Is Africa’s “great boom” sustainable?

Growth, prices and the resources rent between 1970 and 2010

March 2013
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Credits and data sources

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Anton Mauve, Managing Director, West African Minerals Corp.
Key points

- Africa’s economy has outperformed most global regions over the past decade, raising the prospects and attractiveness of the once “lost continent”. Key to the future is its ability to sustain growth at over 4 percent per year over the long term. Sustained growth is the condition for development, social upliftment and stability.

- The make-up of the region’s growth performance is the key to such growth: as evidence shows a determinant role for commodities and China in that performance, and as the commodity super-cycle appears to have ended, the resiliency of Africa’s economic achievements is an urgent question attention. Africa cannot afford the growth collapses and economic misfortune of pre-2000 decades.

- Eunomix has conducted a comprehensive analysis of the role of mineral resources (mining and oil & gas) in Africa’s economic growth between 1970 and 2010. Based on World Bank data, it tracks the relationship between economic growth, the resource rent and commodity prices.

- The analysis conclusively shows that Africa is more dependent on natural resources than at any point in the past 40 years, and that key sectors like agriculture and industry have lost out to this “resource bias”. Naturally, this is particularly the case for resource-rich countries, which have a larger share of the region’s economy than ever.

- Africa’s growth pattern is unlike that of the fast growing countries of Asia and Latin America, where manufacturing played a crucial part. The region’s growth model favours resources and services. This is unlikely to resolve chronic un- and under-employment – a cause of continuing poverty and instability. It is likewise unlikely to generate a large middle class.

- The analysis also shows that Africa’s post-2000 “great boom” was rooted in the private sector-friendly policies implemented in the 1990s. Current policies intended to capture a greater share of the resource rent through increased state intervention run the risk of bringing back the resource sterilisation of the 1970s. As then, these policies are coming post-super-cycle, and are as likely to produce the opposite of their intended effects. This risk is already becoming evident in many countries facing disinvestment, notably in mining.

- Given this, government priority should urgently shift on minimising the negative impact of greater market volatility and uncertainty. Governments should seek to protect rent generation first, because a dwindling rent hurts government revenues, decreases employment and slows growth. Secondly, governments should deploy measures that ensure that the rent is more fairly and transparently allocated throughout society. Critically, governments should urgently undertake policies that effect economic diversification toward balanced and sustainable economic growth and opportunity for all.

- Failing this is likely to undermine the great achievements of the past decade.
Executive summary

The question – is Africa’s new growth performance resilient?

Objectives of analysis

- Africa’s recent economic performance has attracted much attention. It has led to bullish views on the continent’s prospects, with talks of a transition from frontier to emerging markets for some of its countries, and from “no-go” to frontier for others. The consensus is that Africa has left behind its “lost decades”, and with them declining real income and poor social and political conditions.

- The purpose of the analysis is to provide an insight into the nature of Africa’s growth in order to better understand its resiliency. Of particular concern is the relationship between growth and natural resources, given their centrality in the region’s fortunes and past economic growth bursts and collapses. The analysis therefore centers on measuring and assessing the relationship between the resource rent and growth.

- This is key to understanding the region’s growth outlook. It is also key to understanding mineral policy, past and future.

- The analysis is based on a comprehensive treatment of World Bank data (mineral, coal and oil & gas rent as a share of GDP; GDP growth; GDP in real terms at 2000 prices; commodity prices at 2000 prices; share of manufacturing and agriculture in GDP; etc.). All tables, graphs and calculations referenced here are based on this data.

Africa growing

- Africa’s growth performance has significantly improved, from 2 percent on average in the 1980s and 1990s to over 4.5 percent in the 2000s, faster than the world economy.

- In 2010 the Congo, Zimbabwe, Ethiopia, Liberia and Chad were part of that exclusive Top 20 club, each growing over 8 percent.

- Sustained growth is the condition for economic development, social upliftment and political stability. Conversely, highly variable economic growth, with booms and busts, undermines progress.

- The key challenge facing the region is whether it can sustain sufficient growth over the current decade and beyond.

Sustaining growth

- High growth in Africa is not new: African countries have flirted with high growth – sometimes dizzyingly high – for over 40 years. In fact, it has been a regular feature of the region’s economy for decades.

- But Africa’s growth performance has been inconsistent and greatly cyclical, with the region experiencing periods of high growth followed by periods of declines. There have been booms, and there have been busts, with great regularity.

- Is this different this time? To some extent, yes, with growth being higher than before, less volatile, and higher than world averages.

- There is ample evidence of the growing role of China in Africa’s performance. From circa 1997 there is an unmistakable convergence of growth trajectories between them.

- This new dependence on China signifies that the region remains exposed to external shocks, because it remains geared toward exports of unprocessed commodities; principally minerals & metals, oil, and increasingly gas and coal.

- Africa’s growth appears to have remained stubbornly resource-based. This is a tremendous source of risk. The 2009 growth collapse is testimony to this. It should stand as a warning.

The analysis: a growing resource bias

Nota: the report contains three detailed analyses, whose main conclusions are included in this executive summary. Please refer to the following sections for a full account:

- Section 2: Analytic perspective 1 – growth, prices and the rent
- Section 3: Analytic perspective 2 – the lower economic productivity of mining
- Section 4: Analytic perspective 3 – rent mismanagement in the 1970s and 1980s (with case studies on Zambia, the Democratic Republic of Congo and South Africa)

The resource-rich countries in Africa’s growth

- Over the past four decades the economic weight of resource-rich countries significantly increased relative to that of the non-resource-rich countries of Africa. Restricting the selection criteria to 5 percent of GDP as the resource-rich threshold shows the steady growth in the number of in such countries over the period, from
five in 1970 to 17 in 2010. The data excludes South Africa, because of its large economic weight:

- In 1970, only five countries qualified as resource rent countries. Their combined GDP was only USD 11.2 billion (constant 2000), or 7 percent of Africa’s GDP. Their combined annual growth that year was 4 percent to the region’s 7.8 percent.
- In 2010 17 countries qualified as resource-rich (excluding South Africa, whose GDP dwarfed the rest, at USD 187 billion). Their combined GDP for 2010 was about USD 230 billion, and represented a very significant 42 percent of Africa’s total GDP of USD 550 billion. Their combined annual growth was 6.2 percent to the region’s 5.

**Prices, the rent and growth – the mechanics**

- Analysis of the relationship between prices, the mineral and oil rent and growth between 1970 and 2010 confirms the overall correlation between Africa’s growth performance and its natural resources.
- The relationship is not straightforward, however:
  - At times, natural resources played a significant role in generating high rents and high growth. This was particularly the case when, unsurprisingly, prices were high.
  - Conversely, Africa’s growth performance and resource rent were at their worst when natural resources prices were low.
  - The mineral rent was never very high, and much lower than often thought. At less than 5 percent for the entire period of analysis, it disqualifies the notion that Africa as a whole is a mineral economy. Some African countries have mineral economies.
  - The same, however, is not true of oil, which from 1971 has played a determinant role in generating the region’s large natural resource rent. For oil countries the rent and economic growth have been much higher than mineral countries’.
  - Before 2000, growth was highly volatile and inconsistent. The post-2000 period broke that growth model in that it brought high growth and trend-breaking consistency. This corresponded to fast growing natural resource prices over an unprecedented length of time.

- The analysis confirmed the overall correlation between Africa’s growth performance and its natural resources, though the relationship was not straightforward and varied significantly over the period:
  - At times, natural resources played a significant role in generating high rents and high growth. This was particularly the case when, unsurprisingly, prices were high.
  - Conversely, Africa’s growth performance and resource rent were at their worst when natural resources prices were low.
  - The mineral rent was never very high, and much lower than generally proclaimed. At less than 5 percent for the entire period of analysis, it disqualifies the notion that Africa as a whole is a mineral economy. Some African countries are mineral economies, and the number of such countries is closely related to prices.
  - The same, however, is not true of oil, which from 1971 has played a determinant role in generating the region’s large natural resource rent. Obviously, only some African countries have been oil economies. For these, both the rent and economic growth have been much higher than mineral countries’.
  - Before 2000, growth was highly volatile and inconsistent. The post-2000 period broke that growth model in that it brought high growth and trend-breaking consistency. This corresponded to fast growing natural resource prices over an unprecedented length of time.

On this basis, it is possible to propose the following axiom of the natural resource rent in Africa:

**Prices have a direct impact on the rent, whose direction has an impact on growth. Stated differently, the rent acts as the conduct between natural resources prices and economic growth – all other things being equal.**

**The conclusion – learning from the past, better managing the future**

**The resource rent is pulling growth**

- The commodity super-cycle that started circa 2000 greatly contributed to pulling Africa out of the hard decades of low aggregate and highly volatile growth. Oil played the leading role in this.
It would thus be irresponsible to lament the effect of the super-cycle and conclude that Africa has been victim of the resource curse. There is no questioning the bonanza that has benefited the region.

If resource curse there was, it was during the long commodity bear of the 1980s and 1990s, which corresponded to Africa’s lost decades. Low prices took an enormous toll on demand, and the rent was correspondingly low. Growth was thus lower, and this cascaded through the region’s economic, social and political landscape.

Yet, it is disturbing that the region’s economic dependency on resources for its growth and economic welfare has increased. Indeed, while Africa’s growth performance since 2000 has been impressive, it has been driven by the same resource paradigm that was in place after independence.

This is made evident by the fact that the shares of agriculture and manufacturing in the region’s GDP have been in continuous decline since 1970: of agriculture has gone from 19.7 percent in 1970 to 11.2 percent in 2010; manufacturing has gone from 18 percent to 12.5 percent.

Not following the established path to emerging market status

Africa’s growth trajectory thus appears qualitatively different from that of the Asian emerging markets it is now being compared to.

Asia’s fast growth since the 1950s occurred through industrialisation, at first in the production of cheap, labour intensive export manufactures, and then through increasingly sophisticated, high productivity, products and processes.

The same process has been responsible for the rise of Latin American countries like Brazil and Mexico.

In the case of Africa, there is no evidence of meaningful industrialisation.

To the contrary, and worryingly, Africa is not experiencing sufficient growth in industrial and agricultural activities at a time when both sectors should be growing in order to lower the dependency on the natural resource rent and ensure a more sustainable economic path.

Africa’s growth has been unbalanced and hollow.

The cost of mismanaging the rent – Africa’s mineral policy in the 1970s and 1980s

Following the commodity boom of the 1960s, most African governments took steps to increase government intervention in the sector— including through expropriation and nationalisation of mining companies and ore bodies.

This led to significant production declines throughout the 1970s, 1980s and 1990s. The rent followed suit, naturally. The wealth generated by mineral production decreased well below the performance of prices.

The decline in the mineral rent had a significant knock-on effect on growth and standards of living. GDP growth averaged 2 percent in the two “lost decades”, and because of rapid population growth, per capita income declined dramatically.

For resource-rich countries, the link between economic crisis and the poor performance of the resource sector was particularly pronounced. The cases of the Democratic Republic of the Congo and Zambia are demonstrative of this (read case studies in report).

Africa also missed opportunities to better exploit its mineral rent in 1980s and 1990s. Though commodity prices were lower than in the previous decade, the policy choices made in the 1970s meant that the region could not maximise its rent opportunities.

Poor policy choices therefore gravely exaggerated the impact of the commodity bust by effectively sterilising a large part of the natural resource endowment. This sterilisation was thus only partially the product of market forces.

The economic opportunity cost of poor policy was extremely high.

Privatisation and liberalisation – in time to catch the China wave

From the late 1980s or so, under tremendous fiscal and economic pressure, governments embarked on the privatisation and liberalisation of the sector, which appear to begin producing meaningful benefits only from the onset of the 2000s commodity “super-cycle”.

The upside was spectacular, yielding higher growth than ever achieved but also long lasting and less volatile – the foundation for significant gains in welfare, and more sustainable economic progress.

But this coincidence of spectacularly rising prices and a more benign policy environment was fortuitous, corresponding to the rapidly growing demand fuelled China’s extraordinary economic expansion.
Africa’s resource-rich countries struck luck, even those affected by conflict or economic mismanagement – like Zimbabwe, whose mineral rent grew significantly, though less than better managed countries.

The secular rent cycle perspective – a call for prudential management

Since 2000 the rent has grown, so has the confidence of governments in Africa and elsewhere that the balance in the dynamic relationship between the players has shifted their way. A 20 year analysis – say since 1990 – certainly supports that contention.

A 40 year analysis, however, raises the prospect that governments may be over-optimistic and that they have also over-acted.

While it is true that the China factor represents a historical first, there is no certainty that the demand expansion of the past decade represents the new normal and is not, in fact, a historical anomaly.

If it represents the new normal, prices will remain higher than historical averages. Governments may then ride the commodities wave with fair confidence that their resources will remain in demand, and that their interventionist stances will bring them happy returns. These returns will however depend on how interventionist they are. In such a bull environment, the goal of policy should be to balance rent appropriation so that investment and production are secured while fiscal capacity is increased and non-mineral economic diversification occurs.

If on the other hand the past ten years or so represent a historically unique moment, Chinese demand will decrease – perhaps substantially. In that case, prices will decline closer to historical averages. Governments will have to rapidly shift from their current policies of greater rent capture toward fostering private investment as the mining industry shifts its focus from expansion and resource creation towards consolidation and profitability. Failure to do so will result in marked disinvestment and resource sterilisation. Even without nationalisation.

The key question confronting governments now is what demand and price conditions they are likely to face in the coming years. The evidence is ambivalent:

- Demand and prices recovered spectacularly in 2010, fuelling the confidence of governments and the industry that the 2009 crisis was but a bump on the road to prosperity. Mining investment in frontier markets throughout Africa increased.

- In the second quarter of 2012, Chinese demand sagged and prices declined significantly. During the boom, input costs were allowed to increase well above inflation. This twin dynamics led to a drastic revision of the ambitions of mining companies, with a large number of projects postponed or cancelled, and consolidation becoming priority. The tolerance for economic, infrastructure, policy and political risks found in frontier countries decreased markedly.

- Which scenario – bear, bull or bear-bull (a market characterised by rapidly shifting demand and prices making returns unpredictable) – turns out to be will have a determinant bearing on the direction of policy.

- The evidence so far points toward the bear-bull scenario: prices remaining above historical averages, but with profitability constrained by rising costs and policy uncertainty.

- There is much reason to be concerned that the mineral rent is at the beginning of a down-cycle.

- Policy needs to change and adapt to this new reality.

- However, experience shows that governments do not react rapidly enough to secular changes in the market, and perforce act in a counter-cyclical fashion that exaggerates the negative impact of declining prices and insufficiently capture the positive impact of increasing prices.

- Figure 39 below illustrates the mineral rent cycle of the last 50 years, and demonstrates this repeated counter-cyclicality, expressed by:

  - The application of interventionist rent-capturing policies at or near the peak of commodity and rent booms that are too late to achieve their state policy goals, and generally foster the opposite outcomes because they lead to cost increases, lower margins and investment climate uncertainty.

  - The maintenance of these counter-cyclical policies well beyond economic reason, allowing them to effect sustained rent destruction, with their attendant negative economic and social consequences.

  - The reversal to pro-cyclical policies long after such reversal was required, with potentially significant opportunity cost in investment, production and rent forgone.
The 50 year mineral rent cycle and the impact of counter-cyclical policy intervention in Africa

Implications for sustainable growth and development

- The secular outlook on 40 years of mineral rent, prices and economic growth in Africa provides a unique perspective on the role and impact of policy in securing sustainable outcomes for all parties to the mineral economy.

- Two overriding lessons stand out:
  - Government policies intended to better capture the mineral rent through interventionist policies that expanded the role of the state almost systematically failed to achieve their stated objectives. Worse still, these policies produced the opposite outcome, decreasing the rent well beyond the impact that lower prices would have had, and failing to capture the upside of prices when these rose. Conversely, decreasing direct intervention demonstrably benefited rent formation, notably from 2000 onward, and had a positive impact on economic growth and microeconomic performance.
  - Africa has clearly not escaped the resource trap, one characterised by dependency on commodities, at the expense of the rest of the productive sector. This ensures that the region remains highly vulnerable to growth collapses which could undermine the gains of the past decade. Continued dependency on the mineral rent leads to unsustainable currency appreciation, which takes a toll at the rest of the economy and fosters consumption rather than diversification and sustainable economic growth. It also feeds a political economic structure which discourages productive investment outside the non-rent sector and encourages rent-seeking, predatory, behaviours.

- Given this:
  - As it appears likely that the commodity super-cycle of the 2000s has come to end, short-term government priority should now shift on minimising the negative impact of greater market volatility and uncertainty. Governments should seek to protect rent generation first, because a dwindling rent hurts government revenues, decreases employment and slows growth. In a declining investment context that means taking pro-investment measures. Adequate return on investment for the providers of capital – and thus investment risk – needs to be sufficient to maintain rent generation. Interventionist policies seeking to compensate for lower investment must be resisted.
  - At the same time, measures must be deployed toward the medium-term that ensure that the rent is fairly and transparently allocated. It is incumbent upon governments to effectively attribute this income through a fair and transparent budgetary process. Governments should not escape the increasingly high standards expected of the industry.
  - Critically, governments must deploy their share of the rent toward effective diversification in the medium- to long-term. Here, priority should be given to mechanisms and policies that effectively support meaningful improvements in investment climate reform, non-mineral sectoral developments, and cost-competitiveness policies.
  - Considering governments’ poor record at deploying the right rent capturing policies at the right time and response to changing market – and thus investment – conditions timeously, a policy mechanism needs to be developed and implemented that has in-built reactivity and responsiveness. This mechanism should be founded on established best practices in ownership, licensing, taxation and revenue allocation, and ensures automaticity, transparency and progressivity.
1. The question – is Africa’s new growth performance resilient?

1.1. Objectives of analysis

Africa’s recent economic performance has attracted much attention. It has led to bullish views on the continent’s prospects, with talks of a transition from frontier to emerging markets for some of its countries, and from “no-go” to frontier for others. The consensus is that Africa has left behind its “lost decades”, and with them declining real income and poor social and political conditions.

The purpose of the analysis is to provide an insight into the nature of Africa’s growth in order to better understand its resiliency. Of particular concern is the relationship between growth and natural resources, given their centrality in the region’s fortunes and past economic growth bursts and collapses. The analysis therefore centers on measuring and assessing the relationship between the resource rent and growth.

This is key to understanding the region’s growth outlook. It is also key to understanding mineral policy, past and future.

The analysis is based on a comprehensive treatment of World Bank data (mineral, coal and oil & gas rent as a share of GDP; GDP growth; GDP in real terms at 2000 prices; commodity prices at 2000 prices; share of manufacturing and agriculture in GDP; etc.). All tables, graphs and calculations referenced here are based on this data.

1.2. The resource rent defined

There has been much talk of the natural resource rent over the past few years, and notably since Australia introduced its Resource Rent Tax after a long political battle between government and the mining industry.

The resource rent is “the difference between the value of production for a stock of [resources] at world prices and their total costs of production” (World Bank Economic Monitor). These costs include the cost of capital, equipment, labour, energy, licenses and so on. The rent includes taxes and royalties that will eventually be received by the state. The resource rent is measured as a share of GDP and in US Dollar value.

The rent must not be mistaken for sectoral rent. Rent is the difference between the value of all outputs and the cost of all intermediate goods and services purchased to produce those outputs. Economic rent therefore encompasses the rent and wages.

It is generally considered that the resource rent is high when it accounts for at least 5 percent of GDP. This is an incomplete measure. In large economies, the rent may be lower than 5 percent, but represent a large absolute value.

As a rule, the greater the rent from the exploitation of natural resources, the greater the rent. The greater the rent, the greater the debates and political battles over how to share it.

Natural resource policy is about maximising the rent in a sustainable fashion by ensuring that it does not deplete faster than new resources are created (through investment) and leveraging the rent toward sustainable economic outcomes (through economic diversification, management of Dutch disease, broadly fair distributional outcomes, etc.).

1.3. Africa growing

Economic growth figures support the newfound optimism about Africa’s performance and outlook: from a mere 2 percent on average in the 1980s and 1990s (in real terms, 2000 US dollars), Sub-Saharan Africa’s (“SSA”, “Africa”) growth rose to 4.6 percent in the 2000s. For the first time since decolonisation the region has grown faster than the world economy.

Among the top global performers many have been African. In 2010 the Congo, Zimbabwe, Ethiopia, Liberia and Chad were part of that exclusive “Top 20 Club,” each growing over 8 percent. In 2011 only Liberia, Eritrea, Zimbabwe and Ghana achieved this. Interestingly, in 2009, at the worst of the financial crisis, there were seven SSA countries in the Top 20.

The experience of the industrialising countries of Asia – and more recently of Latin America – shows that meaningful economic and social progress only occurs through growth at over 5 percent per annum for at least two decades. Economic growth becomes transformative through its compound effect, just like interest rates on an investment.

Sustained growth is the condition for economic development, social upliftment and political stability. Conversely, growth booms and busts undermine progress.

1.4. A newfound resilience?

Africa’s new growth performance is too recent to have had the deep transformative impact seen in established emerging markets, though its positive effects are undeniable: standards of living are improving; the continent is attracting more investment, in new sectors. He kind of goodwill which up to recently had entirely escaped the continent.

The key challenge facing the region is whether it can sustain sufficient growth over the current decade and beyond. In 2009 growth slumped to barely over 2 percent, down from 5 percent in 2008 and 6.5 percent in 2007. Yet growth recovered swiftly to around 5 percent in 2010, to slow to 4.1 percent in 2011. The IMF forecasts it will be 5.7 percent for 2012. The Economist, who famously branded the continent hopeless in 2000, forecasts that Africa will grow faster than Asia in 2011-2015. This would be an extraordinary achievement, and would contribute toward consolidating growth in the manner needed for meaningful socioeconomic transformation and greater political stability.
The 2009 growth collapse and the ensuing quick recovery highlighted the region’s continuing dependency on export markets for its primary resources (mainly oil and minerals). Reliance on commodities is a known source of economic risk, as it provides little buffer against adverse international economic conditions. And with economic risk comes political risk.

The region experienced high growth in the 1960s and early 1970s but could not sustain it. Then as now there was much optimism about Africa.

Africa’s growth resiliency is undoubtedly the paramount economic and political challenge it faces. It is critical to all parties: government, businesses, labour and society.

1.5. **Africa is not new to high growth**

The number of African countries that make it in the exclusive club of top growing economies – and their growth rates – has been used as one of the surest proofs that the region’s economic fortune has changed. On the face of it, this should be convincing enough.

Yet, a look back at the last four decades shows that high growth in Africa is not new. In fact, it has been a regular feature of the region’s economy for decades: in 2000, nine countries belonged to the Top 20 Club, four of them growing at over 20 percent – including a staggering 62 percent GDP explosion for Equatorial Guine. In 1995, six countries were in the Top 20. In 1985, eight countries were in the club, and in 1980 six. In 1975, there were ten, including top World performer Somalia, whose GDP grew 30 percent.

African countries have flirted with high growth – at times dizzyingly – for over 40 years.

High growth is not the same as sustained growth, and using it as proof of Africa’s new fortune is misguided. What matters is sustained growth at over 4 percent.

In this, Africa’s growth performance has been inconsistent and greatly cyclical, with the region experiencing periods of high growth followed by periods of declines. There have been booms, and there have been busts, with great regularity.

This is amply supported by data.

Over the 1970-2010 period surveyed in this analysis the standard deviation for growth was 2.1. Over the same period it was 1.4 for the World.

Figure 1 tracks Africa and World growth during 1970-2010, and shows this great cyclical and the pronounced nature of the region’s ups and downs. Comparison of the red (Africa) and blue (World) trendlines make this cyclical evident.

Figure 1: Africa and World growth compared between 1970 and 2010

Figure 2 illustrates the cyclicality even more clearly, and highlights the staggering volatility of growth in Africa. It measures the year-on-year variation in growth in percentage. Growth was extremely volatile between 1970 and 1995, with annual deviation of over 200 percent being commonplace, and with occurrences of deviation greater than 400 percent. Volatility decreasing considerably after 1995, to the exception of the 2008-2009 recession and the ensuing rapid recovery.

Figure 2: Africa’s growth year-on-year variability between 1970 and 2010

Africa’s inconsistent growth record has led to lower average growth over the entire period, and particularly between 1970 and 2000. Average annual growth then stood at a meagre 2.8 percent, lower than that of the world’s other great developing regions. Indeed, East Asia/Pacific registered average annual growth of 4.2 percent, the Middle East/North Africa of 5 percent, Latin America/Caribbean of 3.5 percent, South Asia of 4.6 percent, and the World of 3.3 percent.

Between 1970 and 2010 Africa’s GDP multiplied only 3.5 times in real terms (more if inflation is included). That of Latin America/Caribbean grew 3.7 times; East Asia/Pacific’s grew 5.1 times, and the Middle East/North Africa’s 6.1 times.

In the face of sustained population growth it is no surprise that real per capita incomes stagnated or declined – for some countries catastrophically.
1.6. Evidence of the 2000 growth turnaround

The dramatic cyclicity of Africa’s growth was an evident feature of the region’s economic performance between 1970 and 2000, and particularly up to 1995. The year 2000 signalled a remarkable break with the past: for nine consecutive years economic growth stood at over 3 percent. While growth collapsed in 2008 and 2009 it swiftly recovered in 2010. Two features of the post-2010 period stand out:

1. For five consecutive years growth was at or above 5 percent.
2. Since 2001 the region’s growth has been faster than World growth every single year, including during the 2008-2009 recession.

These features confirm the remarkable change in the region’s economic fortune, particularly when contrasted with the previous 30 years.

Between 2000 and 2010 the standard deviation for growth dropped to 1.4 (against 2.1 in 1970-2000) while it increased for the World (to 1.9 against 1.4 in 1970-2000), demonstrating a greater growth stability in Africa. Figure 2 makes this graphically patent.

The region’s growth was greater than that of Latin America/Caribbean, East Asia/Pacific, the Middle East/North Africa, and the World. Only South Asia grew faster (Table 1).

Table 1: GDP growth for Africa and other developing regions, 1970-2010

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</thead>
<tbody>
<tr>
<td>Africa</td>
<td>2.8</td>
<td>4.7</td>
</tr>
<tr>
<td>East Asia/Pacific</td>
<td>4.2</td>
<td>3.7</td>
</tr>
<tr>
<td>South Asia</td>
<td>4.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Latin America/Caribbean</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Middle East/North Africa</td>
<td>5.5</td>
<td>4.4</td>
</tr>
<tr>
<td>World</td>
<td>3.3</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Undoubtedly therefore Africa’s growth path has significantly improved, and appears to have broken the damaging cycle of booms and busts of the long and painful decades spanning 1970 to 2000.

1.7. The China factor and the tenacity of natural resources in Africa’s growth

The 2008-2009 growth collapse was short-lasting and, while pronounced through a drop of 4.4 points, was less so than for the World. Only the Middle East/North Africa and South Asia experienced smaller growth collapses. Latin America/Caribbean’s was much more pronounced (Table 3).

Though pronounced, the recession lasted only two years as GDP growth recovered in 2010. Africa added three GDP points between 2009 and 2010, faring significantly better than East Asia/Pacific, and slightly better than South Asia.

Table 3: the 2007-2009 growth collapse and the 2009-2010 recovery

<table>
<thead>
<tr>
<th>Region</th>
<th>2007-2009</th>
<th>2009-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>4.4</td>
<td>3.3</td>
</tr>
<tr>
<td>East Asia/Pacific</td>
<td>6.1</td>
<td>1.2</td>
</tr>
<tr>
<td>South Asia</td>
<td>1.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Latin America/Caribbean</td>
<td>7.3</td>
<td>7.0</td>
</tr>
<tr>
<td>Middle East/North Africa</td>
<td>3.5</td>
<td>7.7</td>
</tr>
<tr>
<td>World</td>
<td>6.2</td>
<td>2.8</td>
</tr>
</tbody>
</table>

It has been widely argued that outsized Chinese demand for the kind of primary resources Africa produces and exports played a critical role in the region’s economic turnaround from 2000 onward. Circa 2000, China “discovered” Africa, and a new relationship developed on the basis of rapidly growing exports of commodities, imports of consumer goods, and Chinese foreign direct investment.

Similarly, it has been said that Africa’s performance during the 2008-2009 recession and the swift recovery thereafter owes much to China’s own recovery; a recovery fuelled in large part by the country’s USD 500 billion stimulus program.

There is ample evidence of the growing role of China in Africa’s performance, from trade data to investment. Figure 3 juxtaposes the GDP growth of Africa with that of China and the European Union, and provides prima facie validation for the proposition that Africa’s fortune is now greatly connected to China’s. From circa 1997 there is an unmistakable convergence of growth trajectories, confirmed by statistical analysis (Table 4): while there was negative correlation between growth in Africa and China between 1970 and 2000, correlation became high for the period 2000-2010, to 0.8. This correlation with China’s growth was the highest of all developing regions.

Comparison with the correlation between Africa and the EU further demonstrates the growing role of China. Between 1970 and 2000, there was 0.5 correlation between Africa’s...
growth and the EU's. Correlation between Africa and China was negative then. While correlation between Africa's growth and the EU's increased to 0.6 in 2000-2010, it had become considerably lower than with China (0.8).

Figure 3: Africa, China and European Union growth compared between 1970 and 2010

Table 4: the 2007-2009 growth collapse and the 2009-2010 recovery

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation China/Africa growth</td>
<td>0.0</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>Correlation China/Utarn growth</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.0</td>
<td>0.1</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Correlation China/South Asia growth</td>
<td>0.4</td>
<td>0.3</td>
<td>0.4</td>
<td>0.1</td>
<td>0.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Correlation China/MENA growth</td>
<td>0.5</td>
<td>0.5</td>
<td>0.6</td>
<td>0.2</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Correlation EU/Africa growth</td>
<td>-</td>
<td>0.2</td>
<td>0.4</td>
<td>0.4</td>
<td>0.6</td>
<td>0.6</td>
</tr>
</tbody>
</table>

The China pull is clearly illustrated in the growing correlation between Africa's mineral rent and China's imports of ores & metals (Figure 4).

Figure 4: Africa's mineral rent and China's imports of ores & metals

While correlation between the two indicators was negative in the 1990s, it has been strongly positive in the 2000s, at nearly 1.

Africa’s capacity to withstand the lasting European recession is a spectacular demonstration of its historic change of fortune. The region’s recent growth performance highlights the re-balancing in its economic relations with the world. Africa is more resilient because its market risk has been hedged. It can better protect itself from external shocks.

Up to a point.

Indeed, this new dependence on China signifies that the region remains exposed to external shocks, because it remains geared toward exports of unprocessed commodities; principally minerals & metals, oil, and increasingly gas and coal.

If the region appears to have decreased its exposure to external shocks, it is, on the face of it, because it has rebalanced its economic relations. Not because it has changed the nature of its economy.

Africa’s growth appears to have remained stubbornly resource-based. This is a tremendous source of risk. The 2009 growth collapse is testimony to this. It should stand as a warning.

2. Analytic perspective 1 – growth, prices and the rent

2.1. The pull factor: natural resources prices

Africa’s main natural resources have been minerals and oil. Others like coal and gas have been minimal, though significant discoveries are occurring, and will turn these resources into significant economic contributors in the future.

The analysis focuses on metals & minerals (“M&M”) and oil, whose respective prices are tracked in Figure 5. Energy price is used as a proxy for oil, though the indicator also includes the price of gas. Prices are index prices, constant at 2000 USD value, and index 100 in 2005.

Figure 5: Metals & minerals and energy prices between 1970 and 2010
The price of metals & minerals experienced significant fluctuation over the 40 years under analysis. Having risen sharply in the 1960s, it rapidly declined in the 1970s, then stabilised in the 1980s around 70 (index price). After a sudden increase in 1987-1988 it stabilised again around 70 for most of the 1990s (Table 5).

Overall, the long commodity bear saw the price of M&M decline by nearly 70 percent between 1970 and 2000, but with prices being relatively stable between 1982 and 1999 – the 1987-1988 sudden increase notwithstanding.

The bear was suddenly and dramatically awaken in 2003-2004, when prices began the extraordinary growth that characterised the so-called second commodity boom, or super-cycle. This was really a super-boom marked by a 58 percent increase in ten short years – even accounting for the price collapse of 2008-2009. Between 2000 and 2007 the increase was 157 percent.

Table 5: average metals & minerals price per decade, with standard deviation and growth

<table>
<thead>
<tr>
<th>Decade</th>
<th>Average</th>
<th>Deviation</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1980</td>
<td>91.0</td>
<td>11.5</td>
<td>-24.5%</td>
</tr>
<tr>
<td>1980-1990</td>
<td>73.6</td>
<td>11.8</td>
<td>-22.3%</td>
</tr>
<tr>
<td>1990-2000</td>
<td>63.2</td>
<td>6.4</td>
<td>-30.6%</td>
</tr>
<tr>
<td>2000-2010</td>
<td>107.3</td>
<td>41.7</td>
<td>58.1%</td>
</tr>
</tbody>
</table>

The energy price index fluctuated even more.

It was low in the 1960s and early 1970s, in contrast with the metals & minerals price index (Figure 4). The oil crisis of 1973 changed that, and prices rose sharply until 1981. The index averaged 18.2 during that decade but grew 94 percent. The price progressively declined thereafter, and in a pronounced manner until 1986 (-47.4 percent between 1980 and 1989).

It was relatively stable for over ten years, until it too experienced incredible growth – but from 2000, about three years before metals & minerals. Between 2000 and 2010 the price of energy grew by 63 percent, beating that of metals & minerals. The price retreated by an astounding 59 percent in 2008-2009, but recovered quickly in 2010.

Table 6: average energy price per decade, with standard deviation and growth

<table>
<thead>
<tr>
<th>Decade</th>
<th>Average</th>
<th>Deviation</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1980</td>
<td>28.1</td>
<td>17.4</td>
<td>64.5%</td>
</tr>
<tr>
<td>1980-1990</td>
<td>22.2</td>
<td>12.3</td>
<td>64.3%</td>
</tr>
<tr>
<td>1990-2000</td>
<td>62.2</td>
<td>14.7</td>
<td>64.2%</td>
</tr>
<tr>
<td>2000-2010</td>
<td>96.3</td>
<td>45.5</td>
<td>63.2%</td>
</tr>
</tbody>
</table>

The commodity bear lasted 20 long years. The ensuing super-boom that started in 2000 was unlike any seen before; unlike even the 1960s and 1970s boom (the first decade for metals & minerals, and the second for oil). Two features of the super-boom stand out from the brief analysis of prices conducted here:

1. The rise in prices was unprecedented.
2. The prices and metals & minerals and energy converged as they had not before.

This, admittedly, was in part the result of the China effect and justifies the expression commodity super-cycle.

2.2. Growth and prices

The trajectory of GDP growth and natural resources prices provides an enlightening first look into the role of commodities in the economic fortune of Africa.

This is followed by two others:

1. The relationship between growth and the natural resources rent.
2. That between the rent and natural resources prices.

These three analytic explorations are rich in discovery and implications.

On with the first.

Figure 6 shows the broad correlation between growth and the M&M price index.

Correlation between the two indicators was meaningful over the period 1970-2010, at 0.6. Analysis per decade is revealing (Table 4), showing a correlation very high in the 1970s (0.9), declining thereafter to a low correlation in the 1990s (0.1), but increasing to 0.5 in the 2000s.

Table 4: correlation between GDP growth and M&M price index for 1970-2010 and decades

<table>
<thead>
<tr>
<th>Period</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1980</td>
<td>0.9</td>
</tr>
<tr>
<td>1980-1990</td>
<td>0.1</td>
</tr>
<tr>
<td>1990-2000</td>
<td>0.5</td>
</tr>
<tr>
<td>2000-2010</td>
<td>0.5</td>
</tr>
</tbody>
</table>
The correlation between growth and energy price index evolved differently. It was negative in the period 1970-1990 and null in 1990-2000. In 2000-2010 it reached 0.4.

Table 5: correlation between GDP growth and energy price index for 1970-2010 and decades

|----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|

The growth/the M&M price index and growth/energy price index converged in the period 1990-2010 to 0.6 each, demonstrating both the significant increase in the role of oil in the region's fortune, and the renewed importance of minerals.

Africa's dependency on commodities increased after 2000. The region's growth performance seems to have been underwritten by its reliance on commodities; much more so than in the “lost decades”, and in a way similar to what happened in the 1970s.

Figures 7 and 8 offer additional insights into this phenomenon by plotting GDP growth against prices for the period. The positive correlations are manifestly confirmed:

- Metals & minerals: between 1970 and 2010 there were 16 instances (years) of low growth/low prices, and 13 of high growth/high prices, versus only four instances of low growth/high prices and seven of high growth/low prices.

- Energy: there were 15 instances (years) of low growth/low prices, and ten of high growth/high prices, versus 5 instances of low growth/high prices and ten of high growth/low prices (Table 2).

Figures 7-8: GDP growth and natural resources prices between 1970 and 2010 in Africa

Table 6: correlation table for Figures 6 and 7

<table>
<thead>
<tr>
<th>M&amp;M</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low growth, low prices</td>
<td>16</td>
</tr>
<tr>
<td>Low growth, high prices</td>
<td>4</td>
</tr>
<tr>
<td>High growth, low prices</td>
<td>7</td>
</tr>
<tr>
<td>High growth, high prices</td>
<td>13</td>
</tr>
</tbody>
</table>

2.3. Growth and the rent

The rise in demand and prices for natural resources since 2000 should have pushed Africa’s GDP growth upward. All things being equal, 2000-2010 should have seen a significant progression of the rent in Africa – relative to other sectors of the economy and absolutely.

This is confirmed by analysis; spectacularly.

Figure 8 tracks the resource rent between 1970 and 2010 (metals and minerals, coal, oil, and gas). It shows a clearly distinctive pattern, with a series of long cycles of high-low rent:

1. In 1972-1973 began the first high-rent cycle, with the rent’s share of GDP reaching nearly 20 percent in 1979-1980.
2. In 1980 began a progressive but pronounced down cycle. The rent remained under 10 percent between 1986 and 1999, at times hovering near 5 percent.
3. In 2000 began the second high-rent cycle, with its share of GDP more than doubling from 5.8 percent in 1999 to 10.9 percent in 2000, and peaking at 20 percent in 2008. During the 2008-2009 recession the rent.

Figure 9: the high-low-rent cycle in Africa between 1970 and 2010

Over the 40 year period, the natural resource rent averaged 10.2 percent of GDP. It was highly volatile, with a standard deviation of 4.7 percentage points around the average.

How did the resource rent interact with growth?

Figure 10 tracks the two and shows imperfect visual correlation. This is confirmed by data: statistical correlation was 0.2. But, as in the case of the relationship between growth and prices, unpacking by decades provides a better understanding.

Table 7: correlation between GDP growth and the natural resource rent in Africa, 1970-2010

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>-0.2</td>
<td>-0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Interestingly the correlation was negative in the 1970s when the rent grew substantially. Average growth was relatively high, but it was trending down, and was extremely volatile. The correlation remained slightly negative, then neutral up to 2000, when it turned to moderate. This corresponds to the significant upturn in Africa’s growth fortune.

Figure 10: GDP growth and the natural resources rent between 1970 and 2010

Plotting growth against the natural resource rent confirms a the overall positive but weak correlation between the two over the 40 year period, as shown in Figure 11. Further unpacking the data yields better insights, as in Figure 12, which plots growth against the resource rent for 2000-2010.

Figure 11-12: plotting of GDP growth and natural resource rent between 1970 and 2010, and between 2000 and 2010

Looking at the individual constituents of the rent, and principally minerals and oil – which have accounted for the overwhelming majority of the rent in Africa – also yields powerful insights.

The mineral rent had an overall low correlation with growth for the period (0.2). However, the correlation was high during the boom of the 1970s (0.8), low in the 1980s (0.2), negative in the 1990s (-0.5) and low in the 2000s (0.3).

Table 8: correlation between GDP growth and the mineral rent

<table>
<thead>
<tr>
<th>Years</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-2010</td>
<td>0.2</td>
</tr>
<tr>
<td>1970-1980</td>
<td>0.8</td>
</tr>
<tr>
<td>1980-1990</td>
<td>0.2</td>
</tr>
<tr>
<td>1990-2000</td>
<td>-0.5</td>
</tr>
<tr>
<td>2000-2010</td>
<td>0.3</td>
</tr>
</tbody>
</table>
While the oil rent had the same low correlation with growth for the period (0.2), the decade by decade trend was the almost exact opposite as the mineral rent’s: correlation was negative during the commodity boom of the 1970s (0.2), low in the 1980s (0.1), moderate in the 1990s (0.2) and moderate in the 2000s (0.6).

Table 9: correlation between GDP growth and the oil rent

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation</td>
<td>0.2</td>
<td>-0.2</td>
<td>0.2</td>
<td>0.6</td>
</tr>
</tbody>
</table>

The relationship between growth and the resource rent over the past 40 years has not been straightforward, and shows great variation between decades and between minerals and oil.

2.4. The rent and prices

Is the relationship between the rent and prices more straightforward?

In the absence of a single price indicator, analysis must be conducted for each commodity separately. Figures 16 and 17 track the mineral rent against the price of metals & minerals and the oil rent against the oil price.

In the case of metals & minerals, statistical correlation for the period was moderate, at 0.5, but with notable variations by decades. Correlation was high (0.9) in the 1970s, at a time of declining prices and lowering mineral rent. Correlation decreased to 0.6 in the 1980s and 1990s, and was very high again in the 2000s (0.9).

The correlation between the oil rent and energy price index was even more pronounced, and confirmed by a statistical correlation of 0.80 over the period 1970-2010. Correlation was very high (1) in the 1970s, at a time of escalating price and increasing oil rent. It remained high (around 0.9) thereafter.

Table 10: correlation between natural resources rents and prices

<table>
<thead>
<tr>
<th>Period</th>
<th>70-80</th>
<th>80-90</th>
<th>90-00</th>
<th>00-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral rent/M&amp;M Prices</td>
<td>0.52</td>
<td>0.59</td>
<td>0.62</td>
<td>0.91</td>
</tr>
<tr>
<td>Mineral Oil rent/Energy prices</td>
<td>0.80</td>
<td>0.97</td>
<td>0.89</td>
<td>0.95</td>
</tr>
</tbody>
</table>

These high correlations confirm the strong relationship between prices and rents, and support the logical assertion that natural resource prices are the key driver in the up- and down-swings of the rent.

There are, however, anomalies in the relationship, notably in the lower correlation between the mineral rent and the price of metals & minerals in the 1990s. This is investigated in section 4.1 below, The 1980s and 1990s counter-cycle.

2.5. The resource-rich countries in Africa’s growth

Over the past four decades the economic weight of resource-rich countries significantly increased relative to that of the non-resource-rich countries of Africa. Restricting the selection criteria to 5 percent of GDP as the resource-rich threshold shows the steady growth in the number of such countries over the period, from five in 1970 to 17 in 2010 (Table 11 and Figure 18). The data excludes South Africa, because of its large economic weight:

- In 1970, only five countries qualified as resource rent countries. Their combined GDP was only USD 11.2 billion (constant 2000), or 7 percent of Africa’s GDP. Their combined annual growth that year was 4 percent to the region’s 7.8 percent.
- In 1980, nine countries qualified, with a combined GDP of USD 57.3 billion to Africa’s USD 227.1 billion, a share of 25 percent. Their combined annual growth was 4.3 percent to the region’s 4.9 percent.
- In 1990, the number rose to 11 countries, with a total GDP of USD 76.1 billion to Africa’s USD 273.1 billion – now 28 percent. Growth was sluggish, at 1.2 percent for Africa and 1.7 percent for the rent countries.
- In 2000, ten countries were resource rent countries. Their combined GDP was USD 180 billion, 32 percent of Africa’s. Their combined annual growth was 4.3 percent to the region’s 3.6 percent.
- In 2010, 17 countries qualified as resource-rich (excluding South Africa, whose GDP dwarfed the rest, at USD 187 billion). Their combined GDP for 2010 was about USD 230 billion, and represented a very significant 42 percent of Africa’s total GDP of USD 550 billion. Their combined annual growth was 6.2 percent to the region’s 5.
Table 11: the weight of resource-rent countries by decade

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa’s GDP</td>
<td>10.1</td>
<td></td>
<td>27.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of rent countries**</td>
<td>5</td>
<td>9</td>
<td>11</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Rent countries’ GDP</td>
<td>11.2</td>
<td>57.3</td>
<td>76.1</td>
<td>55.8</td>
<td>231.4</td>
</tr>
<tr>
<td>Share of rent countries in Africa’s GDP</td>
<td>7%</td>
<td>25%</td>
<td>29%</td>
<td>30%</td>
<td>42%</td>
</tr>
<tr>
<td>Africa’s GDP growth</td>
<td>7.8%</td>
<td>4.3%</td>
<td>1.2%</td>
<td>5.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Rent countries’ GDP growth</td>
<td>4.3%</td>
<td>4.9%</td>
<td>1.7%</td>
<td>4.3%</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

* In these years, South Africa qualified but has been excluded from the calculations due to its large economic size
** Countries with over 5 percent of GDP generated by resources

The increasing weight of rent countries in Africa’s GDP and growth is demonstrated by figures 18, 19 and 20.

2.6. Prices, the rent and growth – the mechanics

The three analytic perspectives conducted have provided some important insights into the role of natural resources in the economic fortune of Africa:

1. Growth/natural resources prices: this analysis has shown a meaningful correlation between the two. The correlation was higher between growth and the metals & minerals price index, particularly in the 1970s. It was moderate in the 2000s. While the correlation was lower for energy in the 1970s, it progressively increased over the decades, and became moderate in the 2000s.

2. Growth/natural resources rent: the analysis found an overall positive but weak correlation between the two. The mineral rent had an overall low correlation with growth, being negative in the 1980-2000 period, and increasing to a low correlation post-2000. The oil rent’s correlation with growth was the opposite. From negative in the 1970s and 1980s it increased to moderate in the 2000s.

3. Natural resources rent/prices: in the case of metals & minerals, statistical correlation for the period was moderate, at 0.5, but with notable variations by decade. Correlation was high in the 1970s and very high again in the 2000s. Correlation between the oil rent and energy price index is even more pronounced, and confirmed by a statistical correlation of 0.80 over the period 1970-2010.

The analysis confirmed the overall correlation between Africa’s growth performance and its natural resources, though the relationship was not straightforward and varied significantly over the period:

1. At times, natural resources played a significant role in generating high rents and high growth. This was particularly the case when, unsurprisingly, prices were high.
2. Conversely, Africa’s growth performance and resource rent were at their worst when natural resources prices were low.

3. The mineral rent was never very high, and much lower than generally proclaimed. At less than 5 percent for the entire period of analysis, it disqualifies the notion that Africa as a whole is a mineral economy. Some African countries are mineral economies, and the number of such countries is closely related to prices.

4. The same, however, is not true of oil, which from 1971 has played a determinant role in generating the region’s large natural resource rent. Obviously, only some African countries have been oil economies. For these, both the rent and economic growth have been much higher than mineral countries’.

5. Before 2000, growth was highly volatile and inconsistent. The post-2000 period broke that growth model in that it brought high growth and trend-breaking consistency. This corresponded to fast growing natural resource prices over an unprecedented length of time.

On this basis, it is possible to propose the following axiom of the natural resource rent in Africa:

*Prices have a direct impact on the rent, whose direction has an impact on growth. Stated differently, the rent acts as the conduct between natural resources prices and economic growth – all other things being equal.*

3. **Analytic perspective 2 – the lower economic productivity of mining**

The mineral rent requires particular consideration on two counts:

1. Compared with oil, mineral prices have been affected by greater cyclical. This was shown in the above analytic perspective.

2. The mineral rent was lower than the oil’s from the early 1970s, suggesting a lower economic productivity of mining in relation to oil & gas. This is explored here.

3.1. **Mineral fortunes**

Africa’s mineral (non-oil) economy experienced significant variability to its fortune during the period.

In 1970, no African country produced oil. Nigeria’s production was in its infant stage. The resource rent was mineral, produced in 14 countries, of which only five generated over USD 100 million of rent: Zambia, South Africa, the DRC, Liberia and Mauritania.

Of the 14 mineral-producing countries, five qualified as mineral rent economies, at over 5 percent of their: Zambia, Liberia, Mauritania, DRC and Swaziland. South Africa had the second largest mineral rent after Zambia, which was at a low 1 percent of its GDP. In 1970, Africa’s rent amounted to over USD 2.6 billion (2000 value).

Over the decade, mineral fortunes ebbed and flowed. Some countries did well, and others not. Zambia had had the largest rent in the 1960s. In the 1970s its performance declined dramatically: the rent went from 36 percent of GDP in 1970 to a low of 6 percent in 1978. Its GDP swung violently year-on-year, from high growth to deep recession (+9.2 percent in 1971, -4.6 percent in 1977). The DRC was the other mining giant, and it too experienced decline and extreme growth volatility (+8.1 in 1973, -5 percent in 1975).

Liberia’s rent in GDP declined (from 23 percent in 1970 to 13.5 percent in 1979), though it remained constant in dollar terms. Similarly, Mauritania’s dollar rent remained constant, but its share of GDP declined (from 14.2 percent in 1970 to 8.1 percent in 1978). Zimbabwe’s rent expanded rapidly. Swaziland initially increased it, and then saw a dramatic collapse in all its indicators. Ghana’s small mineral rent increased dramatically at the end of the decade. So did Rwanda’s. Botswana joined in in 1973. South Africa experienced an incredible rent expansion, out-ranking Zambia in 1971. Its GDP growth was far more consistent than any other rent country.

By 1980 the landscape had considerably changed. 21 countries were involved in mining. Seven produced over USD 100 million of rent: the same five of the previous decade were joined by Zimbabwe and Namibia. Zambia’s standing fell to third; the DRC remained second; South Africa’s mineral rent literally exploded. Out of a total mineral rent of USD 14.3 billion, South Africa accounted for a staggering USD 12.6 billion; up from only 750 million only 10 years earlier. Its mineral rent was over 13 percent of GDP. 1980 was a record-breaking year, and would remain so for nearly 30 years. Throughout the region, growth volatility remained high.

In 1990, the overall rent had declined by more than half, to USD 6.4 billion. Most of that decline was accounted for by South Africa, who’s rent went down to USD 4.3 billion, only 3.8 percent of GDP. The number of mineral countries in the region increased to 24. As in the two previous decades, seven countries had rent greater than USD 100 million. In these, Liberia had fallen off, a casualty of war, replaced by Guinee who contended with Zambia for third place. The DRC remained the second largest producer. Both the DRC and Zambia had experienced turnarounds in their production during the 1980s, translated by much larger mineral rents than during the previous decade, but still much lower than in the 1970s.

In 2000 the commodity bear was fully asleep: only 18 countries were mineral producers, and their rent had dropped to USD 2.4 billion. South Africa’s mineral rent was down to USD 1.6 billion, a mere 37 percent of its 1990 value. Throughout, the rent had shrunk, and in some countries it had collapsed. In Zimbabwe it was a mere 0.7 percent of GDP, down from...
7.5 percent in 1992. In Zambia, it was around 1 percent; down from 16 percent in 1990. Only three countries qualified as rent-rich countries: Mauritania, Guinee and the DRC. The latter’s economy had collapsed through the 1990s. Overall growth was less volatile.

2008 was the peak of the commodity super-cycle. Africa’s rent had exploded to a record-breaking USD 31.7 billion, more than double the previous year’s record. In fact, the decade was one of records. The 1980’s was topped in 2006. 2007 was even higher. And 2009 was higher than 2007.

In 2008, South Africa once again topped the list of mineral-rent countries in Africa. By a long shot. Its USD 24.6 billion rent dwarfed the region’s USD 7.1 billion. 23 countries produced minerals, and of these 12 had a rent greater than USD 100 million. The DRC was second, with a rent of USD 1.2 billion; a record that would be surpassed in 2010 (USD 1.4 billion). Mauritania followed, nearing USD 1 billion; which it reached in 2010. Zambia was third, with a rent of USD 900 million. It had reached USD 1 billion the previous year, and would reach an all-time high of USD 1.4 billion in 2010.

In 2010, to the exception of South Africa and Zimbabwe all mining countries saw significant rises, and their rent was USD 8.8 billion against USD 6.7 billion in 2008. South Africa’s rent was USD 16.6 billion. It was the only African country, together with Zimbabwe, whose mineral rent was lower than in 2008.

Between 2004 and 2008, for the first time since decolonisation, almost all mineral-rich countries of Africa registered positive GDP growth. The only exceptions were Liberia and Zimbabwe. This lasted four years, to 2009, and in 2010 no mineral-rich country experienced negative GDP growth.

3.2. Oil fortunes


These countries’ timing was impeccable as they started meaningful production just to catch the first oil boom/shock (somebody’s boom has to be someone else’s shock). The share of oil in their GDPs grew exponentially in the decade thanks to fast rising oil prices and production. In 1971, the oil rent was already USD 2.4 billion (for a rent of USD 2.2 billion; Nigeria accounted for USD 2.1 billion and Gabon the balance.

During the first half of the decade these countries enjoyed high GDP growth; much higher and less volatile than the mineral countries’. Gabon, for instance, experienced double digit growth up to 1977 followed by two years of double digit retraction.

In 1980, Cote d’Ivoire was beginning production. The oil rent was an incredible USD 16.5 billion. It had peaked at USD 20 billion in 1979. That year a staggering 74 percent of Gabon’s GDP was generated by oil, with a very high 54 percent for Nigeria and 52 percent for the Congo. Cameroon’s rent was growing, and would climb rapidly up to 1984-1985 where it reached 20 percent of GDP, nearly USD 2 billion. In 1985, Angola joined the growing list of oil producing countries in Africa. That year, Nigeria’s oil rent was nearly USD 13 billion, down from USD 16 billion the year before.

GDP growth was volatile, though still less so than in the mineral countries. The volatility pattern in the 1980s was different: oil countries experienced several years of high growth, then a few years of retraction, notably as oil prices declined. The decade was one of very high energy price volatility.

By 1990, Africa’s oil production was a 20 year old industry, with its established hierarchy of producers and a regular stream of newcomers.

3.3. The mineral and oil rents compared

By 1980 oil became the prominent source of natural resource-generated wealth, and was concentrated in a handful of countries. These experienced high growth. Their oil rent
increased significantly despite large fluctuations in oil prices in the 1980s. New discoveries ensured that oil wealth represented a growing share of Africa’s GDP.

Nigeria’s resource rent overtook South Africa’s and Zambia’s as early as in 1971. Gabon overtook Zambia in 1975. At the peak of the second oil boom/shock, Africa’s oil countries were generating USD 20 billion of rent from oil production. South Africa’s mineral rent had also continuously expanded, to nearly USD 6 billion. The combined rent of the other mining countries had fallen to USD 980 million, from a peak of nearly USD 2 billion in 1974.

Oil, it would appear, was the natural resource of choice – at least in purely economic terms. Minerals just did not generate the same level of rent and growth, and not as quickly. South Africa was the exception. Figures 25 and 26 make this amply clear as regards the rent, and Figures 34 and 35 as regards growth (Figure 27 is a reproduction of Figure 25 excluding South Africa, with a lower scale).

Between 1970 and 2010 the total natural resource rent for Africa amounted to about USD 1.2 trillion. Of this, the oil rent accounted for over USD 900 billion; 75 percent. Over the period, 26 countries had been mineral countries, some briefly and some for the entire period. The average mineral rent per country was thus USD 12 billion. The average oil rent was over USD 100 billion. Of course the rent was not shared equally amongst countries.

Far from it, as shown by figures 25 and 26.
4. Analytic perspective 3 – rent mismanagement in the 1970s and 1980s

The story of the mismanagement of the rent in the 1970s and 1980s has been told many times. This analysis provides a perspective on this through the lens of the correlation between prices, growth and the rent conducted in Analytic perspective 1.

4.1. The 1980s and 1990s counter-cycle

The mineral rent correlated strongly with prices during the 1970s and the 2000s, and less during the commodity bear of the 1980s and 1990s. In the 1970s the metals & minerals price index decreased significantly, and so did the rent – entirely as expected. In the 2000s the opposite occurred. Again, prices were leading the mineral fortunes of mineral-rich countries.

In the 1980s and 1990s the relationship was somewhat less mechanical. In the early 1980s the rent “behaved slightly better” than prices, and in the 1990s it “behaved significantly worse” than prices. In both periods the rent disconnected from prices in significant ways. In 1979-1984 prices fluctuated significantly on the decline (standard deviation of 10.3, with a price index of USD 90 in 1979 and USD 70 in 1984, and an average price of USD 77), but the share of the rent increased in 1980 to a record high value of USD 3.3 billion – a figure surpassed only in 2005 and every year after.

In 1994-2000 prices were relatively stable (standard deviation of 4.7, for an average index price of USD 63), but the share of the mineral rent in GDP decreased substantially: from an already low 1 percent of GDP to a record low of 0.2 percent in 1999. The rent reached a record low USD 1.5 billion that year, down from USD 3.3 billion in 1994.

Figure 30 highlights these two periods and Figure 31 confirms this disconnection through tracking the average rent and the average the metals & minerals price index for each decade.

This disconnection confirms the lack of perfect linearity between prices and the rent. What accounted for this?

In the section Prices, the rent and growth – the mechanics, the following axiom of the natural resource rent in Africa was proposed:

*Prices have a direct impact on the rent, whose direction has an impact on growth. Stated differently, the rent acts as the conduct between natural resources prices and economic growth – all other things being equal.*

Evidence suggests that policy was the key other thing that influenced the axiom, and notably the disconnection between prices and rent that occurred in cycles lasting several years.

Sometimes for the better, sometimes for the worst.

4.2. Three countries compared: Zambia, the DRC and South Africa

This is amply demonstrated by the contradictory experiences of the Zambia, the DRC, and South Africa in the 1970s and 1980s.

- Zambia was a leading African mineral economy in the 1960s, with production of copper increasing continuously in that decade. That year saw the rent peak at 36 percent a GDP, for a value of nearly USD 900 million. The share of the rent in the
GDP dropped from 1975 to less than 15 percent. Copper prices tumbled 40 percent that year. Thereafter the rent followed a cyclical pattern of increases and declines, peaking around 15-18 percent (Figure 34) and declining to less than 3 percent. It passed the 20 percent bar in 2006, and peaked at over 26 percent in 2010. The rent became negligible in the late 1990s-early 2000s, but grew rapidly from 2003. Production gradually recovered to a high of 405,000 tons in 2009. The rent reached a historical high of USD 1.5 billion in 2010.

This is supported by correlation analysis. In the 1970s, correlation was low at 0.4 – prices fluctuated heavily but the rent decreased dramatically throughout the decade. In the following decades the correlation was very high.

Table 12: correlation between rent and prices for Zambia

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<tbody>
<tr>
<td>Copper price/rent</td>
<td>0.4</td>
<td>0.4</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
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- In 1970 the DRC was Africa’s third largest mineral rent economy with a rent of over USD 600 million dollars. As with Zambia, copper was the country’s primary production, but it also produced cobalt, zinc, gold and other metals. With an economy nearly three times as large as Zambia’s, and much more diversified (the DRC was Africa’s second industrial economy then) its mineral rent was slightly less than 10 percent of GDP. The rent fluctuated greatly during the ensuing two decades, bottoming at less than 3 percent in 1978 to rise through the 1980s. It peaked in 1989 at over 11 percent. It then collapsed because of the succession of economic and political catastrophes that plagued the country. In 1993 the rent amounted to a miserly USD 78 million, a paltry 1.4 percent of GDP. The country’s GDP peaked at USD 8.3 billion in 1978. By 1993 it had retracted 65 percent to less than USD 5.5 billion. Its decline continued until 2002 where it bottomed out at USD 4.2 billion. The recovery of the mineral rent was pronounced after 2003, and reached a historic high of 20.4 percent in 2010, to nearly USD 1.5 billion – almost equal to that of Zambia.

Correlation between copper prices and the rent demonstrates a broadly similar pattern to Zambia’s, the period 1990-2000 excepted. In the 1970s, correlation was low at 0.5. It was lower than Zambia’s in the 1980s, at 0.7. During the period of economic collapse it was also low, at 0.5 percent. It became very high after 2000.

Table 13: correlation between rent and prices for the DRC

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<tbody>
<tr>
<td>Copper price/rent</td>
<td>0.4</td>
<td>0.5</td>
<td>0.7</td>
<td>0.5</td>
<td>1.0</td>
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- South Africa’s experience provides a counterpoint to the two previous cases. While technically not a rent economy until 1979, when mining reached over 5 percent of GDP, South Africa had a significant mining sector through the 1970s. In 1970 the country was second only to Zambia in the mineral rent. But unlike Zambia and the other African mining rent economies, South Africa’s rent spectacularly increased throughout the 1970s: from USD 760 billion in 1970, for a GDP share of 1 percent, to a peak of USD 12.6 billion in 1980 and a GDP share of 13.3 percent; a staggering 16-fold increase. During the 1980s the rent declined substantially and continued to do so throughout the 1990s. Unlike Zambia and the DRC, the rent continued to decline through the price increases of the late 1980s, and the relative price stability of the 1990s. From its peak of 1980 the rent was a mere USD 1 billion in 1999, below 1 percent of GDP.

South Africa’s mineral rent performance in the 1970s and 1980s was principally the result of the significant increase in the gold price between 1976 and 1980. As prices declined thereafter, so did the rent. Between 1996 and 2001, the rent decreased further than prices. However, for the period 1970-2010 the correlation rent/gold price returned a 0.8 figure, in line with that of the DRC. The correlation remained high.
throughout the decades, either in up-cycles and down-cycles. The country’s rent performance aligned with the regional trend in the 1990s and 2000s.

**Table 14: correlation between rent and prices for South Africa**

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<tbody>
<tr>
<td>0.8</td>
<td>0.9</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
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<td></td>
</tr>
</tbody>
</table>

**Figures 36: South Africa’s mineral rent and copper prices, 1970-2010**

Table 15 shows the dramatic change of fortunes in the 1970s:

**Table 15: relative performance of rent in Africa’s top 5 mineral economies, 1970-1975-1979**

<table>
<thead>
<tr>
<th>1970</th>
<th>1975</th>
<th>1979</th>
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<tbody>
<tr>
<td>Congo, Dem. Rep.</td>
<td>605.6</td>
<td>22.4%</td>
</tr>
<tr>
<td>Liberia</td>
<td>260.2</td>
<td>9.0%</td>
</tr>
<tr>
<td>Mauritania</td>
<td>95.8</td>
<td>3.2%</td>
</tr>
<tr>
<td>South Africa</td>
<td>266.3</td>
<td>8.4%</td>
</tr>
<tr>
<td>Zambia</td>
<td>856.5</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

From less than 30 percent of the mineral rent generated by Africa’s five largest mineral rent economies in 1970, South Africa’s share grew to 86 percent in 1979. This gain was relative as well as absolute, particularly against the dramatic collapses experienced in the DRC and Zambia. In the same period, South Africa’s GDP grew rapidly, and so did the share of the mineral rent in the economy. South Africa, it appears, benefited handsomely from a domestic mining boom occurring in an otherwise lifeless market, thanks to high gold prices.

In 1980, South Africa’s share of the region’s mineral rent reached 91.8 percent. Zambia’s had collapsed to 2.5 percent, down from 33.3 percent in 1970. By 1989, South Africa’s rent had been reduced by a third from its 1980 record, while Zambia’s experienced an important recovery thanks to higher prices. But the rent was still far from its 1970 peak, and would collapse again in the 1990s.

**4.3. The cost and benefit of mineral policy in the three countries**

Policy was the clear and unmistakable differentiator in the widely contrasting fortunes of these three countries:

- In Zambia, peak rent in 1970 coincided with peak production, which reached about 720,000 tons. That year, the industry was nationalised. Production remained initially steady, but started to decline from 1977 onward and continued to do so over the following two decades, to bottom out at about 230,000 tons in 2000. It is widely accepted that the nationalised industry was poorly ran and undercapitalised, and the proximate cause for the resulting decline in production and, consequently, the rent.

Mining became a crisis-affected sector, and was responsible for national economic decline: because of its massive dependence on mineral exports, the collapse of production led to enormous revenue losses for government and triggered a long economic crisis for the entire economy. Living standards fell. The national debt grew rapidly and led to a fiscal crisis. For two decades the country had to resort to significant external assistance for its subsistence. The mineral rent had to be supplemented by a large “geopolitical rent”.

It has often been argued that Zambia’s nationalisation was primarily hobbled by declining copper prices. This is not true: the average price grew throughout the period, thought it was volatile: USD 1,470 a ton in the 1970s, USD 1,840 in the 1980s, and USD 2,220 in the 1990s. In fact, Zambia’s rent performance was remarkable in relation to price levels in the first half of the 1970s, suggesting an extremely productive industry. Conversely, it subsequently managed to increase the rent only when prices rose significantly, only to see the rent collapse again with lower prices. The late 1980s and the 1990s were proof of that.

Under tremendous economic and donor pressure, Zambia started the privatisation of its mining industry in the early 1990s. Results took time to show, and in the period 1998-2003 the rent was annihilated. But Zambia ultimately proved lucky, and as copper prices started rising in 2003-2004, so did the rent – spectacularly. Production reached its highest level in 2009 at 405,000 tons, still a far cry from its 1970 peak.
Poor policy cost Zambia dearly: total mineral rent between 1970 and 2010 was USD 15 billion (2000 constant). Assuming that production had remained constant around 700,000 tons each year up to 2010, and applying average annual copper prices for each year, Zambia total mineral rent would have been around USD 60 billion. Under these assumptions, Zambia’s policy cost it USD 45 billion of lost rent. An enormous potential cost.

Nationalisation had been presented as a policy of national independence and economic sovereignty. It produced the exact opposite.

- The DRC preceded Zambia in nationalising and restructuring its mining industry in 1967, affecting all minerals (cobalt, copper, gold, manganese, tin, etc.) and diamonds. The largest company was Gécamines, the product of mergers, which gained monopoly over copper and associated minerals. The country’s largest contributor to the mineral rent was copper, produced at about 500,000 tons in 1970. The DRC holds about 10 percent of the world’s reserve of copper, and 80 percent of cobalt’s. Production of copper actually increased significantly in the immediate post-nationalisation, from over 300,000 tons in 1967, and remained around 500,000 tons until 1990-1991. Production did drop during the 1975 copper price collapse (-40 percent), but recovered with prices from 1979. The rent varied accordingly throughout the 1970s and 1980s.

Gécamines remained the country’s primary export earner throughout these years, and the main source of income for government, whose economic mismanagement led to progressive economic destruction. In fact, throughout these years the country’s dependence on Gécamines increased as the other sectors of production experienced sustained devastation through the Mobutu-era policies of Zaïrianisation and radicalisation. Thus, in 1980 the company contributed over 65 percent of the national budget. The other mining companies provided another 20 percent. During the 1970s and 1980s, however, Gécamines suffered from a complete absence of capitalisation by its shareholder, which used it as a cash cow serving the growing gap in the country’s worsening political, economic and fiscal conditions. Despite this, and somewhat counter-intuitively, it remained adequately managed. The company also became the primary employer, peaking at 30,000 in 1990. It was directly providing the livelihood of over 250,000 people, mostly in Katanga province. But its economic role was much larger, providing the lion share of the funding – together with an exploding national debt – of the civil service.

Directly and indirectly, Gécamines and the other mining companies subsidised the ruinous lifestyle of Kinshasa’s predatory elite, whose consumption habitually equalled or surpassed the revenues brought by the mining sector. The attempted secession of Katanga in 1977-1978 was in part caused by this – and resulted in a temporary increase in prices. It was violently suppressed with support from the international community, who sought to protect access to the country’s mineral wealth.

Lack of investment and increasing “fiscal poaching” started taking a toll on production from 1988. Production of copper and zinc decreased steadily in 1989 and 1990 (from 468 million tons of copper in 1988 to 356 million in 1990, and 236 million in 1991). Production of cobalt started decreasing in 1990 when the country’s main mine, Kamoto, began to collapse after years of under-investment. This decline in production had an immediate effect on the fiscal situation, already seriously deteriorated. In 1991, government faced bankruptcy. In December 1991 and 1992, and in January 1993, led by the army who mutinied, the urban population went on spontaneous campaigns of mass looting. The lootings were estimated to have destroyed nearly USD 1 billion of productive capital.

Throughout these years, production continued to collapse as the economy entered a black hole. The GDP retracted by 1.4 percent in 1989, 6.6 percent in 1990, 8.4 percent in 1991, 10.5 percent in 1992, 14.5 percent in 1993, and 7.2 percent in 1994. Standards of living fell catastrophically. Copper production was a miserly 34,000 tons in 1995, at the onset of war. Cobalt production went from 10 million tons in 1988 and 3.6 percent in 1994. Zinc production almost ceased: from 61 million tons in 1988 to 2.5 million in 1994.

What appalling governance had not destroyed was further annihilated by war. But then, after 2000, the DRC got lucky too. The country’s post-2002 recovery, brought by relative peace and an opening of the sector to private sector investment, coincided with the super-cycle, and the rent reached record levels throughout the decade. But tremendous damage all around had been done, with a huge cost to society. Moreover, the sector remained affected by poor policy, lack of transparency, administrative fiat and politically motivated expropriations, a massive informal mining, and poor infrastructure. As a result, the country’s mining industry remains well below its potential.

- South Africa’s mineral rent maintained a close correlation with the gold price throughout the period of analysis. This reflected a policy environment which was responsive to market conditions and allowed the mining industry to expand or contract accordingly. In the 1970s, this allowed South Africa to hugely benefit from the gold price boom. Until 1994, however, the political regime was formally discriminative and exploitative of the mostly African labour force. The rent was disproportionately and unfairly allocated to the industry, at the expense of labour and mining communities. This has had lasting consequences, despite significant social investment in and outside mining communities by the democratic regime. South Africa’s mining industry remains plagued by a lack of trust between the institutional parties. This despite a significant restructuring of the industry after 1994. First, the industry introduced black economic empowerment in an attempt to increase the political acceptability of mining, as well as shed non-core assets in a consolidation effort made necessary by the opening of the economy.
Far from sustainable – the rent utilisation in the DRC

In 2008, the Province of Katanga exported CDF billion 2,053 and showed a positive trade balance of CDF billion 803. The entirety of these exports were minerals.

On the other end, Kinshasa Province’s trade balance for goods and services stood at negative CDF billion 2,255 at current prices (approximately CDF billion 1,554 at 2006 prices). Exports contributed a mere CDF billion 25. The domestic trade balance stood at a positive CDF billion 94.

As a way of simplification, it could be said that Kinshasa acts a gigantic siphon for the country’s natural rent (with forestry), which it indirectly consumes through massive importation of consumables that do not enter into production system. Kinshasa, generating very little wealth of its own, ends up “exporting” the wealth of the rest of the country.

While the Asian growth model was based on export processing zones, the model implicitly chosen by the DRC is the “import-consuming zone” model. This is ultimately wealth destructive and immiserating.


BEE then became government policy, and was formalised in the industry through the 2002 Mining Charter. Second, government reformed the regulatory regime through the introduction in 2004 of the Minerals and Petroleum Resources Development Act. The law vested all mineral resources in the state and introduced a 30 year licensing system. It provided for the transition of “old order rights” to “new order rights”. Implementation of the law was poor and led to uncertainty, delays and lack of transparency. High profile law suits against government occurred, notably over questionable allocation of licenses.

During this time South Africa’s major mining company thoroughly restructured, with the largest ones developing international strategies and listing overseas. Diversified conglomerates unbundled and focused on core activities. Significant development occurred in platinum and coal.

It is broadly believed that the new regulatory environment lowered investment confidence in the industry and led to South Africa performing comparatively poorly during the commodity super-cycle.

Moreover, the MPRDA failed to eliminate calls for more radical policies, including nationalisation, which became a clarion call and political battleground between 2009 and 2012. It led to the formulation of policies focused on significantly increasing the role of the state in mining, directly through the formation of a state-owned mining company, and indirectly through more regulation.

While South Africa remained Africa’s dominant mining economy, its attractiveness was further reduced by constraints on key supplies such as labour and electricity, turning the country into a higher risk jurisdiction, and sterilising a growing part of the country’s enormous mineral resources – estimated to be over USD 2.5 trillion.

5. The conclusion – learning from the past, better managing the future

5.1. The 40 year rent cycle in Africa

Following the commodity boom of the 1960s, most African governments took steps to increase government intervention in the sector – including through expropriation and nationalisation of mining companies and, by implication, ore bodies. This led to significant production declines throughout the 1970s, 1980s and 1990s. The rent followed suit. The wealth generated by mineral production decreased below price parity.

The decline in the mineral rent had a significant knock-on effect on growth and standards of living. GDP growth averaged 2 percent in the two “lost decades”, and because of rapid population growth, per capita income declined dramatically. Together with other factors, this contributed to tremendous growth volatility.

For resource-rich countries, the link between economic crisis and the poor performance of the resource sector was particularly pronounced. The cases of the Democratic Republic of the Congo and Zambia are demonstrative of this. Their patterns were reproduced throughout, except in South Africa.

In addition to the direct cost of poor policy, Africa also missed opportunities to better exploit its mineral rent in 1980s and 1990s. Though commodity prices were generally lower than in the previous decade, the policy choices made in the 1970s meant that the region could not maximise its rent opportunities: it lacked the policies, the regulatory environment and the financial and technical capital to do so. Private investment in the sector was scarce because of high political risk.

Oil countries were significantly more resilient thanks to the greater economic productivity of oil, making the sector more tolerant of state intervention in ownership, production and pricing. Private investment was significantly higher.

Poor policy therefore gravely exaggerated the impact of the commodity bear by effectively sterilising a large part of the region’s natural resource endowment – and principally mineral resources. This sterilisation was thus only partially the product of market forces.
The economic opportunity cost of poor policy was therefore extremely high.

From the late 1980s or so, under tremendous fiscal and economic pressure, governments began the liberalisation of the sector, including through privatisation. However, these policies began producing meaningful benefits only at the onset of the 2000s commodity “super-cycle”. This lag is partly explained by the length of time required to turn around the mining sector due to its long lead times and high costs. During the 1990s, negative perception of Africa’s political risk combined with low commodity prices to keep investor confidence low.

From 2000 on the upside of a more market-friendly policy was spectacular, yielding higher growth than ever achieved by Africa, but also long lasting. A much improved micro-economic environment and significant decreases in indebtedness provided the foundation for these gains. Growth was not only higher, it was also far less volatile.

The foundation for significant gains in welfare, and more sustainable economic progress, was more solid than at any point since decolonisation.

But this coincidence of spectacularly rising prices and a more effective policy environment was fortuitous, corresponding to the rapidly growing demand fuelled China’s extraordinary economic expansion. Africa’s resource-rich countries struck luck, even those affected by conflict or economic mismanagement – like Zimbabwe, whose mineral rent grew significantly, though to a lesser degree than better managed countries. And this benefited the entire region, as it fostered greater regional growth, trade and investment.

5.2. The rent-driven growth of the 2000s

The rise of the rent after 2000 pulled economic growth and probably helped decreased economic volatility – possibly because the sustained increase in prices over a long period has protected the region’s economy from previously more volatile commodity prices, but also because of broad improvements in Africa’s macroeconomic management that have also benefited non-resource countries.

The economic weight of resource-rich countries significantly increased after 2000, and their growth performance largely surpassed that of the others. The notable exception was 2008-2009, as growth in the resource-rich countries tumbled.

It is evident that the commodity super-cycle greatly contributed to pulling Africa out of the hard decades of low aggregate and highly volatile growth. Oil played the leading role in this.

From this perspective it would be irresponsible to lament the effect of the super-cycle and conclude that Africa has been victim of the resource curse. There is no questioning the bonanza that benefited the region, and the positive developments this brought to Africans: directly through the increase of extractive economic activities, indirectly through the extended reach of this sector’s rent, and further along the chain of socioeconomic transformation through the new attractiveness of Africa to investment and trade.

If resource curse there was, it was during the long commodity bear of the 1980s and 1990s, which corresponded to Africa’s lost decades. Low prices took an enormous toll on demand, and the rent was correspondingly low. Growth was thus lower, and this cascaded through the region’s economic, social and political landscape.

Had the world not experienced the commodity super-cycle it is evident that Africa’s growth would have been lower, and significantly so. It would certainly have been well below 4 percent. The direct and indirect economic knock-on effects would have been profound, and it is doubtful that the current optimism about the region’s prospects would have existed. At least not to the current levels.

Yet, it is troubling that the region’s economic dependency on resources for its growth and economic welfare increased. Indeed, while Africa’s growth performance after 2000 was impressive, it was driven by the same resource paradigm that was in place after independence; a paradigm that survived booms and busts, for better and for worse.

The pro-resource bias greatly increased after 2000, and other sectors besides services lagged behind. The shares of agriculture and manufacturing in the region’s GDP continuously declined after 1970: that of agriculture went from 19.7 percent in 1970 to 11.2 percent in 2010; that of manufacturing from 18 percent to 12.5 percent. Conversely, services saw their share increase to nearly 60 percent of GDP.

Disturbingly, the relative decline of manufacturing and agriculture continued after the beginning of the 2000s, and in fact accelerated.

"Figures 37-38: relative shares of the resource rent and agricultural and manufacturing rent in Africa between 1970 and 2010"

This brings into question that growth’s resiliency, and with it the solidity of the “African economic miracle”.

5.3. Not following the established path to emerging market status

Africa’s growth trajectory thus appears qualitatively different from that of the Asian emerging markets it is now being compared to. Asia’s fast growth since the 1950s occurred through industrialisation, at first in the production of cheap, labour intensive export manufactures, and then through increasingly sophisticated, high productivity products and processes. A somewhat similar dynamics has been responsible for the rise of Latin American countries like Brazil and Mexico.

In the case of Africa, there is no evidence of meaningful industrialisation. To the contrary, and worryingly, Africa is not experiencing sufficient growth in industrial and agricultural activities at a time when both sectors should be growing in order to lower the dependency on the natural resource rent and ensure a more sustainable economic path. Few countries are addressing this problems decisively and effectively.

Africa’s growth has been unbalanced and hollow.

From this perspective, it is evident that Africa has been caught up in the political economic “staple trap”; the over-reliance on the low hanging fruits of natural resource exploitation unaccompanied by the necessary policies to maximise the rent through economic diversification. Indeed, instead of leveraging the resource rent to effect economic diversification during the current boom, Africa has allowed its dependency on the natural resource rent to increase. Besides the production of natural resources, little economic activity focused on transformative rent has occurred. The rent, rather, has mainly served the purposes of consumption, a leading propeller in the extraordinary rise of the service sector. The service sector growth has in large part been rent-consuming rather than wealth generating, directly and indirectly. Perhaps no country illustrates this better (or worst) than the DRC.

Africa has altogether eschewed the agrarian and industrial revolutions on which all advanced and most emerging economies have founded their prosperities. There is no evidence that this is a sustainable path to socioeconomic advancement and stability.

5.4. Calls for better sharing the rent – “resource nationalism”

Inevitably, the post-2000 commodity super-cycle has resulted in sustained debate about how to better share the mineral rent and the relative bonanza it has brought to mineral-rich countries. This became particularly pronounced after 2005.

Calls for a more equitable sharing of the rent are only legitimate in the view of the very high rent some countries enjoyed. In 2010 the region’s top mining countries saw record high rents: Mauritania, 54 percent of GDP; Zambia, 26.7 percent; the DRC, 20.4 percent; Guinee, 17 percent; Mali, 14 percent; South Africa, 8.9 percent; and Ghana, 8.8 percent.

Unsurprisingly, many governments have felt that they have not received their fair share out of the commodity super-cycle and its super-profits. Consequently, many have introduced significant regulatory changes to capture a greater share of the proceeds of mineral exploitation.

Thus, governments have renegotiated contracts, introduced higher or new taxes (royalties and resource rent or “super-profit” taxes), sought to obtain partial ownership of mines through “free carries”, or through “indigenisation” (legislated ownership by nationals), or nationalised ore bodies. In the most radical cases, governments have expropriated mining companies and reallocated their licences and assets to others. Countries in all regions and of all levels of development have been affected.

Governments have, however, not implemented the widespread nationalisation of the 1970s, heeding one of the most important lessons from the bad experience of that era.

These measures have become part of what is now commonly called “resource nationalism” – a term that does not make consensus.

In parallel, there has been a fast growing movement for improved accountability, transparency and social and environmental responsibility in mining. Voluntary schemes are increasingly been replaced with regulation, both in producing and consuming countries.

5.5. The secular rent cycle perspective – a call for prudential management

Since 2000 the rent has grown, so has the confidence of governments in Africa and elsewhere that the balance in the dynamic relationship between the players has shifted their way. A 20 year analysis – say since 1990 – certainly supports that contention.

A 40 year analysis, however, raises the prospect that governments may be over-optimistic and that they have also over-acted.

While it is true that the China factor represents a historical first, there is no certainty that the demand expansion of the past decade represents the new normal and is not, in fact, a historical anomaly.

If it represents the new normal, prices will remain higher than historical averages. Governments may then ride the commodity wave with fair confidence that their resources will remain in demand, and that their interventionist stances will bring them happy returns. These returns will however depend on how interventionist they are. In such a bull environment, the goal of policy should be to balance rent appropriation so that investment and production are secured while fiscal capacity is increased and non-mineral economic diversification occurs.

If on the other hand the past ten years or so represent a historically unique moment, Chinese demand will decrease – perhaps substantially. In that case, prices will decline closer
to historical averages. Governments will have to rapidly shift from their current policies of greater rent capture toward fostering private investment as the mining industry shifts its focus from expansion and resource creation towards consolidation and profitability. Failure to do so will result in marked disinvestment and resource sterilisation. Even without nationalisation.

The key question confronting governments now is what demand and price conditions they are likely to face in the coming years. The evidence is ambivalent:

- Demand and prices recovered spectacularly in 2010, fuelling the confidence of governments and the industry that the 2009 crisis was but a bump on the road to prosperity. Mining investment in frontier markets throughout Africa increased.
- In the second quarter of 2012, Chinese demand sagged and prices declined significantly. During the boom, input costs were allowed to increase well above inflation. This twin dynamics led to a drastic revision of the ambitions of mining companies, with a large number of projects postponed or cancelled, and consolidation becoming priority. The tolerance for economic, infrastructure, policy and political risks found in frontier countries decreased markedly.

Which scenario – bear, bull or bear-bull (a market characterised by rapidly shifting demand and prices making returns unpredictable) – turns out to be will have a determinant bearing on the direction of policy.

The evidence so far points toward the bear-bull scenario: prices remaining above historical averages, but with profitability constrained by rising costs and policy uncertainty.

There is much reason to be concerned that the mineral rent is at the beginning of a down-cycle.

Policy needs to change and adapt to this new reality.

However, experience shows that governments do not react rapidly enough to secular changes in the market, and perforce act in a counter-cyclical fashion that exaggerates the negative impact of declining prices and insufficiently capture the positive impact of increasing prices.

Figure 39 below illustrates the mineral rent cycle of the last 50 years, and demonstrates this repeated counter-cyclicality, expressed by:

- The application of interventionist rent-capturing policies at or near the peak of commodity and rent booms that are too late to achieve their state policy goals, and generally foster the opposite outcomes because they lead to cost increases, lower margins and investment climate uncertainty.
- The maintenance of these counter-cyclical policies well beyond economic reason, allowing them to effect sustained rent destruction, with their attendant negative economic and social consequences.
- The reversal to pro-cyclical policies long after such reversal was required, with potentially significant opportunity cost in investment, production and rent forgone.

Figure 39: the 50 year mineral rent cycle and the impact of counter-cyclical policy intervention in Africa

5.6. Implications for sustainable growth and development

The secular outlook on 40 years of mineral rent, prices and economic growth in Africa provides a unique perspective on the role and impact of policy in securing sustainable outcomes for all parties to the mineral economy.

Two overriding lessons stand out:

1. Government policies intended to better capture the mineral rent through interventionist policies that expanded the role of the state almost systematically failed to achieve their stated objectives. Worse still, these policies produced the opposite outcome, decreasing the rent well beyond the impact that lower prices would have had, and failing to capture the upside of prices when these rose. Conversely, decreasing direct intervention demonstrably benefited rent
formation, notably from 2000 onward, and had a positive impact on economic growth and microeconomic performance.

2. *Africa* has clearly not escaped the resource trap, one characterised by dependency on commodities, at the expense of the rest of the productive sector. This ensures that the region remains highly vulnerable to growth collapses which could undermine the gains of the past decade.

Continued dependency on the mineral rent leads to unsustainable currency appreciation, which takes a toll at the rest of the economy and fosters consumption rather than diversification and sustainable economic growth. It also feeds a political economic structure which discourages productive investment outside the non-rent sector and encourages rent-seeking, predatory, behaviours.

**Given this:**

- As it appears likely that the commodity super-cycle of the 2000s has come to end, **short-term government priority should now shift on minimising the negative impact of greater market volatility and uncertainty.** Governments should seek to protect rent generation first, because a dwindling rent hurts government revenues, decreases employment and slows growth. In a declining investment context that means taking pro-investment measures. Adequate return on investment for the providers of capital – and thus investment risk – needs to be sufficient to maintain rent generation. Interventionist policies seeking to compensate for lower investment must be resisted.

- At the same time, **measures must be deployed toward the medium-term that ensure that the rent is fairly and transparently allocated.** It is incumbent upon governments to effectively attribute this income through a fair and transparent budgetary process. Governments should not escape the increasingly high standards expected of the industry.

- **Critically, governments must deploy their share of the rent toward effective diversification in the medium- to long-term.** Here, priority should be given to mechanisms and policies that effectively support meaningful improvements in investment climate reform, non-mineral sectoral developments, and cost-competitiveness policies.

- Considering governments’ poor record at deploying the right rent capturing policies at the right time and response to changing market – and thus investment – conditions timeously, **a policy mechanism needs to be developed and implemented that has in-built reactivity and responsiveness.** This mechanism should be founded on established best practices in ownership, licensing, taxation and revenue allocation, and ensures automaticity, transparency and progressivity.