BOOM, BUST AND BETTER POLICY: CRISIS LESSONS FOR RESOURCE RICH COUNTRIES

Broken Boom: The Impact of the Economic Downturn on Resource-dependent Countries

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Abstract

This study by Revenue Watch Institute senior economist Akram Esanov and legal analyst Patrick Heller reveals that resource rich countries suffered sharper volatility during this boom/bust cycle than resource poor countries, dropping from a collective GDP growth of 5 percent in 2008 to a collective contraction of 2 percent in 2009. The survey of 80 economies also highlights more severe volatility in private consumption and domestic credit among resource producers than in other countries. The paper highlights two principal causes of these extreme effects of the global economic swing. First, many resource rich countries have failed to diversify, leaving them particularly vulnerable to swings in price and in output of natural resource exports. The price recovery for many commodities over the second half of 2009 has helped some heavily resource-dependent countries to begin their own recoveries, but the crisis served as a forceful reminder that a larger downturn could be devastating. Second, many of the worst-hit resource rich economies—with Russia suffering the most—were decimated by the bursting of a "double bubble," as the commodity price decline combined with lax financial regulations and heavy exposure to global credit markets. The resource rich countries that have withstood the crisis best and stand best-positioned to respond to future downturns include nations like Qatar and Vietnam that have successfully built broad and vibrant private sectors that reduce dependence on commodities.

Introduction

As the global economic crisis advanced mercilessly through the end of 2008 and the first half of 2009, the governments of petroleum and mineral dependent countries across the world found themselves facing a special set of challenges. The experience of three former Eastern-bloc countries illustrates the unique difficulties imposed by a heavy reliance on revenues from extractive resources. Poland, Russia and Mongolia shared a common history of centralized economic planning, and went through a painful transition after the fall of communism. But in the intervening years the endowments and strategies of these governments have diverged in meaningful ways, which have inexorably shaped their levels of resilience to the crisis. Poland has a diversified economy that is not as dependent on commodity exports as Mongolia and Russia, and the country has been able to maintain consumer spending and make effective use of assistance from the EU. As a result, in spite of deteriorating lending conditions and a falling demand for Polish goods and services abroad, the country has been able to preserve growth, reaching a year-on-year growth rate of 1.6 percent in 2009 that, while modest, places the country among the best performers in Europe.[1]

Mongolia's economy has remained weakly integrated into the global financial system and its growth of the 2000s was due almost exclusively to the bonanza derived from mineral (particularly copper) production and exports. Mongolia was hit hard by the global economic downturn and the collapse in copper prices. As prices plunged in late-2008, so too did the country's short-term economic prospects—government revenues declined sharply, non-performing loans increased, and investment projects slowed to a crawl. The growth rate in Mongolia dropped from about 9 percent in 2008 to negative one percent in 2009. Although the contraction has not been as severe as in other resource-dependent countries, it underscored the economy's dependence on the extractive sector and served as a stark reminder that a longer commodity price downturn could be devastating for the country.

But the worst, for now, has been reserved for Russia. This is a multi-sector crisis, and the country was seemingly hit on all sides simultaneously. The commodity price bust and a sudden reversal of capital flows have severely affected the Russian economy owing to its dependence on the oil and gas sector, narrow industrial base and weak banking and corporate sectors. For instance, over the past few years, the share of manufactured goods in total exports exceeded 60 percent in Poland, while hydrocarbons constitute two-thirds of total exports in Russia. The result of the downturn has been nothing short of catastrophic, with a contraction of about 8 percent of GDP, an explosion of unemployment, surging poverty, plummeting fixed investment, a collapsing credit market and a budget shifting dramatically into deficit.

Why have Mongolia and Russia been besieged by the crisis, while Poland has been able to avoid its worst effects? An analysis of global trends during the crisis suggests that the answer relates, to a large extent, to their dependence on the extraction of natural resources for such a heavy share of economic activity. Without a diversified portfolio of economic activities, a reserve of public savings shielded from global credit markets, and a long-term development strategy for growth and infrastructure, resource rich countries have suffered more dramatically under the current crisis than other countries. They are

[1] The views expressed in this paper do not reflect the position of the institution. The authors are responsible for all errors and omissions. The authors thank Besnik Hyseni for his excellent research assistance.

likely to remain vulnerable to short-term volatility and future boom-bust cycles unless they can change their extractive sector policies and practices to better protect themselves.

An examination of statistics from 80 economies underscores the unique risks facing resource-dependent countries during the crisis. As a group, resource-dependent economies are estimated to have dropped from an average GDP growth of around 5 percent in 2008 to a decline of nearly 2 percent in 2009, a more dramatic plunge than is being felt in resource poor advanced, emerging or low-income economies.[2] Resource poor emerging countries as a group, on the other hand, are projected to maintain positive growth rates in spite of the crisis. Poland is a prominent member of this group—also including countries like China, India and Argentina—which have been able to bounce back from the global downturn by relying on a range of economic activities that, together, have proven resilient to the declines in international commodities and financial markets. Such diversification is largely absent in petroleum and mineral dependent countries.

Besides the raw measure of GDP decline, resource rich countries also demonstrate more volatility than any other group across other economic variables. With their disproportionate dependence on commodities for government budgets and trade revenues, these countries are rendered especially vulnerable to drops in commodity prices and declines in export volume. This volatility has the potential to cripple government management of essential programs and investments, to destabilize local currencies, and to decimate local businesses.

The susceptibility of resource-dependent economies to boom-bust cycles has led some

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[2] Data Source: EIU Country Database (unless otherwise noted). EIU combines data from IMF Statistics, World Development Indicators, and own EIU estimations. Latest data projections and estimations for most indicators are from January or February 2010.

The resource rich country list is based on the IMF definition where i) an average share of hydrocarbon and/or mineral fiscal revenues in total is of at least 25 percent during 2000-2005, or ii) an average share of hydrocarbon and/or mineral export proceeds in total export proceeds is of at least 25 percent.

The following emerging market countries were selected from the Economist list of emerging markets based on the size of nominal GDP: China, Brazil, India, Turkey, Poland, Taiwan, Argentina, Thailand, Colombia, Malaysia, Czech Rep, Israel, Philippines, Hungary, Morocco.

The following developing countries that are also not resource rich were selected based on classification as low-income or lower middle-income (as defined by the World Bank) and data availability: Cambodia, Cote d'Ivoire, Guatemala, Bangladesh, Kenya, Egypt, Ukraine, Sri Lanka, Georgia, Jordan, Ethiopia, Myanmar, Tanzania, Syria, Paraguay.

Sources for Text Boxes: Mexico (p. 22): FUNDAR, Incongruencia y Contradicciones en la Política Económico del Gobierno, August 1, 2009; FUNDAR, El Brote de Influenza Evidenció la Fragilidad del Sector Salud: Urge Transparentar Recursos, May 18, 2009. Botswana (p. 24): Ndlovu, Ray, "'We'll Vote with Our Stomachs,'" Mail & Guardian, September 5, 2009, available at http://www.mg.co.za/article/2009-09-05-well-vote-with-our-stomachs; Cropley, Ed, "Slump Shows Rough Side of Botswana Diamond Trade," *Reuters*, September 15, 2009, available at http://www.mg.co.za/article/2009-09-15-slump-shows-rough-side-of-botswana-diamond-trade; "Botswana Diamond Industry Loses 4,500 Jobs," *AFP*, February 27, 2009, available at http://www.google.com/hostednews/afp/article/ALeqM5gjOwYmapwji3ip9obP_4jyo3Gg2Q.

analysts to view these countries through the prism of the "resource curse," but geology is not destiny, and policy decisions can drastically impact national performance. The emerging market economies have withstood the crisis better primarily due to their long-term diversification, credit market and investment policies. Even among the various resource rich countries, different policies have yielded vastly different results. Some resource-dependent countries have managed—whether by strategy or happenstance—to protect themselves from the most severe volatility, while others have been devastated.

This paper examines the ways in which resource rich countries have felt particularly severe impacts from the financial crisis. Which policy choices are the most significant for these countries' greater exposure to volatility? Which decisions being made today can best assure their stability and dynamism through future boom-bust cycles?

The single most influential factor for poor crisis performances appears to be an inability to diversify. During the commodity price boom of 2003-mid-2008, resource rich countries largely engaged in more conservative fiscal policies than in past booms, building up sizable public savings. This has helped some of these governments limit the short-term impact of the bust on public expenditure levels, and to avoid the classical iteration of the resource curse theory, characterized by rapid exchange rate appreciation that crowds out other economic development. But saving and macro-economic stability are not, on their own, enough to insulate resource rich countries from the boom-bust cycle. Most resource rich countries failed to implement long-term development strategies that would offer firmer footing in a downturn via a diversified base of economic activities capable of withstanding sudden global deflation. Among the resource rich countries that have been most severely affected by the crisis are Botswana, Venezuela, and Ecuador, where dependence on oil and mineral revenues is particularly stark.

Emerging economies, by contrast, have insulated themselves from many severe effects of the crisis by developing industrial and service sectors that have remained dynamic despite the global slow-down. This diversification is the product of long-term strategies of investment in education and infrastructure, an approach absent in many countries dependent on extractive industry income.

Poor diversification of productive sectors has been compounded in some resource-dependent countries by a second critical factor: broad exposure to global credit markets. Here, the combination of an expansionary monetary stance and financial liberalization created a "double bubble," in which simultaneous dependence on the commodity and credit markets assaulted the economy from two sides, leaving these countries among the most severely impacted in the world. The distinction between the aforementioned resource rich Eastern bloc countries reflects a pattern exhibited elsewhere as well. Mongolia was impacted by the commodity price decline but was not heavily exposed to the credit bubble, so the crash, while dramatic, has not been as massive as in countries like Russia, where the double bubble has wrought havoc.

Part Two of the paper compares the economic performance of resource-dependent countries to performance in resource poor emerging markets, advanced economies, and developing economies, to demonstrate that resource-dependent countries have experienced sharper volatility than any other group, and have significantly under-performed their resource poor emerging market peers.

Part Three begins our exploration of the impact that policy choices have had on the performance of resource rich countries, examining the conventional wisdom that emerged from the boom and bust cycles of the 1970s and asserting that governments' decisions to decouple expenditure from volatile revenue during the boom of the 2000s has provided some cushion during the downturn. Part Four argues that this fiscal conservatism has not been enough to protect resource rich countries, and examines the policy choices that have impacted their under-performance, focusing on the lack of diversification or protection from the financial sector collapse. Part Five delves deeper into the varied experiences among different countries, underscoring the risks discussed in previous sections and identifying tactics that some resource rich countries have used successfully to reduce volatility and preserve growth despite the crisis. Part Six offers some concluding thoughts and policy recommendations for resource rich governments and their citizens.

2. Surveying the Damage: Impacts of the Crisis on Resource Rich Countries

No country has been immune from the effects of the global economic crisis, but resource rich countries seem to be experiencing greater volatility than other countries, and they have significantly underperformed resource poor emerging markets overall. In 2003-2007, global GDP expanded at an average rate of about 5 percent a year, its strongest period of sustained growth since the early 1970s.[3] A broad-based increase in commodity prices represented an integral element of the boom, with all major commodities—including agricultural products, metals and oil—experiencing a real price surge during the period. The commodity boom lasted from 2003 into the first three quarters of 2008, during which time energy and metals prices more than doubled in real terms, and the real prices of internationally traded food commodities increased by about 75 percent. This five-year boom cycle, the longest in a century, saw energy prices surge by 328 percent in US dollar terms, metals and mineral prices rise by 296 percent, and staple food prices increase by 138 percent.[4]

When the crisis hit, it was no ordinary cyclical bust. Rather it revealed serious vulnerabilities in the global financial system and, owing to the strong inter-linkages between global financial markets and trade, created deep systemic risk that affected virtually all countries. The collapse of the US sub-prime mortgage market and the burst of the housing bubble had swift effects in the financial markets, with large reductions in the market value of equities and de-leveraging of financial institutions that decreased liquidity in the global markets. The spillover effects in the real sectors of developing economies were drastic. Global demand for commodities fell, manifested in reduced export earnings from the commodity price slump and lower export volumes. Businesses reduced fixed investment, credit became tighter for both businesses and ordinary consumers and governments started grappling with fiscal sustainability issues. The impact on resource rich countries would prove particularly severe.

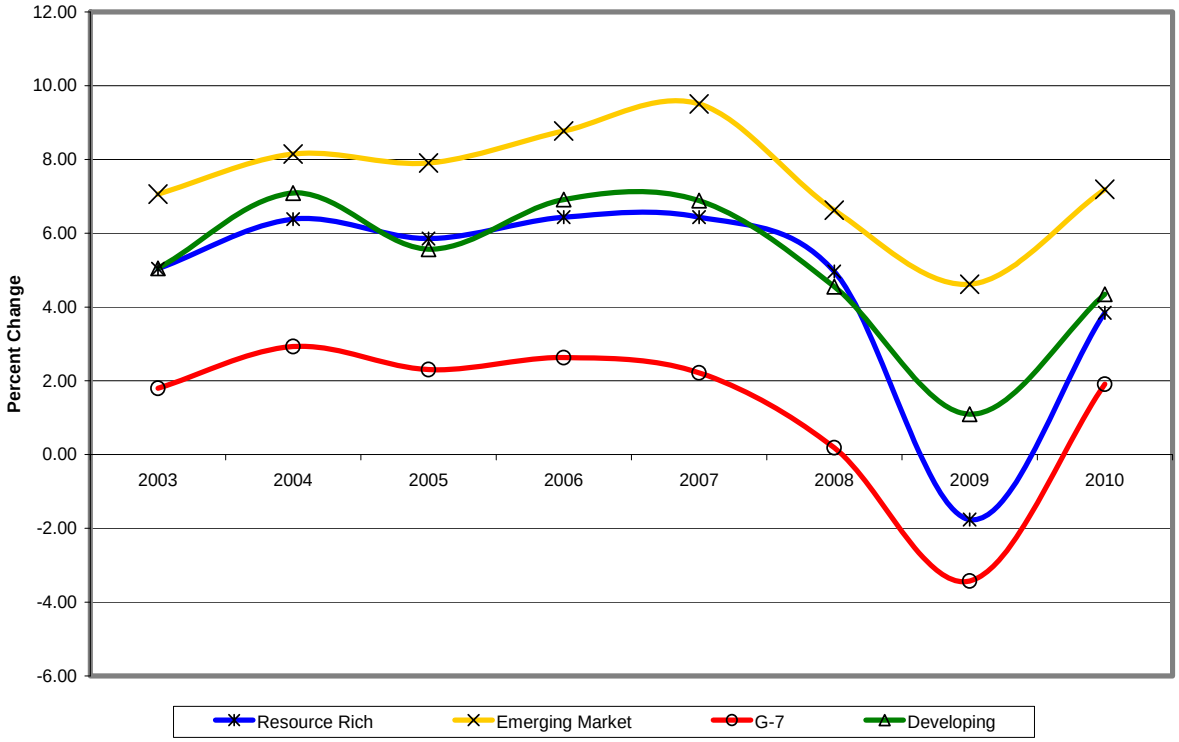
As Figure 1 illustrates, the swing in growth rates has been more pronounced in countries that are resource-dependent (as defined by the IMF) than in the G7 or resource poor emerging market or developing economies. On average, resource-dependent countries

[3] International Monetary Fund, *World Economic Outlook*, available at http://www.imf.org/external/pubs/ft/weo/2009/01/index.htm.
[4] World Bank, *Global Economic Prospects 2009: Commodities at the Crossroads*, available at http://siteresources.worldbank.org/INTGEP2009/Resources/10363_WebPDF-w47.pdf.

experienced a plunge of approximately 7 percentage points, from an average growth rate of approximately 5 percent in 2008 to estimations of -2 percent growth in 2009. This drop reflects the particular risk of economic volatility that is endemic to resource-dependent economies.[5]

Figure 1 also demonstrates that the pace of economic growth was slower in resource-dependent countries than in resource poor emerging economies from 2003 to 2008. In 2003-2008, as a group resource-dependent countries grew at an average rate of 5.8 percent per annum while the emerging economies, on average, expanded at a rate of 7.9 percent per year. It is worth noting that with regard to economic growth, the experience of resource-dependent countries during the boom years has been similar to that of resource poor developing countries (which averaged 5.9 percent growth), while the bust cycle has been more severe in resource-dependent countries.

Figure 1. Change in Real GDP, 2003- 2010 (PPP - GDP Weighted Average)

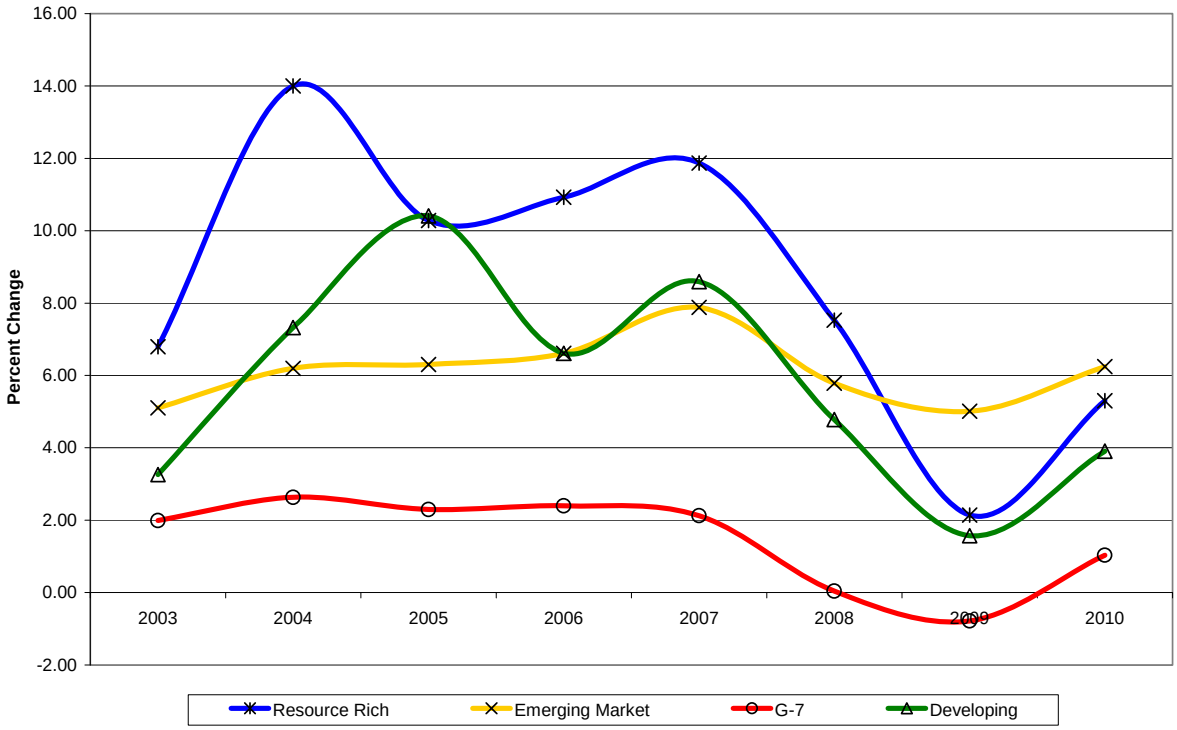


[5] Though the volatility of growth rates has not been as dramatic in advanced economies as in resource-dependent countries, the G7 are estimated to have had the largest average negative growth rates in 2009, at approximately negative 4 percent. For many advanced economies like the U.S., the investment of capital became more profitable in the financial market than in the real economy, which after the collapse caused a large, immediate effect on the rest of the economy. Resource poor developing countries as a group are expected to maintain modest positive growth in 2009, due to their relatively low exposure to global financial markets, fewer capital reversals, and weaker overall global economic integration. Available data suggest that this deceleration in economic activity in developing countries is going to reverse their hard-gained improvements in poverty during the last boom cycle, since in developing countries the burden of slowing economic growth tends to fall disproportionately on the poor. Resource poor emerging markets are expected to have the smallest growth shock and would be able to maintain an average growth rate of 3 percent in 2009.

The human costs of this dramatic downturn have been severe. Many of the most important social effects of the global downturn on resource rich countries are difficult to measure in comprehensive, cross-country terms, both because data on social sectors is unreliable and not aggregated by international institutions, and because there is a lag before the effects are fully felt on human development measures. But data on private consumption presents a picture of the ways in which the downturn has affected citizens.

As Figure 2 illustrates, while private consumption in resource rich countries grew in 2009, the pace of growth significantly decelerated to about two percent, a massive drop from growth rates that exceeded 10 percent per year during the boom. As with other indicators, the volatility illustrated here is significantly sharper than in resource poor emerging, advanced, and developing economies. Citizens who were expanding their consumption at a very fast pace during the boom now have to rapidly apply the brakes, and in many resource rich countries private consumption is estimated to have decreased in 2009. This is a very severe phenomenon for non-advanced economies, where the base of consumption is low and some level of positive consumption growth is the norm.

Figure 2. Private Consumption, 2003-2010 (PPP- GDP Weighted Average)



Government unemployment figures are notoriously unreliable and difficult to compare across countries, but early indications suggest that unemployment is likely to grow significantly in resource rich countries. Of the 20 resource rich countries for which the EIU is able to project, 2009 unemployment is estimated to grow by double digits in all but three. This result does not differentiate resource rich countries from advanced, emerging, or resource poor developing countries. Almost all are experiencing significant jumps in unemployment. Since the petroleum and mineral sectors are not generally major sources of employment, it is likely that the unemployment increase is driven

primarily by economy-wide slowdowns, rather than lay-offs in the extractive industries themselves. This is not to say that the direct impacts on employment have not been severe in some places, where mineral price reductions have led to the shut-down of major mining operations. In Zambia, for example, Luanshya Copper Mine, which employed 1,740 people, ceased operations in December 2008, the biggest copper mining company laid off 10 percent of its work force at once in April 2009,[6] and the government reported that between 10,000 and 16,000 jobs were lost in the sector by May.[7] Exploration and development of new minerals resources has also slowed dramatically.

3. Yesterday and Today: Lessons Learned in the Oil Busts of the 1970s

This is not the first commodity bust to have a dramatic impact on resource-dependent countries, and many governments learned important lessons from the experiences of oil-producing countries in the 1970s, partially de-linking government spending from commodity windfalls and building up sizable savings. This has helped insulate these governments from the need for massive cuts to social programs after the bust, and has enabled many of them to begin to engage in counter-cyclical spending.

A. Disastrous Volatility in the 1970s

The boom and bust cycles of the 1970s demonstrated dramatically the risks that fluctuations in world commodity prices create for resource-dependent countries. This risk is particularly pronounced in hydrocarbon exporting countries since oil prices are historically very volatile and for most petroleum exporting countries a single commodity, oil, accounts for more than two thirds of total export earnings.[8] Figure 3 presents real and nominal oil price movements since 1946. As can be seen from, world oil prices have been extremely volatile, in both real and nominal terms, particularly since 1970.

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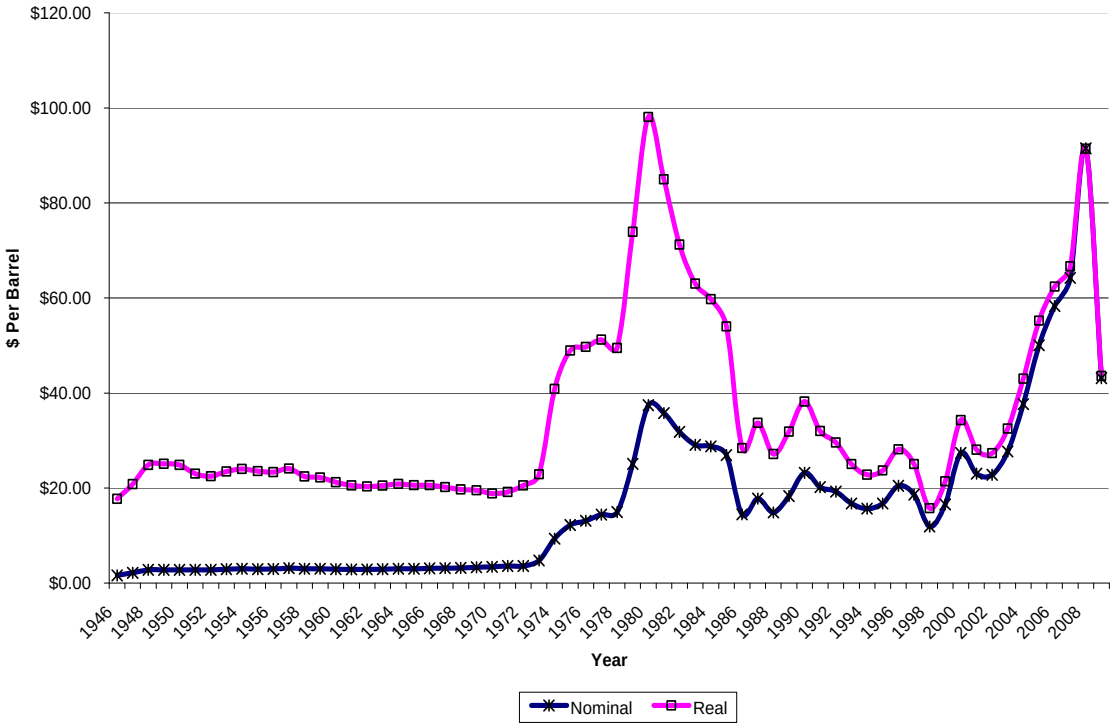
[6] "Konkola Copper Mines in Zambia Layoffs 1,300," *Layoff Tracker*, April 13, 2009, available at http://layofftracker.blogspot.com/2009/04/konkola-copper-mines-in-zambia-layoffs.html.

[7] "Zambian Minister Sees Gradual Improvement in Country's Struggling Copper Mining Industry," *VOA News*, May 13, 2009, available at http://www1.voanews.com/english/news/a-13-2009-05-13-voa6-68786617.html?moddate=2009-05-13.

[8] Oil prices are more volatile than other commodities and asset prices. See John Lipsky, *Economic Shifts and Oil Price Volatility*, Remarks at 4th OPEC International Seminar, Vienna, March 18, 2009, available at: http://www.imf.org/external/np/speeches/2009/031809.htm

Figure 3. Historical Crude Oil Price Movements, 1946-2009 (annual average)

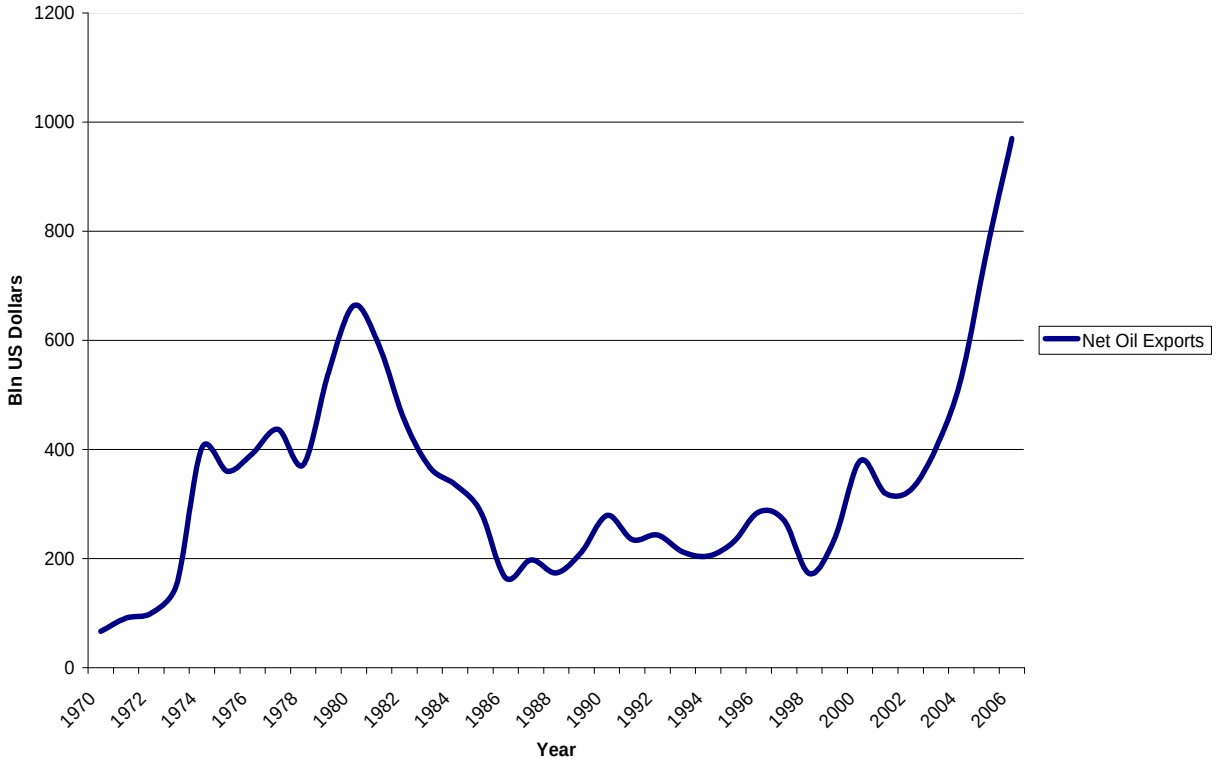


Source: InflationData.com, 2010[9]

The first wave began when oil prices jumped from less than $4 per barrel in 1973 to $11.4 in 1974. Figure 4 illustrates the dynamics of net oil exports. Between 1972 and 1974, net oil exports increased in real terms from about $100 billion in 1972 to $400 billion in 1974, a fourfold jump. After a brief period of leveling off, they skyrocketed again between 1978 and 1980, from around $370 billion to about $663 billion.

[9] InflationData.com, *Historical Crude Oil Prices (Table)*, available at http://www.inflationdata.com/inflation/Inflation_Rate/Historical_Oil_Prices_Table.asp.

Figure 4. Net Oil Exports, in billions of 2005 US Dollars



Source: IMF, *World Economic Outlook 2006*[10]

Government consumption increased almost in lock-step with these growing oil revenues, with disastrous consequences when prices declined. Fuel exporting countries use their oil receipts either to finance domestic consumption and investment or save them in foreign assets held abroad. During the booms of the 1970s, governments largely used windfall revenues to significantly increase government spending, weakening their fiscal position.

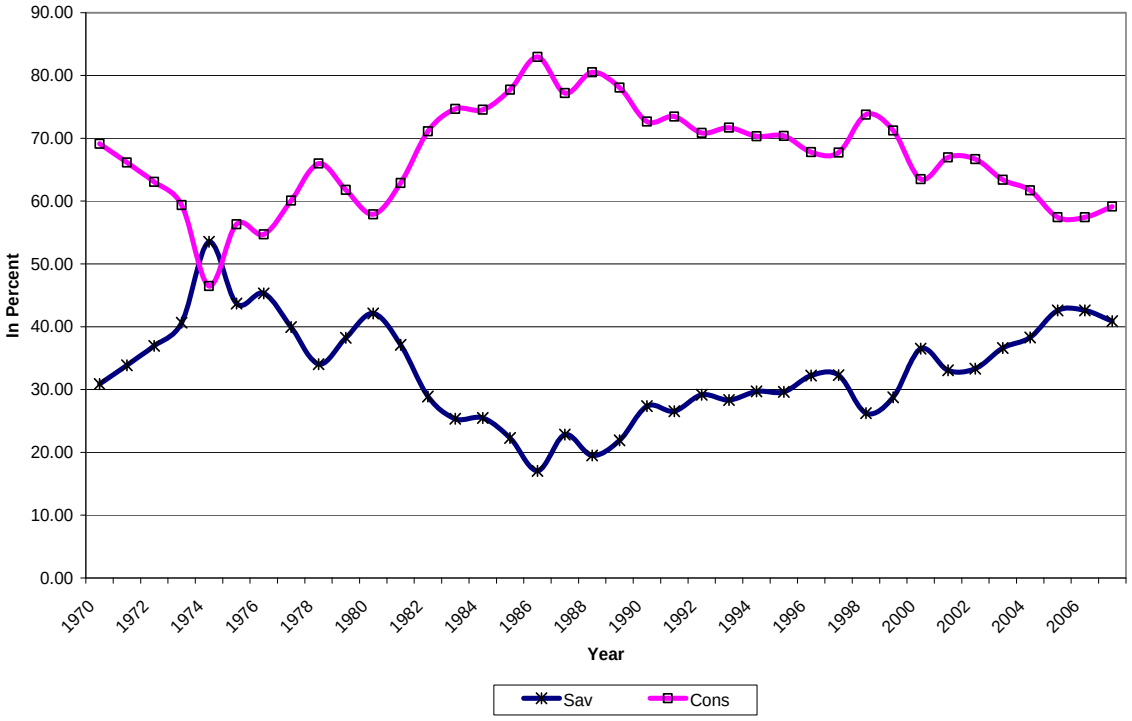
Immense current account surpluses after the first oil shock were not immediately spent on purchasing goods and services. Yet as is illustrated in Figure 5, consumption eventually picked up from about 45 percent of GDP in 1974 to 66 percent in 1978. Even after oil prices declined in the early 1980s, it was very difficult to reverse this pattern until the late 1980s. Consumption kept increasing to a peak of 80 percent of GDP in 1988. As consumption skyrocketed, savings plummeted, from about 55 percent of GDP in 1974 to 35 percent in 1978 and reaching their lowest level, at 18 percent, in 1988.

These massive levels of government and household consumption proved unsustainable, and eventually the bottom fell out. When oil prices came down, oil exporting countries

[10] This sample consists of Algeria, Angola, Azerbaijan, Bahrain, Brunei Darussalam, Republic of Congo, Equatorial Guinea, Gabon, Islamic Republic of Iran, Iraq, Kazakhstan, Kuwait, Libya, Nigeria, Norway, Oman, Qatar, Russia, Saudi Arabia, Sudan, Syrian Arab Republic, Trinidad and Tobago, Turkmenistan, United Arab Emirates, Venezuela and Yemen.

experienced decelerating growth rates, massive budget deficits and rapidly increasing indebtedness leading to growing social tensions.

Figure 5. Total Consumption and Savings, 1970-2007



Source: World Bank, *World Development Indicators*[11]

B. Applying the Lesson of Fiscal Conservatism

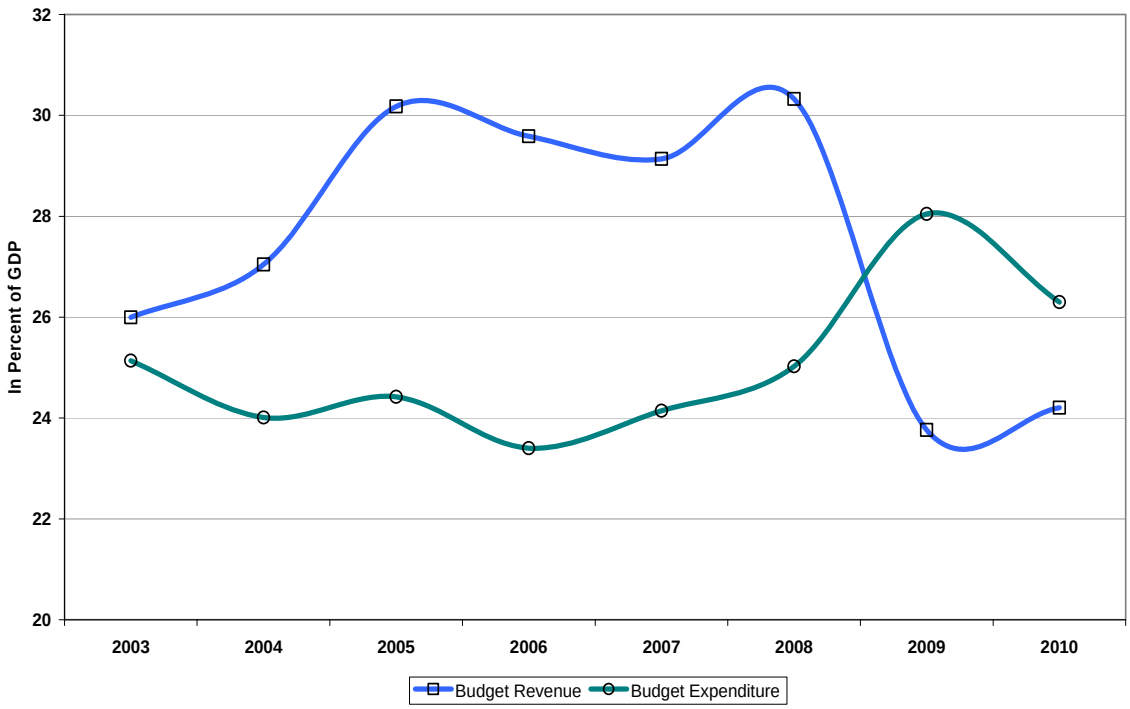
These 1970s busts led to extensive research on the impacts and causes of the "resource curse", and a standard set of economic prescriptions for resource rich countries that focused on de-coupling government spending from resource revenues, building sizable public savings, and promoting overall macro-economic stability. The performance of resource rich countries during the boom of 2003-08 suggests that governments largely put these recommendations into practice. As prices shot upwards, government consumption actually declined slightly as a share of GDP. Fixed capital investment also fell, as oil producers followed the post-1970s wisdom and placed a larger share of their windfall revenues into savings.

The savings patterns exhibited in oil producing countries reflect the trend in resource rich countries taken as a whole. During the boom period savings levels remained high, reaching almost 35 percent of GDP.

[11] The sample includes the following oil exporting countries: Algeria, Ecuador, Indonesia, Iran, Kuwait, Oman, Saudi Arabia, Trinidad and Tobago and Venezuela.
Consumption includes both household and government consumption, while savings are calculated as the difference between GDP and total consumption. Both variables are presented as a share of GDP.

Resource rich governments' conservative expenditure policies and build-up of savings funds have conferred some benefits during the economic downturn, enabling them to inject more funding into their ailing economies to stimulate domestic consumption. Unlike the last commodities booms of the 1970s, governments today have a greater ability to resort to counter-cyclical spending. Figure 6 demonstrates this behavior.[12] Despite the falling revenues, resource-dependent countries are estimated to have increased government spending in 2009, or at least to keep it at the 2008 level, rather than cutting public expenditures. Unfortunately, these expansionary fiscal policies, which helped to mitigate the immediate negative impacts of the crisis, have also contributed to deteriorating budget balances.

Figure 6. Budget Revenues and Expenditures in Resource Rich Countries, 2003-2010



4. Conservative Fiscal Policy Meets the "Double Bubble"

A. Lack of Diversification and Exposure to Volatile Commodity Prices

The conservative fiscal policies discussed above helped promote some measure of macro-economic stability, but that alone has not been enough to protect economies from serious volatility. The focus on short-term macro-economic stability has masked an absence in many countries of a long-term development strategy that moves away from resource dependence.[13]

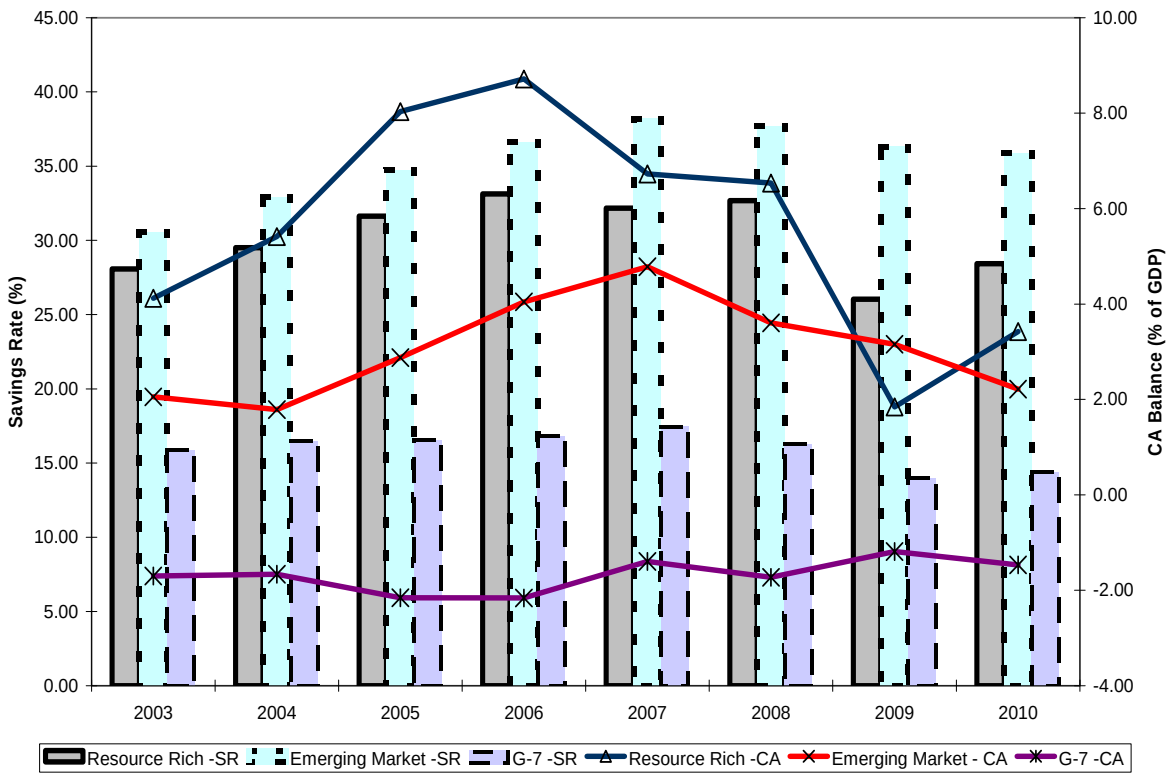
[12] Figure 6 based on EIU projections as of August 2009.

[13] To some degree the single-minded focus on savings may have exacerbated this problem, as windfall revenues that may otherwise have been invested in projects that would have increased efficiency or developed other industries were set aside in savings funds that lost much of their value with the crisis.

The element of the global downturn that has most clearly affected resource rich countries across the board is a decline in government revenues. Much of the growth in resource-dependent countries during the boom was driven by international trade, and they relied heavily on commodity exports to generate foreign exchange reserves and fiscal revenues. According to the head of the WTO,[14] world trade contracted in volume terms by 12 percent in 2009, its first decline since 1982. The dramatic fall in oil and metal prices[15] combined with slumps in export volumes have significantly deteriorated the trade balances of resource-dependent countries, leading to lower export earnings. Overall, the export earnings for resource rich countries suffered a larger negative shock than any other group.

This plunge in export earnings has led to a dramatic shift in the current account position of resource rich countries, which is estimated to have fallen by about 4 percentage points in 2009 from a strong 6 percent surplus in 2008. This swing highlights the fact that since resource-dependent countries tend to have a narrow export base, their economies are not shielded well from negative external shocks.

Figure 7. Current Account Balance and Savings Rate, 2003-2010



[14] "World Trade Contracted 12 percent in 2009: WTO's Lamy," *Reuters*, February 24, 2010, available at http://www.reuters.com/article/idUSTRE61N2AO20100224.

[15] The price indices for commodities fell by about 60 percent for crude oil and by about 45 percent for metals between August 2008 and February 2009.

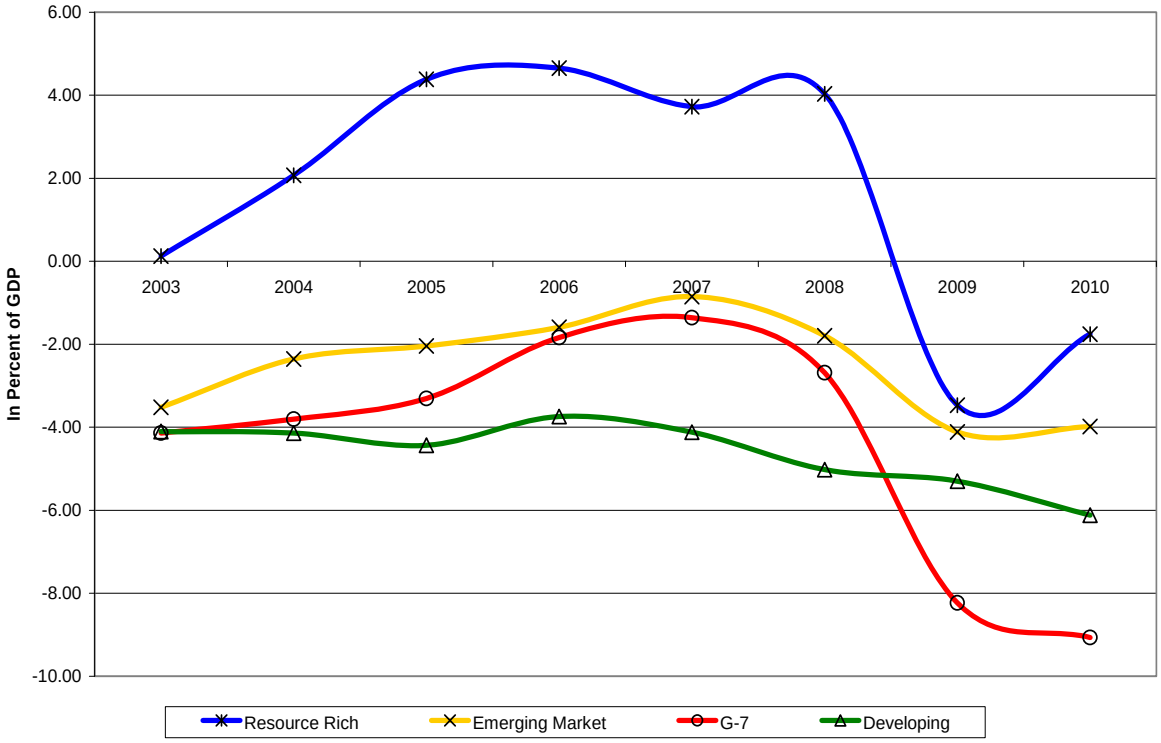
Resource-poor emerging markets, by contrast, are estimated to have maintained their current account surpluses at the pre-crisis level despite the global financial downturn, in large part because they have diverse export bases that have provided an effective shield.

Poor export diversification poses a serious challenge for resource rich countries. Numerous data document the high degree of export concentration in resource rich countries. For example, the export concentration index, which measures the degree to which the country's exports are dispersed over various products, is almost four times higher in resource rich countries than in emerging economies. Similarly, the export diversification index is twice as high in resource-dependent countries than in emerging markets.[16] Both measures of export concentration are positively associated with export price volatility. In turn, fluctuations in the export prices lead to fluctuations in GDP growth and other macroeconomic variables. In general, resource-abundant developing countries tend to exhibit a higher degree of export concentration and experience greater economic losses when commodity prices fluctuate. Compared to resource rich developing countries, low income resource poor developing countries tend to be less dependent on commodity exports and, thus endure a smaller negative impact of oscillating export prices on the economy. Overall, all developing countries lack well-functioning public insurance systems and credit markets to deal with excessive risks stemming from the external sector.

As is noted above, though total government revenues (which are dominated by oil and mineral revenues) have sharply declined, resource rich governments have resisted cutting public expenditure, causing a dramatic shift from large surpluses during the boom years into heavy deficit spending, as is illustrated in Figure 8. The estimation is that resource rich countries as a group registered an average budget deficit of about 4 percent in 2009 compared to a positive 4 percent fiscal surplus in 2008. Projected figures suggest that, as commodity prices rebound, the budget deficit for resource-dependent countries as a group will narrow to 2 percent in 2010, underscoring the linkage between budget revenues and commodity cycles and the high volatility of these economies. Although resource-dependent countries as a group registered a smaller budget deficit in 2009 than other groups, the swing in the budget position is excessive by any standards. Even though running a fiscal deficit in the short run does not pose any problem in terms of sustainability of the budget for most resource-dependent countries, in the long run this trend will undermine fiscal sustainability if resource-dependent countries fail to make necessary adjustments in their fiscal policies, which could have serious impacts on governments' ability to maintain social and investment programs.

[16] The export diversification index measures the absolute deviation of the country's share of commodity exports in its total exports from the share of commodity exports in total world exports, and ranges between 0 (most diversification) and 1 (least diversification). The Hirschmann concentration index measures the commodity concentration of a country's export structure, and is normalized to make values ranking from 0 (least concentration) to 1 (maximum concentration). Both indices are widely used measures of diversification. Source: UNCTAD, *Handbook of International Trade and Development Statistics, 2008*.

Figure 8. Budget Balance (PPP- GDP Weighted Average)



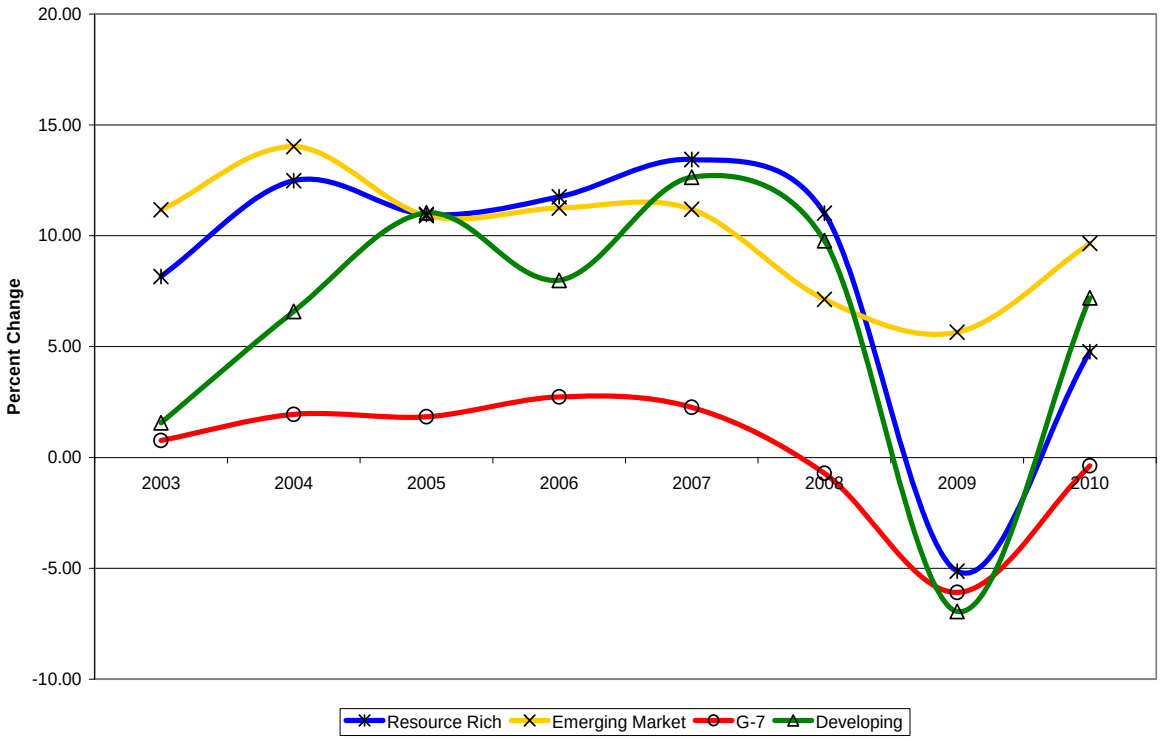
To maintain spending in the face of declining revenues, governments have dipped substantially into the savings accumulated during the boom. Savings rates declined on average by 7 percent in 2009, reflecting both withdrawals of savings, the slowing or stopping of new contributions to savings funds, and the decline in value of savings held in overseas assets. Some oil rich countries have also had to intervene in the foreign exchange market to maintain pegs to the dollar, as well as to help credit. Emerging market economies, on the other hand, have accumulated enough reserves to resist currency appreciation and as a self-protection against currency crisis, and since the more diversified exports of these economies did not suffer as large of a shock they have been able to continue building up the reserves during the downturn, though at a slightly slower pace than during the boom period.

Though resource rich countries significantly reduced their foreign debt during the boom, as is noted above, the gap between their accumulated foreign exchange reserves and the external debt failed to disappear. As countries have tapped into their foreign exchange reserves in order to withstand the crisis, the gap has begun to widen again. This gap is an indication that, on average, resource rich countries cannot cover their foreign debt obligations with the existing levels of foreign exchange reserves. Accumulation of large foreign assets by resource-dependent countries provides false security if these countries' external debt obligations exceed their foreign exchange reserves.

An examination of the fixed investment patterns of resource-dependent countries suggests that the problem of poorly diversified economies could get worse before it gets better. While most resource rich countries are expected to maintain or exceed their pre-

crisis levels of overall public spending, it appears that the total investment in fixed capital formation has been declining. Public and private spending on fixed investment contracted by 5 percent in 2009, whereas emerging economies as a group scaled up their fixed investment outlays by about 5 percent. All other groups are estimates to have cut their fixed investment spending in 2009, underscoring the impact of the crisis on both public and private finances. It appears that while resource-dependent countries maintain the overall level of public spending seen in the boom years, the structure of that expenditure has been altered. For instance, in Russia government spending on the social sector was maintained or increased while capital expenditures suffered a decline. If it continues, a dramatic reduction in fixed investment will impede diversification efforts and deteriorate countries' growth potential, exacerbating the very problem that has jeopardized them to begin with.

Figure 9. Gross Fixed Investment (PPP-GDP Weighted Average)



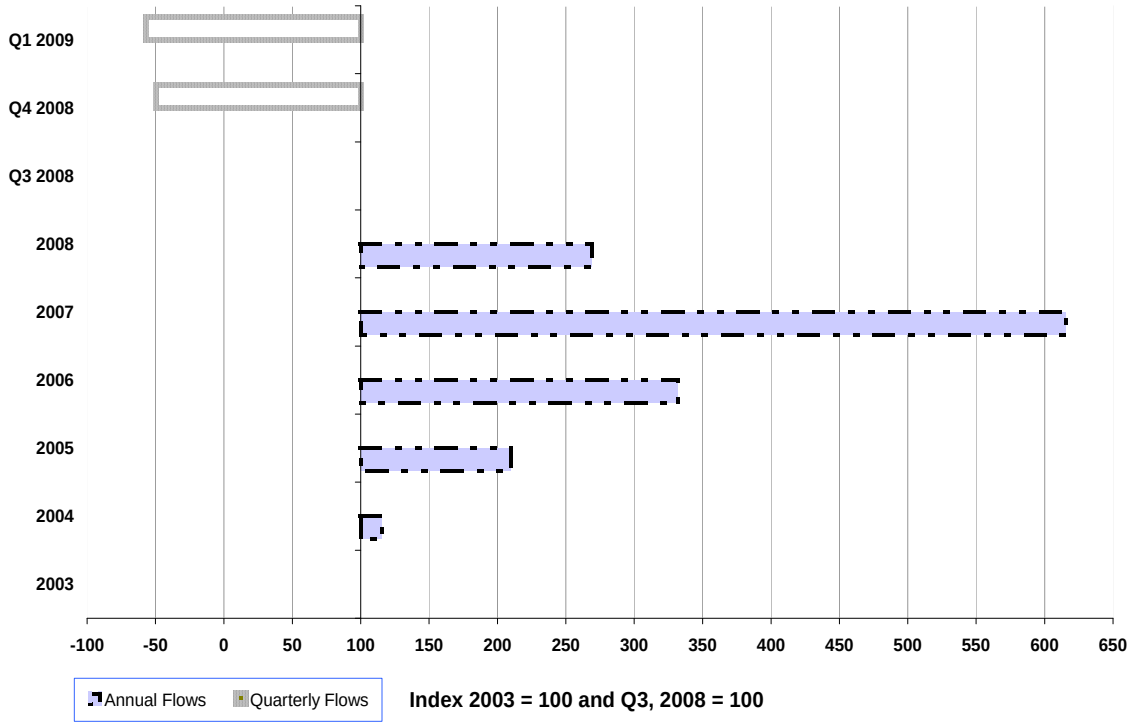
B. Exposure to Financial Bubbles

With commodity prices recovering, countries that have been impacted only by their lack of economic diversification may be able emerge from this economic downturn with only moderate lasting damage.

But the shock to financial markets has been more severe and seems likely to be longer-lasting this time than the commodities bust. The countries that combine strong reliance on commodities with deep engagement in global financial markets stand to suffer the greatest harm. In particular, countries with weak banking regulations such as Russia and Kazakhstan will continue to reel.

Heavy investment in volatile assets and the non-tradable sector created the financial danger in the "double bubble." The bursting of the credit bubble has compounded commodity price declines by decimating domestic assets and accelerating the flight to assets seen as more stable. Figure 10 illustrates this phenomenon in six resource rich countries with extensive exposure to international financial markets: Russia, Mexico, South Africa, Chile, Venezuela, and Norway. It depicts the flows of investment in other liabilities: short-term, highly-liquid instruments that are included neither in foreign direct investment nor in portfolio investments. These are typically short-term international flows in the form of bank loans, trade credit, etc. that domestic banks engage in with foreign banks. These flows expanded rapidly during the commodity boom, then dropped dramatically as the crisis exploded in late 2008. The reduction in investment liabilities indicates that investors have been withdrawing their short-term capital, further straining these economies. This argues for a coherent policy designed specifically to mitigate destabilization caused by short-term capital flight.

Figure 10. 'Other' Investment Liabilities in Resource Rich Countries

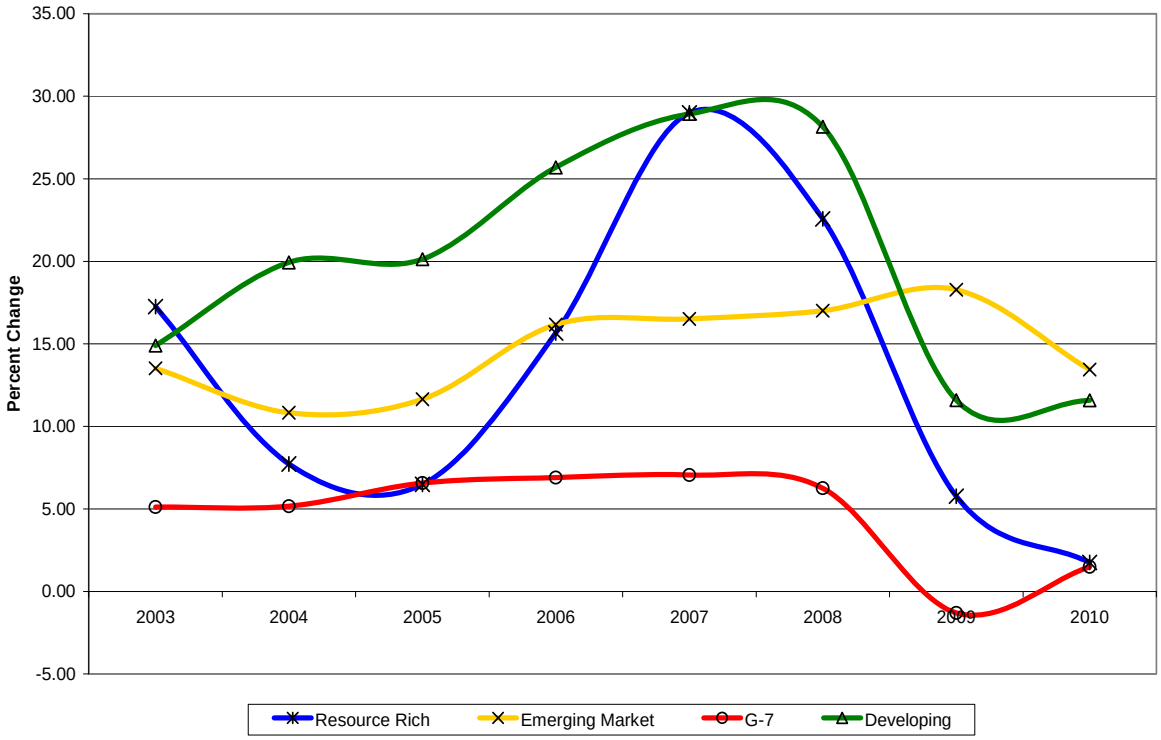


Source: IMF, *International Financial Statistics*

The glut of short-term investment liability in resource rich countries is itself the result of sky-high expectations of growth that led to the massive credit bubble that built up the early years of the boom period**,** as illustrated in Figure 11. The bubble began to burst in 2007 when the US subprime mortgage debacle sent shockwaves through the entire financial industry, leading to the near-collapse of domestic credit. The crisis climate has hampered domestic consumers and businesses seeking loans to mitigate the effects of the downturn. This highly volatile trend calls for specific domestic policies in resource rich countries that should be aimed at bringing stability to their domestic financial sector.

These policies might include prudential supervision and regulation of the financial sector, enhanced accounting and disclosure requirements, restrictions on foreign denominated debt and gradual financial liberalization.

Figure 11. Domestic Credit Growth (PPP- GDP Weighted Average)



Emerging economies, by contrast, managed to keep their domestic credit flowing during the crisis, leading to a moderate decline in real economic activity and quick recovery. Maintaining access to credit for businesses and households has been crucial for sustaining private consumption and investment. Local banks were willing to lend more, and since credit markets were not saturated with consumers who had not previously engaged in a borrowing binge, the banks were willing to get new loans. For many emerging markets, especially those of Asia, lessons learned from the Asian Financial Crisis resulted in corporate de-leveraging and more effective bank regulation.

The disastrous popularity of volatile short-term assets offers a contrast to the boom periods of the 1970s. Table 1 provides information on the deployment of current account surpluses in 1974-1979 for major fuel exporters. In 1974, more than half of the new investment was placed in bank deposits and money market instruments in advanced economies. This pattern changed in subsequent years and most of the current account surpluses were channeled into long term investments, such as loans to national governments and international agencies. However, in 1979, when the amount of new investment increased again, a large majority of current account gains was invested in bank deposits. Overall, during the 1974-1979 period about 46 percent of new investments were placed in bank deposits and money market instruments. These instruments provided more stability than long-term investments, though the returns they offered were lower.

Table 1. Deployment of Current Account Surpluses (Billions of US Dollars)

	1974	1975	1976	1977	1978	1979
Bank deposits and money market investments	31.2	11	11.5	10.2	3.2	40.9
Long-term investments	25.1	24.7	26.8	23.3	10.3	12.9
Total new investments	56.3	35.7	38.3	33.5	13.5	53.8

Source: IMF, *World Economic Outlook 2006*

In the commodities boom of the 2000s this pattern changed, and oil exporting countries invested larger shares of their current accounts surpluses in more volatile assets. Wiegand (2008)[17] reports that in the 2001-2006 period, in contrast to the previous two booms, bank deposits accounted for only 27 percent of gross financial outflows from oil exporters (though for certain oil exporting countries such as Libya, Nigeria and Russia, bank deposits still account for a large proportion of financial outflows). The change in investment behavior can be explained by a number of factors. First, compared to the early oil price boom episodes, the emerging markets as a group accumulated a sizeable current account surplus in 2001-2006. Still some emerging market economies, particularly in Europe, emerged as net borrowers of oil money. Second, because of new financial innovations bank deposits lost importance and oil exporting countries focused on creating their own oil funds and investing in global security markets. Finally, returns on treasury bills and money market funds have been low during this period, forcing oil exporters to look for other high-return assets in which to place their savings. While these new instruments diversified investment across global markets and reduced oil exporting countries' dependence on a single region or group of countries, they also heightened risks and made these economies more vulnerable to global financial shocks.

5. Resource Rich, but Not the Same

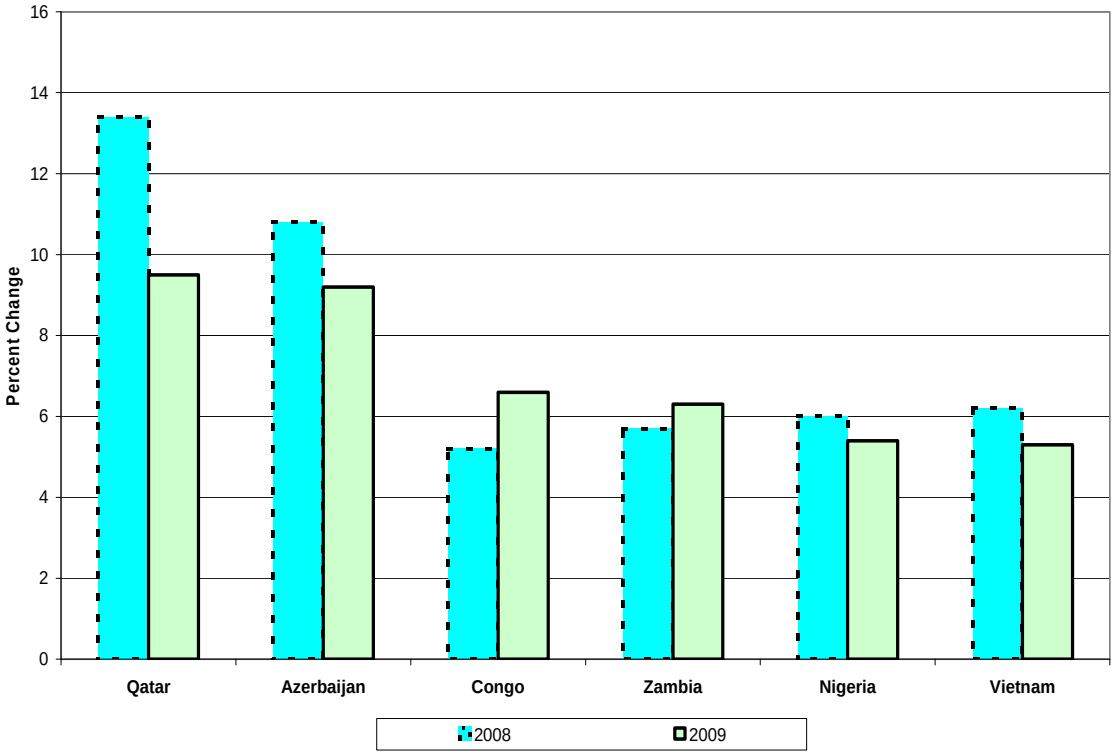
Comparisons of the crisis's impact across different country categories mask important performance variations even among resource-dependent countries. A close examination of these variations reveals three factors driving differences: 1) Levels of production and position within production cycles; 2) Relative levels of economic diversification; and 3) Relative exposure to financial bubbles. The resource rich countries that have been hit the hardest have generally been characterized by weak diversification and/or dramatic exposure to the credit crisis.

Figure 12 shows the six best-performing resource rich countries in terms of real GDP growth in 2009. Some of them appear to be growing because of growing resource production cycles that provided an infusion of revenue despite the crisis. Others have used the sizable savings they built up during the boom to engage in effective counter-cyclical programming, demonstrating a positive impact from the post-1970s shift to conservative savings/expenditure policy. Others have benefited primarily from their economic diversity, which has enabled them to maintain sources of revenue and strong private-sector activity despite the downturn. All of these top performers also managed to

[17] Johannes Wiegand, *Bank Recycling of Petro Dollars to Emerging Market Economies During the Current Oil Price Boom*, IMF Working Papers 08/180, 2008.

avoid significant damage from the bursting of credit bubbles.

Figure 12. Highest Real GDP Growth in 2009



Qatar's economy has clearly defied the global pressures and has continued to grow. Reports suggest that there was an 88 percent increase in gas production in 2009 and 2010.[18] As an experienced gas exporting economy and a country well positioned in the market, Qatar has managed to lower its production costs and has so far managed to keep up export volumes much higher than other petroleum exporting countries. Qatar also has made some progress in diversifying its economy by developing a vibrant private sector and initiating a series of reforms in education, health, transportation and service sectors.

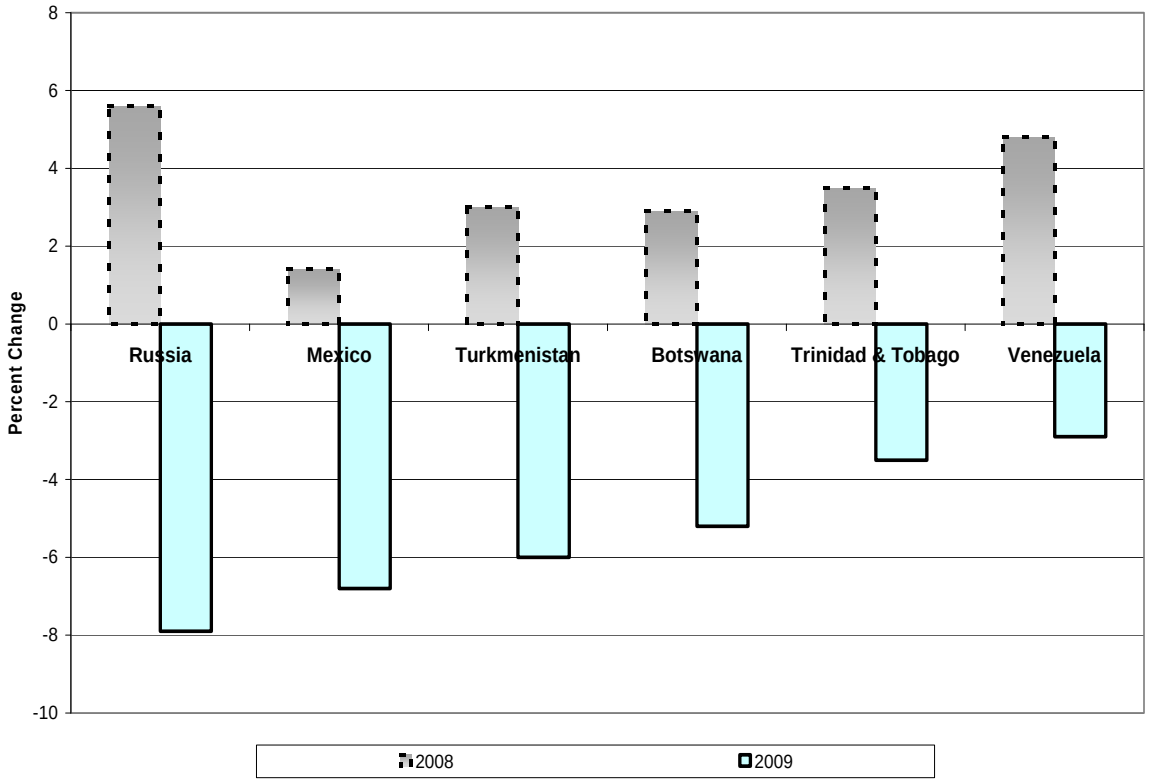
In 2009, the Azerbaijani economy expanded at an impressive rate of 9.3 percent due to rising oil output, growing domestic demand, and the recovery oil prices. Republic of Congo grew a 6.6 percent in 2009, primarily because its important Moho-Bilondo oil field reached new heights of production. In 2009, GDP growth in Zambia has been supported by investment in the mining sector, booming construction sector and government spending on the social sector. Nigeria's positive economic performance in 2009 underscores the fact that macro-economic reforms and oil revenues built up during the boom cycle have softened the impact of the global crisis on the economy. The non-oil sector also performed well in 2009 leading to a positive growth of 5 percent. Vietnam is

[18] Export Development Canada, *Qatar Country Overview*, September 2009, available at http://www.edc.ca/english/docs/gqatar_e.pdf.

one of the most diversified countries in the resource rich group. It is faring well because its retail sales went up by about 19 percent in the first 7 months of 2009 and overall domestic demand held up well during the crisis due to timely fiscal response and fuelled GDP growth.[19] As a response to the global downturn the Vietnamese government launched a stimulus program that provided cheap loans and tax breaks.

Figure 13 shows the bottom five resource-dependent countries that are expected to experience a significant economic contraction in 2009. Each of them is characterized either by poor diversification (and thus extreme dependence on resource revenue) and/or broad exposure to international financial and trade markets. Botswana is among the hardest hit commodity-dependent countries. Diamond production was suspended for a long period during the first half of the year by the joint venture controlled by De Beers and the Botswanan government, and exports have only recently started to rebound. Botswana's economy is poorly diversified and extremely dependent on mineral production, which represents 75 percent of export earnings. As a result, the plunges in prices and production have sparked an estimated GDP contraction of more than 5 percent in 2009, and the budget deficit was estimated to reach 8.1 percent of GDP.

Figure 13. Lowest Real GDP Growth in 2009



Mexico recorded a 7 percent negative growth rate in 2009, which is thought to be its worst since the 1930s. This is not linked exclusively to dwindling prices and oil exports,

[19] Dragon Capital Group, *Vietnam August 2009 Update*, available at http://www.dragoncapital.com/UserFiles/File/monthly%20report/2009/Aug/MR_200908.pdf.

though they have certainly played a role in the contraction. Mexico, which also has close economic and financial linkages to the US, is experiencing a contraction in its GDP as exports declined across the board, exemplified by the 31 percent decline in auto exports year on year during the first eight months of 2009.[20] Worker remittances, which exceed Mexico's oil exports, have also plunged.

Social Impact Spotlight: Mexico's Budget Cuts

Cross-country comparison of short-term social indicators is difficult. But the citizens of several countries stand out as particularly likely to suffer in the short term.

Mexico largely defied the trend of more conservative expenditure policy that most resource rich countries adopted during the recent boom. Annual government expenditure grew by 44 percent in real terms between 2003 and 2008. With oil revenues down sharply, remittances on the decline, and non-oil trade suffering from shocks in the U.S. economy, painful budget cuts are now on the agenda, including in key human development sectors that most governments have avoided cutting. The government has announced major cuts across all sectors in its proposed 2010 budget, and has already slashed expenditures in 2009, including in sectors such as health and social services. The Mexican civil society group FUNDAR estimates that in the health sector, for example, subsidies to citizens for health care have been cut by 69 percent in 2009, which will have a major impact given that unemployment is likely to rise significantly. The government's ability to respond to the H1N1 flu epidemic has been damaged by a lack of funds to the National Epidemiological Institute (InDRE), one of the primary institutions responsible for combating the epidemic. The Institute saw its formal budget cut by 5 percent during the year, and the expenditure on it failed to keep pace with even the reduced projection, meaning that it was unable to construct planned new laboratories that could have enhanced the government's understanding of the epidemic and limited its spread (FUNDAR, 2009a and 2009b).

Budget cuts are also having an impact on the ability of Mexican state and municipal governments to carry out key programs and cover expenses that had increased significantly in line with massive fiscal transfers during the oil boom. "This was unbudgeted revenue, and [sub-national governments] hadn't planned for it, so it was like someone winning the lottery for three consecutive years," says Juan Pardinas of the Instituto Mexicano para la Competitividad. "They raised expenditure across the board in ways that was unsustainable, and now they are crying. These states generate very little revenue on their own, their tax base is weak, so they really depend on revenue transfers from the central government. Some municipalities now can't afford gasoline for police cars, they're not paying the salaries of public employees on time."

[20] Kiernan, Paul, "Mexico Car Exports Targeted," *Wall Street Journal*, August 20, 2009.

Despite a relatively strong initial position Russia has been hit unusually hard by the global economic crisis and its economy shrank by 7.9 percent in 2009. Three different shocks affected the Russian economy: 1) a financial shock that crippled the banking sector and caused equity prices to plummet; 2) a decline in export volumes of oil and gas, which put strains on export earnings and the government budget; and 3) the plunge in world prices for its major export item—hydrocarbons. These developments adversely affected the real sector and domestic demand, pushing the economy into recession.

A comparison of Canada and Russia vividly illustrates diverse effects of the current crisis on economic performance of G8 countries. Russia heavily depends on the extractive sector for generating budget revenues and hydrocarbon exports accounts for two-thirds of its total exports and more than 20 percent of its GDP comes from the oil and gas sector. Though Canada does not belong to the group of resource-dependent countries, oil production in the country accounts for 5 percent of GDP and about 25 percent of total exports.[21] Unlike Russia, Canada experienced a milder impact of the crisis due to its more diversified industrial base and a well-regulated financial sector. Canada's projected GDP is estimated to have contracted by 2.4 percent in 2009, whereas Russia's GDP is estimated to haves shrunk by almost 8 percent. These growth patterns demonstrate Russia's heavy dependency on the oil and gas sectors and the narrow economic base. Furthermore, the existence of lax and unsound policies in the financial sector has led to the uncontrolled growth of credit and foreign borrowing by state-controlled corporations. Falling commodity prices and collapsing credit growth further amplified the impact of the global economic downturn in Russia.

Another resource-dependent former Soviet republic, Turkmenistan, registered negative GDP growth in 2009 due to its close economic ties with Russia and a poorly diversified export market for its natural gas. Turkmenistan's negative growth rate for 2009 comes after the shutdown of gas exports to Russia since April. Given the country's resource dependence and Russia's role as a crucial export destination, the economy of Turkmenistan registered a negative growth rate of 6 percent in 2009. This observation underscores the argument that both export concentration and undiversified export markets increase vulnerability of a country to external shocks. Trinidad and Tobago registered a negative growth rate of 3.5 percent in 2009 due to lower international prices for hydrocarbons. The energy sector has been the main engine of economic activity in the past. The extractive industry accounts for about 50 percent of GDP and this sector also generates 60 percent of government revenues and 90 percent of export earnings. Venezuela remains one of the most resource-dependent economies in the world, with oil revenue accounting for approximately 80 to 90 percent of total export earnings. The oil price shock is largely responsible for the strained external account and decline of its GDP.

[21] In 2008, Canada's oil production reached 3.25 million bbl per day, while Russia's oil production was at 9.8 million bbl per day.

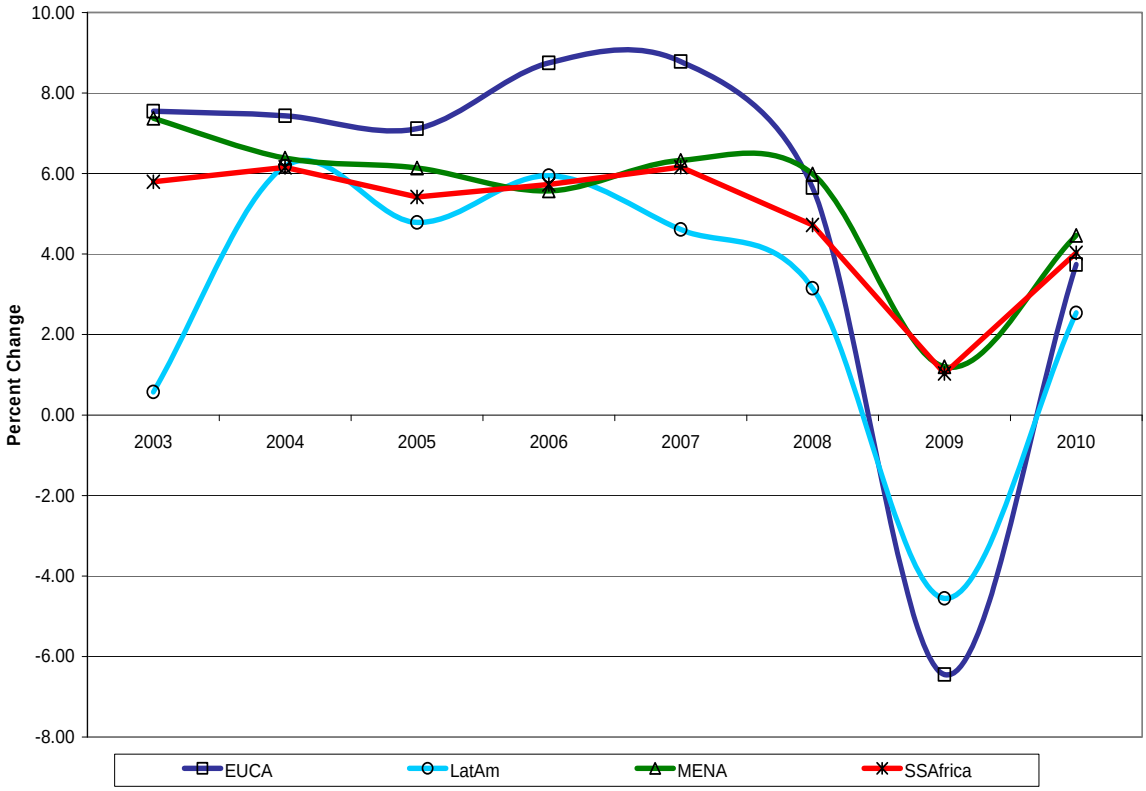
Social Impact Spotlight: Botswana's Broad Damage

Botswana has long been considered the best example of a developing country escaping the so-called "resource curse" and achieving sustained growth, political stability, and effective institutions. But in the wake of its inability to diversify its economy beyond diamond production, the government's prudent fiscal policies and coherent medium-term planning have not been enough to stave off the commodity price downturn. Falling diamond prices led to the complete shut-down of Botswana's major diamond mines during the first quarter of 2009. DeBeers estimates that production during the first half of the year was down 73 percent, and that total annual production for 2009 would end up at around half of what it was in 2008 (Ndlovu, 2009). After years of some of the world's most impressive growth, Botswana's GDP was estimated to decline by more than 5 percent in 2009.

For the first time after years of fiscal surplus, the government took out a $1.5 billion loan from the African Development Bank to support the budget and promote economic diversification. The downturn has had a dramatic effect on those directly involved in the mining sector – at one point in early 2009 the government's labor division announced that more than 4,500 hundred jobs had been lost (a significant hit in a country of only 1.8 million people) (AFP, 2009). It has also impacted those not directly involved in mining, but whose livelihoods depend indirectly upon a vibrant mining sector—with the industry slowed there is less disposable income in the economy, and hotels sit vacant, stores are unable to sell their merchandise, taxi drivers idle without customers. The decline in government revenue also has a direct impact on people's lives. Gracious Oageng, a 19-year-old Botswanan woman, planned to study at university, as the beneficiary of a government scholarship, but the financial crisis put a stop to those plans. "The government sponsors us but they came and said, 'Sorry, there is no money so we are cutting numbers,'" she told Reuters. "I'm really stressed. It's really affected me badly" (Cropley, 2009).

Examining performance at a regional level underscores the significance of successful investment in diversification and insulation from credit bubbles. The resource rich countries of the Middle East and North Africa have weathered the financial crisis better on average than their counterparts in Eastern Europe and Central Asia, and in Latin America. Figure 14 illustrates regional growth trends for Eastern Europe and Central Asia, Latin America, the Middle East and North Africa and Sub-Saharan Africa between 2003-2009, and forecast values for 2010. The MENA region performed well in terms of real GDP growth during the boom period, expanding at an average rate of 6 percent per year, and continued this positive trend into 2009 despite the global downturn. Sub-Saharan Africa closely tracked the MENA region in terms of economic performance and registered a positive GDP growth of one percent in 2009.

Figure 14. Regional GDP Growth Trends, 2003-2010 (PPP-GDP Weighted Average)



Note: For several MENA countries such as Bahrain, UAE, and Qatar we used data from IMF, *World Economic Outlook*.

There are a number of factors that could explain why the MENA region suffered less from the current crisis than Latin America or Central Asia. First, most countries in the region, particularly oil-exporting Middle Eastern countries, implemented huge investment projects in the bonanza years aimed at economic diversification and human capital development. The countries invested in infrastructure, petrochemicals, tourism, financial services, education and the oil and gas sector, resulting in robust growth in the non-oil sector during the pre-crisis years. Second, most of the MENA countries accumulated colossal oil revenues in their resource funds and these reserves were invested abroad. With the onset of the crisis, some of these savings are repatriated to support financial stabilization programs at home. Third, the financial sector in the region was healthier than in the other regions, and governments' crisis response measures focused on liquidity support, capital injections and monetary easing, further strengthening the banking industry. Finally, despite the crisis and falling revenues, most countries of the region with huge reserves increased fiscal spending and maintained investment expenditures at the pre-crisis level.

6. Diversify, Regulate and Save: Conclusions and Policy Recommendations

Though no country has emerged from the global financial crisis completely unscathed, long-term economic strategies have played a major role in determining how severely countries have been impacted. The decisions of the governments of Poland, Mongolia, and Russia—and Mexico, Nigeria, Qatar, Vietnam, and all others—about how to manage their natural and financial endowments, manage risks, promote sectoral growth, and regulate their banks and investors are playing out in their economies' performance during these challenging times. Our analysis indicates that resource-dependent countries as a group are suffering from more pronounced volatility during the crisis than resource poor emerging, advanced, or developing economies, because large declines in commodity prices and export volumes have caused fiscal revenues and foreign exchange earnings to plummet, and in many cases because exposure to the global credit crisis has caused the bursting of a double bubble in which economies were dependent on both volatile commodity and financial markets. Many resource-dependent governments have used large savings accumulated during the boom to try to maintain public expenditure levels, and this has helped mitigate the effects of the crisis to a degree, but these savings alone have been insufficient to protect the economies from volatility.

As resource-dependent governments continue to develop their economic strategies, both for exiting this crisis and for better preparing for the next one, they would be well advised to consider the approaches taken by both the emerging economies, which have avoided the worst effects of the crisis better than any other group, and of the resource rich countries that have most successfully withstood the downturn. Among the most important considerations are the following:

- One of the most important lessons of the crisis is that diversification matters, and resource rich countries should take long-term policy steps to invest in more diverse economies. Prudent macroeconomic policies of the past decade helped resource-dependent countries to cushion some of the adverse impacts of the global recession, but larger structural reforms lagged behind, and government failures to create a conducive environment for economic diversification increased their vulnerabilities to external shocks. Resource rich countries can widen their export base and promote non-traditional exports through well-designed industrial policies and additional incentives for these sectors to grow.

- In order to reduce the risk of future financial sector crises, resource rich countries that are integrated into global markets should implement structural reforms leading to improved supervision of the financial sector, greater corporate transparency, healthier relationships between the government and big business, and better governance.

- The lessons learned from the 1970s have helped cushion the blow of the financial crisis in some countries. One of the main fiscal goals for governments should be the decoupling of public funding from volatile resource revenue, usually achieved by accumulating foreign exchange reserves that help cushion the negative impact during financial crises. These funds provide a fiscal buffer in times of economic strain and commodity price downswings, and can stabilize monetary policy by avoiding exchange rate fluctuations under floating currency

arrangements. But savings funds alone are not enough to protect resource rich economies from volatility, and maintaining a strong program of investment in long-term diversification should remain a key priority.

- Many resource rich and developing countries have created greater room to maneuver in their fiscal domains by adopting counter-cyclical policies, which in the past were rare. This is a good sign. Investing in infrastructure and directing spending towards targeted social programs should be the focus of these policies.

- It is also important to develop well-regulated financial markets in order to be able to hedge the risk of commodity price fluctuations. Countries with underdeveloped financial markets were shielded from the crisis this time, but developing well regulated, prudential financial systems would give them an additional advantage in managing finances as their economy goes through boom and bust cycles. Commodity-linked bonds and denomination of these bonds on the price of the export commodity can provide important protection. Linking the value of bonds to oil or to a basket of commodities can ensure that when commodity prices decrease, the liabilities also decrease, effectively hedging the risk of commodity volatility.

- As resource-dependent countries seek short-term macroeconomic policies to help themselves emerge from the crisis, they should take care to align these immediate measures with their long-term development strategy. In addition, these countries should take immediate steps to address the big-picture imbalances by encouraging investment in fixed capital and creating an efficient and well-regulated financial sector. A strong financial sector is essential for sustained growth and macroeconomic stability, not just to emerge from this bust but to avoid the worst effects of future downturns.