

Economic Diversification in Resource Rich Countries

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I Introduction.

Developing countries as a whole have been remarkably successful in diversifying their economies and their export structures. This process of diversification has taken many forms. The most prominent change has been the shift towards industry. In the 1960's, some 80% of developing country exports were primary commodities; today, almost 80% are industrial products. This massive transformation in export structure has been associated with the rise of major industrial power-houses; China most prominently, but also countries such as Korea, India, Brazil, Malaysia, Vietnam, Indonesia and Mexico. Most of these new industrial powers were previously primary-based economies. Today they are deeply integrated into global production networks across a wide range of sectors, participating in rapidly-growing South-South trade, and in most cases rapidly upgrading the sophistication of their export mix.

Other countries have not moved as far towards “footloose” manufactures but have taken advantage of the potential for upgrading their resource-based sectors. For example, between 1975 and 2004 Latin America's share of global markets in metals expanded by 175%. During this time the share of ores and unwrought metals doubled, but that of worked products increased eightfold (Sinnott et al 2010). Still other countries have moved away from traditional simple primary exports in other directions, to more complex, yet still primary-based, products and services. The former include horticulture, floriculture and fresh fish, sectors with formidable demands for efficient logistics services and ability to comply with sanitary and phytosanitary standards. Resource-based services with high logistical and technical requirements include tourism, which has for some years been the fastest-growing export for Sub-Saharan Africa (SSA) -- it now represents the equivalent of over 10% of merchandise exports -- and IT-related exports.

SSA has remained heavily dependent on primary sectors. While about 20% of exports are classified as industrial, most of these are modestly processed primary products. Barely one quarter of industrial exports are true manufactures, and the two major categories, automotive products from South Africa and clothing exports from low-income countries, are both supported by special incentive programs (IMF 2007, Gelb 2009). As a first approximation, SSA is not competitive in any sectors that are not based on natural resources.

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This paper considers the issue of diversification from a particular perspective – countries with a very strong comparative advantage in a specific natural resource, especially minerals. Mineral exporters have some particular features and face distinct challenges relative to countries with a balanced endowment of resources. Production linkages with the rest of the economy are relatively limited. Natural rent is highly concentrated and largely realized in the form of fiscal revenues. With some exceptions, notably for artisanal mining, direct employment creation in the mineral sector is often modest.

These tendencies hold to a greater or lesser degree for different minerals and particular economies, but they are particularly marked for oil. Hydrocarbon-rich countries represent an extreme within the range of mineral exporters, and deserve special attention. About 35 countries are dependent on hydrocarbons and new producers like Ghana and Uganda are coming on stream. Within SSA, oil exporters constitute one third of the population and land area. Globally, another 12 countries, many in SSA, are dependent on hard minerals, whether copper (Mongolia, Chile, Zambia), diamonds (Botswana, Sierra Leone) or others.

Such mineral exporters tend to be heavily dependent on their dominant sector. Bornhorst, Gupta and Thornton 2008 cover 30 oil exporters over the period 1992-2005, a time when oil prices were mostly moderate or low in historical context. They estimate that revenues from hydrocarbons represented on average 16.2% of GDP or 49.1% of total fiscal revenue. For some regions the averages was higher: for 14 Middle East exporters, they were 20.0% and 57.2% respectively. But GDP includes both the hydrocarbon sector and a range of other production activities directly or indirectly dependent on the oil sector, and many “non-oil” taxes (including import duties or corporate taxes) are themselves dependent on activities and flows that depend on the domestic spending and export revenue made possible by the oil sector. The true dependence of these economies on oil is therefore far larger than it appears.

“Sowing the oil” to diversify the economy has been a longstanding goal for many mineral exporters. However, few have managed to break free of dependence on their dominant resource. The objective of the paper is to look at the problem through the lens of mineral (and especially oil) exporters, and to focus on some particular policy issues facing such countries.

The first question is -- why diversify in the first place? Why try to move away from a sector of very strong comparative advantage? As discussed in Section 2, the motive may simply reflect the proposition – supported by evidence -- that export diversification is associated with higher long-run growth. However, resource exporters are different in many dimensions, including population, labor force and skills, location, levels of income, reserves, and the potential for other resource-based activities. These will shape diversification priorities and policies. Productive employment is a major goal, for example, in many exporters, including in the Middle East, but there is a striking difference between the oil rich, labor importing, countries of the GCC and the other, oil rich but labor abundant, countries. Some of the former have extremely large oil reserves and immense mineral riches per head. Since they are chronic importers of labor their main motivation to diversify cannot be employment for nationals in the usual sense, but they may see a need to diversify assets and income for strategic reasons in the very long run.² One

² At \$70 per bbl, Abu Dhabi’s known oil reserves represent over \$16 million per citizen. Saudi Arabia is an exception among the GCC countries, as it has a considerable and rapidly-growing population.

outcome has been the Dubai model of development. Dubai is discussed below; though very distinctive it does offer some positive and negative lessons for other countries considering a push for diversification. The rest of this paper considers the more normal case of low or middle-income countries with substantial populations, large development needs and a dominant resource sector.

Section 3 summarizes research on the relationship between resources and rapid growth and development, viewing this from the perspective of diversification. There is still much debate on how resource wealth, or resource dependence, relates to long-term growth. The question is complicated because measures of both resource dependence and resource abundance are at least partly endogenous to growth and income level. The emerging consensus is that resource wealth itself is not necessarily bad. Indeed, the commonsense proposition that it is a good finds considerable support, including from examples like Australia, Canada and the United States, which have transitioned from resource-based countries to high-income diversified economies. Yet there is a good deal of evidence that diversification of the export bundle is associated with higher long-run growth, and that countries that get "locked in" to dependence on a limited range of products do less well in the long run. Moreover the "Dutch Disease", defined as a syndrome of factors that cause countries to lose rather than to benefit from resource wealth, is real for some countries even if it is not inevitable.

One of the main conclusions of the section is that many of the policy and institutional factors that enable countries to manage resource wealth well are equally important for their ability to diversify into other sectors. One important criterion is whether the country has the capacity to smooth out the high macroeconomic volatility that large export price swings can transmit to mono-exporters. If not, it will be far more difficult to sustain investment in the non-resource traded sectors, which will be de-stabilized by large swings in the real exchange rate. Cross-country studies also suggest that the impact of resources on growth is not homogeneous. It depends on whether the country is well-endowed with two types of capital that can be seen as complementary to natural resources: human capital and "governance or institutional capital". Without these, the country is more likely to experience a "resource curse". There is also evidence that countries with lower levels of these complementary assets will find it more difficult to diversify and to advance up the export technology ladder. This suggests that in the long run countries need a balanced endowment of factors to grow. Resource wealth offers opportunities for countries to build human and institutional capital, but many lag badly in these areas.

Resource wealth also offers countries a choice of whether to invest it in ways that decrease costs and increase productivity in the non-resource traded sectors or to spend it in other ways that will lock in resource dependence. There is at present much debate on the policies for promoting economic growth and structural change. In particular, views diverge on the balance between policies that emphasize macroeconomic stability, openness and a generally sector-neutral role for the state ("horizontal" policies), and those that favor particular sectors and even firms ("vertical" policies). Old-style industrial policy was heavily identified with planning, protection and the promotion of heavy industry. As evidence of its costs and ineffectiveness mounted, the weight of opinion shifted towards open markets and minimal state intervention. More recently, however, many countries have been considering a range of active "market-compatible" industrial

policies, aimed at encouraging investment by compensating for market imperfections. These can include economies external to actions by individual firms and coordination failures.³

The paper does not take a position on vertical policies in principle -- evidence is clear that the result will depend on how they are designed and implemented. It recognizes that some form of vertical policy is probably inevitable for resource-rich countries seeking to diversify, including for the reasons that (i) market forces alone will tend to pull the country back towards resource dependence and (ii) resource rents provide governments with more discretion to implement such policies, for example, through targeted public investment programs to bring down the costs of production for non-resource traded sectors. However the risks are particularly high for countries with resource wealth, where there will be pressure to subvert such policies towards the goal of rent-seeking. If not designed and implemented well, they will be work against diversification even if intended to encourage it.

Section 4 considers the policy framework to encourage diversification in the context of some country examples. Both horizontal and vertical policies have been used in these countries, and reasonably effectively. The former include macroeconomic policies, especially fiscal policy, to stabilize the economy against the “boom-bust” cycle, exchange rate management and overall trade policy, as well as the provision of high-quality education and measures to lower the cost of doing business. One illustrative example showing an opportunity unrealized by most oil exporters is the need to improve tax administration for the non-resource sectors. The section also draws some lessons from the Dubai model, for countries attempting to create competitiveness through agglomeration externalities or special zones.

Policies alone are not the complete answer. We also need to understand why some countries have been able to implement and sustain good policies and others have not. Section 5 briefly discusses some common institutional features of resource exporters that may have been helpful, and notes some of the limits of diversification that geography and environment can impose. Section 6 concludes.

II Why Diversify?

Why might countries with rich oil or diamond or copper reserves want to diversify in the first place? Does this make sense, given their particular comparative advantage? How does investment in domestic economic diversification, as a strategy, compare with alternatives such as portfolio diversification through saving a high share of resource rents abroad to invest in a range of industries – or simply slowing the rate of reserve depletion to hold more assets under the ground?

One argument is that diversified economies perform better over the long term. There is strong empirical support for this proposition; Hesse 2008, Leiderman and Maloney 2007 and others

³ For a discussion of old-style “comparative advantage defying” (CAD) policies that involve heavy protection and import-substitution, especially in favor of heavy industry, versus market-friendly “comparative advantage following” (CAF) policies see Lin 2009.

provide analysis and useful summary. The result is robust to the exclusion of OECD countries and also to a control for trade openness.⁴

One explanation for this relationship is that engaging in manufacturing enables dynamic learning-by-doing gains that raise productivity and income. A related argument is that diversification exposes producers to a wider range of information, including about foreign markets, and so raises the number of points for potential “self-discovery”. Capability in one sector can open the way to others, especially those that use related knowledge.

This leads to the question of whether the benefit from exporting depends on which products are exported. A considerable body of research argues that it does. Certain products are close to each other in “product space” in the sense that the ability to export one can easily lead to a small jump in capability to produce and export the other. A country that can make toasters, for example, would have the capability to move speedily to a range of other white goods, then perhaps to microwaves and electronics. There may therefore be a greater externality from encouraging investments in such “dense” sectors in product space than in products which are on the periphery without clear knowledge, skills or market relationships with other sectors. It is also preferable if a country’s export bundle resembles those of countries with higher levels of productivity and income. Otherwise the country risks being locked in to low-wage competition with poorer countries.⁵

Not all agree with an automatic strong focus on manufacturing industry or on particular industrial sub-sectors. Some countries may have a strong secondary comparative advantage in a range of resource-based sectors, including secondary minerals, forestry or tree crops, that are not necessarily “connected” but which offer good opportunities. Sinnott, Nash and de la Torre 2010 note that technical change in the manufacturing sector is not necessarily greater than that in primary sectors, and that the latter also offer opportunities for learning-by-doing. Some commodity production is argued to be equally valuable in terms of production linkages and spillovers to other types of production. Moreover, they note that, in contrast to earlier views, recent studies have not shown support for the argument that in the long run primary commodity prices decline relative to the prices of manufactured goods. They also note that some studies suggest that what is important is concentration itself, rather than the nature of the dominant product.

Other factors may also be important for resource rich countries. High rates of population growth dilute the long-run level of rents per head. If population grows at 3% per year, the per capita contribution of a constant resource sector will halve in 24 years. Long-run prosperity and social stability will require the productive employment of growing factors of production, including labor. Another argument for diversification is to self-insure against the large macroeconomic

⁴ Imbs and Wacziarg 2003 found a U shaped pattern whereby countries in the earlier stages of development diversify production but countries above a certain level of income tend to re-concentrate production. Most developing countries are therefore in the former stage.

⁵ For discussion of these points and methodology, see Hausmann and Klinger (2007) and associated works. The income level of the export bundle (EXPY) is derived from the income levels of countries which demonstrate a comparative advantage in these products.

shocks transmitted to countries heavily dependent on a limited range of resource exports by wide swings in resource prices.

Still another possibility is that an exporting country might be capital-constrained (Van der Ploeg and Venables 2009), with a marginal internal return to investment that is higher than the yield on foreign assets. This would argue for emphasizing domestic investment over saving abroad. In addition, complete dependence on a massive external asset fund as the sole non-resource provider of foreign exchange could be considered as an unacceptable long-run strategic risk even if the holdings of the fund are diversified across industries. Will such a fund always be considered as a welcome investor by host countries? Could home-country dependence on foreign investments constrain national sovereignty in the possible event of future disagreements? Such considerations could lead to the yield on foreign assets being discounted below their market levels and a premium on domestic investments able to substitute for a savings fund to provide foreign exchange.

The urgency of such arguments will depend on the expected time-horizon of rent relative to needs. Physical exhaustion may not be the only issue. While environmental degradation may cause the collapse of societies (deforestation of Easter Island) mineral resources have actually run out on a nation-wide basis in only a few cases.⁶ Advances in drilling and mining technology have often been able to extend the life of producing fields, sometimes by many years, and commercially-exploitable reserves are, in any event, more of an economic than a physical concept, since their level depends on the level of prices. Some countries, like Gabon are likely to see the effects of declining high-rent reserves relatively soon. But even countries with large resource deposits might be concerned about the possibility of technology shocks that threaten to eliminate or sharply reduce their only comparative advantage, either by creating substitutes or by opening up new sources of supply.⁷ From this perspective, even keeping resources in the ground is risky and insurance can be an important motivation for diversification.

These considerations have implications for how a country sees diversification as part of its overall strategy. Most seek gains in terms of growth and employment but some might be willing to pay a premium to diversify. They also influence the type of diversification that a country might pursue. For some purposes, it could be sufficient to diversify within the resource sector, moving from oil to natural gas or hard mining to extend rents into the future, and trying to maximize domestic upstream linkages with the resource sector. For others, the focus may be on moving downstream to increase value-added, including through policies to fill gaps in crucial

⁶ One example is Nauru, which enjoyed very high GDP per capita after independence due to its rich phosphate deposits. In anticipation of the exhaustion of the deposits, substantial investments were made in trust funds aimed to help cushion the transition and provide for Nauru's economic future. However, because of heavy spending from the trust funds, including some wasteful investment activities, the government moved to a situation of virtual bankruptcy. To cut costs it called for a freeze on wages, a reduction of over-staffed public service departments, privatization of numerous government agencies, and closure of some overseas consulates. Economic uncertainty caused by financial mismanagement and corruption, combined with shortages of basic goods, has resulted in domestic unrest. In 2004 Nauru was faced with chaos amid political strife and the collapse of the island's telecommunications system. Nauru is now heavily dependent on Australian aid.

⁷ One example is recent advances in hydraulic fracturing technology, which have opened up greatly increased supplies of natural gas in the United States. Fusion power, the development of safe and cheap nuclear technology, or renewable energy technologies plus improved battery technology could have a major effect on the demand for oil.

supply chains linking the resource base to downstream industries. In other cases, the priority will be to shift towards labor-intensive manufactures. Countries have different resource endowments and constraints, and may have different goals. Some high-income countries, including Australia and Canada, have high-productivity modern economies yet are still heavily dependent on resources⁸. While effective diversification can be a good investment, countries can waste a great deal of resources on ineffective programs or programs targeted towards inappropriate goals.

II The “Resource Curse”: a Diversification Perspective.

The impact of resource rents on economic performance has been the subject of debate. Three main complications arise in the analysis: (i) how to deal with the endogeneity of measures of resource abundance (reserves per head) and resource dependence (the resource-intensity of exports or fiscal revenues or GDP)⁹; (ii) how to measure outcomes (income levels, growth rates or broader development indicators); and (iii) how to allow for country heterogeneity. If the result depends, for example, on institutional quality or human capital, the problem may not be natural resources but the lack of these complementary factors.

Studies using resource abundance measures tend to find positive associations between natural resources and growth. “Wealth of nations” estimates find that higher income countries have higher levels per head of all types of capital, including “natural capital” (cropland, forests and sub-soil mineral assets). Natural capital averages only \$3,588 per head in low-income countries but \$20,227 in those with high incomes.¹⁰ These data hardly suggest that low-income countries are locked into their status by an excess of known natural capital. However, other categories of capital, including human capital and produced capital, increase far more rapidly across the income progression. This suggests that the different types of capital complement each other, and that countries do diversify away from reliance on natural capital as they grow richer.

Studies using measures of resource dependence find a negative relationship with economic growth. For example, Lederman and Maloney 2007 note that between 1980 and 2005 GDP per capita grew far more slowly in net natural resource exporters (0.6 percent) than in net natural resource importers (2.2 percent). As discussed above, one interpretation is that countries that are specialized in mineral resources find it more difficult to make the jump to diversify towards products that can open the way to acquiring capabilities in other, more advanced, products that can support higher wages as the country moves up the technology ladder. Oil, for example, is well separated in product space from dense clusters; unless technically sophisticated to the point

⁸ In 2009, agricultural, energy, forestry and mining provided about 58% of Canada's total exports; agriculture and mining represented 42% of Australia's exports.

⁹ Measures of resource abundance are higher in richer, well-governed, countries because these have typically seen higher levels of exploration and prospecting. This suggests that much of the resource wealth of poor countries is still awaiting discovery. Measures of resource dependence are higher in poorly governed countries partly because other productive activities are rendered unviable by risk and high costs, and because low income and demand leave more resources for export.

¹⁰ For estimates of national wealth see World Bank 2006.

where it can produce capital equipment, a producer may not learn much from oil production that enables it to produce other products.¹¹

However, the question of where best to compete in terms of products could be quite difficult for a specialized mineral exporter. For example, a middle-income exporter starting out on the diversification process will not compete easily with products typically produced by low-income resource-poor labor-abundant competitors. But with wage costs and a real exchange rate reflecting the level of income sustained by minerals, it may also not be easy to “jump” to other products produced by non-resource countries at a similar level of income but with superior capacity.

Managing Volatility. One channel for the adverse linkage between resource dependence and growth is volatility. Resource prices are very volatile, particularly for oil, where the coefficient of variation of prices is 0.7. Prices are also very difficult to predict. Since the start of the 1970s none of the major turning points in the oil market has been widely predicted. Predictions in the early 1980s were for sustained price increases, very far off the outcome. During the recent oil boom, futures prices simply followed the spot price; they were flat, extending the current price out to as much as ten years. Actual prices cannot strictly conform to such a random walk process because of some lower and some upper bound, but estimated prediction models do little or no better than a random walk.

Hamilton 2008 provides a careful study of the statistical properties of oil price series. He finds that the random walk hypothesis cannot be rejected and that, starting from a price of \$115 per bbl, four years into the future we should not be too surprised to find the price of oil as high as \$391 per bbl or as low as \$34. The latter price was inconceivable at the time of that study and far outside the range of observed futures prices; however, prices hit \$34 per bbl late in 2008 as the market collapsed. The resulting uncertainty is enormous for producers. Consider, for example, an exporter like Nigeria. With a base value of oil valued at \$100 per bbl, the difference between a price of \$50 and one of \$150 is equivalent to a difference of 50 percent of GDP.

Oil exporters have typically not succeeded in smoothing these extreme price cycles. They tend to alternate periods of shorter booms, marked by appreciating real exchange rates¹², soaring prices in non-traded sectors (particularly real estate) and high but not spectacular growth rates of GDP, with prolonged slumps. This supply-side pattern mirrors the even larger swings in the rhythm of real absorption, usually led by swings in public spending.

The destructiveness of these cycles is clear from many examples. Mexico borrowed against expectations of increasing real oil prices after 1981 and suffered badly when these expectations turned out to be far off track. Before 1980 Venezuela had been one of the fastest-growing Latin American economies, with long-term growth averaging 6.4 percent. But following several euphoric years after 1974 it experienced a sharp decline, with output per head halving over the

¹¹ Hausmann, Klinger and Lopez-Calix 2010 analyze this issue in the context of Algeria. Countries like Norway and, more recently, Brazil, have shown the ability to build substantial upstream linkages from oil to industry.

¹² Real exchange rates do appear to be quite responsive to resource exports. For oil exporters, Korhonen and Juurikkala 2007 find a consistent relationship between real the exchange rate and oil prices with an elasticity of about 0.4

next two decades. Nigeria offers a third example, with “voracious” public spending outpacing revenue increases up to 1984, followed by sharply lower debt-constrained spending thereafter (Budina and van Wijnbergen 2008). Simulations show that such cycles can turn a potential oil windfall into an actual loss (Gelb and Grasmann 2010). A long line of research relates output volatility to slow growth.

Severe macroeconomic instability also makes export diversification more difficult. Hausmann and Rigobon 2003 show how real exchange rate volatility stemming from shocks in markets for concentrated exports will reduce incentives in the non-resource traded sectors for risk-averse investors. Investment will shift towards the non-traded sectors, leading to “premature” specialization in the dominant resource. This in turn leads to still greater volatility, and to lower growth.¹³ One key element of diversification policy is therefore prudent macroeconomic management over the resource cycle to help stabilize the economic setting for the non-resource traded sectors.

Because of the importance of fiscal linkages, the prime component of stabilization policy over the “boom-bust cycle” has to be cautious public spending underpinned by high savings in the boom period to smooth out aggregate demand. Other policies can have a subsidiary role in stabilizing the economic setting for firms in the non-resource traded sectors. But if these firms are to have a reasonably stable base, there is no alternative to efforts to sustain counter-cyclical fiscal policy over the resource cycle.

Exchange rate policy presents a dilemma. On the upside of a strong cycle, a policy of fixed exchange rates will expose firms to the impact of appreciating demand and soaring prices in the booming non-traded sector. If sustained on the downside of the cycle, it can result in a painful period of falling demand and deflation. However, flexible rates will expose the firms to external competition even more rapidly in the upward phase of the cycle.¹⁴

As a number of countries have found, it is also futile to try to protect the non-resource traded sectors by attempting to choke off booming imports by tightening import barriers. The only effect will be further real exchange rate appreciation, higher domestic prices and input costs, and less competitive production.

Monetary policy also has limitations. A general tightening of credit to slow the booming non-traded sector will impact adversely on the traded sectors. It may also further encourage capital inflows, which anyway tend to be pro-cyclical. It may be necessary to use more discriminating tools which can selectively tighten credit to the non-traded sectors to limit construction and real

¹³ Volatility increases because changes in relative prices can only affect the relative demand for non-traded and traded goods. With full specialization, the supply response is zero. Real exchange rates do appear to be quite responsive to resource exports; for oil exporters, Korhonen and Juurikkala 2007 find a consistent relationship between real the exchange rate and oil prices with an elasticity of about 0.4.

¹⁴ One of several options discussed by Frankel 2009 is to peg the currency to the price of the leading export, so accommodating to terms of trade shocks. The downside is that it destabilizes the local-currency prices of other traded goods, a particularly problematical outcome from the perspective of diversification. For more discussion see Sinnott et al 2010.

estate booms.¹⁵ For example, faced with a booming real estate market in the 1980s, Malaysia imposed special reserve requirement on the banking system to discourage the diversion of credit from agriculture and industry to the property market.

Building Human Capital. If there is a resource curse, it seems to affect certain types of countries more than others. Bravo-Ortega and de Gregorio (2007) find that the larger is the stock of human capital, the more positive is the marginal effect of natural resource abundance on growth. Lederman and Maloney 2007 echo this message, noting that rich countries that have successfully used their natural resources to further developmental outcomes, such as Australia and Norway, have done so on the basis of high and growing levels of human capital.

Studies also provide strong evidence of the importance of human capital for the structure of exports. In their classic study, Maier and Wood 1998 distinguish regions on the basis of two ratios: skills per head and land (a proxy for resources) per head. As population increases the ratio of land/head declines over time; as countries invest in human capital the skills/head ratio increases. Sub-Saharan Africa ranks highest on land abundance and lowest on skills. In these dimensions, it resembles most closely Latin America some 30 years earlier. Asian economies are relatively skills-abundant and their endowment in this area has been growing.

Maier and Wood show that there is a close relationship, both across regions and over time, between factor ratios and export composition. Regions with high ratios of land to skills tend to specialize in primary products. As the land/skills ratio falls, the export mix shifts, first towards processed primary products, then to simple manufactures, and then towards more complex and technologically demanding manufactures. This study suggests that countries that fail to invest heavily in their human capital will find it difficult to move away from primary dependence and towards more sophisticated products.¹⁶ It is also no accident that countries like Finland and Korea, both known for their spectacular evolution from primary-based economies to exporters of hi-tech manufactures over the space of a few decades, also routinely score at the top in international comparisons of the quality of education.¹⁷ Except for Norway, no countries specialized in resources scores at near these levels; most lag in human capital relative to their income level. Sustained attention to quality education on a broad basis to close the gap must be a key component of diversification policy.

Institutions and Governance. A substantial body of literature suggests that differences in the quality of institutions are at the root of the diverging growth paths of successful and less successful resource rich countries. For example Mehlum et al (2006) find that the quality of institutions is critical in determining whether countries avoid the resource curse. Natural

¹⁵ These could include cycle-adjusted capital requirement ratios, loan loss provision ratios and lending-to-asset-value ratios to discourage speculation in markets where a potential bubble is forming.

¹⁶ On the basis of this analysis, it is not surprising that export diversification in African countries has largely involved broadening the range of resource-based products and services (including tourism) and moving up the processing chain, rather than a shift to manufactures. For more discussion of East Asia, including the very important role played by the accumulation of human capital, see Noland and Pack 2003.

¹⁷ In recent PISA assessments of reading (2000), mathematics (2003) and science (2006), Finland and Korea ranked respectively: 1 and 5; 1 and 2; and 1 and 7 out of 27, 29 and 35 countries respectively. They also rank high in TIMSS scores, and rank at numbers 7 and 2 in the Global Innovation Index.

resources are only found to have a negative impact on growth performance among countries with inferior institutions.

What kinds of institutions are important? Collier (2007) suggests that the issue is not simply whether countries are democratic. Without effective checks and balances on power, competition for natural resource rents can make democracies malfunction. Unlike normal taxation, they do not invite public scrutiny and political accountability, and therefore encourage the emergence of patronage politics. Eifert, Gelb and Tallroth (2003) distinguish “factional” democracies from “mature” democracies, and argue that highly personalized politics and rent-seeking in the former cases result in short-horizon, patronage-driven electoral competition and non-transparent allocation of rents. In extreme cases, competition may evolve into open conflict. Some autocracies have managed natural rent well; the risk, as seen in the case of the Suharto regime in Indonesia, is that in the long run they become entrenched and corrupted by resource wealth.

How does the quality of institutions affect the potential for diversification? The extensive debate on how to measure institutions and whether resources undermine them is beyond the scope of this paper. However, recent research on long-term growth has increasingly emphasized the importance of institutions (Acemoglu, Johnson and Robinson 2003). There is a strong and systematic relationship between a variety of measures of institutions and level of income per head, particularly for countries not especially rich in natural resources. Institutional quality therefore appears to have a close relationship with the potential of an economy to deliver high incomes by functioning at a high level of productivity. This means that, whatever the exact causality, institutional strength is important in relation to potential economic structure. Manufacturing industry, for example, is more transactions-intensive than subsistence agriculture or off-shore oil rigs. It is more dependent on strong contract enforcement, a rule of law, and a generally strong business environment. In extreme cases of institutional breakdown, economies are likely to retreat back into subsistence farming and enclave mineral production.

Resource economies with strong institutions will therefore have a wider range of potential options for diversification than those where institutions are weak. Unfortunately, most resource exporters have weak institutions, as measured across a number of dimensions, at least relative to their levels of income. Using one set of institutional indicators, the Worldwide Governance Indicators, oil-exporting countries, on average, have an institutional score corresponding to that of far poorer non-oil economies. In some cases their institutional scores are those of non-resource with income levels little over one quarter of their own. The result is not dependent on one particular region. In Gelb and Turner 2008, nine African oil exporters with average GDP/head of \$979 (at market exchange rates) scored on average around the lowest decile on governance indicators. In contrast, a set of eleven low-income non-oil African countries, with average GDP/head of only \$300, that had grown relatively rapidly over the previous decade scored around three deciles higher. Some clusters of countries show more strength in certain classes of institutions. The GCC countries, for example, tend to score better on measures reflecting the capacity of the state and the ability to sustain a good regulatory environment. Latin American oil producers, in contrast, tend to score better on measures of political participation and weaker on regulatory policy.

Oil, it could be argued, is not integrated into the rest of the economy in the first place, so that it is unreasonable to benchmark governance estimates to the level of income per head including oil. Some “governance discount” might reasonably have been expected. However, if levels of governance and institutions are taken as indicators of the potential productivity of the non-oil economy (as seems to be the case for non-resource economies in general), the magnitude of the discount suggests the gulf between actual incomes and the baseline level of productivity in the non-resource sectors. Policies to reduce this institutional gulf, whether by determined actions to improve the functioning of the state and its economy-wide service delivery, or to carve out a special development zone for the purpose, are therefore of the utmost importance for diversification policy.

Natural resource wealth opens up windows of opportunity for such policies. The question is whether resource exporters choose to take advantage of them. Botswana has partly invested diamond income in creating (and paying for) an efficient bureaucracy. Another example is tax administration. Oil-exporting countries typically raise lower non-oil tax revenues than other countries; the lower tax yield represents the equivalent of about one fifth of oil revenues (Gelb and Grasmann 2010). It may be reasonable to substitute some heavily distorting taxes by resource taxes, and a low-tax regime could also be a component of diversification policy. Freed from immediate revenue pressure, countries could streamline taxes, lower rates and broaden bases, abolish nuisance taxes and improve tax administration. In some cases this has been done (see discussion of Dubai below) but all too often it has not. Knack 2008 finds that the quality of non-oil tax administration (as measured by the World Bank’s Country Policy and Institutional Assessments) is actually lower in oil exporting countries than in others.

“Vertical” Policies and Effective Public Spending. Diversification will also be affected by how governments choose to spend resource rents. Any spending with a domestic component will tend to draw resources to the non-traded sectors, appreciate the real exchange rate and weaken the non-resource traded sectors. This effect can be at least partly offset by spending (or tax relief) that reduces production costs in these sectors, raises their efficiency, and encourages the entry of investors with new capabilities and knowledge. Well-designed and implemented investments in infrastructure, human capital or improving institutions can have this effect, even if applied in a sector-neutral way.

Nevertheless, some level of vertical policy and spending that targets non-resource traded sectors on a broader or more focused basis is probably inevitable in resource-rich countries. It is very difficult to promote all such sectors at the same time against the pull towards non-traded sectors that result from increased domestic demand fuelled by public spending funded by resource taxes.¹⁸ Given that diversification is a national priority, vertical policies can be seen as efforts to compensate for market incentives distorted by the spending of resource rents. Governments also have greater possibilities for financing such measures, whether tailored infrastructure, tax rebates, investment incentives or other inducements to invest.

However, vertical policies involve several risks. One is serious distortion of market incentives, in particular towards import-substitution. It is no accident that the more successful countries,

¹⁸ In a simple general equilibrium model it is only possible to expand all traded sectors if government cuts back on its purchases of non-traded goods and services. This is not a likely response to resource wealth.

discussed below, placed a heavy weight on exporting. Another risk is “lock-in” to the interests of an established rent-seeking elite seeking to benefit from incentives rather than using incentives to encourage competitive investment, often by new players. A third risk is that of diverting the attention of policy-makers away from critical economy-wide impediments to diversification and growth. It is often politically easier to introduce some new program rather than address long-standing obstacles to business and the vested interests behind them. The fourth risk, of holding on to failing policies, is especially high for resource-rich countries because there is not the same fiscal pressure to change them. In his evaluation of industrial policy Auty notes that: “[A] favorable resource endowment may be squandered through the pursuit of less prudent policies than would be practical in a resource-constrained country... There are two important consequences... first, economic damage cumulates... second, political groups become entrenched which have a vested interest” Auty 1994, p7. Spending alone, even if intended to support diversification, is not enough. Unless it is effective, it will only make diversification more difficult by increasing domestic demand.

IV Some Examples

Although there are not many examples of developing countries that have built diversified economies from initial conditions of strong concentration in mineral sectors, there are some notable examples of policy effort and relative success. Coxhead 2007 studied the long-term experience of countries with rich initial endowments of natural resources. He identified five such countries with strong long-term growth – Malaysia, Thailand, Chile, Indonesia and Sri Lanka. All have diversified towards manufactures or, as in Chile, widened their range of resource-based exports to include new and more sophisticated products. The experience of such countries is therefore of special interest, especially the three with substantial mineral resources.

Malaysia was fortunate in its rather diversified resource endowment, which included good geographic location and deep-water ports, rubber and tin, as well as forest products, which preceded oil as export staples. Even in 2010 resource-based products represented 42% of manufacturing value added.¹⁹ It sustained a high and relatively stable savings rate, and made massive investments in land development and replanting schemes to expand and modernize the production of rubber and palm oil. It also made heavy investments in technology and infrastructure, especially in the areas of energy, communications and transport. Although Malaysia did start out on a protectionist path in the 1960s, in 1973-74 it shifted to an extensive export promotion drive based on cheap manufactures. Measures to hold down costs included policies to reduce the costs of labor and manage industrial relations.²⁰ In the mid 1980s, strategy shifted towards higher-technology products and skills upgrading. Policies included liberalizing skilled immigration, a dramatic expansion in enrolment in polytechnics, exchange relations with universities in Australia and Canada and skills development programs jointly sponsored by the Federation of Manufacturing and the University of Science and Technology.

¹⁹ Electronics represented a further 30%.

²⁰ For example, minimum-wage legislation was not enacted for export industries, only in-house unions were permitted, and less than 10% of workers in the electronics industries (78% of whom were female) were unionized. For more discussion see Kuruvilla 1996

Macroeconomic policy also aimed at cost containment. Trade policy moved steadily towards a relatively open trade regime. Devaluations depreciated the real exchange rate (22% over 1980-92) to maintain incentives. Investments and targeted support were provided through a variety of programs including free zones, export financing facilities, assistance with research, product development and marketing, aimed at reducing production costs and increasing competitiveness. While exporting was never stressed as strongly as a condition for support as in Korea, export performance was an important goal of diversification efforts.

Indonesia shows the importance of using active policies to encourage agriculture in the face of a booming oil sector and so to bring down domestic costs to further encourage diversifying exports. Good luck played a part in this success, which would not have been possible without the development of disease-resistant and high-yield rice varieties. But their diffusion would not have been possible without the unusually broad-based development policies followed by the government. These included very large investments of oil income to develop natural gas resources, both for export to Japan and as an input to fertilizer production. Fertilizer was then distributed at subsidized prices, greatly boosting yields. Agriculture and the rural economy were further strengthened by a series of successful community-based programs (INPRES) that absorbed large quantities of labor and produced local infrastructure, including schools, roads and other local construction. Infrastructure, particularly in the rural areas absorbed one quarter of public investment during the oil boom (Auty 1994).

With a strong agriculture able to feed a growing industrial workforce relatively cheaply, Indonesia moved towards low-wage manufacturing and an export-oriented strategy in the early 1980s.²¹ Measures were taken to prevent the real exchange rate from moving too far out of line. These included cautious management of public spending in the boom years 1974-81. Fiscal surpluses and reserves were accumulated despite the fact that official policy called for a balanced budget. Government was also ready to rapidly restructure public spending and scale back planned projects when oil prices began to fall. Exchange rate policy aimed at limiting real exchange rate appreciation, and the policy package included major devaluations on the downside of the oil price cycle in 1983 and 1986 (in the latter case by 60%), and further steps to ensure that it did not appreciate thereafter. Trade policy was progressively liberalized after 1985, and exporters were able to access imported inputs at world prices. FDI was liberalized, especially into exporting sectors. By 2005 manufactures represented 47% of merchandise exports.

Unlike Malaysia and Indonesia, Chile has not emerged into a major industrial exporter. But it has developed into a dynamic and more diversified commodity exporter, with an emphasis on high-value primary-based products that draw on its diversified resource base. One key element has been its successful implementation of countercyclical fiscal policy, stabilizing the economy by high savings during the copper boom years and dis-saving when prices began to fall. Chile

²¹ Auty 1995 notes that both Indonesia and Malaysia made errors of promoting inefficient industries during the oil boom period. However, concern to maintain sound macroeconomic management and contain losses limited the effects.

also focused on improving the business climate, to become the highest rated Latin American country on the “Doing Business” indicators.²²

In addition, Chile offers several examples of successful active vertical public roles in helping to develop the salmon and wine industries. These include encouraging technical development and adaptation, disseminating information on standards, providing infrastructure and information and coordinating numerous small producers (Benavente, 2006 and Katz, 2006). Both of these cases involved developing long-term public-private partnerships such as those involving CORFO and Fundación Chile to help producers achieve critical mass and capabilities. Chile has also established a Competitiveness and Innovation Fund in 2005, financing this through a levy on mining, and developed sector clusters with private sector participation and partial funding. Some 50 centers of excellence are in operation, the majority university based, and all competing for funding. Chile also sponsors investment in high-level human capital by funding scholarships for study abroad (Sinnott et al 2010).

Finally we consider the Dubai model. This aims to attract investment (with risk implicitly underwritten by recourse to the oil riches of the United Arab Emirates²³) to invest in infrastructure, real property and a range of services, as well as establishing a Free Zone to further build export capacity. Dubai is *sui generis*, especially its dependence on expatriate labor and skills: nationals constitute only 10% of the population. But it offers some lessons for other countries considering diversifying their economies through a massive free zone or similar policy.

Dubai’s vision was not simply based on “build it and they will come”. It was also based on providing incentives to attract foreign direct investments and major multinational companies. These incentives included: an efficient bureaucracy with little corruption; a regime of no taxes and low tariffs that proved extremely attractive to companies and expatriates; a free market economy with low restrictions on movement of funds and transactions; high-tech state-of-the-art infrastructure to sustain an electronic-based system and e-government; public support, direct or indirect, to all major projects; easy and quick processes to issue visas to businessmen and visitors; allowing foreigners to own property in free zone areas; and investing heavily in security.²⁴ Very open trade and labor policy, a very low tax regime and a pegged exchange rate to the Dollar have made Dubai a relatively stable and low-cost base for business.

Dubai aims to create a new asset, a critical mass of world-class infrastructure, services and business, able to serve as a transport and logistics hub and to reap sufficient agglomeration and “network” externalities to be self-sustaining. To the extent that it succeeds, it will have diversified the local economy, essentially by creating a new one. At the same time, Dubai nationals will still enjoy rent-based income, mostly from land and property rents and statutory

²² Chile’s ranking on Doing Business was 40 in 2009 out of 181 countries. The 2009 rankings for the other countries discussed in this section are: Malaysia 20, Botswana 38, UAE 46, Indonesia 129 and Algeria 132. The average ranking for nine oil exporters in SSA is 161. The average ranking for the 11 non-oil low-income fast-growing African countries noted in Gelb and Turner 2008 is 138.

²³ While the debts of Dubai World may not have been formally guaranteed by the government, Abu Dhabi has provided assistance to restructure its debt.

²⁴ Riad Kahwaji, published 27/12/2007 © bitterlemons-international.org

participation in businesses usually run by expatriates. Little of the benefit to nationals comes through “normal” employment secured on competitive labor markets.²⁵

Whether Dubai is able to succeed and, if so, at what cost to the oil wealth of the UAE, will have to be seen as events unfold following the bursting of the property bubble in November 2009. Its experience confirms that the boom-slump model can be very costly. In 2007 it was estimated that since 2004 the six Gulf Cooperation Council (GCC) countries had produced oil worth about two trillion dollars at spot prices, and that more than one trillion dollars had been invested in domestic infrastructure and real estate.²⁶ Urban real estate prices rose spectacularly after 2004, from an index of 100 to almost 320 before plunging back to 130 by mid 2009 – a spectacular cycle even by the standards of other concurrent property booms.²⁷ It is not yet clear how the massive losses will be apportioned, but it is clear that at least a part is being paid out of the financial assets of Abu Dhabi. Meanwhile many properties stand vacant, prices have slipped further, sometimes to as little as a fifth of previous levels, and Dubai faces high risk spreads on its outstanding obligations.

Do such examples have lessons for other resource-rich countries? Clearly, the potential for diversification is affected by many factors, including the resource base, the capacities of the population and the quality of economic management. Malaysia and Chile have rich and varied resource bases; Indonesia has an abundant, low-cost, labor supply as well as good location. One common theme running through the cases is the importance of avoiding wild swings in the real exchange rate and periods of high overvaluation. Another is the need to reduce costs for the non-resource sectors, whether through macroeconomic management and exchange rate policy, trade policy, well-focused public investments, and other measures. Yet another has been the efforts to supplement market incentives in various ways to encourage diversification, while not trying to replace them.

A further theme is the importance of openness to foreign investors, skills and new markets. Entry and a focus on exporting have been vital points of policy emphasis for all of the countries.²⁸ A contrasting picture emerges from analyses of countries in the Middle East and North Africa, many of which are heavily dependent on hydrocarbons. Analyzing the disappointing diversification of that region, Gourdon 2010 notes that the contribution from the introduction of new products has been small, and that what modest diversification has taken place has been due to diversification of existing products. In contrast, new products have played a major role in the diversification of many countries outside the region. Nabli et al 2008 explain

²⁵ Data from the 2005 International Comparison Project show that the GCC countries have domestic price levels at least 30% lower than those for countries at comparable levels of income per head. Because most of the “fixed factors” usually assumed to constrain the non-traded good sectors are importable in the GCC countries (especially labor), Dutch Disease is manifested less by high prices and an appreciated real exchange rate and more by the limited employability of high-cost nationals on a competitive basis in the private sector. Businesses in Dubai are required to take on local partners but not those in the Free Zone. The benefit the latter offer to Dubai is largely in the form of contributing to agglomeration externalities and through demand for real estate and transport and logistics services.

²⁶ Meena Janardhan, “Diversification Follows the 'Copycat' Route” Dubai, Nov 28, 2007 (IPS)

²⁷ IMF Article IV Consultation, February 2010.

²⁸ Not all elements of such a package have been followed by all rapidly-diversifying countries. Korea, for example, restricted FDI in favor of acquiring technology by licensing and a very strong focus on building domestic capacity. Such a policy will far more difficult for a country lacking Korea’s strong education system.

the persistence in the region of vertical industrial policies that favor well-entrenched groups. This is due to the weakness of interest groups that might lobby for more outward-oriented horizontal policies relative to privileged networks that seek to maintain their access to rents. These themes resonate with the analysis of Algeria by Hausman, Klinger and Lopez-Calix 2010. They reject the conventional Dutch Disease explanations for oil dependence, an appreciated real exchange rate and high macroeconomic volatility. But they note a poor business climate, including a lack of clear, predictable and enforced rules of the game for market activity, and the combination of a highly protected internal market and competition for oil rents which dulls the incentives for private sector investments for new export activities.²⁹

Even with good policies, some resource exporters will find it very difficult to diversify. Botswana, for example, scores highly in many dimensions of economic management and governance, and has managed its diamond wealth in an exemplary manner. But it faces particular constraints that make competitive diversification difficult to achieve. Unlike Dubai, Botswana does not benefit from location; it is sparse, far from major markets and not on major transport routes. Despite a good investment climate and a history of generous incentives, its industrial sector appears to be less competitive than those of neighboring countries. Its limited water resources limit diversification into agro-based industries, including livestock. And because of the very low cost of transporting raw diamonds, it is hard-pressed to compete with the world's dominant diamond-processing facilities in India, which can draw on abundant, cheap and skilled labor, top-quality technology and massive scale economies.³⁰

V Some Common Factors in Success

Why have some countries managed to sustain good policies, including for diversification? Countries that start off from strong institutional conditions can clearly expect to have a more positive range of alternatives for using oil rent than extremely institutionally challenged countries.³¹ However countries such as Chile, Indonesia (especially during the first decade of the

²⁹ Starting from a similar position in 1985, Indonesia has increased its non-oil EXPY (the GDP/capita of the export basket estimated on the basis of the incomes of countries showing comparative advantage in such a bundle of products) at twice the speed of Algeria, despite being a far poorer country.

³⁰ India accounts for about 60% of diamond processing in value, 80% in karatage and 90% in pieces. The leading center in Surat processes almost 80% of processed solitaire diamonds above one karat (The Economic Times, December 28, 2009).

³¹ Botswana is perhaps the most striking case of an initially poor mineral exporter with strong initial institutions. Acemoglu, Johnson and Robinson (2003) suggest that the foundation was laid before the discovery of diamonds. Inclusive traditional institution placed constraints on political elites and there was minimal disruption to these traditions by colonial rule. Particularly noteworthy was Seretse Khama's initiative in assigning sub-soil mining rights away from the tribes and towards the state, in this way heading off tribal contestation for revenue. Botswana used its diamond income well to further strengthen institutions and capacity. It remunerated civil servants adequately and employed a corps of foreign advisors to work alongside domestic officials, rather than rapidly indigenizing the civil service and lowering its quality. More recently, government sought and obtained a sovereign debt rating even though Botswana had no immediate need to borrow. The rating was seen as a commitment device, to alert citizens by signaling potential policy slippage by future governments. In contrast, Equatorial Guinea has been cited as an extreme case where oil rents sustain a pathology of authoritarian rule, instability and underdevelopment, from which it is difficult to exit. McSharry 2006 analyses the political economy of oil in Equatorial Guinea, suggesting that the extraordinary weakness of government institutions and the dearth of social programs make it less likely that the government will be able to buy the acquiescence of the population in the same way as, for example, Kuwait or Saudi Arabia

Suharto government) and Malaysia show that even mineral countries with a history of instability and fractious politics can experience windows of opportunity for good management that leads towards diversification. Their experiences suggest a number of common factors.

Considering first Chile, the state has long been considered as generally capable and technical capacity, including in key ministries and Central Bank, has traditionally been strong. In the early 1970s the country suffered both serious macroeconomic instability and social polarization. The period after the 1970 election of the Allende government and the September 1973 Pinochet coup was particularly traumatic; in 1973-75 the consumer price index rose by 3000 percent; this was followed by a deep debt crisis and economic contraction in the early 1980s. Unemployment levels reached 33% by 1982. Following the return of civilian rule in 1990, the traumatic experiences of the two previous decades underpinned widespread consensus around preventing further disruptive boom-bust crises and avoiding conditions that might precipitate the political instability that could lead to a return to military government. The result was a broad constituency in favor of both economic stability and public debt reduction. The strength of this consensus is demonstrated by Chile's response to spiraling copper prices and the exceptional accumulation of surpluses in its copper stabilization fund after 2005. Net public debt fell to minus 14 percent of GDP by 2008. Nevertheless, sustaining these policies has required continuous efforts by the technocracy to reach out to elected officials and explain the implications of over-spending.

Indonesia offers another interesting example of cautious and flexible macroeconomic management -- implemented without a dedicated fund, without transparency, and even in violation of fiscal rules -- at least during the first part of the Suharto period. This phase was classified as an example of "reforming autocracy" by Eifert et al (2003). As in post-Pinochet Chile, the Suharto government came into power with a huge stake in stability. The last years of the "Guided Democracy" of the Sukarno period had been increasingly chaotic, including rice riots and ethnic rioting. The 1975 crisis of Pertamina, the national oil company, reinforced the caution of the government, and added to the credibility of the technocrats -- a very stable team of economic advisers widely known as the "Berkeley Mafia"³². This team proved to have both great permanence and leeway to shape policies. Through the oil booms of 1974-81, the government formally adhered to a balanced budget law. However, without disclosure to the public or the parliament, bureaucratic controls were applied to slow actual spending, creating a *de facto* surplus and doubling reserves. Indonesia also managed its spending programs with great flexibility. As oil prices fell after 1981, the government moved aggressively with a drastic re-programming of its development spending, cancelling projects, cutting subsidies and spending, as well as stabilizing the real exchange rate through progressive devaluation.

Malaysia, another success case, has faced a threat to economic and social stability from either of two paths: rapid growth with Malays politically dominant yet economically disempowered, or economic collapse caused by excessively redistributive policies. These threats were clearly recognized. Neither of these options was attractive, leaving effective economic management and the reinvestment of rents to encourage growth, especially employment-creating growth for Malays, as the only option (Abidin 2001; Rasiah 2006).

³² Pertamina had been under the management of a military associate of the President, so that its crisis -- which required a \$1 billion bailout -- strengthened the hand of the technocrats.

Chile, Indonesia and Malaysia are clearly very different cases, yet they show some common features. First, two goals were seen as important -- accelerating development and sustaining economic and social stability. These goals enjoyed a fairly broad basis of support in all of the countries. Second, increasing the level and range of exports was seen as a major development priority. Third, the governments concerned were able to draw on a stable, strong and credible technocracy, with a good understanding of the risks inherent in a minerals-based development strategy. Close relationships between politicians and technocrats helped to keep these issues at the forefront of policy. Fourth, constituencies rooted in non-oil tradeable sectors were powerful in all of the countries. In Malaysia tin and rubber producers were influential. Agriculture played a similar strategic role in Indonesia, because of its importance in sustaining rural incomes and social stability. In Chile a range of resource-based commodity exporters developed over the years of low copper prices were actively courted by the technocracy and were rolled out as strong advocates for spending restraint during the copper boom. These interests have been important forces for stability; they have helped to restrain sharp exchange rate appreciations that would damage the sectors concerned.³³

VI Conclusion

Some countries with a strong resource base have managed to diversify their economies and exports, but many have not. Although there is evidence that diversifying economies can expect to do better over the long run, the urgency of the issue will vary across countries. Geography, ecology and other factors severely constrain the possibilities for some countries, but most do have options, whether to widen the range of primary exports, move further down processing value-added chains or shift towards manufactures. The question for these countries is how strongly they are motivated to diversify and whether they are ready to take the necessary steps to do so.

The first policy message is the need to get some economy-wide “horizontal” basics right. Good macroeconomic management is critical. Failure to run a counter-cyclical fiscal policy to contain massive boom-bust cycles destabilizes the traded sectors and contributes to slow growth. Other macroeconomic policies can have only a supporting role. Exchange rate policy presents dilemmas; the most that can be sought is to prevent extended periods of over-valuation, especially on the downside of a cycle. Trade policy needs to be reasonably open, otherwise domestic spending of rent will raise prices and domestic costs, making it harder for the traded sectors to compete. There may be a special place for selective credit policy to help prevent the real estate booms and asset bubbles that characterize resource cycles.

It is also vital to build other types of capital to complement natural resource wealth. These include human capital and institutional, or governance, capital. Countries with a major shortfall in these assets are more likely to suffer from a “resource curse”. They will also find greater difficulty in establishing viable non-resource export sectors, because they will be less able to compete with other countries at roughly comparable levels of income. Resource wealth opens up

³³ Similarly, agents of restraint in Botswana included traditional chiefs and cattle owners and in Norway fishing and other decentralized industries supported cautious spending.

opportunities for countries to invest in high quality human capital and a capable and accountable state, but only a few have done so.

Diversifying sectors will also not emerge without measures to bring down the costs of production in the new traded sectors, to spur efficiency and encourage new entry. The horizontal policies discussed above will play an essential role; any economy-wide policies that increase the costs or difficulties of doing business make diversification more difficult. But some forms of “vertical” policy that favor traded sectors (on a broader or narrower basis) are likely in resource-rich countries. They can include focused infrastructure investments, tax and tariff relief, special zones, programs or regulations that bring down labor costs, or other measures. There is still debate on how finely countries can target promising sub-sectors; while a range of analytic methods can be used to suggest promising focus areas, it will be necessary to maintain flexibility, especially if the intention is to encourage the entry of new investors.

All of the successful countries discussed in this paper have used such policies, with a strong bias towards broadening the range of operating businesses and exports. There may be special arguments for these. As for non-resource economies, they might help to address market failures, such as external economies, information or coordination failures, which slow the growth of new business. In addition, assuming that diversification is indeed a national long-term priority, they offer one way to counter the market’s immediate pull of factors of production towards the non-traded sectors that comes from the spending of natural rent. Moreover, natural rent also provides government with increased resources to implement vertical policies.

But the risks are particularly high. Access to incentives is a way to capture a share of natural rent, and this increases the pressures for special programs to become a mechanism of distribution to favored insiders. A focus on such programs can reduce policy attention to the basics: it is always easier to introduce a new program than to address the politically difficult problem of confronting the supporters of existing policies and reforming them. Having more fiscal resources also reduces the urgency of reversing failing policies. Even if intended to promote diversification, ineffective programs will be worse than not spending at all, since their effect will be on the demand side, to pull factors of production towards the non-traded sectors.

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