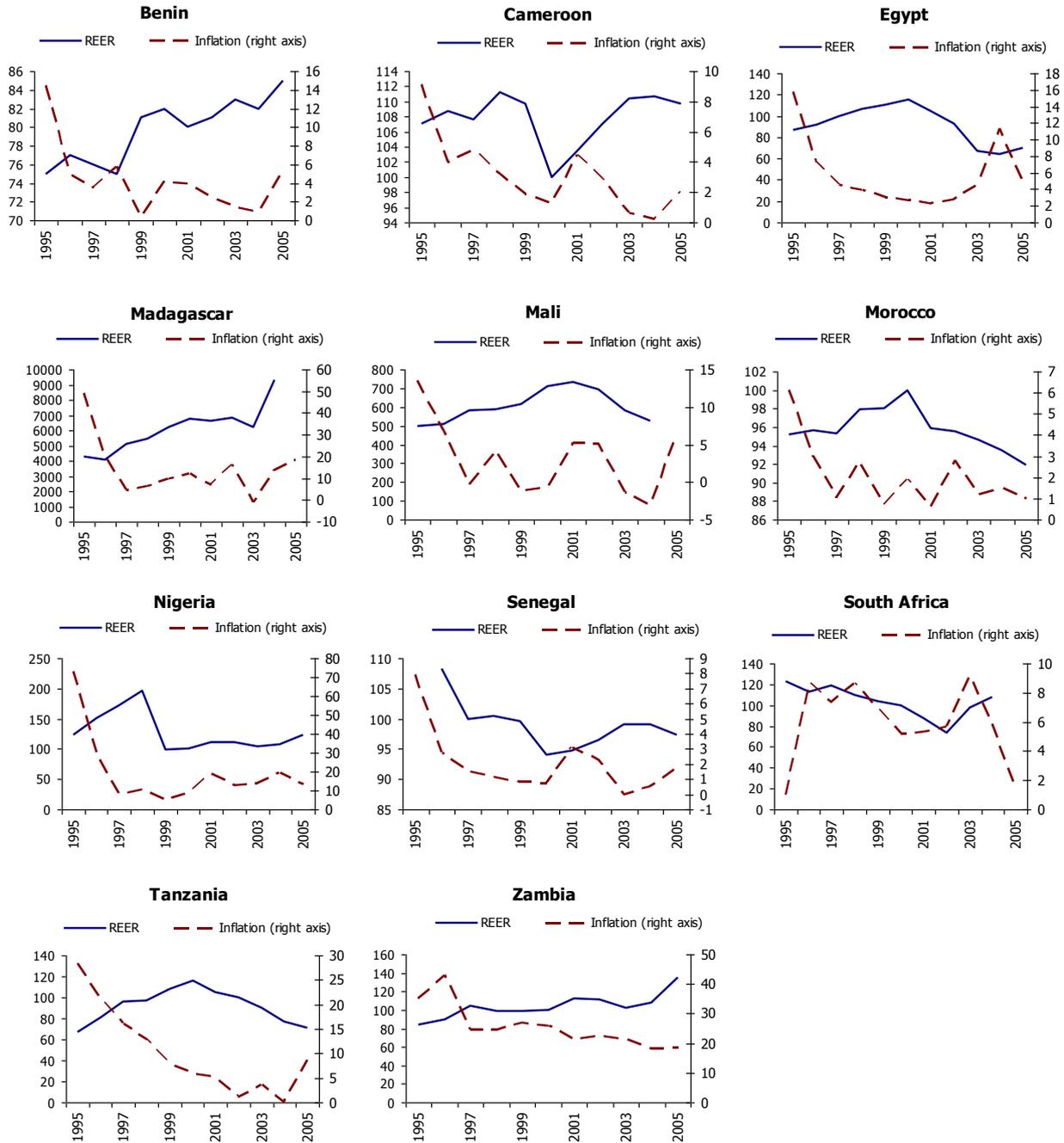
Figure 4 focuses on the selection-group countries of Africa and Latin America, where China's commodity import demand is most felt. It reveals a picture of emergent macroeconomic stability during 2000-2006, with inflation and real effective appreciation well contained. Strong appreciation of the real effective exchange (REER) — exceeding 50 per cent — did occur in Zambia in particular, reflecting not just higher commodity prices but also simultaneous debt relief and renewed capital inflows<sup>4</sup>.

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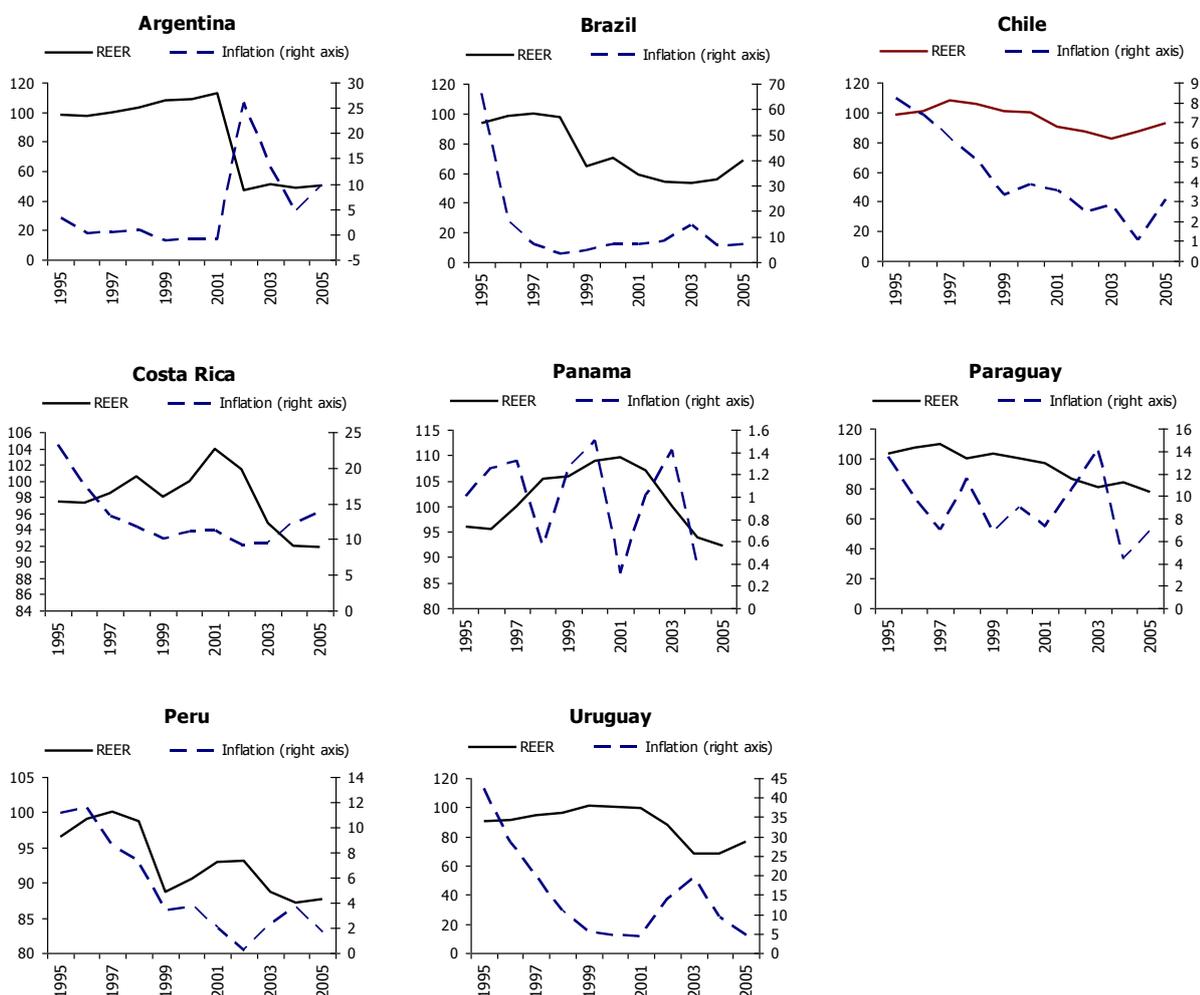
4 Following Collier (2007), Chile and Zambia provide contrasting examples of the consequences of different public savings strategies for the real exchange rate in 2005, when the world price of their common commodity export, copper, was exceptionally high. The Government of Chile saved all the incremental revenue, whereas Zambia continued to run a fiscal deficit. During 2005, the real exchange rate mildly depreciated in Chile despite the boom, whereas in Zambia it appreciated by around 80 per cent, causing intense problems for non-copper exports. Note, however, that the equilibrium exchange rate may have appreciated more in Zambia than in Chile as the former benefited from important debt relief measures. Therefore, the fundamental equilibrium exchange rate may have appreciated correspondingly.

Figure 4: Real Effective Exchange Rates and CPI Inflation in Selection-Group Countries

Africa



## Latin America



Source: Authors, 2008; based on Economist Intelligence Unit and IMF *Statistical Yearbook*, 2007. Data on inflation for Africa from *World Economic Outlook* and *Penn World Tables*, 2008.

In none of the sample countries has inflation risen during the AD-induced boom period. These findings suggest some degree of sterilised foreign-exchange intervention and the absence of hard nominal exchange-rate pegs, which would have had to accommodate commodity-induced appreciation pressures through a rise in inflation. In Zambia, inflation did exceed 20 per cent until 2004, whence some exchange-rate based stabilisation brought it down.

A priori, one can expect the Asian Drivers' export share to lower inflation through nominal appreciation. This expected response will depend very much on the degree to which the authorities allow nominal currency appreciation to operate. The following equation estimates the impact of the Asian Drivers on inflation:

$$dev\_inf\ lat_{it} = \alpha_0 + \alpha_1 * export\_AD_{it} + \beta_2 * gov\_exp\_growth + \varepsilon_{it}$$

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where the inflation deviation is defined as the difference between the average CPI-inflation during the period 1987-1999 and the CPI-inflation in year  $t$ , and  $export\_AD$  represents the export share of country  $i$  to the Asian Drivers. Data on inflation comes from the Economist Intelligence Unit (based on the IFS Database in *Datastream*). The World Integrated Trade Statistics (WITS) Database provides the information on export shares. The equation is estimated for 2000-2005, using a Hausman-tested fixed-effect estimator for both samples. Tables 6a-6c present the results.

**Table 6a. Inflation Deviation and Exports to Asian Drivers: All countries**

	2000-2005	
	Latin America	Africa
export_ad	-4.91E+01 [0.55]	-3.19E+00 [0.23]
gov_exp_growth	0.21 [0.81]	0.06** [2.19]
Observations	9.10E+01	1.23E+02
Number of id_gen	16	23
R-squared	0.01	0.05

Notes: Absolute value of t statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 6b. Inflation Deviation and Exports to Asian Drivers: Selection Group**

	2000-2005	
	Latin America	Africa
export_ad	-2.90E+01 [0.67]	-2.96E+00 [0.29]
gov_exp_growth	0.2 [1.07]	0.05** [2.40]
Observations	4.60E+01	6.40E+01
Number of id_gen	8	12
R-squared	0.04	0.1

Notes: Absolute value of t statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Table 6c. Inflation Deviation and Exports to Asian Drivers: Control Group**

	2000-2005	
	Latin America	Africa
export_ad	-4.98E+02 [0.85]	2.05E+01 [0.21]
gov_exp_growth	0.12 [0.25]	0.31* [1.94]
Observations	4.50E+01	5.90E+01
Number of id_gen	8	11
R-squared	0.03	0.08

Notes: Absolute value of t statistics in brackets

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

For the all-country sample, a negative relationship appears between inflation deviation and export shares to the Asian drivers, but it is not statistically significant. It does suggest, however, that increased AD exports could have had the expected impact on the gap between observed inflation and average inflation before the Asian boom. The second explanatory

variable, the growth of government expenditure, seems positively correlated with this deviation, and it is significant (at five per cent) for Africa. This suggests that Africa would have experienced higher inflation in the absence of its general anti-cyclical fiscal stance. Results for the selection group are quite similar. Both coefficients for the export share remain negative, but statistically non-significant. The government-expenditure growth coefficient for Africa remains positive and significant, reinforcing the suggestion of an important role for fiscal policy in explaining inflation deviations. For the control group, the export-shares coefficient for Africa turns positive (although not significant). The coefficient on government spending stays both positive and significant for Africa.

## **V. CONCLUDING REMARKS: AN OPPORTUNITY FOR BETTER MANAGEMENT**

This paper's conclusions present cause for optimism about macroeconomic policy responses to the impact of AD-induced commodity booms in Africa and Latin America. Commodity-exporting countries have realised clear benefits from the current boom. It has raised net export receipts and broadened exporters' client bases, enabling them to retire costly debt, improve their credit profiles, increase foreign exchange reserves to reduce vulnerability to future speculative attacks, finance infrastructure for future growth and build nest eggs abroad and at home for leaner times. Meanwhile, the negative Dutch disease effects, Leamer corner solutions and lower non-resource exports that might have resulted from the commodity boom have been mild. The prospective sources of commodity demand from the Asian Drivers could well migrate from depletable minerals to replenishable agricultural commodities, which arguably exert more positive long-run benefits for development (Collier and Goderis, 2007).

Policy performance deserves credit for many of the beneficial effects observed so far. Monetary policy choices have targeted both inflation and real effective exchange rates with some success (with exceptions such as Zambia). These findings unexpectedly suggest that as the AD-driven commodity boom gained full momentum, macroeconomic policy challenges and monetary policy have been better managed in Africa than, on average, in Latin America.

The rapid growth of Asian emerging economies has raised demand for Africa and Latin America's commodities (oil, metals and precious stones) and has resulted in improved terms of trade as well as rapid growth in primary commodity exports. Yet deficient infrastructure, insufficient investment in human capital and inadequate policies limit the ability of these exporting economies to seize fully the opportunities opened up by global markets. The increased global demand for agricultural and food products opens potentially encouraging new avenues for a more balanced development pattern than that possible under a solely extractive model. Realising that potential requires commitment of resources and productivity enhancement in these sectors. For exporters of natural resources, the challenge is to capitalise on mineral windfalls to invest a large proportion of the proceeds from the minerals sector in infrastructure and human-capital development. Diversification remains imperative. A medium-term objective, it will depend on, among other things, the capacity to promote private-sector development, particularly in Africa.

## REFERENCES

- ADAM, C.S. and D. L. BEVAN (2006), "Aid and the Supply Side: Public Investment, Export Performance, and Dutch Disease in Low-Income Countries," *World Bank Economic Review*, Vol. 20 (2), pp. 261-290.
- AGHION, P. and I. MARINESCU (2006), "Cyclical Budgetary Policy and Economic Growth: What Do We Learn from OECD Panel Data?," *mimeo*, Cambridge (Ma.), Harvard University.
- ALESINA, A. and G. TABELLINI (2005), "Why is Fiscal Policy often Procyclical?," *NBER Working Paper 11600*, Cambridge (Ma.), National Bureau of Economic Research.
- ALVAREZ, R. and R. FUENTES (2006), "Paths of Development, Specialization and Natural Resources Abundance", *Working Paper, Banco de Chile*, 2006.
- BUFFIE, E., C. ADAM, S. O'CONNELL and C. PATTILLO (2006), "Riding the Wave: Monetary Responses to Aid Surges in Low-Income Countries", *CSAE WPS/2006-04*, Oxford University.
- BLOCH, H., A.M DOCKERY, C. WYN MORGAN and D. SAPFORD (2004), "Growth, Commodity Prices, Inflation and the Distribution of Income", *Research Papers*, No. 0404, The University of Liverpool School of Management, Liverpool.
- BLOMMENSTEIN, H. and J. SANTISO (2007), "New Strategies for Emerging Domestic Sovereign Bond Markets in the Global Financial Landscape", *OECD Development Centre Working Paper No. 260*, April.
- CASHIN, P., L. CESPEDES, and R. SAHAY (2003), "Commodity Currencies", *Finance & Development*, Volume 40 (1) March.
- CHEN, Y. C. and K. ROGOFF (2003), "Commodity currencies", *Journal of International Economics*, 60 (1), pp. 133-160.
- COLLIER, P. (2007), "Managing Commodity Booms: Lessons of International Experience", *Oxford University, Centre for the Study of African economies, Department of Economics*, paper prepared for the *African Economic Research Consortium*, January; See <http://users.ox.ac.uk/~econpco/research/africa.htm>
- COLLIER, P. and B. GODERIS (2007), "Commodity Prices and Growth: Reconciling A Conundrum", *University of Oxford, Department of Economics* (January, unpublished). <http://users.ox.ac.uk/~econpco/research/africa.htm>
- CORDEN, M.W. and P.J. NEARY (1982), "Booming Sector and De-Industrialization in a Small Open Economy," *Economic Journal*, Vol. 92, No. 368, pp. 825-48.
- GOLDSTEIN, A., N. PINAUD, H. REISEN, and X. CHEN (2006), *The Rise of China and India: What's In It for Africa?*, Paris, OECD Development Centre Studies.
- GOTTSCHALK, R. and D. PRATES (2007), "Asia's Growing Demand for Primary Commodities: Macroeconomic Policy Responses from Latin America", Brighton (UK), Institute of Development Studies at Sussex University.
- HAUSMANN, R. and M. GAVIN (1996), "Securing Stability in a Shock-Prone Region: The Policy Challenge for Latin America", in R. HAUSMANN and H. REISEN (eds.), *Securing Stability and Growth in Latin America*, Paris, OECD Development Centre, pp. 23 – 64.

DEV/DOC(2008)6

HNATKOVSKA, V. and N. LOAYZA (2004), "Volatility and Growth". Policy Research Working Paper Series 3184, The World Bank.

JEANNE, O. and R. RANCIERE (2006), "The Optimal Level of International Reserves for Emerging Market Countries: Formulas and Applications", *IMF Working Paper*, 229, October.

JIMENEZ, J.P. and V. TROMBEN (2006), "Fiscal Policy and the Commodities Boom: the Impact of Higher Prices for Non-Renewables in Latin America and the Caribbean", *ECLAC Review*, 90, pp. 59-84, December.

KAPLINSKY, R. (2006), "Revisiting the Revisited Terms of Trade: Will China Make A Difference?" *World Development*, 34 (6). pp. 981-995.

KAMIN, S., M. MARAZZI and J. W. SCHINDLER (2006), "The Impact of Chinese Exports on Global Import Prices". *Review of International Economics*, 14(2), 179-201.

LEAMER, E. (1987), "Paths of Development in the Three-Factor, N-Good General Equilibrium Model", *Journal of Political Economy*, Vol. 95, No. 5, pp. 961-99.

LEAMER, E., H. MAUL, S. RODRIGUEZ and P.K. SCHOTT (1999), "Does Natural Resource Abundance Cause Latin American Income Inequality?", *Journal of Development Economics*, Vol. 59, No. 1, pp. 3-42.

LUBIN, D. (2007), "Petrodollars, Emerging Markets and Vulnerability", *Citigroup Global Markets*, London, February (mimeo).

MUHLBERGER, M. (2007), "Africa's Natural Resources in the Spotlight Again", Frankfurt, Deutsche Bank Research.

MUNDELL, R. (1962), "The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability," *Staff Papers*, International Monetary Fund, Vol. 9, pp. 70-77, March.

OECD Development Centre and African Development Bank (2007), *African Economic Outlook 2007*, Paris, OECD.

REISEN, H., M. GRANDES and N. PINAUD (2004), "New Issues in Macroeconomic Interdependence", *OECD Development Centre Working Papers*, No. 241, OECD, Paris.

SANTISO, J., (ed.) (2007), *The Visible Hand of China in Latin America*, Paris, OECD Development Centre Series.

TORNELL, A. and P. LANE (1999), "Voracity and Growth", *American Economic Review*, Vol. 89.1., pp. 22-46.

TORVIK, R. (2001), "Learning by Doing and the Dutch Disease", *European Economic Review*, Vol. 45.2., pp. 285-306.

VAN DER PLOEG, R. (2006), *Challenges and Opportunities for Resource Rich Economies*, CEPR DP 5688 (2006).

WORLD BANK (2006), "Where is the Wealth of Nations?", Washington DC.

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