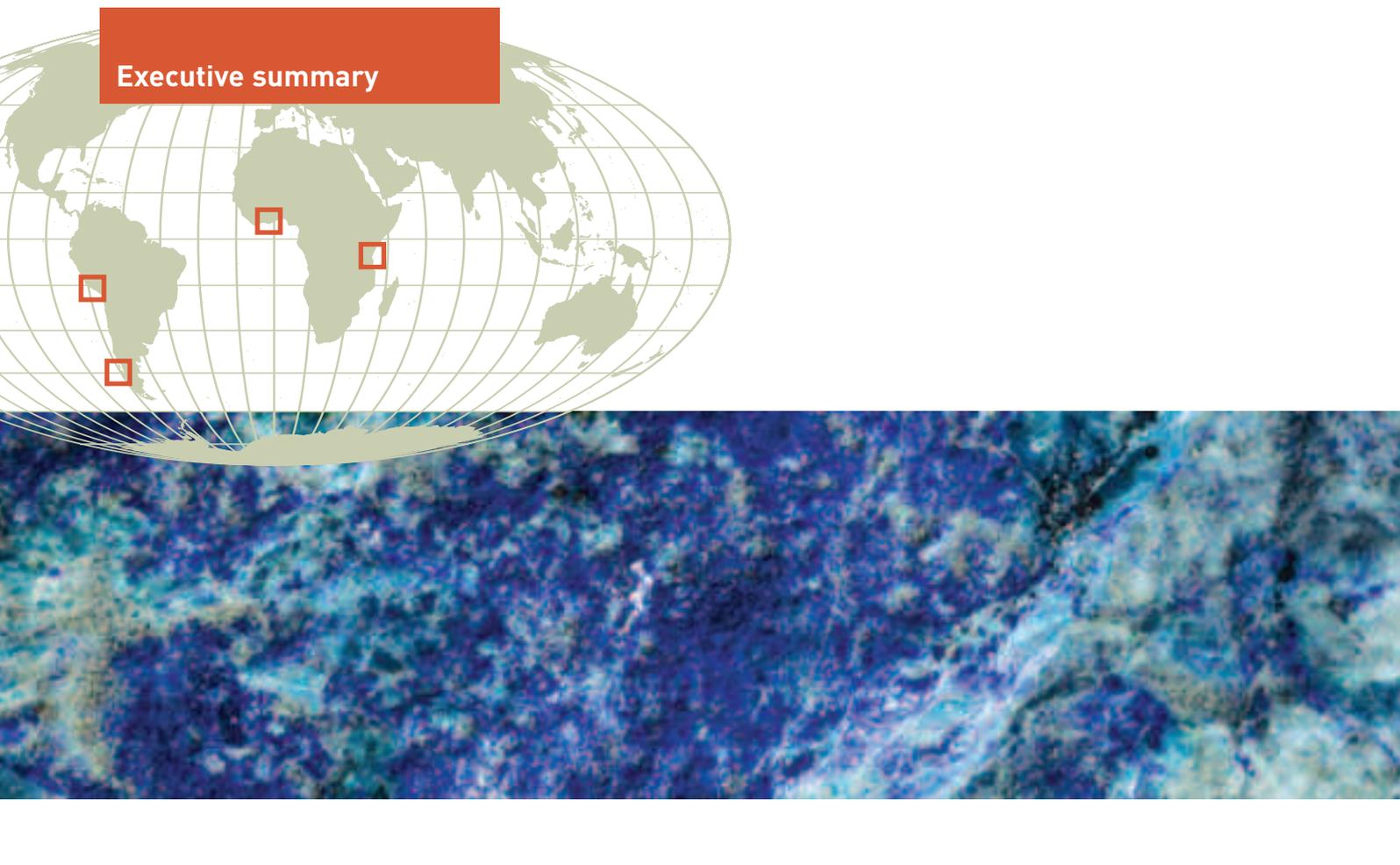




# Analytical Framework

**The Challenge of Mineral Wealth:**  
using resource endowments to foster  
sustainable development

April 2006

A stylized world map with a grid of latitude and longitude lines, rendered in a light green color. Four small red squares are placed on the map, indicating specific regions: one in South America, one in Africa, one in Asia, and one in Australia. The map is set against a background of a blue and white abstract, textured pattern that resembles a close-up of a mineral surface or a satellite view of a rocky terrain.

Executive summary

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## Background

In the past five years, the economic, social and environmental dimensions of mining and minerals have been the subject of wide-ranging consultation, critical comment, research and analysis. The Mining Minerals and Sustainable Development Project (MMSD) and Extractive Industries Review (EIR) respond to the unprecedented focus of public attention on the sustainable development challenges for extractives in general and mining in particular.

In May 2004, ICMM<sup>1</sup> initiated its Resource Endowment<sup>2</sup> initiative<sup>3</sup> to better understand how large scale mining activity in low and middle income countries can enhance the socio-economic development of host countries. The initiative aims to isolate the drivers of development effectiveness in the mining and metals sector and to document the policy frameworks, operational practices, and partnership arrangements that deliver sustainable outcomes on the ground. This action-research project is being done together with UNCTAD and the World Bank Group. ICMM also consulted stakeholders such as mining companies, governments, donor agencies, labor and non-governmental organizations (NGOs).

Much of the 'resource curse' literature has focused on problems rather than solutions. Consequently it is not of much practical help in designing improved policy or filling gaps in knowledge. For example, how have apparently 'successful' countries avoided problems now so widely perceived? Can such outcomes be repeated in other developing economies endowed with an abundance of mineral resources? How should the main stakeholders work together to enhance positive socio-economic outcomes from mining investments?

To help bridge these gaps, some of the specific questions the Resource Endowment initiative attempts to address are:

- How the mining sector overall contributes to national development?
- What strategies have been effective in managing revenues generated by natural resources for sustainable development and poverty reduction?
- How an individual mining project contributes to development at national, regional and local levels?
- What are the practical and policy implications for mining companies, host country governments, development institutions, and NGOs?
- What might the distinct responsibilities of these development partners be to support implementation of findings and recommendations?

The three distinct phases of the initiative and related products are outlined below.

### Phase 1: Analytical Framework and Tools

The initial phase of the project concentrated on the development of an analytical framework focussing on governance processes, including the underlying factors and rules of the game that affect social and economic interactions and outcomes. These aspects were incorporated into a practical toolkit to assess local, regional and national socio-economic impacts of mining. The toolkit also deals with how mining operations impact on governance structures, institutions and policy changes at different levels of government. Phase 1 involved an

<sup>1</sup> The International Council on Mining and Metals.

<sup>2</sup> The Challenge of Mineral Wealth: using resource endowments to foster sustainable development.

<sup>3</sup> The initiative is managed by Kathryn McPhail, Principal, ICMM.

extensive literature review, and a ‘coarse-sift’ comparative analysis of the relative economic and social well-being of 33 countries with a high dependence on minerals. Initial findings were critiqued in a multi-stakeholder workshop which helped to shape a revised approach.

**Phase 1 Published reports:**

- Analytical Framework: Executive summary
- Resource Endowment Toolkit.

**Phase 1 Additional Online Resources:**

- Analytical Framework: Main Report
- Literature Review
- November 2004 Workshop proceedings.

**Phase 2: Testing, Synthesis and Emerging Lessons**

This involved applying the toolkit to two main and two comparator countries, Peru (with Chile as a comparator) and Ghana (with Tanzania as a comparator). In all four countries, mining had shown some evidence of having successfully contributed to economic and social improvements. The purpose was to test the toolkit, to assess whether it could be applied to a broader set of mining countries, and to propose refinements. The findings were reviewed by a second multi-stakeholder workshop which provided valuable feedback.

**Phase 2 Published reports:**

- Four country case study executive summaries
- Synthesis report of findings of the four case studies.

**Phase 2 Additional Online Resources:**

- Ghana, Tanzania, Peru and Chile country case studies
- October 2005 Workshop proceedings.

In addition, a number of other publications summarize the process or findings of both Phases 1 and 2, and signal ICMM’s approach to Phase 3:

- A Spotlight series that summarizes key aspects of Phases 1 and 2 (The Prize; The Challenge; Ways Forward; and Process and Feedback)
- Resource Endowment Guide to Phases 1, 2 and 3.

‘The potential economic contributions by the industry have not been realized in some of the world’s poorest countries.’

**Phase 3: Action Learning through Partnerships**

The activities of Phase 3 will include a number of ‘pilot projects’ in partnership with others to encourage uptake of the Phase 2 recommendations and, as a consequence, enhance the contribution of mining to social and economic development. Phase 3 will also focus on dissemination and outreach.

For the latest information on Phase 3, including details of pilot activities and partners visit [www.icmm.com](http://www.icmm.com)

# A natural resource curse—or blessing?

Policy makers and development thinkers have been grappling for some time with the fact that natural resource extraction, contrary to most economic expectations, has not led to sustainable increases in socio-economic development in many host countries. Yet in some of the longer established mining economies, such as Australia and South Africa, mining has been an undoubted driver of both economic and social progress in the longer term.

The industry has been criticized for allegedly failing to contribute to serious improvements in the socio-economic conditions of low-income host countries. At the same time those companies—together with governments, donor agencies and nongovernmental organizations—have supported corporate responsibility initiatives in recent years to increase the local and regional benefits of natural resource extraction.

Stakeholders such as mining companies, governments, and non-governmental organizations (NGOs) confront a paradox. Mining provides opportunities. It is the means by which dormant mineral wealth is converted into other human, social and physical capital. In addition, many corporate responsibility initiatives have provided benefits at the *local and regional* levels, but outcomes at the *national* level (growth rates and success in relieving poverty) have sometimes been disappointing. The potential economic contributions by the industry have not been realized in some of the world's poorest countries. Where does the responsibility really lie for weak outcomes? In particular, where does the responsibility of companies end and where does the responsibility of government start in ensuring favorable national outcomes? How might mining companies and other stakeholders do better in the future?

The idea that mineral resources constitute a curse has gained prominence in policy debates. The argument has been articulated not only by campaigning NGOs (such as *Global Witness*) but also by prominent economists (such as Sachs and Warner, 1995) and it has found resonance among the governments and opinion leaders of rich countries and their donor agencies. Much of the debate has bracketed ore and mineral companies with companies engaged in oil and gas extraction that have distinct characteristics and performance records. This study removes that bracket by considering only mining dependent countries.

The debate has had some beneficial results. It has promoted new initiatives, such as the Extractive

Industries Transparency Initiative (EITI), that have received industry support and have induced greater transparency in revenue flows and highlighted the need to improve the public financial management of resource rents. It has strengthened the case for substantial corporate responsibility initiatives and for stricter implementation of social and environmental safeguards.

Many research papers accept the possibility of good outcomes but most point to various policy and institutional reform requirements and some view these as pre-requisites rather than as objectives of external support. A major gap in the literature is the lack of 'counterfactual' analyses that would trace the consequences for poverty reduction of *withholding* investments in the sector. This Resource Endowment initiative cannot fill the gap, since it would have required macroeconomic modeling that would have vastly exceeded the resources available. However, a variety of analytical techniques have been used to seek greater clarity about the economic and social consequences of mining investment and the actions that stakeholders might adopt to improve the economic and social returns from mining activity in poor countries.

Much of the 'resource curse' literature has produced more heat than light by focusing on problems rather than exploring solutions. Hence, the need to search for practical solutions by:

- enhancing understanding of the specific circumstances that can lead to unfavourable economic and social outcomes from mining, as encapsulated in the idea of the mineral resource curse.
- examining country cases where the resource curse does not appear to have been a problem—to build confidence that bad outcomes are not an inevitable outcome of mining activity.
- re-orienting policy directions and behaviours in ways that can mitigate negative outcomes and increase the likelihood of more positive outcomes.

These objectives led to a sharp focus on two important research questions:

- What are the critical factors that have allowed some countries to benefit from their substantial resource endowments and avoid the resource curse while others have seen disappointing outcomes?
- What practical steps might the industry and other stakeholders—such as governments, local communities and aid agencies—take to build these beneficial factors where they are lacking?

# Unsatisfactory approaches to explaining unsatisfactory outcomes

4 The *Extractive Industry Review (EIR)* initiated in 2002—commissioned by the President of the World Bank Group, James Wolfensohn— was meant to assess whether the Bank’s involvement in oil, gas and mining projects was consistent with its overall objective of achieving poverty alleviation through sustainable development. Among other things the *EIR* concluded that World Bank engagement in the sector should continue only when countries can meet a comprehensive set of preconditions ranging from pro-poor policies, effective public and corporate governance, effective social and environmental policies, and respect for human rights<sup>3</sup>.

While the institutional and social aspirations of the *EIR* are widely endorsed in the development community, its recommendations left many points of practical policy unstated and unclear:

- The *EIR* is silent on how the governance preconditions are to be brought about in practice. It is far from clear that this can happen merely because of the willingness of nation-states and their respective governments to do better in these areas.
- There is little or no compelling evidence to suggest that successful developing countries, and indeed today’s industrialized countries, had achieved similar preconditions prior to the major investments that underpinned their own growth and broad-based social development.
- Countries achieving these conditions have not done so overnight. It is important to learn how they have managed to improved their institutions, governance structures and policies over time, and what distinguishes them from those countries that have failed. Also what role did large discrete private sector investments, including those in mining, play in the process?
- Had the recommendations been adopted, they would have left the industry in limbo in terms of where its responsibilities start and stop, given the consequences that would derive from International Financial Institutions withdrawing their support to poor, natural resource dependent countries. They would also have left the governments and societies of many resource rich developing countries in limbo with respect to the reforms they should adopt and the support they would need to enhance the developmental returns from natural resource extraction.

The starting point for this study is that the preconditions articulated in the *EIR* are an incomplete basis for identifying improved policies. At best they reveal the current lack of understanding about the dynamic links between natural resource endowments, resource extraction, institutions, governance structures and broad-based socio-economic development. At worst they run the risk of substituting cosmetic reforms (a new law) for the deep-seated institutional strengthening that is usually called for.

Most approaches to the resource curse problem fail to specify crucial parts of the logic needed to differentiate between successful and unsuccessful outcomes. This is confirmed by a brief review of the three approaches used in the established literature to explain why natural resource exploitation sometimes leads to unsatisfactory outcomes.

## Approach 1—simple macroeconomic perspective

Basic macroeconomic analysis tells us that the discovery and extraction of natural resources should straightforwardly contribute to higher incomes and faster economic growth in low-income countries. But mainstream macroeconomic theory has long recognised that the revenues from resource extraction can have detrimental macroeconomic effects. These include Dutch disease, greater volatility in public revenues, and crowding out of some traditional economic activities.

However, over the past two decades, economic policy makers have learned that appropriate policy responses can eliminate or mitigate these negative effects. Many countries have been successful in applying them. Other countries have failed to do so. The question is not whether the required policies are unclear, but why countries have failed to apply the needed policies. Macroeconomic analysis is silent on what causes these differences in the policy environment.

The historical dimension is worth noting. Fifteen plus years ago, few knew of Dutch disease or indeed other macroeconomic problems arising from mineral revenues. Thus the curse in many cases occurred through ignorance. Today that is not so, and these challenges are well known and well understood. What governments must do to avoid the macroeconomic problems is clear, and today there is no excuse for any country to suffer negative macroeconomic consequences. Even

‘Again, mining provides opportunities for economic growth and poverty reduction.’

those with very limited capacity can get the help needed to implement the required policies.

#### Approach 2—rent-seeking perspective

Proponents of the rent-seeking perspective on the resource curse have found statistical evidence that natural resource endowments often coincide with predatory governments and a high incidence of domestic conflicts and civil wars (Collier and Hoeffler, 2001; Humphreys, 2003). This strand of analysis, in its extreme form, suggests that the exploitation of natural resources is inherently detrimental to the welfare of developing countries. The microeconomic conjecture is that natural resource abundance nurtures patronage, rent-seeking and fractional politics, resulting in policy outcomes that restrain growth and provoke social unrest and environmental distress. It also encourages misguided government interventions in the economic system because the mineral revenues in the first instance accrue to the state. But this strand of analysis fails to explain why some governments and societies have managed to prevent rent-seeking behaviour. Once again the analysis is silent on what explains different outcomes in different countries.

#### Approach 3—corporate responsibility perspective

A significant number of companies, including those in mining, in recent years have supported a wide range of corporate responsibility initiatives to make their activities more responsive to and beneficial for local needs. Companies have spent significant sums to identify and mitigate social and environmental costs. Emphasis has been put on partnerships between project developers, governments and local communities, with mutually agreed objectives, shared responsibility for outcomes, clear accountability and reciprocal obligations. The 2002 World Summit on Sustainable Development attested that most current mining projects have succeeded in achieving their socio-economic development objectives, at least at the local and regional level. (Phase 2 of this initiative – Testing, Synthesis and Emerging Lessons – will

re-examine this conclusion in the case study countries). Despite some local successes, a number of host countries still have unsatisfactory national socio-economic records. The Corporate Social Responsibility approach is silent on why in some cases (but not all) locally based initiatives can play a positive role, while performance in other cases is disappointing.

The common weakness of all three approaches is the absence of any coherent argument to explain the differences in outcomes between countries that suffer from the resource curse and those that have benefitted from broad-based socio-economic development. Although cross-country econometric analyses offer fairly compelling evidence of the resource curse, several countries have avoided it (Stevens, 2003; Sarraf and Jiwanji, 2001; Wright and Czelusta, 2003; Acemoglu et al., 2003). The most frequently cited cases are Australia, Botswana, Canada, Chile, Indonesia, Malaysia and Norway. Cross-country econometric analyses view these cases as outliers and therefore ignore the lessons that could be learned from these countries by contrasting them with experience in less successful countries.

What factors have allowed some countries to benefit from resource endowments and avoid the resource curse? There is a broad-based agreement that answers to this question are related to the quality of *institutions, governance and policies* in each host country and to the way that large mining investments relate to such arrangements. The research approach builds on the consensus from much of the recent academic and policy literature (including the *EIR*) that differences in outcomes have much to do with governance and institutions. Again, mining provides opportunities for economic growth and poverty reduction. If a country fails to take advantage of them, the fault arguably lies with the governments and other public entities that decide how revenues from mining are used; is there any excuse today for a country to suffer negative macroeconomic consequences?

<sup>3</sup> The operational diagnostic carried out by the independent operations evaluation units of the World Bank Group did not support all the EIR critical findings. Nor did the World Bank’s management response to the EIR endorse the EIR’s stringent emphasis on preconditions. Instead, it emphasised that high environmental, social and governance standards ought to be met and that revenue from extractive projects ought to be used transparently and effectively. Furthermore, it acknowledged that its financial assistance and expertise could help countries improve their compliance with sound governance standards.

# What do we know about resource blessings?

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Economists are always looking for the 'One Big Explanation' that covers all eventualities. But one clear conclusion from the literature is that there is no simple single explanation of what creates a resource 'blessing' rather than a 'curse' for the economy. Nor is there any agreement on any collection of explanations. This implies the need for a case-by-case approach rather than trying to force some sort of generalization.

Another aspect is distinguishing between what stance of macroeconomic policy helped avoid the curse and why that particular policy was followed. Countries that appear to have avoided the curse possessed small groups of highly qualified bureaucrats. Chile had the Chicago Boys (Hojman, 2002), Indonesia the Berkeley Mafia (Booth, 1995) and Malaysia the Backroom Boys (Shamsul, 1997). Botswana had a mixture of expatriates and highly talented black South Africans driven north by apartheid (Modise, 1999; Tsie, 1996). These groups, with their training in economics, were well able to direct macroeconomic policy to produce a blessing.

But why did the various political elites allow these groups to hold sway? We infer that the answer rests with the dynamics behind a country's socio-political institutions and governance structures—and that systematic differences among them provide a crucial part of the explanation for the transmission mechanism from large-scale revenues to 'curse' or 'blessing'. It is not just a question of what the mechanism was. It is also a question of why it was allowed to operate (or not, as the case may be). The lack of clarity on the variations in mechanisms presents a serious challenge. If it is not clear what causes the success (or the problem), effective treatment is likely to prove equally elusive.

## A more dynamic perspective

We know that institutions and governance structures matter, but the common tools of static analysis do not allow us to capture important aspects of how efficient institutions and governance structures emerge in developing countries and are then built over time. So the aim must be to bring a more dynamic perspective into our analysis. This perspective emphasizes the interaction between economic activities and the emergence of effective institutions and governance structures. The process may be iterative – repeated, with greater success at each repetition. Under certain political-economic circumstances private sector activities can be a lever for the creation of more effective governance structures, which in turn may improve private sector coordination and so lead to more sustainable economic growth.

Case studies on resource-rich countries, both for today's industrialized countries and for emerging and developing economies, deliver rich descriptions of how dynamic interactions between different stakeholders in a given institutional and political context have led to more efficient institutions and governance structures. In some of today's developed countries mining and metals activities have featured highly at earlier stages of development and state building (Skrowronek, 1982). Today the more successful of the developing countries which are rich in natural resources point in the same direction (Acemoglu et al., 2003). These processes have not always been frictionless and have sometimes carried high political and social costs. It is very important to learn from these experiences and to allow policy to become more concentrated on reaping the benefits.

The key problem with case studies is that they are 'case-specific'. They thus provide little systematic advice on general lessons and on how to distil from the many variables the ones that may have mattered most. But with a limited number of real-world cases at hand, comparing them systematically is vital to inferring which of the many variables and their (non-linear) combinations matter most for the policy conclusions that are drawn.

## Systematic comparison

The method of systematic comparison has been widely applied in the political economy and governance literature in the context of OECD countries. The general objective of such

'Furthermore, institutions can work in more subtle ways through common knowledge and shared understanding of, say, the private and public spheres.'

comparative political economy is to seek explanations for observed variations in political institutions and policy processes across nation-states (Thelen and Steinmo, 1992; Lichbach and Zuckerman, 1997; Hall and Taylor, 1996; Harris, 2002). Recent advances in comparative political analysis have developed new methods to reduce the high level of complexity that the comparison of a limited number of cases invariably poses, including the development of new analytical software (De Meur et al. forthcoming).

In general, the proponents of these approaches share the institutional economist's basic postulate that institutions are crucial to economic and social policy outcomes. But there are significant conceptual differences. Institutions are not simply constraints to the rational pursuits of agents' preconceived interests. They also provide the context for stakeholders to formulate and define their interests and strategies. So comparative political economy pays close attention to the connections between structural conditions, overarching institutional structures and the activities of multiple stakeholders. It asks how interaction between different variables affects the formation of agents' preferences, interests and strategies.

In essence there are three key aspects:

- First, these connections—initial structures, institutions, stakeholder activities—are dynamic and iterative.
- Second, the interconnectivity can involve various nonexclusive dimensions. For example, institutions can impose sanctions and provide incentives, as conceptualized by institutional

economics. But they can also reflect asymmetries of power and have an impact on individuals' power to influence decisions, providing opportunities for some and constraining others. Furthermore, institutions can work in more subtle ways through common knowledge and shared understanding of, say, the private and public spheres.

- Third, political and social developments are path-dependent and follow trajectories. Pre-existing institutions—good or bad—affect and partly pre-determine institutional change in subsequent periods.

Comparative political economy also emphasizes historical processes rather than equilibria and views institutions in the historical social and political contexts from which they arise (Thelen and Steinmo, 1992). Formulating and implementing public policies thus resembles a multiple player game with multiple iterations and therefore multiple possible outcomes (Hall and Soskice, 2001; Ahrens, 2002).

Hall and Soskice (2001) analyze the institutional differences and similarities among industrialized countries, giving centre stage to how business behaviour and strategic actions are affected by the different institutional governance structures of different countries. They highlight the different roles that business associations and other types of relationships among firms play in the public policy-making process against the background of institutional structures and regulatory regimes that are the usual preserve of nation-states. They find that broad differences in basic coordinating institutions offer firms particular sets of opportunities, which they can use to their advantage. For example, comparative institutional advantages are crucial for explaining why particular industrialized nations tend to specialise in specific technologies and products. So one of the keys to an efficient institutional and governance structure is for policy makers to achieve better forms of coordination among private sector actors.

There are also systematic comparative studies of developing country issues. For example Bratton and Van de Walle (1997) employ this method for their analysis of the democratic experience in Africa. They emphasise the institutional characteristics of preceding political regimes and the patterns of behaviour during transition periods. Houtzager and Moore (2003) have explored a

8 polity-centered approach that focuses on the political capacities of various social and state actors to negotiate large-scale collective solutions. They focus on how the political capabilities of different stakeholders develop over time and how institutions, state actions and other factors influence this development. They highlight various possible strategies to foster improved socio-economic development.

In summary, comparative political economists are rather sceptical of broad generalizations across time and between countries. This scepticism would apply, for example, to the results from cross-national econometric studies. Instead they seek to understand institutional differences as the results of historical choices by specific societies and thus as potentially unique national features. Differences are seen not as deviations from best practice that will dissolve as lagging nations catch up with the front-runner, but as the distillations of more durable historical choices that reflect the architecture of a nation's social cohesion (Hall and Soskice, 2001).

Unfortunately, retrospective analysis of actual outcomes does not necessarily address future policy challenges, so some form of generalization is necessary. The proponents of the systematic comparison have attempted to develop tools to predict policy outcomes and broad conceptual guidelines as the basis for thinking creatively about the formulation and implementation of country-specific reform strategies (Ahrens, 2002; Hall and Soskice, 2001). The current study has used such insights to build an analytical framework for a systematic comparative analysis of mining countries. To give effect to the consensus that differences in outcomes have much to do with governance and institutions, we need an analytical framework that captures in greater depth how governance and institutions interact or might interact with mining activities over time (see Humphreys, 2004). It is not enough merely to assert that improved governance and institutions should be built as a pre-condition for successful mining activity.

'It is not enough merely to assert that improved governance and institutions should be built as a pre-condition for successful mining activity.'

# Building the analytical framework

The framework builds on a slightly extended statement of the (broadly supported) proposition stated earlier:

**Differences in outcomes result from differences in governance, institutions and public policy processes. These elements and the interactions between different stakeholders—including governments, the extractive industries, organized interests of the polity, social groups and international regimes and organizations—determine whether investments in the mining industry render higher or lower socio-economic returns.**

We assume that there are some identifiable common features of governance structures and institutions across well performing mining countries, that enhance the performance of their markets and foster sustainable private sector activities. Conversely, these features are missing in countries where the resource curse has been a major problem. These common features of structures and institutions can be argued to have made some countries more effective in avoiding a negative resource impact than comparator countries where the governance and institutional development is weaker. (Note that the common features are emphasized and not the institutions themselves).

A first conclusion for the mining industry readily follows from this: Corporate responsibility initiatives are important and necessary. But they are not sufficient to ensure that natural resource exploitation results in economic growth and broad-based socio-economic improvements. Even if multilateral organizations and the companies lay down strict standards, natural resource exploitation may still deliver disappointing outcomes if weak governance, insufficient capacity and fragile institutions cannot also be changed and improved. Good investments embedded in an environment of weak governance and institutions may fail to spread their benefits to the country as a whole.

‘A first conclusion for the mining industry readily follows from this: Corporate responsibility initiatives are important and necessary.’

‘Governance’ describes the capacity (or efficiency) of a country’s formal and informal institutions to design, implement and enforce public policies that benefit the wider public and improve the effectiveness of the private sector. This still leaves open the question of how to assess ‘capacity’ and ‘efficiency’, so we turn to that next.

# What makes for efficient governance structures?

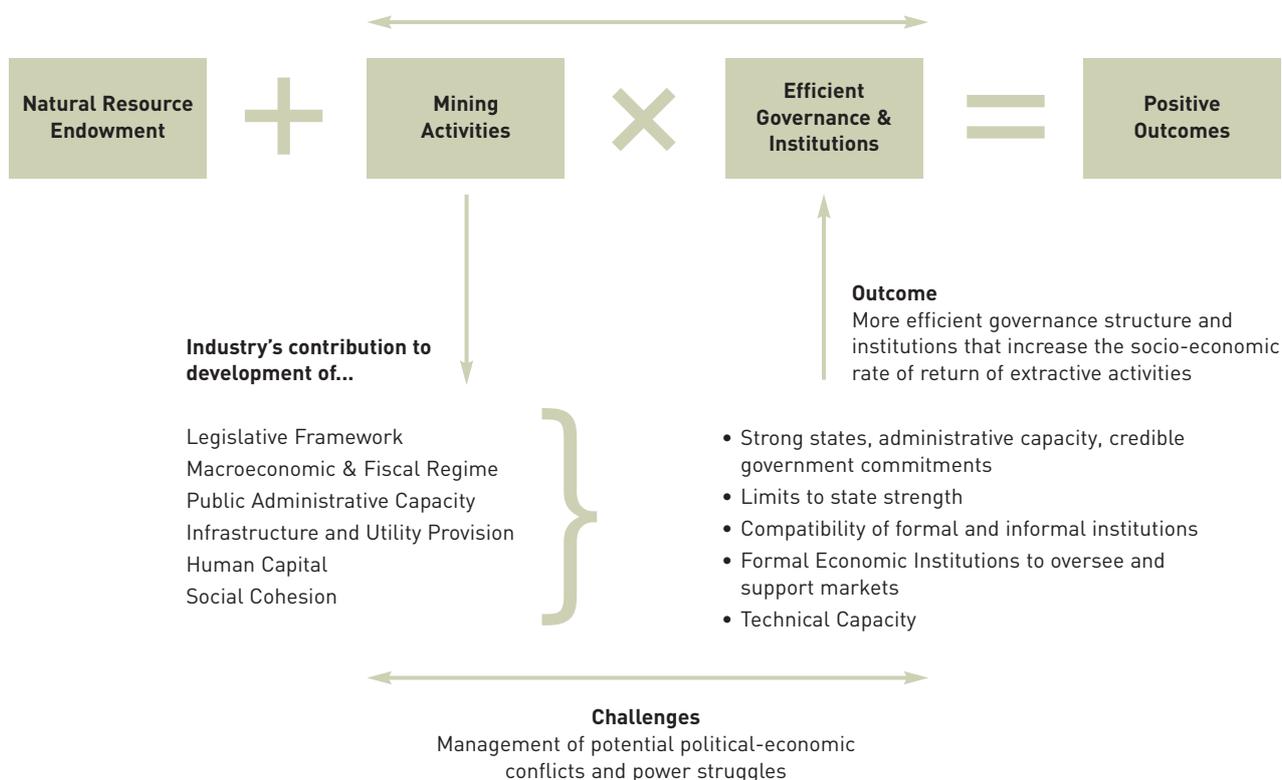
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Many researchers—including some, such as the World Bank, with an explicit policy interest—have put significant effort into searching for coherent and historically defensible explanations of the differences in socio-economic outcomes between successful and less successful developing countries. Our analytical framework draws from this large accumulated body of research. We do not have to reinvent the wheel to hypothesize what makes for efficient governance structures (Ahrens, 2002).

There are five common features of efficient governance (see list on the right hand side of Figure 1).

‘Where governance structures, processes and institutions are efficient, they enhance the direct and indirect effects of mining projects.’

Figure 1: What Makes for Effective Governance



These five high level conditions for effective governance need to emerge from some processes and sets of actions, and the list on the left side of Figure 1 identifies some of the key areas that the literature normally associates with those processes and actions. The arrows in the figure indicate the potentially rich interactive relationship between a major mining investment in a country and the performance of the governance system. These relationships are exemplified by the following questions:

- Is the legal and regulatory framework conducive to long-term investments, and how is it influenced by the presence of mining activity?
- Does government have the capacity to formulate and implement macroeconomic, fiscal, social and industrial policies that are conducive to private sector development—both in the mining sector and in other main economic sectors—and that do not fundamentally threaten social cohesion and long-term effective development?
- How are crucial production inputs such as roads, ports and electricity affected by prevailing governance arrangements, and how does mining activity affect them?
- How is the economy's ability to accumulate human capital affected?
- Does the society and its government have the institutional and political capacity to cope with and adapt to external shocks to the mining and other economic sectors in ways that preserve rather than damage social cohesion?

Two main working hypotheses have been used in developing this framework as a tool for the Phase 2 case studies: First, where governance structures, processes and institutions are efficient (as defined in the five high-level dimensions listed above), they enhance the direct and indirect effects of mining projects. But mining projects themselves have the potential to affect efficiency (positively or negatively) in some dimensions of governance, as shown in the left hand list of Figure 1. Second, where governance structures, processes and institutions are less efficient, or efficiency is deteriorating, they can undermine the direct and indirect effects of mining projects—or cause these effects to be negative.

In short 'good governance' in all the main dimensions listed in Figure 1 will invariably enhance the direct effects of mining investments. In contrast, when there are weaknesses or gaps in the structure of governance, large-scale mining investments can still be a catalyst that helps to fill the gaps—again, the results should be positive. But we cannot rule out a third possibility: that there are cases of weak governance where mining projects may fail to create broader based economic and social benefits and where existing weaknesses may be compounded by mining activity.

Good institutional capacity is required not only for the effective implementation of macroeconomic policies that can prevent the potential negative impacts of resource extraction, but also to implement other public policies that can increase the social rate of return from economic investments more broadly. Poor (or deteriorating) efficiency in governance structures and incompatibility between formal and informal institutions can, by contrast, undermine the capacity to implement sound macroeconomic policies. Such inefficiency and incapacity can also nurture the pursuit of short-term gains by those who hold political and economic power, jeopardizing rates of return and long-term socio-economic improvements.

# Countries for further study

**12** The project has identified 33 mining-dependent countries as potential candidates for further study using the ratio of exports of minerals and ores to total exports from 1965 to 2003. This list is significantly longer than that in many earlier studies and provides a good sampling frame for the case studies.

## Mineral countries for further study

Bolivia  
Botswana  
Central African Republic  
Chile  
Colombia  
Democratic Republic of Congo (DRC)  
Gabon  
Ghana  
Guinea  
Guyana  
Jamaica  
Jordan  
Liberia  
Malaysia  
Mali  
Mauritania  
Mexico  
Morocco  
Mozambique  
Namibia  
Niger  
Papua New Guinea (PNG)  
Peru  
Philippines  
Senegal  
Sierra Leone  
South Africa  
Suriname  
Tanzania  
Togo  
Tunisia  
Zambia  
Zimbabwe

Also suggested are 12 socio-economic indicators that might be used to assess any economy's economic and social performance. They include GDP growth, the growth of non-mineral GDP, child

mortality rates, the UN Human Development Index and two Millennium Development Goals: the population below the minimum level of dietary consumption and the rural population with access to improved drinking water. The performance of the 33 mining countries for these six variables was compared against all relevant peer group countries in two categories of (i) regional and (ii) income group. There is no suggestion that this list of indicators is exhaustive—it would be easy to extend it by, say, including more of the Millennium Development Goals. But it does represent a more extensive basis for assessing 'success' than has been used in many studies that have focused narrowly on GDP growth as the basis for assessing success. The list also embraces many of the issues that need to be examined when considering that proposition. For example, the growth of non-mining tradable GDP reveals how mining countries have succeeded (or not) in using their mining activity to stimulate more diversification of economic activity over time.

For many of the 33 countries, there is considerable ambiguity about whether they are 'successful' in socio-economic terms. Botswana is a leading example: it has a good growth record but is weak in many social areas. Judgements hinge significantly on the weights attached to particular indicators—a problem that intensifies as the list of indicators expands. Even so, a significant proportion of the sample of 33 countries can be judged 'successful' on the basis of the 12 indicators, at least over the period from 1980 to 2003. At the same time the outcomes for about 15 countries in that same period have been very poor by any reasonable standards.

The distinction between 'better' and 'poorer' performing countries is then used to investigate the usefulness of two conventional explanations of socio-economic performance: the quality of *governance* and the quality of *macroeconomic management*. Both of these concepts, if looked at (and where possible, measured) *ex post*, correlate reasonably well with the differences in outcomes that we observe. But the nature of the relationship is imprecise. Some countries with relatively poor governance scores have performed well while others with weaker socio-economic performance have better governance scores. Macroeconomic management depends on the quality of governance and is not a fully independent explanation of success and failure.

The range of outcomes for mining countries from this initial screening of the data provides a solid platform for deciding which countries to study in greater depth. It confirms too that the detailed study requires a more substantial analytical basis than that which can be derived from the relatively conventional (but largely proximate) explanations based on easily compared aggregate indicators.

There is no obvious mechanical formula to assure the broad-based success of mineral investment in *all* cases. To devise workable remedies requires not merely a narrow technical response (a better law on contract, a better formula for calculating royalties or cosmetic compliance with IMF conditionality). It also requires a much closer look at what really drives *de facto* policy reforms and institutional change and how new stakeholders can influence such processes positively. Equally important is an understanding of the key changes needed in different countries.

The list of countries that could be studied remains long. Given that we can already benefit from recently completed case studies of Botswana and Namibia, there is merit in selecting 'successful' countries that diverge in some significant particulars from these two. So the possible short list for further consideration comes down to the following countries:

#### **Better performing countries** (not covered by the World Bank studies)

Chile  
Ghana  
Malaysia  
Mexico  
Tunisia

#### **Generally better performing countries** (not covered by the World Bank studies)

Colombia  
Guinea  
Jamaica  
Morocco  
Mozambique  
Senegal

'The poor performance of some mining countries in the past two decades suggests that some development actors need to do things differently and to do different things if real social benefits are to be realized.'

In sum: the evidence from the historical reviews considered only very briefly in this summary shows that the mining industry has come a long way in facing up to its broader social responsibilities in host countries. But the poor performance of some mining countries in the past two decades suggests that some development actors need to do things differently and to do different things if real social benefits are to be realized. It is hoped that the framework of ideas presented in the Analytical Framework (summarized here) will offer useful avenues for further research, for policy makers to confront the challenge—and for new forms of partnerships among the private, public and voluntary agencies that share the responsibility for sustainable development in mineral countries.

#### **Note from the Editor**

The Analytical Framework draft report and the draft Toolkit were discussed at a multi-stakeholder workshop held in London, November 29–30, 2004. Workshop participants provided guidance on the methodology, endorsed Ghana and Chile and proposed Peru as countries to be selected for further study. Subsequently ICMM selected Tanzania as a comparator to Ghana given the commonality of its political and administrative structures and the availability of a candidate project.

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