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Africa and Arab Gulf States

Divergent Development Paths and Prospects for Convergence

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Abstract

In spite of the similarities between Sub-Saharan Africa and the Arab Gulf region (Gulf Cooperation Council states), development policies implemented in these two regions of the world have produced markedly different and even divergent outcomes. While Gulf Cooperation Council states have drawn on hydrocarbon revenues to dramatically transform their economic landscape, Sub-Saharan African countries have exhibited abysmal economic and social outcomes. The remarkable increase in personal income and large current account surpluses in Arab Gulf states is in sharp contrast with widespread poverty and recurrent balance of payments crises in Sub-Saharan Africa. This paper reviews the possible causes of these divergent development paths and discusses the prospects for economic convergence in the new globalization landscape of growing trade ties between the two regions. In particular, it shows that development models underpinned by institutional continuity and intergenerational accountability could enhance long-run growth in Sub-Saharan Africa and income convergence between the two regions.

Africa and Arab Gulf States: Divergent Development Paths and Prospects for Convergence

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I.   Introduction

Over the last few years, the development community and increasingly a growing number of scholars have focused their research on China's ascent to global economic power status [Aslund and Dabrowski (2008)]. This growing interest in China's ascent reflects the impressive size of its twin surpluses—current and capital accounts surpluses—and more recently, the scale of its contribution to global economic growth [Summers (2006), Yongding (2007)].[2] Meanwhile, others have analyzed China's global economic ascent from the single prism of its growing economic partnerships with Sub-Saharan Africa (SSA), a region which until recently has continued to entertain exclusive economic ties with its former colonial powers in Europe [Goldstein et al. (2006), Zafar (2007)].[3]

However, this overwhelming focus of the international community on China and its growing partnership with Africa has also dwarfed another emerging pole and trading block—the Gulf Cooperation Council (GCC) [Sturm et al. (2008)]. Fueled by petrodollars and sustained increases in public investments, GCC states recently emerged as global economic players. Paralleling China's ascent, trade between the GCC and SSA has also been growing unabated since the 1990s. Yet the resurgence of this latest regional partnership, which has not generated as much interest, should be of great historical significance, not least because GCC states have also enjoyed twin surpluses for decades as reflected in their sizable holding of foreign currency-denominated assets, but also and more importantly from the standpoint of the longstanding history between the Arab Gulf region and Africa, and owing to important similarities that exist between the two regions.

Historically, the relationships between Africa and Arab Gulf states have been clouded by the protracted African slave trade which lasted several centuries and came to an end with the abolition of slavery in the 19th century [Alpers (1967), Segal (2001), Nunn (2008)].[4] However, while the abolition of the slave trade in the post-industrial revolution was immediately followed by a consolidation of trade relationships between Sub-Saharan Africa and its former colonial powers in Europe, international exchanges between Sub-Saharan African countries and Arab Gulf states almost came to a sudden stop, probably, reflecting the new colonial status of most Arab nations, which also fell prey to the expansionist and imperialistic ambitions of colonial empires in Europe [Bhacker (1992)].[5]

Nonetheless, the former colonial status of Arab Gulf States is not the only point of similarity with Sub-Saharan African countries. The abundance of natural resources, and particularly hydrocarbons, emerged as another important parallel between the two regions. Indeed, Africa and Arab Gulf states have accounted for more than 50% of world total reserves of oil and gas over the last decades [EIA (2008)].[6] And with the shift towards the hydrocarbon economy in the early part of the 20th century, these regions became the most coveted in the world, particularly as industrialized nations increased their demand for energy and other natural resources-based inputs in support of continued output growth and expansion [Phillips (2008)].

In this context, Arab Gulf states, which have dominated world production, became major players in the global energy market. Over time, they amassed a significant amount of petrodollars and foreign reserves in the face of a combined oil price hikes and increasing global demands. Since the late 1970s,

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[2] For the first time China accounted for the largest country-level contributions to world growth in purchasing-power-parity terms in 2008 [IMF (2007)].

[3] Indeed, over the last decade, China exports to Sub-Saharan Africa have grown by more than twofold.

[4] Now widely accepted as the greatest human tragedy and crime against humanity, the human cost of the protracted episode of slavery was significant. It is estimated that European and Middle Eastern powers enslaved over 22 million people from Sub-Saharan Africa between 650 and 1900 [Nunn (2008)].

[5] In the process, Zanzibar lost its pivotal role as vibrant international port for the East African Trade.

[6] It is estimated that GCC countries account for over 40 percent of the world's proven oil reserves [BP (2007)].

proceeds from oil exports have accounted for a significant and growing share of government revenues and export earnings in these countries. The remarkable increase in oil price in the aftermath of the second Gulf war only increased their foreign reserves position. In the process they also became major players in the global capital market as net suppliers of capital on a global scale.

In most cases, governments in the Gulf region invested these oil windfalls to dramatically transform their economic landscape. Departing from the Bedouin pastoralist setting, they have become modern economies with extremely high per capita income and some of the highest living standards in the world [IIF (2008)].[7] At the same time, these governments made provisions for future generations through significant investments in foreign currency-denominated assets. It is estimated that GCC countries have assets largely exceeding a trillion dollar under sovereign management [Nyarko (2008), Shochat (2008)]. Domestically, sustained increases in public investments in oil and non-oil sectors in support of economic diversification have turned the region into a pole of global economic growth, with annual GDP growth rate in excess of 6% in recent years [Sturm et al. (2008)].

In contrast to GCC states, Sub-Saharan African countries have recorded abysmal economic outcomes over the last three decades, even though they enjoy a wider range of other export commodities, and hence have a more diversified natural resources and exports base [Easterly and Levine (1997)]. In fact, in addition to hydrocarbons, they have a wide range of agricultural export commodities and large deposits of minerals.[8] It is estimated that the Congo Democratic Republic has mineral reserves in excess of US$24 trillion—equivalent to the combined GDP of US and EU member countries.[9]

Yet in spite of this abundant wealth, the persistence of widespread poverty, the declining real per capita income and debt overhang in the face of recurrent balance of payments crisis have emerged as some of the main characterizations of the Africa region over the last decades [Artadi and Sala-i-Martin (2003), Fofack (2008)]. This development paradox—persistence of widespread poverty in the midst of resource abundance—has led scholars to associate natural resource endowment to curse in Africa [Sala-i-Martin and Subramanian (2003)].[10]

However, the alternative more successful hydrocarbons and natural resource-based economy of the GCC region, which has resulted in divergent economic outcomes with the equally resource-endowed SSA region suggests that the natural resource curse argument oft-cited needs not be a fateful natural course. The plausibility of this assertion may be even stronger because the two regions have a lot more in common. Besides the abundance of natural resources, countries in these two regions emerged as relatively young nations from the post-colonial era. Furthermore, they have not always been governed by strong democratic institutions as defined by the Western tradition [Rowley (2000), Acemoglu et al. (2001)].[11]

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[7] For instance, with average GDP per capita in excess of US$50,000, Qatar has the fourth largest income in the global ranking of countries [IIF (2008)].

[8] In addition to hydrocarbons, Sub-Saharan African countries also lead the world in the production and exports of minerals and other agricultural products such as coffee, cocoa, cotton and even timber.

[9] For further details see African Business Special Report on mining in Sub-Saharan Africa (February 2009).

[10] Also known as the paradox of plenty, resource curse refers to a phenomenon whereby countries with abundant natural resources tend to have less economic growth than the resource-poor nations.

[11] For instance Acemoglu et al. (2001) find that the abysmal state of economic development of in Sub-Saharan Africa is not due to cultural or geographical factors, but mostly accounted for by the existence of worse institutions. However, the alternative successful GCC model in the absence of democratic institutions suggests that post-independence institutions governing GCC states may be significantly different from the ones used in SSA, even in the absence of democracy.

Yet economic policies implemented in these two regions have produced markedly different outcomes. The objective of this paper is to investigate the possible causes of these divergent development paths and explore the prospects for economic convergence in the new globalization landscape of increasing rates of economic exchanges and trade flows between the two regions. Of particular significance are the contours of the development model which has enabled GCC states to emerge as global economic players from their status of young nations, and the challenges of adapting that model to enhance output growth and the integration of Sub-Saharan African countries into the new global economy.

Empirical analysis shows marked divergent development outcomes between SSA and GCC countries, particularly reflected in the widening income and welfare gaps. This divergence is partly explained by differences in institutional quality. In particular, the discontinuity of institution appears to have had high opportunity costs in SSA, where roving bandits emerged as the worse substitute for stationary bandits in the post-independence era [Rowley (2000)]. In contrast, the continuity of institutions underpinned by intergenerational accountability in the GCC region resulted in a better allocation of resources, with countries enjoying sustained increases in physical and social infrastructures critical for FDI inflows and economic development. The divergence is also the consequence of a long-term development strategy, which has guided acquisition of foreign currency-denominated assets and economic diversification in GCC countries. However, counterfactual simulations suggest that the extension of models underpinned by institutional continuity placing constraints on the elites in SSA could greatly enhance asset accumulation and long-run growth and significantly reduce the income gap between the two regions.

The remainder of the paper is organized as follows. The next section reviews the parameters underlying the divergent development paths between GCC and SSA regions. Section III presents the empirical framework for estimating output response to policy shocks in resource-rich countries. The proposed empirical framework is then used in section IV to investigate the possible causes of the divergent development path between GCC states and Sub-Saharan African countries. Prospects for economic convergence are also discussed under this framework. The last section concludes.

II.   Divergent Development Paths between SSA and GCC

In spite of the similarities of initial conditions in the GCC and SSA regions, and furthermore, the more diversified natural resources and export base in the latter, a cross-regional comparison of macroeconomic performance and welfare indicators highlights a sharp contrast between the two regions. This divergence is most notably illustrated by the significant improvement of living standards in GCC countries and the persistence of widespread poverty and declining life expectancy in SSA.[12] Evidence of absolute divergence on the path of development in these two regions can be assessed from a host of quantitative and qualitative indicators. However, in the context of this study, the comparative analysis is primarily based on a set of key quantitative indicators: growth and per capita income, current account balances, external position and headcount indices to account for poverty and individual welfare.

In order to highlight this divergence on the development path, we attempt to compare the two regions' growth and welfare performance over most of the post-independence era, starting in the early 1970s. However, to enhance comparisons, the African sample is restricted to a subset of natural

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[12] According to the latest UN Human Development Report, life expectancy has fallen dramatically in SSA where it now stands at 46 years of age. In contrast, it has continued to rise in GCC countries where people are living longer—with average life expectancy now in excess of 75 years of age [ESCWA (2007), UNDP (2007)].

resource-rich countries.[13] These countries have enjoyed a slightly higher per capita income over the last few decades. In particular, the latest estimates place their average GDP per capita at over US$1070 (in constant 2000 US$)—significantly above the average across the whole SSA region (about US$861). Moreover, these countries have a combined GDP of US$813 billion—representing about 90% of the whole SSA region's GDP.

The higher income enjoyed by this sub-sample of resource-rich nations reflects the inclusion of a number of countries which have achieved the middle-income status either on account of their natural resource endowment or their relatively smaller population size or both. Some of these countries include the hydrocarbon-rich Equatorial Guinea, which emerged from the abject poverty status with the lowest per capita income as late as the 1990s, to become a middle-income country, following the discovery of oil. It now enjoys the highest average per capita income in the region (over US$8000) [World Bank (2008)]. The sample also includes Gabon and Botswana, which are hydrocarbons and mineral-rich, respectively. Likewise, countries in this second tier also enjoy a relatively high income, even by middle-income country standards.

However, in spite of the relatively higher per capita income of these countries, they pale in comparison to GCC countries. Long-term trend shows persistent large income gap between the two regions. While GCC income average exceeds US$17,000, the average across the SSA resource-rich sub-sample remains relatively low and consistently flat over the period (see Figure 1 in Annex).[14] Hence, in spite of the relative decline of GCC average income in the mid-1970s, following sharp economic downturn, income convergence did not occur [Sturm et al. (2008)]. And with the sustained increase of GCC average income, particularly driven by robust economic growth since the early 1990s, the income gap between the two regions has widened even further.

Nevertheless, income stagnation at the aggregate level and even decline in real terms needs not overlook cross-country variations within the region and across the sub-sample. Departing from models which have assumed low cross-country variance on the growth and development ladder, a number of studies have recently attempted to highlight growth success stories in SSA [Pattillo et al. (2006)]. In this line of research, Botswana is often mentioned as the African Success story; interestingly one which is credited to have successfully escaped the natural resource curse that is so pervasive across the whole Sub-Saharan African region [Acemoglu et al. (2002), Fofack (2009a)].

Indeed, notwithstanding its extremely high unemployment and poverty rates, Botswana currently has one of the highest per capita incomes in the region, reflecting its strong and sustained economic growth rates over the last three decades [Acemoglu et al. (2002), Hillbom (2008)].[15] Yet a comparison between Botswana and Oman—the least wealthy nation in the GCC region is not favorable to the former (see Figure 1). Even though Oman has a significantly much larger population size—over twice that of Botswana—the per capita income gap between the two countries is significant and has been growing steadily since the 1960s.

Over time this income gap has increased by more than fivefold, and Oman now enjoys income level that is over twice the average in Botswana. Of course, a comparison with other SSA resource-rich countries which have faced higher growth volatility and declining real per capita income would

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[13] This sample includes the following countries listed in alphabetical order: Angola, Botswana, Cameroon, Central African Republic, Chad, Congo Republic, Cote d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Nigeria, Sierra Leone, South Africa, Tanzania, Uganda and Zambia.
[14] Artadi and Sala-i-Martin (2003) document that the SSA average per capita GDP embraced a declining trend after the peak of 1974, and by the turn of the new millennium, it has fallen by over 11% from that peak.
[15] In spite of its relatively high per capita income, Botswana is confronted with extremely high unemployment rates and poverty incidence, however.

exhibit an even larger income gap (Figure 2). In order to further highlight absolute divergence and illustrate this last point, Figure 2 in the second panel contrasts long-term trend of per capita income in Oman and the two Congo (Democratic Republic of Congo and Congo Republic).

Figure 1: Long-term Trend of GDP per capita Income in Oman and Botswana (in constant 2000 US$)
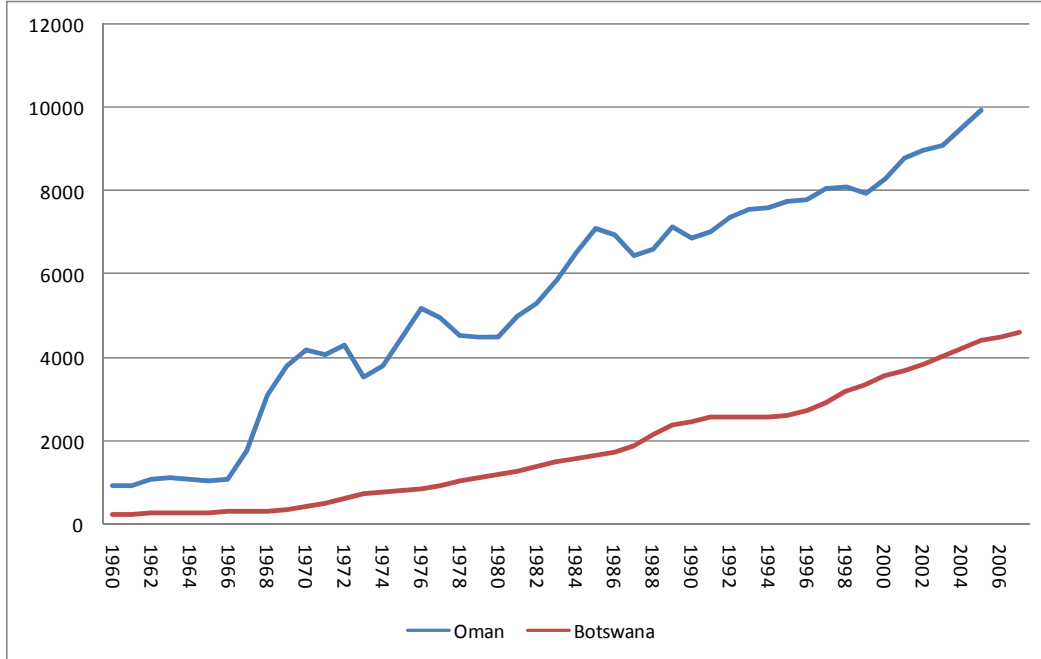
Source: World Bank World Development Indicators.

Figure 2: Long-term Trend of GDP per capita Income in Oman, DRC and Congo (in constant 2000 US$)
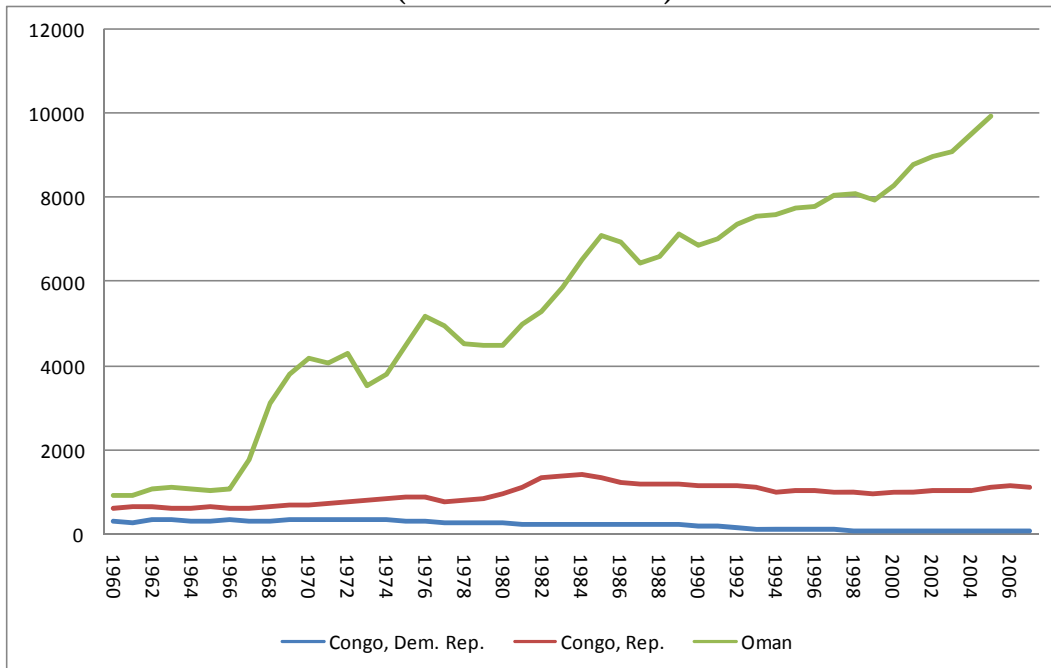
Source: World Bank World Development Indicators.

Of course the relatively large and growing income gap between the two regions reflects differing rates of economic growth which may account for an important part of the divergence. While GCC states enjoyed long episodes of robust and sustained economic growth, resource-rich countries in SSA with a few exceptions suffered anemic and large growth volatility [Easterly and Levine (1997)]. According to Artadi and Sala-i-Martin (2003), economic growth rates for the SSA region as a whole became negative starting in the late 1970s into the first half of the 1990s when a dramatic drop in the magnitude of minus 1.5% was recorded. In contrast, GCC countries rapidly recovered from the 1980s downturn to achieve strong economic growth rates in the following years. Since 1990s, they have enjoyed average growth rates in excess of 6% per year [Sturm et al. (2008)].

Further evidence of absolute divergence is illustrated by a sustained deterioration of current account balances of countries in SSA. This deterioration contrasts the structurally positive balance enjoyed by GCC countries. Following economic downturns in the mid-1970s, the current account balance of SSA countries entered a long and protracted phase of sustained deterioration, and has persisted since then. In spite of the slight improvement at the turn of the millennium, most notably as a result of access to debt relief under the HIPC initiative and booms in commodity prices in the face of sustained global demands, SSA countries continue to exhibit one of the worst current account balances, even by global standards.

Their current account balance is only comparable to that of the US whom size of the current account deficit has become the major sources of global macroeconomic imbalances [Holman (2001), Cooper (2008)].[16] In percentage of GDP, the whole SSA region recorded a current account deficit of approximately minus 8.2% in 1995, largely above the Mann's sustainability threshold.[17] Interestingly, the average across SSA resource-rich sub-sample is even larger—about minus 9%, notwithstanding their more diversified natural resource and export base. Although still negative, countries in the resource-rich sub-sample saw a slight improvement of their current account balances at the turn of the millennium, largely owing to exceptional booms in commodity prices and debt relief under the Enhanced HIPC initiative.

Table 1: Current Account Balance of Major Trading Partners (in % of GDP)

Country or Region	1980	1985	1990	1995	2000	2007
USA	0.08	-2.80	-1.36	-1.54	-4.25	-5.34
China	0.09	-3.77	3.09	0.22	1.71	11.10
GCC	42.43	16.00	6.81	-2.99	18.87	26.71
SSA-All	-10.84	-5.56	-5.73	-8.19	-4.87	-5.84
SSA Resource-Rich	-6.62	-1.70	-3.85	-9.07	-2.08	-2.12

Source: World Bank World Development Indicators.

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[16] Of course, in absolute terms, the Sub-Saharan Africa's current account deficit pales in comparison to the US one. In 2006, the US current account deficit accounted for over 70 percent of the world total when the current account of all countries running deficits is aggregated [Cooper (2008)].

[17] According to Mann (1999), a current account deficit greater than 4.2 percent of GDP is unsustainable.

However, they still fare poorly when compared to GCC countries which saw their current account surplus exceed 20% of GDP during the same period. Somehow, GCC countries tend to smooth negative terms of trade shocks better than Sub-Saharan African countries during economic downsides, and perform far better during upsides. More recently and under the latest oil price hikes, their stronger growth and economic performance has been reflected in the dramatic increase in their holding of foreign reserves, which reached levels only comparable to holdings of the very successful and more diversified emerging market economies of East Asia [Sturm (2008)].

The sustained deterioration of current account balances of SSA countries probably reflects either the excess of aggregate expenditures on imported goods and services, and particularly noncapital goods, over national output or that of investment over savings. However, in a context of sustained deterioration of gross capital formation in the majority of countries in the region, the excess of aggregate expenditure on imported noncapital goods may be driving the structurally large current account deficit [Akyuz and Gore (2001), Artadi and Sala-i-Martin (2003)].[18]

The plausibility of excess aggregate expenditures over national output is further supported by widening trade deficits in the absence of economic diversification in the region, particularly in the new globalization landscape where manufactured goods account for an increasingly larger share of global trade [World Bank (2002), Fofack (2009b)]. In contrast, GCC countries have seen a consistent decline in their marginal propensity to spend on non-oil imports, reflecting increasing rates of economic diversification and expanding sources of growth in the region [Fasano and Iqbal (2003), Magnus (2006)].[19] And this, coupled with global commodity prices boom only led to further consolidation of their current account surpluses.

Still, evidence of absolute divergence between the two regions is also illustrated by the stark differences in their external position. GCC countries drew on their sustained current account surplus to significantly increase their holding of foreign currency-denominated assets. More recently, the strength of their external position has also been reflected in the impressive and growing size of their sovereign wealth fund [Nyarko (2008), Phillips (2008)].[20] Indeed, these countries are managing some of the largest sovereign wealth funds estimated at several trillions dollars, an impressive war chest which has turned them into major players in the global capital markets [Shochat (2008)].

Ironically, just as GCC countries were becoming major players in the global capital markets, an overwhelming majority of Sub-Saharan African countries faced debt overhang, a consequence of further deterioration of their external position. Naturally and consistent with the symmetric argument—net international debt is the accumulation of current account deficit over time—most countries in Sub-Saharan Africa resorted to external indebtedness to finance their structurally rising current account deficits.[21]

Although consistent with economic theory—current account deficits are financed by net capital inflows from abroad—this mode of external deficit-financing resulted in a dramatic increase of external liabilities, however. These liabilities reached unsustainable levels in the mid-1990s when

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[18] According to these authors, SSA suffered a long period of sustained decline in investments which reached the lowest threshold of 7.5% of GDP in the first half of 1990s. In comparison, average investment rates for East Asian Emerging Market Economies and GCC countries exceeded 30% during the same period.
[19] According to Magnus, the marginal propensity to import non-hydrocarbon products of GCC states declined from 0.34 to 015 between 1973 and 2005, significantly below the average in OPEC (0.24).
[20] According to the IMF statistics on official reserve holdings, the Kingdom of Abu Dhabi had the largest sovereign wealth fund in 2007, in excess of US$625 billion [Phillips (2008)].
[21] More specifically, net international debt is the accumulation over time of the trade deficit plus any borrowing that is required to make interest payments on the debt.

external debt grew to account for over 300% of exports for the whole region and over 250% of exports for the sub-sample of resource-rich countries [Easterly (2002), World Bank (2001)].[22]

Paradoxically, the debt overhang built on external financing of current account deficits in SSA has also been accompanied by a dramatic deterioration of living standards. As a consequence of high growth volatility and declining income in real terms, the persistence of widespread poverty provides another evidence of absolute divergence between the two regions. The dramatic increase of poverty and widening welfare gap between the rest of the developing world and SSA has led scholars to characterize the latter as "the economic tragedy of the 20th century" in reference to the enormous consequences of abysmal growth performance on human welfare in the region [Easterly and Levine (1997), Artadi and Sala-i-Martin (2003)].

Evidence of further deterioration of living conditions in Africa is provided by Sala-i-Martin's estimates which are based on the standardized one dollar a day poverty line.[23] According to these estimates, the fraction of African population whose consumption is less than one dollar a day increased from 48% to over 60% between 1970 and 2000 [Artadi and Sala-i-Martin (2003)]. At 60%, this headcount index is extremely large, even by developing country standards. Essentially three Africans out of five are now poor, up from one out of two in the 1970. Almost surely, this 25 percent increase in the headcount index over the last three decades has propelled hundreds of millions of more Africans into poverty.

Still, the depth of poverty in SSA is better illustrated by its depth and breadth across the entire region. Poverty is widespread in the region, and no country is exempt, even the very few which now enjoy the middle-income status. For instance, Botswana's incidence of rural poverty rose to 45% in 2003, in spite of sustained economic growth rates which have raised aggregate per capita GDP above US$4000 [Moepeng (2007)].[24] Similarly, the welfare context is not any better in South Africa; though it has become the prime destination for continental migrants in search of employment opportunities. Approximately 57% of individuals in South Africa are living below the poverty line [Schwabe (2004)]. In part, the persistence of widespread poverty in South Africa reflects the structurally high unemployment rates, which at 41% falls in the very high end of developing countries overall rates [Klasen and Woolard (2008].[25]

The sustained deterioration of welfare in SSA is in sharp contrast with the remarkable improvement of living standards at the global level. Indeed, during the same period, world poverty rates embraced a rapidly declining trend, falling to the lowest rate of 16% at the turn of the millennium from about

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[22] However, the majority of these countries have since received debt relief under the Enhanced Highly Indebted Poor Country (HIPC) initiative, which improved their external debt ratios. However, keeping external debt thresholds to post-HIPC Completion Point levels remains a real challenge for the majority of countries. Already, a World Bank review of HIPC-Completion Point countries has highlighted a renewed deterioration of debt thresholds in a number of Completion Point countries in the region [World Bank (2006)].

[23] Cross-country comparison of poverty and welfare is always a challenge [Deaton (2001)]. However, in the context of this study, we draw on Sala-i-Martin (2003) methodology which combines individual income surveys with aggregate national income data to estimate the entire distribution of income for each country.

[24] And given that the overwhelming majority of Botswana's population resides in rural area, this relatively high rural poverty incidence suggests that a disproportionately large population of Botswana continues to be poor. Hillbom (2008) attributes the persistence of poverty in the midst of growth to absence of structural transformation in the patterns of growth, which could have resulted in employment creation and rapid reduction of poverty.

[25] This rate is based on a broad definition of unemployment, which includes those who are willing to work but are not actively looking for a job. However, even a narrow definition of unemployment which includes only those who are willing to work and are actively searching produces unemployment rates comparable to US Great Depression rates—over 28% [Statistics South Africa (2004), Klasen and Woolard (2008)].

37% in 1970 [Artadi and Sala-i-Martin (2003)]. Carried by this global trend and strong economic performance, the welfare improvement was probably even more impressive in GCC countries, which now enjoy some of the highest living standards in the world, with its UNDP-based Human Development Index comparable to OECD rates.

Not surprisingly, the significant improvement of living standards in the rest of the world coupled with dramatic deterioration in SSA has resulted in a disproportionate increase in the contribution of Sub-Saharan Africa to global poverty. The Sub-Saharan African region now accounts for over 40% of the global poor, notwithstanding its relatively lower population share [Sala-i-Martin (2003)].[26] As a consequence of this dramatic deterioration of living standards, it is projected that no country in that region will meet the first Millennium Development Goal of halving poverty by 2015 [Berg and Qureshi (2005)].

III.   Analytical Framework

The divergent development outcome between the GCC and the equally natural resource-rich SSA region may suggest that the abundance of natural resources has been growth-enhancing in the former and growth-inhibiting in the latter. According to economic theory, this latter unexpected development outcome, also known as the paradox of plenty, is highly plausible. Three channels of causation from natural resource abundance to lower growth are often articulated in the literature: rent seeking through the voracity effect, terms of trade shocks through the commodity prices volatility channel, and the more widely discussed Dutch Disease channel [Isham et al. (2005)].

Empirical evidence supports the adverse effects of rent seeking on growth, and suggests that rent seeking breeds on poor governance and institutions [Lane and Tornell (1995)]. Proponents of this model argue that resource-rich countries are subject to more extreme rent seeking than resource-poor because natural resources tend to be capital-intensive and generate a lot of rents. Hence, in a weak institutional setting, rent-seeking may adversely affect growth through the political economy. In particular, resources and state capture may lead to sub-optimal allocation and diversion of public resources in the form of capital flight, and ultimately contracts public investments and growth by raising the national saving gap [Ndikumana and Boyce (2008), Fofack and Ndikumana (2009)].[27]

At the same time, capital flight is the fact of elites, and the underlying skewed distribution of income in resource capture and state predation may also heighten inequality and poverty. In the extreme case of "roving bandit" institutional framework where there is little incentives to invest in productive capacity for long-run growth, the culture of rent may also fuel conflicts, especially when competing factions fight for limited resources [Rowley (2000), Collier and Hoffler (2004)]. Under these extreme cases, ethno-linguistic fractionalization, increasingly used to explain the natural resource curse becomes the natural extension of rent seeking models.[28]

Natural resources-dependent nations are also exposed to negative terms of trade shocks intrinsically inherent with commodity prices fluctuations—the commodity prices volatility channel. Under this

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[26] These income-based poverty estimates are consistent with the UN-based Human Development Index, which is a composite one. According to this index, the poorest thirty countries in the world are all located in Sub-Saharan Africa, with the exception of Haiti [UNDP (2008)].
[27] Capital flight has reached epic proportion in the Sub-Saharan African region, which is now viewed as a net creditor to the rest of the world [Ndikumana and Boyce (2008)].
[28] This is particularly the case because proponents of this theory postulate that ethno-linguistic fractionalization is more prone in a resource-abundant environment—essentially implying that the economic argument may actually trounce ethno-linguistic differences.

channel, adverse terms of trade shocks may undermine growth through the supply and demand channel, the fiscal deficits and external sectors channels. For instance, when sustained over time, balance of payments crisis fuelled by negative terms of trade shocks can lead to debt overhang and further crowd-out scarce resources needed to expand public investments in support of growth [Elbadawi et al. (1997), Pattillo et al. (2002)]. At the same time, worsening terms of trade reduces the marginal product of factors in the tradable sector. As expected, the resulting lower export price leads to a decline in national wealth, which in turn may contract domestic demands for both tradable and nontradable goods.

Not surprisingly, empirical evidence finds that negative terms of trade shocks tend to have the largest adverse effects on income growth in developing countries. A number of studies have attributed Sub-Saharan Africa's abysmal growth and economic performance to higher exposure to negative terms of trade shocks [Becker and Mauro (2006)]. However, as the more diversified natural resource and export base region, Sub-Saharan Africa should in principle has a lower risk exposure, partly as a result of higher probability of asymmetric concurrent shocks.

Moreover, world economies are all subject to wild price gyrations and unfavorable terms of trade following positive shocks. In this regard, there is no reason a priori why countries in Sub-Saharan Africa should disproportionately be more exposed to these adverse shocks than GCC countries on the pure resource base ground. Sustained exposure to these negative shocks in a globally competitive environment should therefore be viewed as consequence of policy failures, possibly emanating from the deficit of economic diversification.

At the same time, positive shocks are not necessarily risk-free or automatically growth-enhancing either. The rapid appreciation of exchange rates in response to positive commodity prices shocks can lead to a contraction of the tradable sector, a phenomenon often referred to as the Dutch Disease. Alternatively, Dutch Disease models have also been used to explain the paradox of plenty in SSA [Stijns (2002)]. Proponents of these models argue that resource-base growth tend to be ineffective because world prices of primary exports relative to manufactures show a deep tendency towards a secular decline.

In order to mitigate the adverse effects of Dutch Disease, resource-dependent nations are encouraged to develop their manufacturing industries. In practice, countries such as Norway and Malaysia have drawn on successful diversification in both oil and non-oil sectors to mitigate these risks. More recently, a number of GCC countries have also made great strides in the path to economic diversification, increasingly reflected in the steadily declining contribution of hydrocarbons to national GDP [Shochat (2008)]. [29] In particular, these countries have drawn on number of adjustment mechanisms—completely flexible labor market and sustained dollar pegs—to enhance economic diversification and partly offset possible adverse effects associated with Dutch Diseases.[30]

In a related vein, Botswana recently set up a national company to foster economic diversification through local processing of diamonds for value addition, though it is too early to assess the economic benefits of such a scheme [Fofack (2009a)]. Nonetheless, the remarkable success achieved by oil-

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[29] Since 1980, the contribution of hydrocarbons to national GDP has been declining in most GCC countries; by the turn of the millennium, non-oil GDP far exceeded oil GDP in the region. However, the rates of diversification are not uniform across the region: hydrocarbon continues to account for over 90% of total export revenue in Kuwait, Qatar and Saudi Arabia, even though the latter has also become a leading exporter of petrochemicals. In contrast, UAE has dramatically reduced the share of hydrocarbons in its exports—from over 90% in 1980, this share has declined steadily and now accounts for about 50% [Shochat (2008)].
[30] However, the process of economic development in these countries continues to be largely driven by public investment and excessive reliance on expatriate labor in a context of chronic shortage of skills, a process which has resulted in labor market segmentation.

exporting countries in Northern Europe and the positive steps in the Arab Gulf region suggests that even Dutch Disease models cannot be generalized to all resource-rich countries.

In this regard the question remains: why would risks associated with natural resources abundance be disproportionately higher in the SSA region which has a more diversified natural resource and export base? More recently, models used to answer this question have drawn on institutional channels to investigate the links between natural resources and economic growth [Acemoglu et. al. (2001), Sala-i-Martin and Subramanian (2003)]. The focus on this channel reflects the fact that the nature of institutions affects economic outcomes, and the management of natural resource very much depends on institutional quality [Islam (2002), Rodrik et al. (2004)]. At the same time, the nature and quality of institutions influence countries' response to shocks [Funke et al. (2008)].[31]

In these institutional models, economic performance is measured by GDP per capita y. Explanatory variables include key determinants of growth summarized in the conditioning vector X in the specification below. The institutional variable which accounts for the effect of institutional quality on growth is another key explanatory variable. Hence, in line with recent developments in the empirical literature, we approximate the link between natural resource and economic performance using the following functional relationship in a condensed fixed and time effects panel:

$$y_{i,t} = \mu_i + T_t + X_{i,t}\beta + \varepsilon_{i,t} \qquad (1)$$

Where $\varepsilon_{i,t}$ is the White noise random error terms accounting for the effects of omitted variables, with $E(\varepsilon_{i,t}) = 0$, $E(\varepsilon_{i,t}^2) = \sigma_{i,t}^2$ and $E\varepsilon_{it}\varepsilon_{jt} = \sigma_{it}^2$, $\forall i, t, j$. The constant terms μ_i reflects the effects of omitted variables that are peculiar to any of the countries in the sample, T_t accounts for time effects and controls for trend.[32] Taking into account the conditioning variables, which include the traditional determinants of growth, with emphasis on the ones which are more pertinent to countries in the GCC and SSA region, particularly the sustained public investment gap, natural resource endowment and institutional quality, an expanded version of equation (1) can be represented as follows:

$$y_{it} = \mu_i + T_t + \alpha I_{it} + \lambda N_{it} + X'_{it}\gamma + \varepsilon_{i,t} \qquad (2)$$

Following equation (1) y_{it} is the real per capita income of country i at time t; similarly N_{it} stands for natural resources whose export proceeds are expected to improve the balance of payments of country i at time t; I_{it} measures institutional continuity in country i at time t; and X is the conditioning vector comprising of other significant covariates. Among these covariates we focus on variables which capture the transmission channels from natural resource to growth as well as the traditional determinants of growth.

In practice, a stepwise procedure is used to select the most significant determinants. These include public and private investments, foreign direct investments, domestic credit to the private sector, net interest income, macroeconomic and competitiveness variables, and particularly money supply $M2$

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[31] Conducting an empirical investigation on a large sample of developing countries, Funke et al. find the rate of economic recovery following negative terms of trade shocks to be robustly related to improvements in government stability and the institutional framework.

[32] These terms have zero mean, constant variance over time for any given country, but differ across countries with a non-zero contemporaneous correlation across countries.

and changes in real effective exchange rate to account for possible Dutch Disease effects.[33] The non-inclusion of the natural resource variable in the conditioning set is in line with recent developments, and aims at reducing measurement errors associated with each variable and mitigating the effects of possible leakages in the transmission channels from natural resource to growth.

Similarly, the variable measuring institutional quality in (2) is subject to measurement errors. Simple OLS estimation is therefore not appropriate. Accordingly, and in line with Hall and Jones (1998)—who propose to use the fraction of the population speaking English and French to instrument for institutional quality—and Acemoglu et al. (2001)—who propose to instrument this variable using settlers mortality rates in the colonies—we adopt an instrumental methodology for this variable.[34] However, we adjust the initial empirical model to emphasize intergenerational accountability in the choice of a plausible instrument for institutional quality.

The key assumption beneath this adjustment is that a framework underpinned by intergenerational accountability has the potential for mitigating the risk of emergence of a roving bandit culture, and creating the right incentives to undertake long-term investments critical for economic development, regardless of country level of resource endowment [Rowley (2000)]. Furthermore, the emphasis on intergenerational accountability under this framework is dictated by the two-pronged development strategy which combines short—and long-term investments in the more successful GCC countries. While the scale of short-term investment is reflected in the quality and sustained increases of physical and economic infrastructures, long-term investments are underpinned by large holding of foreign currency-denominated assets. Net interest income accruing to GCC countries has risen consistently, and returns on sovereign wealth funds owed by these countries now account for a major fraction of their GDP [Nyarko (2008)].

Interestingly, intergenerational accountability is more likely to occur in countries which invariably enjoy the continuity of institutions placing constraints on the political elites. Over the last two centuries, successful GCC countries have been governed by descendents from the same Sheikdom in a model where succession plans across generations have not been random. Unlike most countries in Sub-Saharan Africa, these Sheiks have drawn on traditional institutions, and particularly the highly consultative "*Majlis*" concept to enhance broad-base support and their legitimacy [Nyarko (2008)]. Continuous rule under the same traditional system of participative decision making process is what we refer to as institutional continuity in this paper.

Contrasting with the GCC region, it is argued that pre-colonial Africa was equally largely ruled by Kings. However, unlike the Arab Gulf region, most monarchies were systematically destroyed by colonialists, a process which dramatically undermined institutional continuity in the region.[35] Nonetheless, one country which seems to have remained on the path of institutional continuity is Botswana. Like the "*Majlis*" concept in the United Arab Emirates, the "*Kgotlas*", which provided a system of consultations between citizens and rulers in pre-colonial Botswana, has continued to enhance the participation of people to decision making in the post-independence era. Similarly, Botswana has been governed by the same political party, though access to the leadership is dictated

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[33] The initial subset of covariates considered in the model was broader. However, this initial set was sequentially reduced after application of a stepwise procedure which selects the most significant determinants.

[34] The interest in using settlers' mortality rate as a plausible instrument for institutional quality is that there are other factors which may affect the quality of institutions in former colonies besides languages. For instance, controlling for languages, Acemoglu et al. (2001) find that an inverse linear relationship exists between settlers' mortality rates and institutional quality. In particular, the quality of institutions tends to be significantly worse in ex-colonies where European settlers faced higher mortality rates.

[35] The economic and social costs of institutional discontinuity under colonial rule have been significant, and increasingly a number of scholars are advocating the return to traditional form of institutions and governance as a pre-condition to sustainable development in Africa [Ayittey (2006)].

by in-party democratic selection rather than family lineage. Still, the continuity of traditional institutions which place constraints on the political elites has emerged as central to Botswana's apparent exception to the natural resource curse that is so pervasive in the rest of the continent [Acemoglu et al. (2001), Fofack (2009a)]. [36]

Institutional continuity underpinned by intergenerational accountability has also provided the institutional dividends, which over time have strengthened the foundation for political stability. There is an apparent positive correlation between institutional continuity and political stability, as countries which have remained on the path of institutional continuity in both GCC and SSA region tend to invariably enjoy greater political stability. In order to account for the significance of institutional continuity, we sequentially use corruption index, political stability and political risk rating variables in the instrumentation of institutional continuity.

A simple strategy might amount to directly using either of these variables to instrument institutional continuity I_{it} in equation (2). However, this mode of estimation would be inappropriate because political stability and risk are consequences of institutional quality and may be affected by other variables (the possibility of a correlation with ε_i cannot be automatically excluded). Instead, we use a dichotomous index of institutional continuity C_{it} to instrument for I_{it}. This approach results in the following first-stage equation for institutional continuity, where the dependent variable is alternatively chosen to represent corruption index, political stability and political risk rating:

$$I_{i,t} = \eta_i + T_t + \beta N_{it} + X'_{it}\kappa + \vartheta C_{it} + \varepsilon_{i,t} \qquad (3)$$

$$\text{Where } C_{it} = \begin{cases} 1, & \text{if country } i \text{ invariably enjoys continuous institution,} \\ 0, & \text{otherwise.} \end{cases}$$

Alternatively, the response variable in the first-stage equation is either the index of political stability, corruption index or political risk rating; the other variables are accordingly defined. From this representation, it is possible to test whether natural resources have an indirect effect on economic growth via institutional continuity. The parameters in equation (3) are estimated by means of Least Squared methods. The variable instrumented for institutional continuity is substituted in equation (2) after estimation of parameters. Following this first-stage estimation, the resulting model is represented by equation (4) below:

$$y_{i,t} = \mu_i + T_t + \alpha \tilde{I}_{it} + \lambda N_{it} + X'_{it}\gamma + \varepsilon_{i,t} \qquad (4)$$

In the above second-stage equation, $\tilde{I}_{it}$ is the instrumented variable. However, the resulting empirical model is further expressed in log terms in order to mitigate the possible effects of heteroskedatiscity. Hence, parameters estimation for inference on the determinants of growth and the possible causes of marked differences in economic performance between GCC and SSA countries is based on the functional relationship expressed by equation (5) below:

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[36] The following quote from Festus Mogae, the former President of Botswana is illustrative. Receiving the Mo Ibrahim Foundation's Prize for Good Governance in Africa, President Mogae emphatically said "I did not create the democracy in my country, I consolidated it and deepened it by practicing accountable governance, respect for the rule of law, independence of the courts, respect for human rights, including women's rights."

$$\ln(y_{it}) = \mu_{it} + T_t + \lambda \ln(N_{it}) + \ln(X'_{it})\gamma + \alpha \tilde{I}_{it} + \varepsilon_{it} \qquad (5)$$

IV.   Empirical Results and Prospects for Convergence

Following estimation of parameters in the first-stage regression, the model specified by (5) is fitted to a panel of 24 countries. Included in this panel are all the six GCC countries and a sub-sample of 18 countries in SSA. Data sources are World Bank, World Development Indicators and World Economic Outlook. The time series data covers the period 1970—2007 as the study focuses on long-term changes and not cyclical variations in output. Per capita GDP, public and private investments, foreign direct investment, net interest income, changes in real effective exchange rate and money supply data in the conditioning vector are from the World Development Indicators database. So is the natural resource variable N_{it}, which is proxied by country exports, assuming that natural resources continue to account for the lion's share of exports in these countries.[37] Data on corruption index, political stability and political risk rating are obtained from International Country Risk Guide.

This section assesses the prospects for income convergence between GCC and SSA countries when institutional continuity is controlled for. Counterfactual simulations investigating plausible policies that could enhance income convergence between the two regions are undertaken. However, in order to infer on the convergence parameters, it is foremost important to derive an empirical model that best estimates the dynamics of output growth in these economies. Such an underlying model is provided by equation (5). This model assumes that the estimated parameters are identical for all countries in the sample, but some differences could exist in the constant terms.[38] Estimated coefficients and *t-values* of this model are reported in Table 2.

Three response variables are considered in the first-stage regression to instrument institutional continuity. This sequential approach produces three set of results with two panels in each. Panel A (left column) refers to the first-stage regression for institutional continuity and panel B (right column) refers to the second stage growth regression. The results are robust to alternative measure of institutional continuity, as most coefficients are significantly different from 0 at the 5 percent significance level in either model. The standard errors of estimated coefficients corrected for heteroskedasticity (in parenthesis) are very small, reflecting the relative stability of these parameters. Similarly, the adjusted R-squared associated with either model is comparably high, over 98%.[39]

Notwithstanding the overall performance of these models, inference is exclusively based on the model, which uses political risk rating to instrument for institutional continuity in the first-stage regression (columns 5 and 6). In effect, out of all three alternative measures of institutional continuity considered, this last model has the lowest *p-value*, hence performs better on average than alternative specifications which rely either on corruption index or political stability. The coefficient associated with this variable is significant, with a very low standard deviation. Indeed, this variable has a coefficient that is positive and significantly different from 0 at the 5 percent level of significance. In

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[37] For most countries, including those which have entered the path of diversification, natural resources continue to account for over 90% of total exports. In part, this reflects the fact that the diversification process has simply reduced the marginal propensity to imports in most countries which continue to operate far off the global production possibility frontier as a result of their productivity and competitiveness gap.

[38] Time dummies are also included in the different models, although the results are not reported in the Table due to space limitation. However, they can be made available upon request.

[39] An alternative model with variables expressed in percentage of GDP is also fitted to the data. The results in Table 1 in Annex are not significantly different, though the R-squared value is smaller.

contrast, it is not even significant when either the corruption index or political stability is used to instrument institutional continuity (row 11 and column 2, row 12 and column 4).

Table 2: Regression Results for GCC and SSA Resource-Rich Countries

	First Stage	Second Stage	First Stage	Second Stage	First Stage	Second Stage
Dependent variable	Corruption index	log(GDP per capita)	Political stability	log(GDP per capita)	Political risk rating	log(GDP per capita)
	Column 1	*Column 2*	*Column 3*	*Column 4*	*Column 5*	*Column 6*
Constant	3.065 (0.326)***	2.681 (0.331)***	7.977 (0.402)***	2.382 (0.33)***	52.167 (2.693)***	2.207 (0.236)***
log(IGPC)	0.089 (0.095)	0.074 (0.022)***	0.385 (0.13)***	0.052 (0.032)	4.445 (0.719)***	0.026 (0.031)
log(IPPC)	-0.051 (0.079)	0.112 (0.021)***	0.274 (0.106)**	0.097 (0.023)***	1.020 (0.878)	0.095 (0.02)***
FDIPC	0.000 (0)*		0.000 (0)		-0.001 (0.001)	
log(M2PC)	0.179 (0.2)	0.362 (0.06)***	-0.130 (0.281)	0.289 (0.045)***	-1.349 (1.923)	0.289 (0.044)***
log(DOMCREPC)	0.168 (0.112)		0.029 (0.164)	0.050 (0.026)*	3.669 (1.078)***	0.013 (0.026)
NETPC	0.000 (0)***	0.000 (0)	0.000 (0)	0.000 (0)	-0.001 (0.001)*	0.000 (0)*
CREER	0.474 (0.364)	-0.179 (0.11)	0.606 (0.448)	-0.213 (0.091)**	0.081 (2.158)	-0.194 (0.092)**
CONT	0.183 (0.277)		0.860 (0.265)***		4.957 (1.528)***	
log(EXPPC)	-0.413 (0.115)***	0.252 (0.059)***	-0.419 (0.141)***	0.289 (0.031)***	-4.922 (0.921)***	0.323 (0.032)***
CORR-IV		0.002 (0.125)				
POL-IV				0.050 (0.046)		
POLRISK_IV						0.011 (0.005)**
Adjusted R2	0.189	0.987	0.768	0.987	0.616	0.987

Resource rich SSA countries and Gulf countries are included. The estimation technique is OLS panel regression. The standard errors given in paranthesis are heteroskedasticity corrected. *** stands for significance at 1%, ** significance at 5% and * significance at 10%. Time dummies are included but the results are not reported in the table due to space limitation. GDP per capita is in constant 2000 US$. IGPC is public investment per capita in constant 2000 US$. IPPC is private investment per capita in constant 2000 US$. FDIPC is foreign direct investment per capita in constant 2000 US$. M2PC is M2 money per capita in constant 2000 US$. DOMCREPC is domestic credit to private sector per capita in constant 2000 US$. NETPC is net interest income per capita in constant 2000 US$. CREER is change in real effective exchange rate. EXPPC is exports per capita in constant 2000 US$. CONT is the continuity dummy which is 1 for Gulf countries and Botswana and 0 otherwise. CORR-IV is the estimated value of the corruption index from the first stage. POL-IV is the estimated value of the political stability index from the first stage. POLRISK-IV is the estimated value of political risk rating from the first stage.

Furthermore, estimated coefficients of variables in the conditioning vectors all have correct signs (column 6). As expected, public and private investments, and net interest income are positively related to output growth. Similarly, domestic credit to the private sector and money supply positively affect output growth, probably indirectly through the private investment and capital accumulation channel, and provided money creation is not inflationary or does not raise fiscal deficits to unsustainable levels. However, while money supply and private investment variables are also significant at the 1 percent level of significance, public investment is not.

The non-significance of public investment is not surprising, however. Most empirical studies point to the higher productivity of private investments over public investments in developing countries. In some cases, the marginal productivity of public investment is even negative [Khan and Reinhart (1990)]. Invariably, these studies attribute the disproportionately lower returns on public investments to composition and efficiency effects, and particularly sub-optimal allocation and prioritization of public spending. Hence, the non-significance of public investment might probably reflect the indirectly adverse effect of institutional quality on overall economic growth.[40] However, public investment is also known to be a catalyst to private capital accumulation, and the fact that the marginal productivity of private capital accumulation is positive does not rule out the possibility of public capital accumulation having an indirect effect on growth.

The choice of this latter model is further motivated by the remarkable consistency of results. In particular, the coefficient associated with the natural resources variable has a positive sign and is significantly different from 0 at the 1 percent level of significance across the three models, irrespective of the response variable in the first-stage regression. This result suggests that natural resources endowment has a direct and positive impact on growth.[41] However, these coefficients have a negative sign in the first-stage regression, suggesting that natural resources may adversely affect institutional quality. This result is consistent with rent seeking models which posit that the culture of rent is more prone in resource-rich countries [Tornell and Lane (1995), Isham et al. (2005)].

At first, the positive association between natural resource and growth and negative association between institutional quality and natural resource may appear counter-intuitive, especially if one considers the increasing contribution of institutions to growth. However, this result may simply be highlighting the excessive dependency of undiversified economies on natural resources which in most countries remains the only source of government revenue and foreign reserves. In other words, although natural resources negatively affect the overall quality of institutions, its net effect on economic growth may still be positive on average. One interesting implication therefore is the extent to which the poor quality of institutions might actually slow output expansion and economic development in these countries—which essentially amounts to estimating the output gap attributed to institutional discontinuity.

Counterfactual simulations under different institutional assumptions are conducted to assess the potential output gap and income loss suffered by countries in SSA as a result of discontinuity of institutions in the post-colonial era. More specifically, the proposed model is used to undertake a counterfactual analysis exploring SSA's growth prospects under alternative scenarios. This analysis also provides the basis for investigating the prospects for income convergence between the GCC and SSA region when institutional continuity is controlled for. The results illustrated by Figure 3 show that output gap attributed to differences in institutional arrangements between GCC and SSA resource-rich countries is significant.

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[40] In fact, in Botswana where institutional continuity has been enhanced over time and growth rates have been sustained, the correlation coefficient between public investment and growth has a large and positive sign.
[41] This result contrasts the findings of Sachs and Warner (1995) who found that natural resources have a negative impact on growth.

In particular, if SSA resource-rich countries were enjoying GCC model of institutional continuity underpinned by intergenerational accountability, their income levels would be over 50 percentage points higher on average. This hypothetical rise in income—reflection of a reduced gap between potential and actual output under improved institutional environment—is illustrated by the contrast between predicted values of per capita GDP (thick and solid line) and actual values (thin and solid line in Figure 3). Estimates of GDP per capita are provided in constant 2000 US dollars. It is worth noting that the remarkable increase in the predicted values of output is sustained under this assumption, while actual output growth is more volatile.

Figure 3: Resource Rich SSA Countries: GDP per capita (in constant 2000 US$)
**(Institutional continuity hypothesis)**
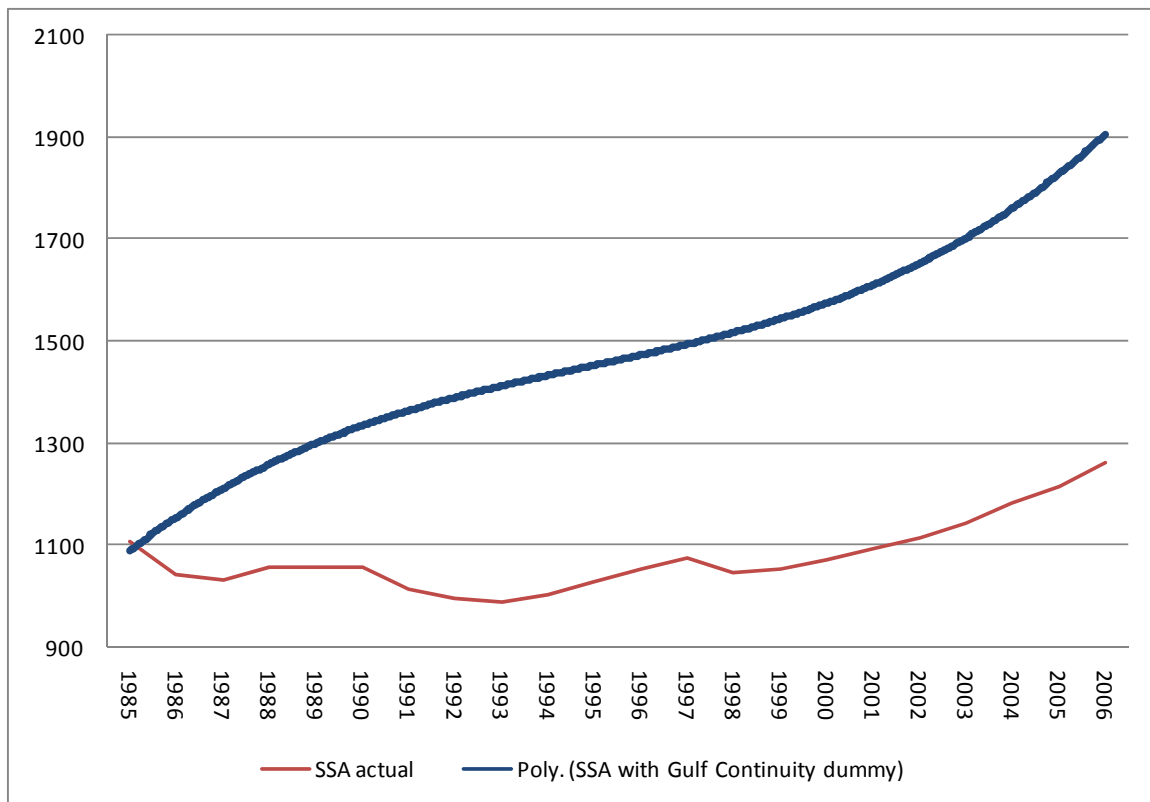
Source: Author's calculations.

Evidently, the remarkable output growth under this hypothetical scenario suggests that the current income gap between SSA and the GCC region would have been significantly smaller, had the former adopted institutional models underpinned by intergenerational accountability and placing constraints on the political elites. This hypothetical scenario highlights the contribution of institution to growth, and points to higher prospects for income convergence between the two regions. These prospects are all the more plausible, especially to the extent that poor governance is increasingly singled out as one of the major causes of SSA's dismal growth and economic performance [Rowley (2000), Rodrik et al. (2004)].[42]

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[42] According to the African Union, mismanagement attributed to poor governance and corruption costs the Africa region more than US$140 billions of dollars every year. Another study has found that over 40 percent of Africa's private wealth is held outside the continent, though it is the most capital scarce region of the world [Collier to al. (2001)].

Indirectly, the discontinuity of institutions in Sub-Saharan Africa and apparent continuity in the Arab Gulf region almost surely played a major role in the divergent outcome and welfare gap between the two regions. However, institutional quality also affects policies. And not surprisingly, the contrast between the two regions is also reflected in the scale and sustainability of public investments. In order to estimate the impact of assets accumulation gaps on output growth in SSA, Figure 4 uses the empirical model to derive output levels that resource-rich countries in SSA would have enjoyed on average if their investment rates had been raised to GCC levels, instead of the dismal low rates of adjustment eras [Akyuz and Gore (2001)].

Figure 4: Resource Rich SSA Countries: GDP per capita (in constant 2000 US$)
(Public investment and institutional continuity hypothesis)
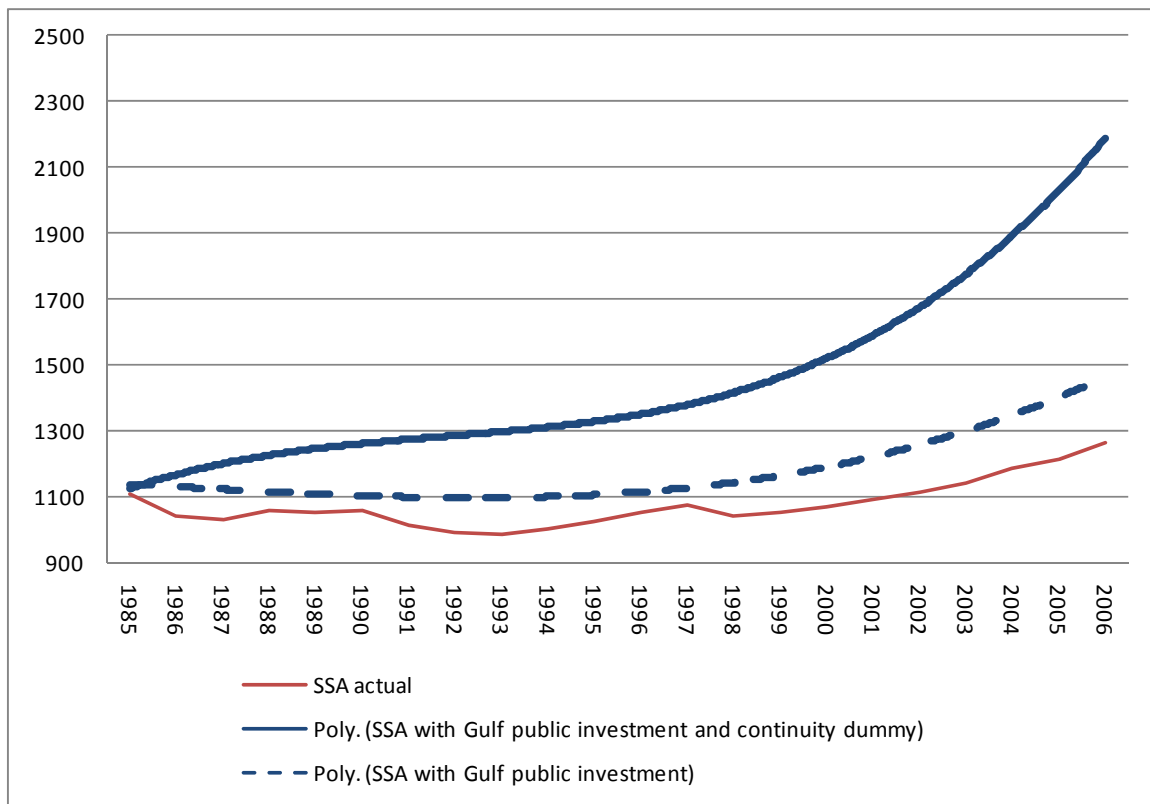
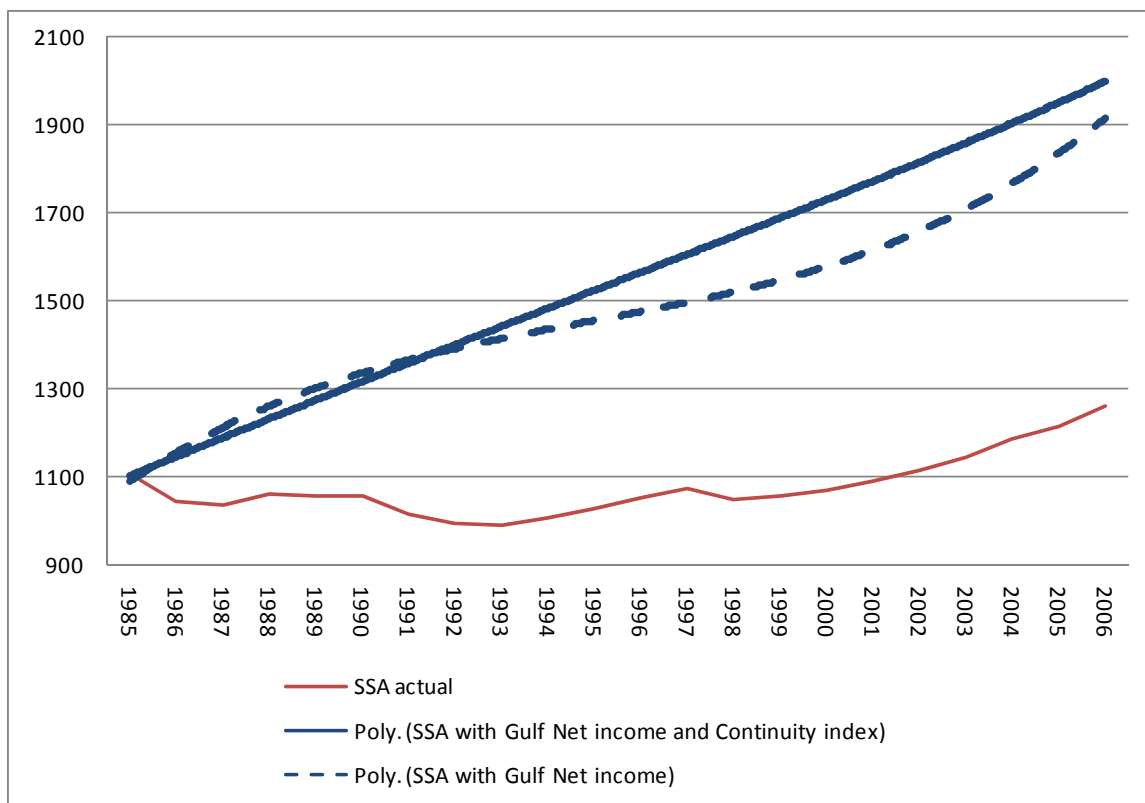

Source: Author's calculations.

Figure 4 compares SSA resource-rich countries' actual annual output per capita (solid and thin line) with the predicted values (dotted and thick line) when the rates of public investments enjoyed by these countries are raised to GCC levels. Under this hypothetical scenario of increased rates of investment, the resource-rich sub-sample of SSA countries enjoys a consistently higher level of output. In particular, their GDP per capita increase by nearly 14 percent under this assumption with the gap between actual and predicted values consistently rising over time.

However, this gap between actual and predicted output increases even more when institutional continuity is controlled for. In particular, if policies raising the public investment threshold in SSA resource-rich countries to GCC levels had also been accompanied by a concurrent improved institutional quality, possibly underpinned by intergenerational accountability and placing constraints on the elites, income levels would have been over 50 percentage points higher by the turn of the

millennium (see thick and solid line in Figure 4). Similarly, the income gap between actual and predicted values consistently increases, suggesting that the continuity of institutions underpinned by intergenerational accountability may actually enhance assets accumulation and long-run growth.

The last hypothetical scenario focuses on the potential growth and welfare benefits of net interest income. Recall that most countries in the GCC region have a large holding of foreign currency-denominated assets and some of the largest sovereign wealth fund, all generating substantial amount of interest incomes [Nyarko (2008), Sturm et al. (2008)]. In order to assess the potential benefits of this policy which emphasizes long-term placements, particularly investment of natural resource proceeds in foreign currency-denominated assets, we estimate the impact of such an alternative policy on overall growth in the sub-sample of SSA resource-rich countries.

Figure 5: Resource Rich SSA Countries: GDP per capita (in constant 2000 US$)
(Net interest income and institutional continuity hypothesis)

Source: Author's calculations.

The results are consistent and suggest that the output level in the sub-sample of resource-rich countries in Sub-Saharan Africa would have been over 50 percentage points higher if net interest income accruing to these countries from their hypothetical holding of foreign currency-denominated assets had been raised to GCC levels (see Figure 5).[43] The rise of output under this hypothetical assumption is reflected in the sharp contrast between actual per capita GDP (thin and solid line) and predicted value of GDP per capita (thick and dotted line). However, countries in this sub-sample of

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[43] However, contrary to GCC countries, which continuously received net interest incomes on their increasing holding of foreign assets, the overwhelming majority of SSA countries accumulated a sizable amount of external liabilities and saw their external debt services grow to unsustainable levels in the late 1990s.

resource-rich are not necessarily net creditor vis-à-vis the rest of the world, and the success in raising their income to GCC levels would require changes in policies and institutional environment to improve the management of proceeds from natural resources exports—requirements which may actually slow the convergence process.[44]

Similarly and consistent with previous simulations, the income gap between actual and predicted values increases even more when institutional continuity is controlled for. Indeed an hypothetical assumption which concurrently raises net interest income to GGC levels and assumes institutional continuity in the sub-sample of resource-rich countries in SSA results in an even larger reduction of income and output gap between the two regions. In particular, under this last simulation, output growth is even more impressive with the predicted income levels exceeding the actual by more than 80 percentage points in outer years (see solid and thick line in Figure 5).

The consistently higher output and income growth under alternative hypothetical growth policies which also assume institutional continuity further reinforces the critical role of governance and quality of institutions to growth and economic development in Sub-Saharan Africa. In fact, the consistency of results across panels and over time may suggest that the significance of institutional continuity for growth is time-invariant. Moreover, the contribution of traditional institutions to the relative success of Botswana and the centrality of institutional continuity and intergenerational accountability to the successful transformation of GCC countries suggest that institutional continuity may also be space-invariant.

More generally, the systematic reduction of output gap under different hypothetical scenarios suggests that the risks of natural resource curse oft-cited could well be mitigated by strengthening institutional frameworks in SSA to enhance economic convergence between the two regions. At the same time, prospects for income and economic convergence between the two regions would also be greatly enhanced under the changing globalization landscape which has been characterized by increasing economic diversification, particularly illustrated by the growing number of emerging market economies and increasing trade flows between countries, including between GCC and Sub-Saharan African countries [Fasano and Iqbal (2003)].

According to latest statistics, SSA countries exports to the GCC region have increased by more than 300 percentage points over the last decade, a rate of growth that is only surpassed by the region's exports to China (see Figure 2 in Annex).[45] However, while Sub-Saharan Africa's exports to China is primarily dominated by natural resources, particularly hydrocarbons, its exports to the GCC region are bound to be non-oil related. Over time, it is expected that this diversification of trading partners, will ultimately enhance the process of economic diversification, and hence reduces the region's risk exposure to recurrent negative terms of trade shocks and rent seeking, especially as empirical research increasingly suggests that oil and minerals tend to give rise to higher rent than other resources in developing countries [Isham et al. (2005)].[46]

Moreover, prospects for convergence between the two regions under a generalized improvement of governance underpinned by institutional continuity and intergenerational accountability placing

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[44] The other alternative condition for success is the emergence of a benevolent leadership that is committed to national development in an environment where country aspirations to broad-based development transcend personal interests and gains. The remarkable economic transformation of countries such as Malaysia and Singapore is often attributed to the commitment of a benevolent dictatorship.

[45] However, when the volume of trade is weighted either by population or gross domestic products for cross-regional comparisons, the GCC region rapidly emerges as Africa's main trading partner, ahead of China and other major trading partners (see Figure 3 and 4 in Annex).

[46] In this regard, these resources have been referred to as "point-source" natural resources, in reference to natural resources which are extracted from a narrow geographic or economic base, such as oil and minerals.

constraints on the political elites are likely to be enhanced by the more diversified natural resources and export based in Sub-Saharan Africa as well as by its human resource endowment. In spite of the remarkable economic progress achieved by countries in the GCC region, they continue to face major challenges, largely as a result of acute shortage of skilled labor. In the past, most countries in that region have largely relied on expatriate labor to mitigate the shortage of skills. However, such a policy has produced a highly segmented labor market and is not sustainable, especially with rising fiscal costs and unemployment rates in a context of persistent mismatch between nationals' skills and those required in the labor market.

V.   Conclusion

Attempts to explain the African development paradox of persistent widespread poverty in the midst of resource abundance have often drawn on the oddity of resource-poor countries outperforming resource-rich countries. The implied systematically higher growth performance of resource-poor countries underneath the oddity hypothesis underlines the resource-curse argument, however. In this regard and consequently, the African economic tragedy oft-cited may be viewed as a fatality, not least because the resource-rich nature of the African continent is a given, and the alternative of transforming African economies into resource-poor by way of enhancing their growth and development performance is almost surely not an option.

Furthermore, the oddity hypothesis assumes uniformity of growth and economic performances, whereby all resource-rich countries, regardless of their location on the spherical space, consistently perform poorly against their resource-poor competitors. In practice however, a growing number of countries in developed and developing countries alike have drawn on abundant natural resources to achieve long-run growth and economic development, notably illustrated by rapid improvement of living standards and sustained current account surpluses. In the developing world, the variations in the resource-rich sample are evidenced by absolute divergence between the Sub-Saharan Africa and Arab Gulf region on the income and welfare ladder. Hence, departing from the oddity line of analysis, this paper focuses on a sub-sample of resource-rich in SSA and GCC countries, and explores the possible causes of marked differing welfare and economic outcomes to inform future policies.

More specifically, the paper builds on a modified version of public choice models applied to a large panel of countries to explain the possible causes of the divergent economic outcomes and development paths embraced by the these two regions of the world which have a lot of similarities from the political, historical and economic standpoint. This approach offers several advantages: comparative economic analysis provides room for inference on prospects for the two regions converging, particularly if countries in Sub-Saharan Africa were to hypothetically adapt and implement the development model which has led to the successful transformation of GCC countries—a scenario that can hardly be considered under the resource curse hypothesis as it assumes fatality under static analysis.

Underpinned by institutional continuity and inter-generational accountability, the successful development model adopted by GCC countries has drawn on short—and long-term investments of proceeds from oil windfalls to achieve sustainable growth and economic development. In particular and at variant with SSA countries, GCC states have undertook massive and sustained accumulation of physical capital, reflected in the higher quality of their domestic infrastructures which have been catalyst for private sector development and foreign direct investment. More recently, these infrastructure and productive investments have enhanced economic diversification from excess dependency on hydrocarbons for a number of countries in that region. At the same time and in order to ensure stable income flows to future generations, GCC governments have continuously invested

massively in foreign currency-denominated assets, which over time have ensured a stable stream of net income flows to mitigate their risks exposure to negative terms of trade shocks.

In contrast, mismanagement has been the hallmarks in the overwhelming majority of resource-rich countries in SSA. In the absence of institutional continuity which may have provided the foundation for political stability and inter-generational accountability, natural resources have been captured by the elites—the roving bandits—in a generalized culture of rent [Rowley (2000)]. The end result has been the persistence of widespread poverty and continued deterioration of living standards and rising income inequality—a stark contrast with the equally resource-rich GCC countries. While no country is expected to meet the first Millennium Development Goals of halving poverty rates in SSA, GCC countries enjoy some of the highest living standards in the world.

Notwithstanding this stark contrast between these two regions, empirical results show strong prospects for reduction of output gap and income convergence under the hypothesized implementation of alternative sound growth policies by countries in SSA. In particular, the income level of Sub-Saharan African countries would increase markedly if their public investment rates and quality were to rise to GCC levels under the institutional continuity assumption. Similar results are obtained when Sub-Saharan Africa net income flows are hypothetically raised to GCC levels under the assumption of improved management of natural resource proceeds.

Under these hypothesized scenarios, the upward shift in Sub-Saharan African income levels are remarkable and result in sharp reduction in the otherwise widening income gap between the two regions. Interestingly, the pertinence of institutional continuity which has been the foundation for the successful economic transformation of GCC countries is also at the roots of the Botswana's exception to the resource curse argument. This suggests spatial invariance of the institutional continuity hypothesis under certain empirical regularity.

The spatial invariance of the institutional continuity assumption for long-run growth has tremendous implications for the overwhelming majority of countries in SSA, especially in the HIPC post-Completion Point era. Access to relief under the Enhanced HIPC initiative increased the fiscal space and prospects for raising the scale of productive public investments in a continent where government budgets have for a long time been confined to recurrent expenses. This clean break from the past provides a unique opportunity for the majority of resource-rich countries in SSA to draw on GCC development models to enter a virtuous circle of long-run growth and economic development, and ultimately mitigate the risks of another debt crisis. Future research will focus on the benefits of adopting the GCC development model for inter-temporal fiscal sustainability in Post-HIPC Completion Point countries.

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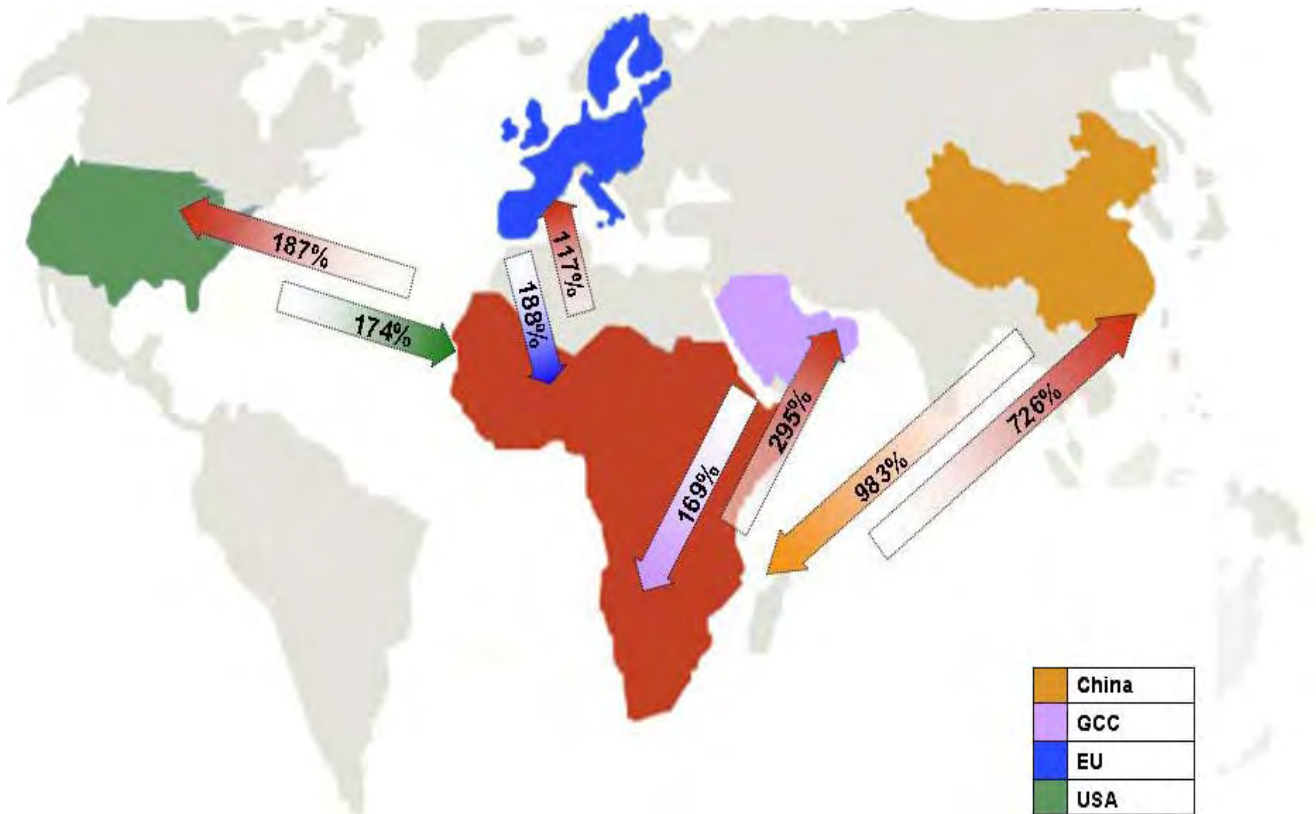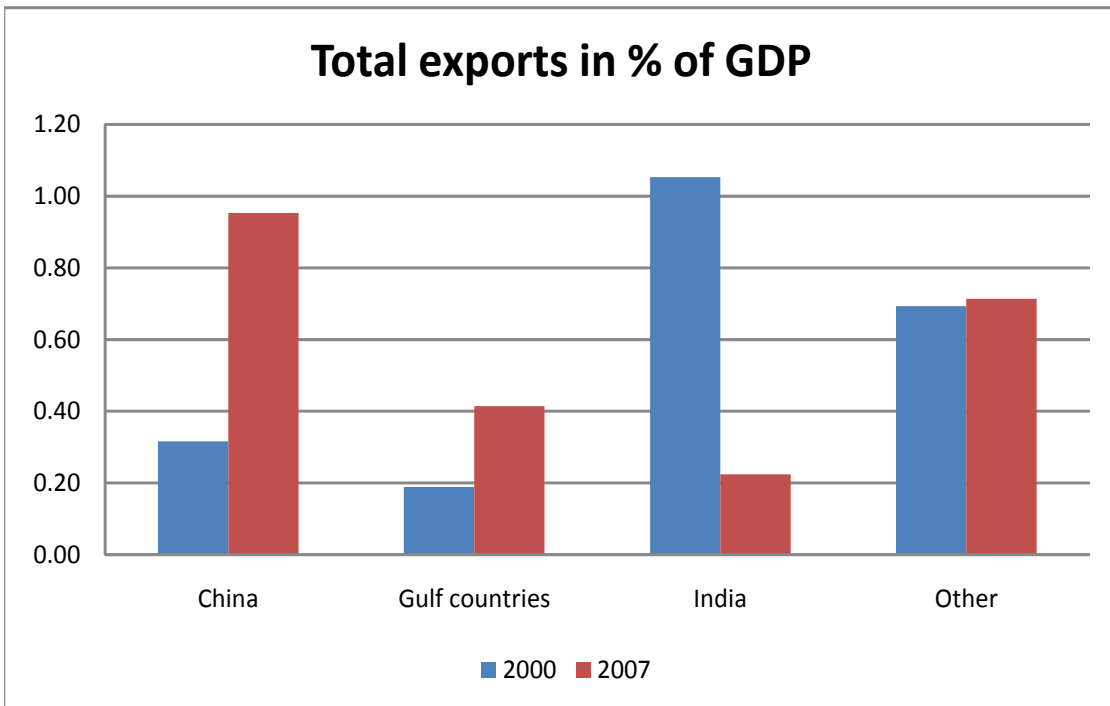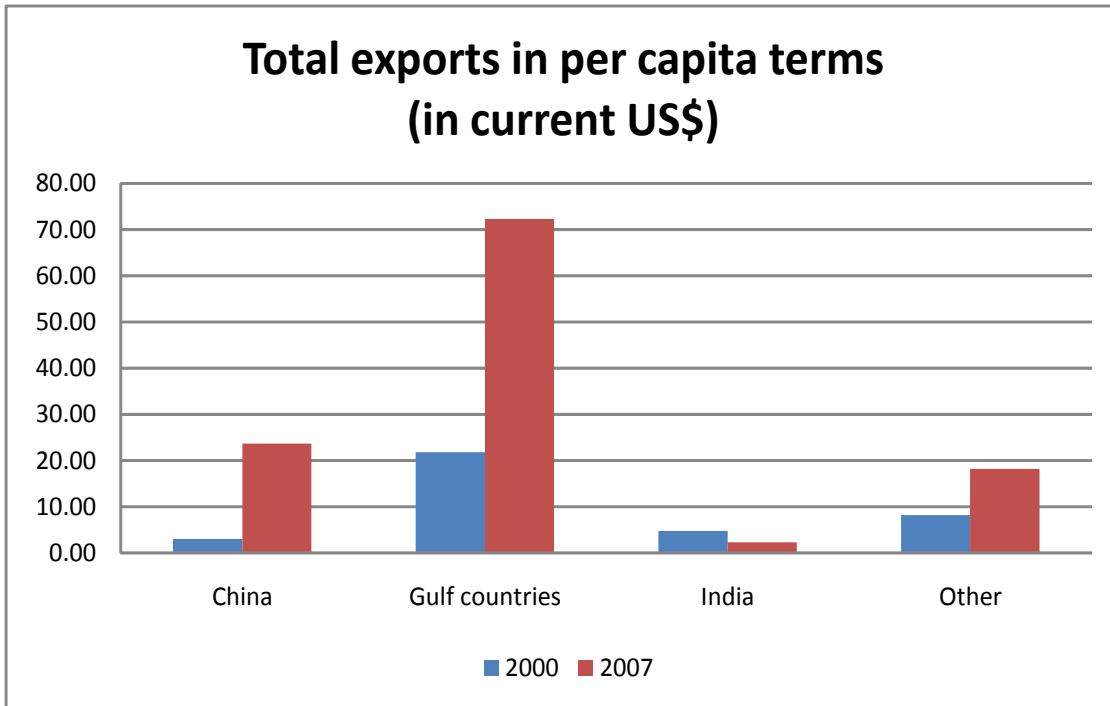
Annex Figure 1- GDP per capita (constant 2000 US$)
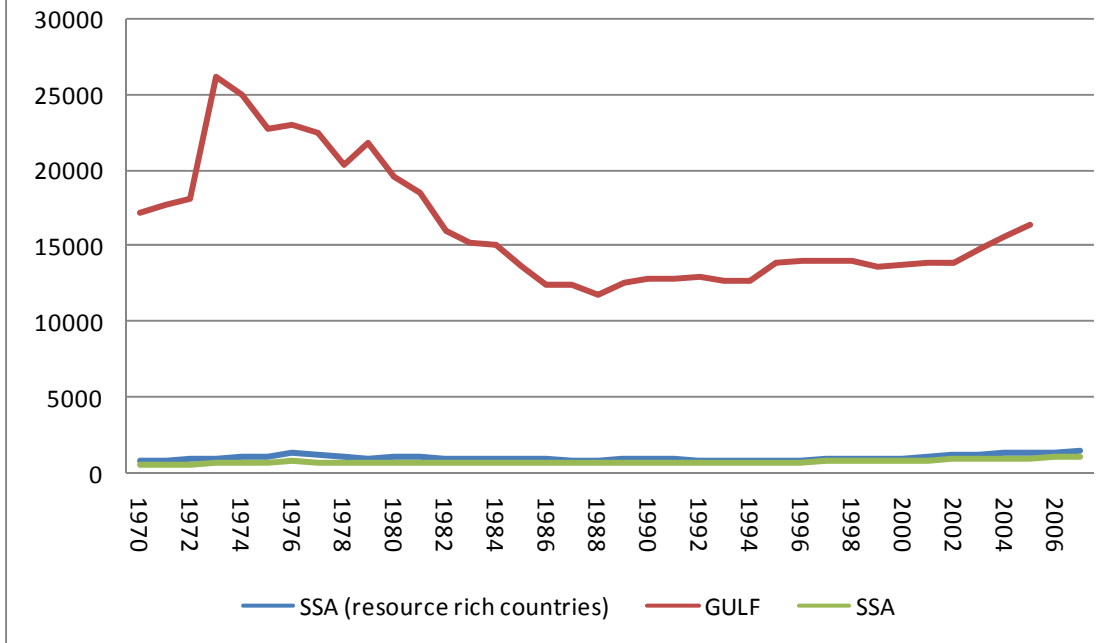
Source: World Bank World Development Indicators.

Annex Figure 2 -

Percentage increase of Sub-Saharan Africa imports from and exports to main trading partners between 2000 and 2007

ANNEX Figure 3 - SSA Exports to Developing Countries

Total exports in per capita terms (in current US$)

Bar chart comparing 2000 and 2007 values for China, Gulf countries, India, and Other. Y-axis ranges from 0.00 to 80.00.

Legend: ■ 2000 ■ 2007

Total exports in % of GDP

Bar chart comparing 2000 and 2007 values for China, Gulf countries, India, and Other. Y-axis ranges from 0.00 to 1.20.

Legend: ■ 2000 ■ 2007

Source: Author's calculations.

ANNEX Figure 4 - SSA Imports from Developing Countries

Total imports per capita (in current US$)

China — 2000, 2007
Gulf countries — 2000, 2007
India — 2000, 2007
Other — 2000, 2007

Total imports in % of GDP

China — 2000, 2007
Gulf countries — 2000, 2007
India — 2000, 2007
Other — 2000, 2007

Source: Author's calculations.

ANNEX Table 1 - Gulf countries and Resource Rich SSA

Dependent variable	First Stage Corruption index Column 1	Second Stage log(GDP per capita) Column 2	First Stage Political stability Column 3	Second Stage log(GDP per capita) Column 4	First Stage Political risk rating Column 5	Second Stage log(GDP per capita) Column 6
Constant	1.913 (0.189)***	4.033 (0.74)***	6.641 (0.244)***	0.526 (-1.495)***	45.308 (1.815)***	-0.090 (0.346)
IGGDP	4.319 (1.371)***	1.936 (1.829)	4.693 (2.072)**		57.417 (13.833)***	
IPGDP	0.586 (0.74)	3.093 (0.58)***	4.922 (1.252)***	0.547 (2.23)***	31.829 (8.419)***	1.851 (0.546)***
FDIGDP	1.823 (0.668)***		2.859 (1.177)**		-16.582 (7.277)**	
M2GDP	0.009 (0.005)*	0.009 (0.005)*	-0.008 (0.006)	0.005 (2.875)***	0.035 (0.045)	
DOMCREGDP	0.010 (0.002)***	0.017 (0.005)***	0.008 (0.003)***	0.002 (5.922)***	0.113 (0.018)***	0.010 (0.001)***
NETGDP	-2.394 (0.673)***	4.778 (1.055)***	0.571 (0.922)	0.653 (3.071)***	-23.939 (8.828)***	3.762 (0.497)***
CREER	0.285 (0.343)	-0.424 (0.314)	0.115 (0.454)	0.257 (-1.039)***	2.423 (3.023)	-0.324 (0.251)
CONT	0.141 (0.161)		1.279 (0.203)***		11.875 (1.352)***	
EXPGDP	-0.012 (0.004)***	0.041 (0.004)***	-0.005 (0.005)	0.003 (10.552)***	-0.084 (0.032)***	0.034 (0.002)***
CORR-IV		0.183 (0.377)				
POL-IV				0.075 (10.292)***		
POLRISK_IV						0.097 (0.007)***
Adjusted R2	0.154	0.768	0.744	0.817	0.505	0.843

Resource rich SSA countries and Gulf countries are included. The estimation technique is OLS panel regression. The standard errors given in paranthesis are heteroskedasticity corrected. *** stands for significance at 1%, ** significance at 5% and * significance at 10%. Time dummies are included but the results are not reported in the table due to space limitation. GDP per capita is in constant 2000 US$. IGGDP is public investment in % of GDP. IPGDP is private investment in % of GDP. FDIGDP is foreign direct investment in % of GDP. M2GDP is M2 money in % of GDP. DOMCREGDPis domestic credit to private sector in % of GDP. NETGDP is net interest income in % of GDP. CREER is change in real effective exchange rate. EXPGDP is exports in % of GDP. CONT is the continuity dummy which is 1 for Gulf countries and Botswana and 0 otherwise. CORR-IV is the estimated value of the corruption index from the first stage. POL-IV is the estimated value of the political stability index from the first stage. POLRISK-IV is the estimated value of political risk rating from the first stage.