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The Mauritian Success Story and its Lessons

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Abstract

This paper examines different explanations—initial conditions, openness to trade and FDI, and institutions—of the Mauritian growth experience since the mid-1970s. We show that arguments based on openness to trade and FDI are either misleading or incomplete. Even when correctly articulated, openness appears to be a proximate rather than an underlying explanation for the Mauritian experience. The institution-based explanation offers greater promise. Ultimately, however, the econometric results indicate that existing explanations may be incomplete. Some idiosyncratic factors, particularly Mauritian diversity and the responses to managing it, may provide the missing pieces in the story of Mauritius's success.

Keywords: Mauritius; growth; institutions, openness

JEL classification: F1, F4, O2, O4, O5

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Acronyms

EBA	everything but arms
EPZ	export processing zone
EU	European Union
FDI	foreign direct investment
HDI	human development index
MFA	Multi-Fibre Arrangement
SSA	Sub-Saharan Africa
TFP	total factor productivity

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Heavy population pressure must inevitably reduce real income per head below what it might otherwise be. That surely is bad enough in a community that is full of political conflict. But if in addition, in the absence of other remedies, it must lead either to unemployment (exacerbating the scramble for jobs between Indians and Creoles) or to even greater inequalities (stocking up still more the envy felt by the Indian and Creole underdog for the Franco-Mauritian top dog), the *outlook for peaceful development is poor*.

(Meade 1961; emphasis added).

Disaster has always appeared to lie in the future... But how can ... anyone who has to live in Mauritius be blamed for not seeing that the disaster has occurred.

(*ibid.*)

The barracoon is overcrowded; the escape routes are closed. The people are disaffected and have no sense of danger.

(Naipaul 1972)

1 Introduction

Two intellectuals, two Nobel Prize winners. But one verdict: Mauritius post-independence in 1968 had little hope and awaited a bleak future. History, or rather Mauritius, proved the dire prognostications of both James Meade and V. S. Naipaul—made in 1961 and 1972, respectively—famously wrong.

In the post-war period, few Sub-Saharan African countries have made the transition to achieving high standards of living for their population. The record of sustained economic performance in Sub-Saharan Africa (hereafter Africa) is not heartening. It is not that there have not been periods of sustained growth: several African countries, at various points in time, achieved high rates of growth (see Table 1, which is from Subramanian and Roy 2003). Sadly, however, very few such episodes have been long and sustained enough to lead to high levels of income and standards of living.¹ In 2005, only *one* African country (Equatorial Guinea) ranked among the top 50 countries in the world in terms of per capita GDP (calculated on a PPP basis), and *none* ranked among the top 50 on the UN's Human Development Index.² This is surprising, especially in an era of rapid globalization, which should have led to significant catch-up by Africa

¹ In many cases, growth decelerated or ground to a halt around the time of the oil and debt crises which Rodrik (1999b) refers to as the growth collapse. In the last ten years (1996-2005), however, a number of African countries have posted high rates of growth, but since many of these have special characteristics—such as oil (Angola, Equatorial Guinea), recovery from conflict (Liberia, Rwanda)—it is difficult to know whether these growth rates will be sustained. Tanzania, Uganda and Ghana seem cases where high growth may have greater prospects for being sustained (see Tables 1a and 9 in Johnson, Ostry, and Subramanian 2007 for the recent growth performance of African countries).

² These assessments exclude the Seychelles.

Table 1
Sustained growth experiences in Africa, 1960-98

Country	Start	End	Length of period (yrs)	Average growth rate	PPP GNP per capita (in US\$; 1998)	Ranking (out of 174)
South Africa	1960	1974	14	5.1	8,296	49
Mauritius	1980		18+	5.4	8,236	50
Gabon	1965	1976	11	13.1	5,615	63
Botswana	1965		33+	9.1	5,796	65
Namibia	1961	1979	18	6.4	5,280	75
Ghana	1983		15+	4.7	1,735	129
Lesotho	1970	1982	12	9.9	2,194	133
Cote d'Ivoire	1960	1978	18	9.5	1,484	134
Cameroon	1967	1986	19	7	1,395	138
Togo	1960	1974	14	6.8	1,352	145
Uganda	1986		10+	6.1	1,072	152
Kenya	1961	1981	20	6.7	964	156
Mozambique	1986		12+	7.1	740	162
Ethiopia	1960	1972	12	4.5	566	170
Malawi	1964	1979	15	6.6	551	172
Tanzania	1961	1975	14	5.7	483	173
Sub-Saharan Africa					1,607	

Sources: Berthelemy and Soderling (2001); UNDP (HDR).

relative to the rest of the world. After all, globalization is the vehicle par excellence for catch-up because it is supposed to facilitate the transmission of capital, ideas, and technology, which are the determinants of growth (see Coe, Helpman and Hoffmaister 1997). And yet, instead of convergence of global incomes, we see 'divergence big time'.

But Africa is not without its successes. In this admittedly short list of accomplishments are Botswana and Mauritius (Mauritius ranked 52nd in GDP (PPP) per capita and 65th on the human development index—HDI). Yet it did not have to be Mauritius that succeeded. Indeed, we had it on the highest possible authority, James Meade, that Mauritius was, if anything, a strong candidate for failure because of being a very typical African economy—monocrop; prone to terms of trade shocks; witnessing rapid growth rate in population; and susceptible to ethnic tensions. Hence Meade's prognostication cited above.

This paper seeks to understand this failed prediction. In other words, why did Mauritius grow? What was its development strategy? What were the contributions of initial conditions (including geography), openness, and institutions? What lessons does the Mauritian experience offer for other countries?

1.1 The accomplishments

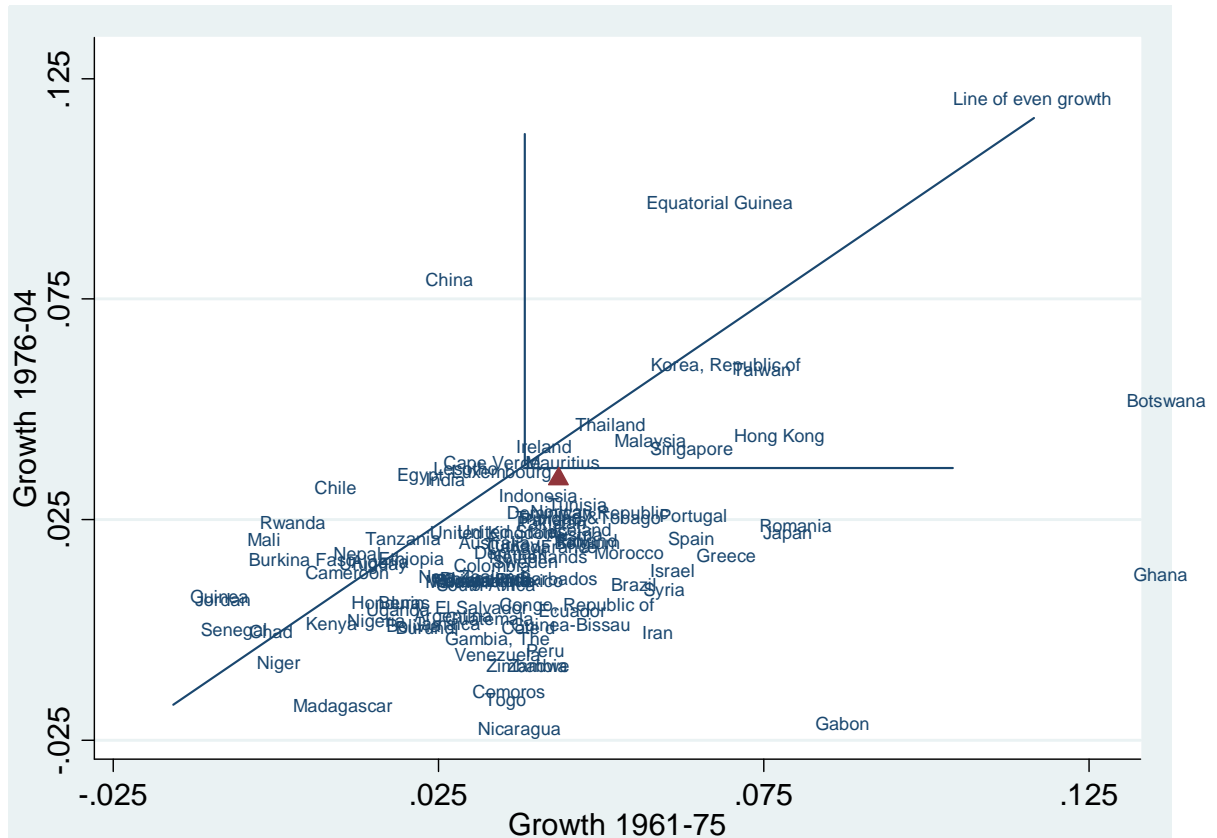
First, the undeniable facts. Between 1977 and 2006, real GDP in Mauritius grew on average by 5.2 per cent per year compared with 3.3 per cent in Africa. In per capita terms the corresponding numbers are 4.2 per cent and about 0.7 per cent. The magic of compounding means that the income of the average Mauritian has increased three times over a thirty-year period, while that of the average African increased by 32 per cent.

Figure 1 depicts the comparative growth performance for a cross-section of countries over two periods, 1961-75 and 1976-04. The 45° line represents the locus of points of equal growth in the two periods. Countries above the line grew faster in the later period and vice versa for the countries below the line. Countries are mostly clustered below the line, confirming the characterization due to Rodrik (1999b) of the growth collapse after the first oil shock. Mauritius defied this trend, in that it maintained relatively high growth rates in both periods. In terms of growth performance, moreover, very few countries outperformed Mauritius in both periods (in the figure, very few countries lie to the northeast of Mauritius). This group comprises the East Asian tigers and Botswana, the only African country to have registered high rates of growth.

Improvements in human development indicators have been equally impressive. Life expectancy at birth increased from 61 years in 1965 to 73 in 2005; primary enrolment increased from 93 to 107 between 1980 and 2005 compared with 78 and 96, respectively in Africa. Income inequality has also seen impressive improvements: the Gini coefficient declined from 0.5 in 1962 to 0.42 in 1975 and 0.37 in 1986-87 and 0.34 in 2004.

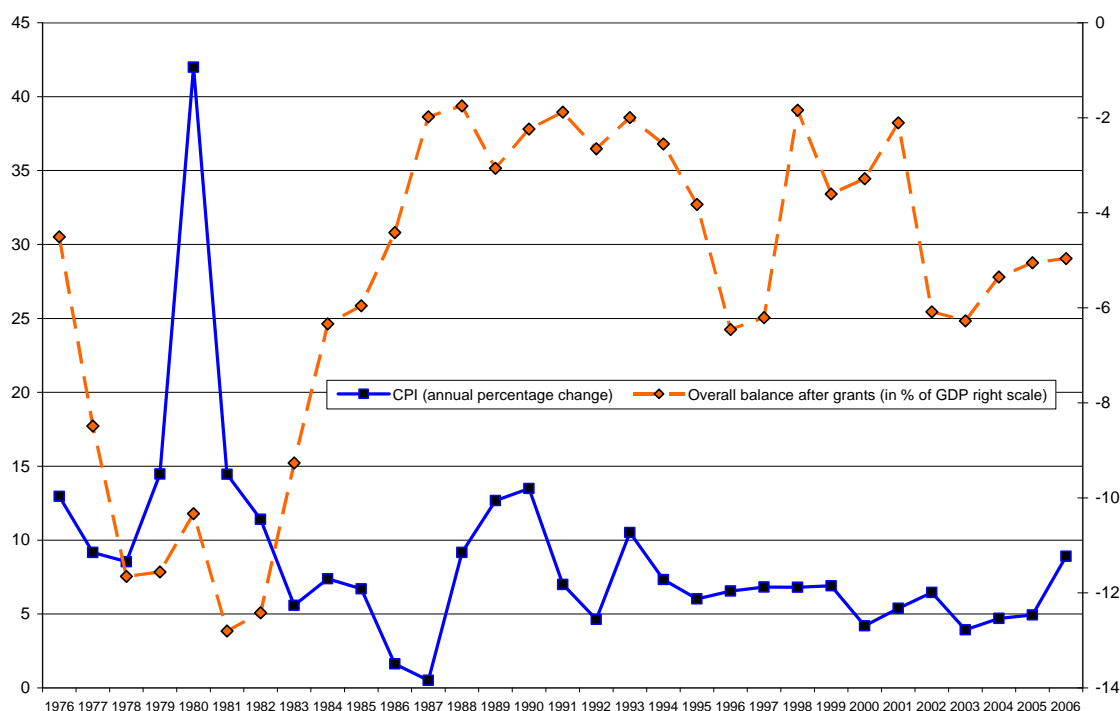
High growth rates have been delivered along with macroeconomic stability. Between 1976 and 2006, consumer price inflation averaged 8.7 per cent per annum, compared with over 52 per cent in Africa (Figure 2). Although subject to episodic spikes, the variability of inflation has also been well below that for Africa as a whole. For example, the standard deviation of inflation in Mauritius (7 per cent) has been half of that in Africa.

Figure 1
Per capita income growth rate, 1976-99 versus 1961-75



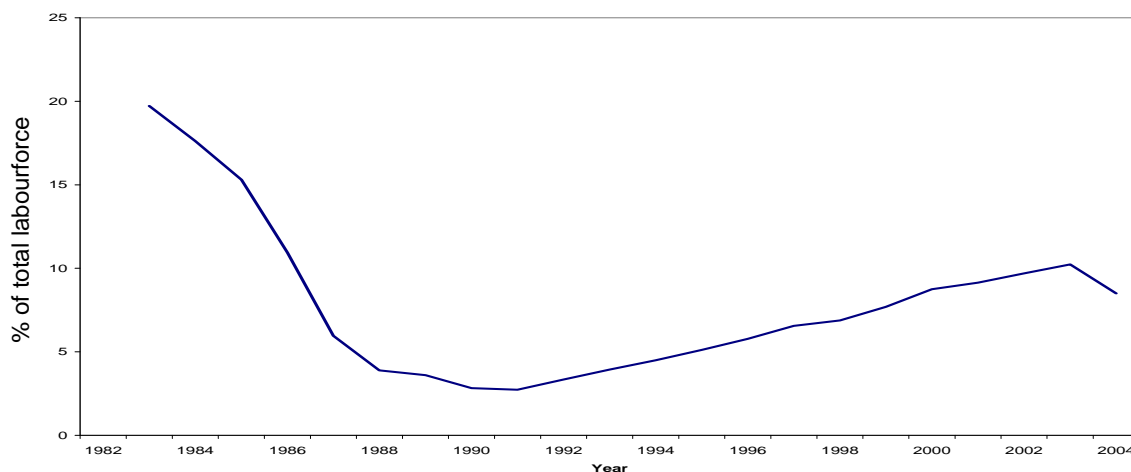
Source: World Bank (WDI).

Figure 2
Budget deficit and inflation, Mauritius, 1976-2000



Source: World Bank (WDI) and author's calculations.

Figure 3
Unemployment rate, Mauritius



Source: World Bank (WDI).

As interesting as the cross-section comparison is the temporal evolution in Mauritius' economic performance. A growth accounting framework analysis highlights the contrasting performance between the 1980s and 1990s (Subramanian and Roy 2003: table 2). In the former period (1982-90), economic growth was intensive; that is, it was motored predominantly by the growth of inputs—capital and labour—which together accounted for 90 per cent of the annual average rate of GDP growth of 6.2 per cent. It is worth noting the stellar performance of employment growth in this period, which averaged 5.2 per cent a year, reflected in a sharp decline in the unemployment rate from

nearly 20 per cent in 1983 to 3 per cent in the late 1980s (see Figure 3). More recently, though, unemployment has risen.

In contrast, economic growth in the 1990s has been driven to a greater extent by productivity growth. As wages started to climb, firms economized on the use of labour, focusing instead on sustaining growth through higher productivity. Total factor productivity (TFP) growth during this period averaged 1.4 per cent a year and accounted for a full 25 per cent of total growth. This improvement in TFP performance, which compares favourably with that of Asia (see Collins and Bosworth 1996), also augurs well for the future as Mauritius runs into labour shortages and limits to capital deepening.

Finally, it is worth mentioning that Mauritian economic performance has been sustained by OECD-type social protection. This has taken several forms: a large and active presence of trade unions with centralized wage bargaining; price controls especially on a number of socially-sensitive items; and generous social security, particularly for the elderly and civil servants. Unlike the OECD countries, however, generous social protection has thus far not necessitated high taxes, reflecting both strong growth and a favourable demographic structure with a high proportion of the population being of working age. The OECD affliction of a changing demographic structure, with rising number of dependents, however, looms large for Mauritius in the coming years.

2 Meade and the mixed inheritance of Mauritius

Meade's prophecy of doom for Mauritius was based on his reading of what he saw as the country's very adverse inheritance, foremost amongst which was the impending population explosion. Imbued as he was by the prevailing labour surplus doctrine, he saw little prospect for expanding the traditional agricultural sector and was equally pessimistic about the possibilities in manufacturing. In his view, there was little technical knowhow in manufactures and little experience outside the sugar factories in the conduct of the industry, there was scarcity of capital, there were few raw materials available within boundaries and the domestic market was miniscule. Meade moreover noted that the Mauritian society was highly fragmented on all lines—ethnic, economic and political—which made the task of progress much more difficult than elsewhere.³

But was Meade's reading of an adverse inheritance correct? A retrospective answer to this question can be offered based on the indicators that the current growth literature suggests as being important for long-run growth. Table 2 depicts how Mauritius scores on these indicators both in absolute terms and in comparison with three other groups of countries. These indicators are selected from Sachs and Warner (1997) and are supplemented with a few others considered important for long-run growth.

One of the most important of these indicators relates to the phenomenon of catch-up or convergence. Conditional on other determinants of growth, the higher the per capita

³ Meade's development strategy hence proposed wage restraint, agricultural diversification, a rapid change in industry structure, overseas welfare assistance, a system of welfare benefits for the unemployed, emigration of workers to other British colonies, and an effective family planning system.

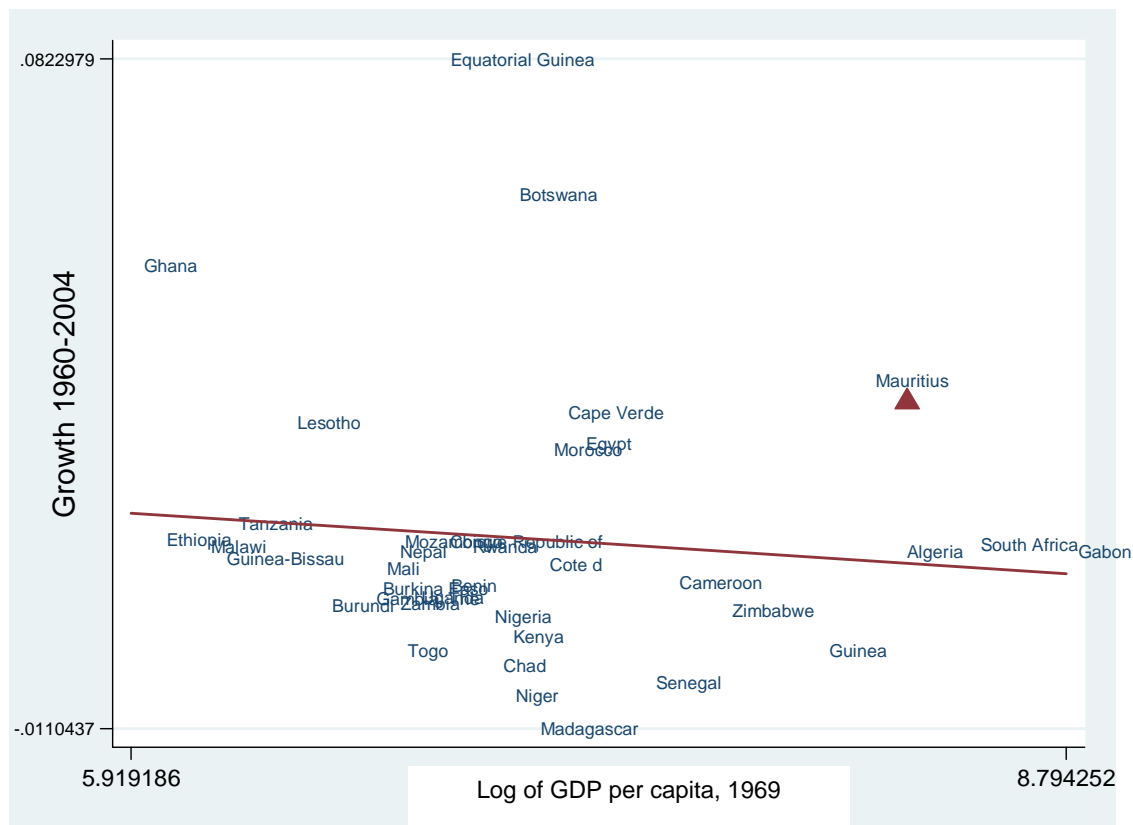
Table 2
Inheritance: Mauritius versus rest of world

	Mauritius	Africa	Fast-growing economies ^(a)	All other developing economies
Inheritance				
Catch-up ^(b)	8.72	7.29	7.90	7.85
Life expectancy in yrs (circa 1970) (human capital)	60.40	41.60	57.10	51.9
Ethnolinguistic fractionalization ^(c)	0.58	0.64	0.42	0.32
Population growth ^(d)	0.97	-0.09	0.82	0.33
Share of primary exports in total exports	0.29	0.18	0.09	0.12
Geography				
Fraction of area in tropical climate				
Landlocked ^(e)	0	0.33	0	0.11
Remoteness (kms) from global economic centres ^(f)	11,249	9,183	9,464	8,633

- Notes: (a) The fast-growing countries include Thailand, Malaysia, Indonesia, China, Hong Kong SAR and Singapore.
 (b) Log of real GDP per economically active population in 1965.
 (c) Probability that 2 randomly selected people from a country will not belong to the same ethnic or linguistic group.
 (d) Growth of working age population minus growth of total population between 1965 and 1990.
 (e) 1 if it is landlocked, 0 if it is not. For a group it depicts the fraction of countries landlocked.
 (f) Remoteness of a country is its average distance to trading partners, weighted by their share in the world GDP.

Sources: Authors' calculations and Sachs-Warner (1997).

Figure 4
Catch-up: Mauritius versus Africa



Source: World Bank (WDI).

income at the beginning of the growth process, the slower will be the subsequent rate of growth. As the scatter plot below for a selected group of countries shows (Figure 4), Mauritius had amongst the highest per capita income in 1960 and hence was likely to witness slower growth rates than other African countries on this count (see also Table 1). But this did not turn out to be the case—Mauritius also grew most rapidly despite being rich initially.

One variable on which Mauritius scores highly is human capital: for example, life expectancy at birth (60.4 years) in the early 1970s was substantially higher in Mauritius than even in the fast growing economies of Asia. On most of the other variables, however, Mauritius fares either more poorly than other African economies or at least no better than them. For example, on geography, although Mauritius is not landlocked, it does have a fully tropical climate (score of 1 on the tropics variable) and in terms of its remoteness from world markets, Mauritius fares the worst, being at about 25 per cent farther away from the world's economic centre of gravity than the average African country and 30 per cent farther than the average developing country.

Another point about Mauritius' inheritance is worth highlighting. The empirical growth literature increasingly points to the adverse effects of being commodity dependent (see Dalmazzo and de Blasio 2001). They stem not just from the secular decline or increased variability associated with commodity prices but also from the rent seeking and corruption to which they give rise. Mauritius actually fares much worse than the average African economy in terms of commodity dependence. In 1970, the share of exports accounted for by commodities was nearly 30 per cent compared with the 18 per cent for the average of the African economy. Also, Mauritian sugar *production* has been subject to a series of cyclone and drought related shocks which have imparted great variability to the export earnings derived from sugar

Ironically, Meade's greatest fear of rapid population growth proved to be a blessing for Mauritius. Mauritius' demographic inheritance was extremely favourable, even more so than the fast growing economies with the growth in labour force outpacing the growth in the overall population. The rapid job creation in the last two decades indeed to the extent that it now imports substantial amounts of labour to meet its demands has meant that Mauritius is now a labour-scarce rather than labour-surplus economy.⁴

Thus, the overall conclusion is that Mauritius' excellent growth performance since the late 1970s cannot be attributed to its favourable initial conditions as Mauritius fares worse than the average African economy. Meade was therefore not entirely wrong on the facts: although he misread the demographic inheritance and missed the very favourable initial stock of human capital, he was broadly correct in the assessment that Mauritius' overall inheritance was unfavourable.

3 Mauritius' openness strategy

Perhaps the most interesting aspect of the Mauritian development experience has been its openness strategy (defined broadly as its openness to trade and foreign investment

⁴ It is estimated that over 30 per cent of the labourforce in textile and clothing sector is imported.

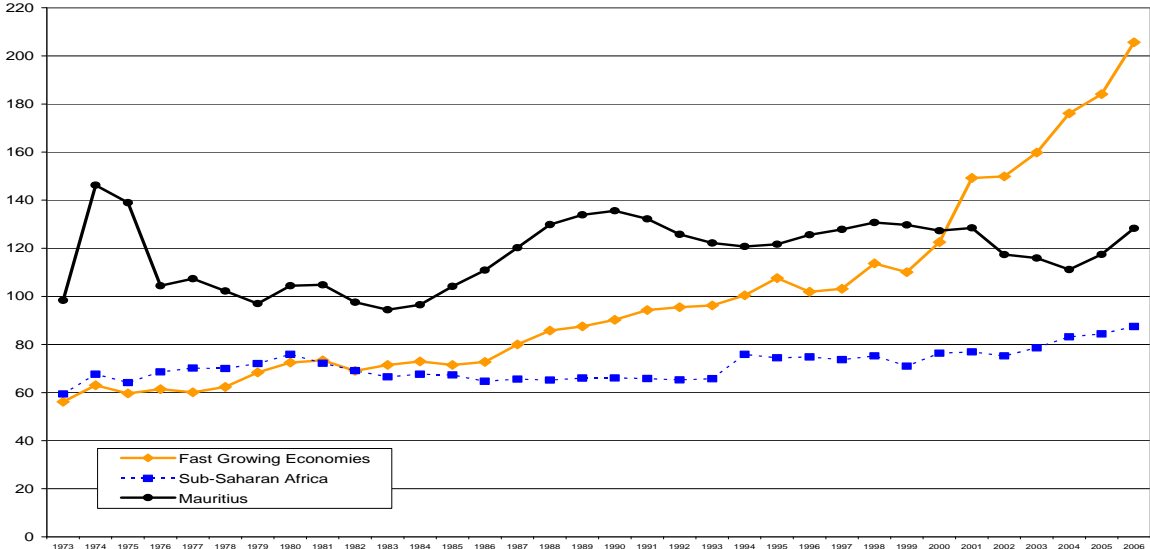
(FDI)). Different economists read into this experience their own interpretation. But a proper understanding of this experience is interesting if not controversial.

3.1 Openness outcomes

At one level, the Mauritian experience can be advanced as a show-piece for the prescription associated with the Bretton Woods Institutions (the so-called Washington consensus) that openness is unambiguously beneficial. Figure 5 illustrates this. Since the mid-1980s, the openness ratio (the ratio of trade in goods and services-to-GDP) increased from about 100 per cent to 135 per cent over this period, compared with an openness ratio for Africa that until recently stagnated around 70-75 per cent per cent. Particularly strong was the growth in manufacturing exports, originating predominantly from the export processing zone (EPZ).⁵

This trade performance, especially in contrast to its African neighbours, merits an explanation or explanations. To say that Mauritius’ growth performance was due to the rapid growth of its trade begs the next obvious question: why did trade grow as much as it did? Three explanations have been offered. The first, due to Sachs and Warner, is that Mauritian trade policy was open. The second, due to Rodrik (1999a), is that Mauritian trade policy was heterodox involving segmentation with imports being ‘closed’ and exports relatively open. The third is due to Romer (1993) who emphasizes Mauritius’ openness to FDI and its favourable consequences. We shall examine each in turn.

Figure 5
Mauritius: SSA and the fast growing economies: openness ratio, 1973-2000
(Exports plus imports of goods and services in % of GDP)



Source: World Bank (WDI).

⁵ However, Mauritius has been considerably less open than the fast growing countries of East Asia whose openness ratio increased dramatically especially since the mid-1990s.

3.2 Trade policies

Trade policies clearly affect trade. One of the most important insights of trade theory due to Abba Lerner is that a restrictive import regime imposes a tax not just on imports but also on exports and hence on trade as a whole. Thus, quantitative restrictions and high tariffs reduce the size of a country's total trade. An import tax reduces exports by raising the cost of inputs which makes exports less competitive in world markets. In a more fundamental sense, however, import taxes increase the attractiveness of domestic production of import-competing goods, hence diverting resources away from sectors where a country has comparative advantage, namely the export sector. Empirical results for Africa show that on average if trade taxes go down by one percentage point, the trade-to-GDP ratio increases by about an equivalent amount (Rodrik 1999a).

3.3 The Sachs-Warner assessment

Trade policies affect not only trade, but also long-run economic growth. In two papers, Sachs and Warner (1995, 1997) show that one of the key determinants of long-run growth is a country's trade *policies*. Using an elaborate scheme for classifying various aspects of trade policies, they compute a binary measure for determining whether a country was open or closed. According to that measure, 18 countries in Africa were classified as closed in 1980 and only seven countries were classified as open.⁶ Their estimates indicate that if a country moved from being closed to open, its long-run growth rate would increase by 2.2 percentage points.

Mauritius was one of the countries that Sachs and Warner classified as being open or following liberal trade policies. But this categorization of Mauritius as an open economy was misleading, even incorrect. In Subramanian and Roy (2003: tables 4 and 5), we provide estimates of the restrictiveness of Mauritius' trade policy regime. During the 1970s and 1980s, Mauritius remained a highly protected economy: the average rate of protection was high and dispersed. In 1980, the average effective protection exceeded 100 per cent, and although this diminished by the end of the 1980s, it was still very high (65 per cent). Moreover until the 1980s, there were also extensive quantitative restrictions in the form of import licensing, covering nearly 60 per cent of imports.

An alternative scheme of classification that has been devised in the IMF ranked Mauritius as one of the most protected economies in the early 1990s: Mauritius elicited a rating of ten, the highest possible category of policy restrictiveness. It is only in the late 1990s, that conventional measures of trade protection began to decline: by 1998, Mauritius obtained a rating of seven on the Fund's index, still amongst the highest in the world and in Africa (Subramanian et. al. 2000). A more recent study by Hinkle and Herrou-Aragon (2001) comes to even stronger conclusion (Subramanian and Roy 2003: table 5). On nearly every indicator of trade policy Mauritius fares worse than the average African economy.

The conclusion that can be drawn is the following. It may well have been that Mauritius in some broad sense (examined below) was indeed open, but certainly not on the basis

⁶ The Sachs and Warner (1995) results have been criticized on a number of grounds and in particular by Rodriguez and Rodrik (2000). But that is not really relevant to the argument made below.

of indicators of import policies of Sachs and Warner (1995). On the contrary, it was a highly restricted economy during much of the 1970s, 1980s, and the early 1990s. More specifically, the data suggest that Mauritius would not have met two of the criteria—relating to average tariffs and coverage of quantitative restrictions—that Sachs-Warner (1997) deem necessary for classifying a country as open.

3.4 Heterodox opening (Rodrik)

Clearly, by the most usual measures for determining trade policy openness, Mauritius is not the poster boy for the Washington consensus. Mauritius had a highly restrictive trade regime. But why did this not translate into an export tax and hence a tax on all trade? According to Rodrik (1999a), Mauritius chose a strategy of trade liberalization that was unusual and that effectively segmented the export and import competing sectors. Through a policy of heterodox opening, Mauritius ensured that the returns to the export sector were high, effectively segmenting its export sector from the rest of the economy and preventing a restrictive trade regime from spilling over to this sector. This combination ensured that the returns to the export sector remained high, and high enough to prevent domestic resources from being diverted to its inefficient import competing sector.

The institutional mechanism for achieving the segregation of the exporting sector from the importing sector was the creation of the export processing zone (see below), but the policy instruments that were deployed were the following:

- First, duty free access was provided to all imported inputs. This ensured that the export sector's competitiveness on world markets was not undermined by domestic taxes that could have raised the cost of inputs used in export production.⁷
- Second, a variety of tax incentives was provided to firms operating in the export processing zones, which had the effect of *subsidizing* exports.⁸ This subsidization was a key element helping to offset the impact of the implicit tax on exports created by the restrictive trade regime.
- Most importantly, the labour market for the export sector was effectively segmented from the rest of the economy (and in particular the import competing sector). Different labour market conditions prevailed at least until the mid-to-late 1980s. Employers had greater flexibility in discharging workers in the EPZ sector (for example, no severance allowances had to be paid before retrenching workers and advance notification of retrenchment to a statutory body was not required) and the conditions of overtime work were more flexible. Most importantly, although legal minimum wages were the same in the EPZ sector as in the rest of the economy, minimum wages for women were fixed at lower levels (Hein 1988; Wellisz and Saw 1993). And since EPZs employed disproportionate amounts of female workers (in 1990, for instance, the EPZ

⁷ Note that duty drawbacks and equivalent schemes do not entail export subsidization, they merely offset the bias from restrictive import policies.

⁸ The main incentives included a 10-year tax holiday on retained earnings, and a partial tax holiday for periods beyond that; free repatriation of capital and profits; and preferential interest rates for firms in the EPZ.

workforce comprised 60,372 females and 27,886 males), these labour market measures also acted as an implicit subsidy for exports as they increased the incentive to produce in the export- than in the import-competing sector. Figure 6 illustrates the wage differential between the EPZ and the rest of the economy in the 1980s and 1990s.⁹ EPZ wages were about 36-40 per cent lower in the 1980s, with the differential narrowing to between 7 per cent and 20 per cent in the 1990s.

The creation of the EPZ generated new opportunities of trade and of employment (for women), without taking protection away from the import-substituting groups and from privileged male workers. The segmentation of labour markets was particularly crucial, as it prevented the expansion of the EPZ from driving wages up in the rest of the economy, and thereby disadvantaging import-substituting industries. New profit opportunities were created at the margin, while leaving old opportunities undisturbed. There were no identifiable losers (Rodrik 1999a).

To summarize these arguments, Mauritius managed to maintain neutrality of incentives between the export and import-competing sectors. The neutrality of incentives was achieved through a high dose of intervention on both imports and exports ('heterodox opening'). On the one hand, imports were restricted through high trade barriers; on the other, to offset this intervention, extensive and selective intervention occurred on the export side. In this sense, it appeared to follow the dirigiste approach of Korea, Taiwan, and Japan rather than that of Singapore and Hong Kong SAR.

3.5 Heterodox opening: the role of preferential access

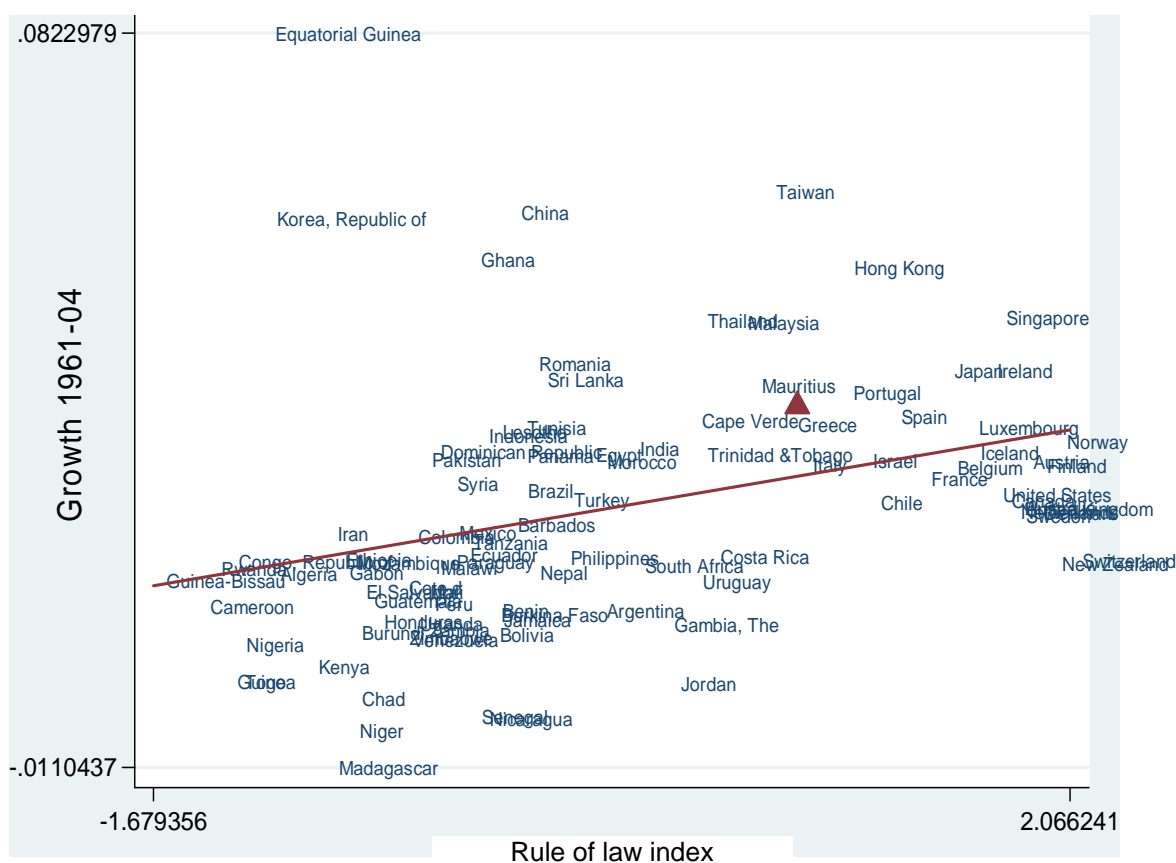
The argument made by Rodrik is plausible but incomplete in an empirical sense. For example, effective protection for the import-competing sector averaged about 125 per cent in the 1980s and about 65 per cent in the 1990s (Subramanian and Roy 2003: table 4). At the same time, calculations in Subramanian and Roy (2003: figure 6) indicate that the de facto subsidization through the labour market was closer to 25-30 per cent, even less if EPZ wages are compared with those in the import-competing sector. Even allowing for favourable tax breaks, it seems that heterodox opening and intervention (in the form of subsidies in the export sector) did not offset completely the anti-export bias of the restrictive import regime.¹⁰ There is a missing piece and that is the preferential access to the export markets enjoyed by Mauritius.

The policy of heterodox opening would probably not have been a success, or at least not to the same extent that it was, without the policies of Mauritius' trading partners which played an important role in ensuring the profitability of the export sector. Mauritius has enjoyed preferential access to the markets of the major trading partners—United States and especially Europe. This access has affected two main products that have together accounted for over 90 per cent of Mauritian exports.

⁹ For example, in 1984, 79 per cent of total employment in the EPZs was female, compared with 31 per cent in the rest of the economy (Hein 1988).

¹⁰ The impact of the corporate tax incentives on exports could not have been large because most non-EPZ manufacturing firms also benefited from the numerous tax concessions.

Figure 6
Growth and institutional quality



Source: World Bank (WDI).

First, since independence in 1968, Mauritius has been guaranteed a certain volume of exports of sugar to the European Union. Moreover, these quotas are at a guaranteed price that has been above the market price by about 90 per cent on average (see figure 7 in Subramanian and Roy 2003) between 1977 and 2000. The resulting rents to Mauritius have amounted to a hefty 5.4 per cent of GDP on average each year, and up to 13 per cent in some years.¹¹ Effectively, this preferential arrangement in the sugar sector increased the return to the export sector and acted like a subsidy to domestic production of sugar. Unlike a domestic subsidy, subsidies received through the preferential access were a transfer from consumers in the importing country to producers (and taxpayers) in Mauritius.

Mauritius has also enjoyed preferential access on its exports of textiles and clothing. Foreign investment into the clothing sector, which originated largely in Hong Kong SAR, was motivated in part by the need to circumvent the quotas on textiles and clothing that were constraining clothing exports from Hong Kong SAR. The international regime in place, known as the Multi-Fibre Arrangement (MFA)—was an attempt by the United States and the European Union (EU) to limit imports into their

¹¹ Most, but not all of these rents accrued to producers because of the export tax on sugar, which has averaged about 12 per cent between 1975 and 1995.

Table 3
Import tax and offsetting export subsidies^(a)
(In %)

Period	Import Protection ^(b)	Export subsidy from:						Total	
		Domestic policy		Preferential access			Case A	Case B	
		Case A	Case B	Sugar	Apparel	Total			
1980s	127	32	39	108	15	52	84	91	
1990s	65	7	20	98	28	47	54	66	

Notes: (a) Subsidy from domestic policy refers to the difference between the EPZ wage and the wage in the non-EPZ manufacturing (Case A) and in the economy (Case B).

(b) To capture the resource allocation effects, protection is measured in effective rather than nominal terms.

Source: Author's calculations.

own markets. These limits were achieved by awarding country-specific quotas for the different textile and apparel exporting countries. One of the effects of these quotas was to redistribute production between exporting countries—away from low-cost toward high-cost sources of production. Thus, high-cost-producing countries gained an advantage relative to low-cost producers, resulting in higher production than would otherwise have taken place.

Subramanian and Roy (2003: table 6), calculate the quota rents for Mauritius in the apparel segment under the MFA arrangement as a per cent of the GDP. These amounted to about 3-3.5 per cent of GDP during the 1990s. The substantial rents accruing to exports ensured that resources were not diverted away despite the attractiveness of the protected import-competing sector. From a macroeconomic perspective moreover, these rents played a crucial role in sustaining high levels of investment and explain the fact that during the growth boom in Mauritius domestic rather than foreign savings have financed domestic investment. Our calculations suggest that rents in Mauritius from preferential access in sugar and clothing together amounted to about 7 per cent of the GDP in the 1980s and to about 4.5 per cent of GDP in the 1990s.

Preferential access made an enormous contribution to offsetting the bias of import policies, 50 per cent. This combined with export subsidization through domestic policies would have been about 90 per cent, very close to the tax stemming from import restrictiveness. Quantitatively, preferential access contributed more to offsetting the anti-export bias of the import regime than domestic export subsidization policies (Table 3).

In sum, Mauritius benefited enormously from the policies of its trading partners who granted preferential access to Mauritius. An alternative way of stating this is that Mauritius benefited from the protectionist policies of the United States and EU in the sugar and textile and clothing sectors. Had these industrial countries liberalized their markets, it is quite likely that the Mauritian trade performance would have been quite different. It is therefore no secret that Mauritius has not been enthusiastic about dismantling protection in world agricultural and clothing markets.

3.6 Trading rules

Another less well-known aspect of the international trading regime is relevant in analyzing Mauritian trade policies. Under the WTO, developing countries have generally been exempted from undertaking obligations to rein in protectionist trade policy. This favourable treatment of developing countries has, until the Uruguay Round, extended to export subsidies. The Mauritian regime for export processing zones, particularly the favourable tax treatment of firms in EPZs, could not have flourished had the prohibition of export subsidies by developed countries also been applied to developing countries. The international regime was therefore indulgent toward Mauritius in this respect as well.¹²

3.7 Export processing zones: FDI and ideas (Romer)

By any conventional measure, the EPZ experiment in Mauritius has been a resounding success: it has literally helped transform the Mauritian economy. Since 1982, output has grown by 19 per cent per annum on average, employment by 24 per cent, and exports by about 11 per cent. In the early part of this century, the EPZ sector from a base of zero in 1971 now accounts for 26 per cent of GDP, 36 per cent of employment, 19 per cent of capital stock, and 66 per cent of exports.

Does the performance of the EPZ reflect the benefits of FDI? Romer (1993) strongly argues that the Mauritian experiment is a vindication of a strategy of importing ideas and allowing the economy to generate high rates of growth based on them. The conceptualization of ideas in Romer (1993) as a public good has the policy implication that the government needs to subsidize the *use/production* of ideas. According to Romer: 'The only obvious candidate for explaining the success of Mauritius is the policy of supporting an EPZ, which made investment attractive to foreigners'. Beginning with Meade who took a narrow view of Mauritian entrepreneurial expertise, Romer's story explains well that foreign entrepreneurs brought an array of ideas in a new line of activity i.e. textile and apparel. Ideas which are useful are expected to be reflected in rising productivity and the experience of the EPZ sector in Mauritius does confirm this prediction.

3.8 Openness: what to conclude?

Of the three explanations, the one due to Sachs and Warner does not appear to square with the facts. Mauritius was simply not a liberal economy in import policy terms. The explanation due to Romer encounters two problems. While it may have been true that the initial wave of investments that triggered the growth in EPZ output was largely foreign, the Mauritian EPZ sector, unlike that in many countries had a substantial local presence. For example, in 1984, only 12 per cent of the total employment in the EPZ was accounted for by wholly foreign-owned operations compared with 72, 42, and 64 per cent, respectively, in Korea, the Philippines and Malaysia. It is estimated that about 50 per cent of the total equity of firms in the EPZ was owned by Mauritian nationals. In

¹² Interestingly, the WTO rules do not treat differential labor regulations between the export and other sectors as a subsidy.

other words, ownership figures do not provide unambiguous support for the notion that ideas originated from abroad and were mediated through foreign direct investment.¹³

A second problem is more general. True, the Mauritian government did support the export processing zones as we have discussed above but was it unique to Mauritius? Apart from Mauritius, EPZ facilities and the attendant incentives were provided by a host of other African countries such as Zimbabwe, Senegal, Madagascar and Cameroon. Hinkle and Herrou-Aragon (2001) rate countries like Zimbabwe and Senegal at par with countries without the EPZs, for the reason that these countries provided for EPZs but implemented the arrangements so poorly that they were judged to be no better off than African countries without the EPZs. Other countries like Cameroon which tried the same experiment had only moderate success. The EPZ experiment failed in almost all these countries. Put differently, while Romer's insight on the successful use of ideas (mediated through FDI) by Mauritius may be valid, the question of why FDI flowed to Mauritius rather than to others that attempted to similarly attract FDI remains unanswered.

This poor performance was not limited to the EPZs alone. In fact reviewing the system of export incentives in thirteen African countries, Hinkle and Herrou-Aragon conclude that no sample country came anywhere close to international best practice for export incentives. They attribute this unambiguous failure to fiscal constraints, limited administrative capacity, the latter resulting in leakage of commodities benefiting from the incentives to the domestic market, favouring import-competing rather than export-oriented activities. There seems to be more to the EPZ experience of Mauritius than the import of ideas through subsidies.

The heterodox opening argument due to Rodrik points in a promising direction. When supplemented with the role played by trading partners, it appears to explain why the trade regime was at least neutral between exports and import competing sectors. But again this explanation appears to be a proximate one. Other African countries established EPZs and enjoyed preferential access to foreign export markets without comparable success. There seems to be more to the Mauritian experiment than interventionist policies at home and generosity abroad.

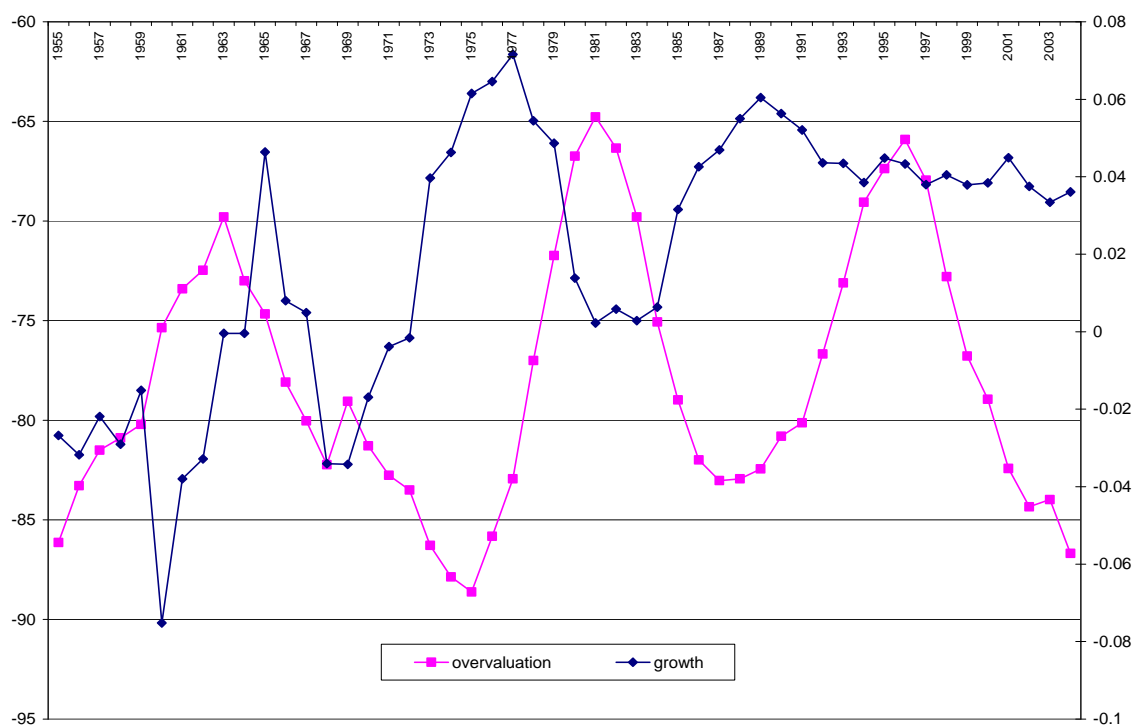
3.9 Exchange rates

The growth literature has seen a re-emergence of the importance of exchange rates in influencing medium run economic growth (see Prasad, Rajan and Subramanian 2007; Rodrik 2007). Exchange rates seem to have an important effect in the development of tradables, which in turn seem to play a key role in fostering growth.

One of the striking features about Mauritius has been that it has managed to maintain a very competitive exchange rate for long periods of time. In fact, Mauritius has the highest degree of undervaluation of its currency amongst a large group of countries and an even higher degree of undervaluation than the fast growing countries of East Asia

¹³ Of course, given the public good nature of ideas, even very small initial amounts imported from abroad could have subsequently been adopted by domestic firms. Thus, substantial domestic ownership of the EPZ firms need not invalidate the Romer insight.

Figure 7
Overvaluation of the exchange rate and growth, 1965-2004



Source: Prasad, Rajan, and Subramanian (2007).

Table 4
Overvaluation: Mauritius and selected countries

	Year T	Avg. currency overvaluation	Largest consecutive spell of overvaluation in yrs since 1970	Avg. overvaluation during largest spell
Chile	1986	-15.6	5.0	12.2
China, P. R. (mainland)	1978	-27.9	12.0	20.6
Dominican Republic	1969	1.9	10.0	10.6
Egypt	1976	-14.5	5.0	30.5
Indonesia	1967	-27.3	3.0	13.0
Korea	1962	-13.7	-9.0	10.8
Malaysia	1970	-9.0	6.0	7.4
Singapore	1969	11.1	9.0	15.4
Taiwan Province of China	1961	9.3	18.0	16.5
Thailand	1960	-22.8	0.0	0.0
Tunisia	1968	-29.3	0.0	0.0
Vietnam	1985	-73.9	0.0	0.0
Avg. of countries with sustained growth	1970	-22.3	6.4	11.4
Mauritius	1970	-78.2	na	na
SSA countries with growth >2.0%	1970	10.82	15.4	43.8
SSA countries with growth <2.0%	1970	18.2	15.3	26.6

Note: Year T refers to the start of the sustained growth spell for countries listed.

Source: Johnson, Ostry and Subramanian (2007).

(Table 4). Unlike most countries, it also avoided any spell of overvaluation. Even in a timeseries context, movements in growth seem to broadly track the exchange rate, especially since the late 1970s (Figure 7). In fact, the devaluation of the early 1980s triggered the growth boom that began in 1982 that has continued almost uninterrupted since then.

Thus, it seems that competitive exchange rates along with preferential access provided the incentives for the Mauritian export sector to flourish.

3.10 The role of institutions

The role of efficient and properly functioning institutions as a precondition to investment, entrepreneurship, and innovation and hence long-run growth is increasingly emphasized in the growth literature. Institutions have been argued to confer two types of benefits. First they enhance long-run growth (Acemoglu, Johnson and Robinson 2000; Rodrik, Subramanian and Trebbi 2004), and second, they impart resilience to an economy, allowing it to adjust to exogenous shocks (Rodrik 1999b).

As is evident from the partial scatter plot above, fast growers have on average better institutions. That institutions might be important in explaining Mauritian economic performance is suggested by the high quality of its institutions. Mauritius ranks well above the average African country with respect to all indices of institutional quality, political as well as economic (Table 5) and also above the fast growing economies on most indices.¹⁴ The role of institutions in Mauritian growth and development is illustrated by at least three examples.

Gulhati and Nallari (1990) argue that Mauritius' success in overcoming its macroeconomic imbalances in the early 1980s owes to domestic institutions. Macroeconomic adjustment was in fact implemented by three different governments of apparently divergent ideological persuasions: this presupposed consultation and a recognition of the need to evolve a national consensus in favour of the adjustment. Further, a culture of transparency and participatory politics ensured that early warning signals and feedback mechanisms were in place, allowing emerging economic problems to be tackled at an early stage.

A second illustration of the role of institutions relates to the success of the EPZs in Mauritius compared with the rest of Africa. EPZs have failed in most countries because institutions and governance have not been able to manage the rent seeking, corruption and inefficiency required to manage the high degree of selective interventionism embodied in EPZs.

The example of the success of the sugar sector in Mauritius also highlights the role of institutions in the country's economic performance. Sugar is its prime agricultural product. Like most other African countries the dependence on the primary product has been high. Where Mauritius is different from the rest of Africa is that it has nurtured

¹⁴ The earliest available measure of economic institutions for Mauritius is in fact for 1996 based on the World Bank's governance indices. This shows Mauritius well above (between 1 and 1.5 standard deviations) African countries on the rule of law and control of corruption indices. Since institutions tend to be highly persistent, one can tentatively infer that this superiority of economic institutions must have extended back in time.

and developed the sugar sector rather than taxed it. While the rest of Africa killed its cash cow, Mauritian sugar industry has thrived. The role of institutions in achieving this is elaborated in greater detail in the concluding section.

Table 5
Mauritius and other countries with respect to indices of institutions

Institutional quality index	Mauritius ^(a)	Africa	Fast-growing countries	Other developing countries
ICRGE ^(b)	7.23	4.54	6.86	4.29
Protection against expropriation ^(c)	8.06	5.75	8.54	6.47
Democracy ^(d)	0.75	0.25	0.47	0.51
Participation index ^(d)	0.8	0.3	0.49	0.44
Rule of law ^(e)				
1996	0.76	-0.70	0.48	-0.18
2006	0.81	-0.67	0.59	-0.40
Control of corruption ^(e)				
1996	0.45	-0.58	0.41	-0.19
2006	0.37	-0.59	0.44	-0.45

Notes: ^(a) For ICRGE and Protection Against Risk of Expropriation, Mauritius has fitted values.

^(b) ICRGE (International Country Risk Guide) index is a measure of institutional quality that contains aspects of government that affect property rights or the ability to carry out business. It is published by a private firm that provides consulting services to international investors.

^(c) For ICRGE index and index of protection against the risk of expropriation the scale is between 0-10, with higher values indicating better institutional quality.

^(d) Participation measures the extent of competitiveness of political participation. This index is taken from the Polity III dataset of Jagers and Gurr (1995), who define it as the 'extent to which non-elites are able to access institutional structures for political expression' (it is rescaled to range from 0 to 1 in Rodriguez and Rodrik (1999). The democracy index also ranges from 0 to 1.

^(e) Rule of law and control of corruption are from the World Bank's governance indicators.

4 Mauritius's uniqueness: institutions, diversity, and social conflict

The foregoing discussion can be summarized as follows: first, the Mauritian growth performance between 1960 and 1990, and especially since the 1970s, has been exceptional. In standard cross-country growth regression models, Mauritius is an outlier, implying that conventional determinants of growth do not fully capture the country's performance.

Second, initial conditions have had an ambiguous, and on balance a negative impact on subsequent growth performance. Its initial inheritance of human capital and demographic characteristics were favourable, but its higher level of initial income, commodity dependence, unfavourable geography have exerted a drag on growth. Certainly, in the growth race, Mauritius did not receive a stagger relative at least to countries in Africa (Table 6 in Subramanian and Roy 2003 indicates that the initial conditions disadvantaged Mauritius relative to all groups of developing countries.) Mauritius' inheritance implied a drag on growth of about 1 percentage point relative to the average African country and close to 2 percentage points relative to the fast growers.

Table 6
Breakdown of Mauritian growth

Explanatory variable	Difference in Mauritian growth from baseline growth of:		
	Africa	Fast-growing countries	Other developing countries
Catch-up	-2.33	-1.33	-1.41
Life expectancy	1.51	0.29	0.68
Landlocked	0.19	0.06	0.06
Tropical climate	-0.09	-0.26	-0.34
Natural resource bundance	-0.35	-0.65	-0.55
Etholinguistic fractionalization	0.01	-0.03	-0.05
Total inheritance	-1.06	-1.98	-1.61
Openness	-0.20	-1.93	-0.47
Central government savings	-0.43	-0.53	-0.08
Avg. national savings ratio	-0.001	-0.02	-0.006
Institutional quality	0.75	0.10	0.82

Note: Estimates are based on the Sachs and Warner (1997) basic regression.

Source: Author's calculation.

Third, Mauritius adopted a distinctive approach to openness. It has not had an open trade regime in any conventional sense; on the contrary, its import regime for much of the 1970s, 1980s, and 1990s has been highly restrictive. The distinctiveness has been how Mauritius prevented an import tax from becoming an export and trade tax. Through a mixture of: segmentation of the import competing and export sectors, and heavy intervention to promote the latter, initially though more liberal labour market policies but also through the tax system; and a competitive exchange rate, part of the anti-export bias was offset. The institutional distinctiveness—that gave effect to segmentation—was the creation of EPZs. These were the heterodox aspects of Mauritius' openness strategy. However, it is the preferential access provided by Mauritius' trading partners, in sugar and textiles and clothing, and the resulting implicit export subsidization, that has allowed the anti-export bias to be fully offset. Thus, while there are shades of East Asian-style (particularly Korea and Taiwan) interventionism in Mauritius' trade and development strategy, a substantial role was played by trading partners (to a much greater extent than in the case of East Asia) in boosting trade performance. The emphasis on heterodox policies by Rodrik (1999a) therefore needs to be qualified.

But it should be underscored that while Mauritian policy offset the anti-export bias, neutrality rather than a pro-trade bias was achieved. In other words, Mauritian trade performance was average, not exceptional as in the case of the tigers of East Asia (as is

clear from Figure 5). Thus, Mauritian trade performance cannot explain Mauritius' exceptional growth performance. It was a super-grower but not a super trader.¹⁵

But these are proximate rather than underlying causes of Mauritian growth success because the favourable trade environment and the creation of EPZs were not unique to Mauritius. Other developing countries had similar trade opportunities and adopted similar policies but failed where Mauritius succeeded. To some considerable extent, strong domestic institutions have contributed substantially to Mauritian success, and are a good candidate for underlying explanations of the Mauritian miracle. Compared with many developing countries, Mauritius has since independence been a democracy and developed strong participatory institutions.

The econometric results, however, suggest that even after accounting for the role of institutions there is a sizable unexplained component to Mauritian growth. Cross-country growth models, by definition, cannot capture country-specific idiosyncratic effects. In Mauritius, there were many. But one particularly important one, ironically, appears to be the very diversity and ethnic fragmentation that Meade lamented as a curse.

Diversity had three important benefits: it was a repository of communities (or diasporas) that turned out to have important linkages with the rest of the world, creating positive externalities for the country; it forced the need for economic balance that explains the preservation of the cash cow, namely the sugar sector; and third, it forced the need for participatory political institutions that were important in maintaining stability, law and order, rule of law, and mediating conflict.

First, the role of business and social networks in promoting trade and investment has attracted increased research interest in recent years. Rauch and Casella (1998) develop a model of trade that reflects the difficulty of introducing one's product in a foreign market. Access to local sources that can provide information about the market then facilitate entry and one prominent source of information transmission is coethnicity. A well-known example of the role of ethnic networks in trade is provided by the overseas Chinese who have created formal or informal societies that help in information flows and even at times in enforcement of contracts. Head, Ries and Wagner (1997) find that immigrants significantly increase trade between Canada and the source countries. Rauch (1999) presents evidence that common language and colonial ties play an important role in international trade.

Just as business and social networks are important for trade they are conceivably important for investment owing to similar mechanisms. Mauritius has a small Chinese population which played an important role in attracting the first wave of foreign direct investment flows from Hong Kong SAR. Entrepreneurs from Hong Kong SAR chose Mauritius as an investment location to circumvent the quotas on exports of textiles and clothing from Hong Kong SAR. In a similar vein, the offshore financial sector has grown because of the Indian diaspora which led to the signing of a double taxation treaty between Mauritius and India. As a result, Mauritian offshore centres have

¹⁵ That Mauritius was not an exceptional trader is demonstrated more formally in Subramanian and Roy (2007: table 12).

mediated large financial flows to India and Mauritius has become the largest investor in India.

Diversity had other important consequences. Here, one should emphasize a distinctive element of Mauritian diversity. There was a nice, almost symbiotic separation of economic and political power in Mauritius. Compared to resource-rich countries in Africa, for instance Ghana and Nigeria, where the economic power and political power were vested in the same authority, Mauritius did not have a system of a ruling elite that derived economic power from the control over resources. Economic power was vested in the minority French community.

This had one important consequence: Mauritius managed to avoid one of the major mistakes made in most of resource-rich Africa, namely of killing the cash cow. Thus, agriculture and the resource sector were taxed in much of Africa (Ghana, Kenya, Tanzania). In part, this was imbued by ideology—the push towards import-substituting industrialization. But the newly-independent government in Mauritius—of a distinctly socialist persuasion—was as susceptible to this siren call.¹⁶ Yet, the call was resisted. Political economy played an important role. The cash cow in the case of Mauritius was the sugar sector and owned predominantly by the minority French community. On the one hand, it was farsighted of the majority Indian community not to have nationalized or heavily taxed this sector. Equally, the economic elite—the French—exercised their clout and ensured that an adverse outcome to them did not result. The fact of the cleavage between the economic elite (a political minority) and the political elite and the need to achieve balance between the two in a newly-independent state thus ensured the fortunes of the sugar sector.

In return for guaranteeing the rights of the sugar owners, the political majority did implicitly extract a compromise in terms of transferring some of the rents from sugar to itself. One important aspect of this transfer was a large, relatively well paid, civil service (staffed predominantly by the majority Indian community) and a generous system of social protection, particularly related to pensions. The success of the sugar industry in Mauritius can thus be seen as an example of what can be termed as optimal rent-sharing between the political (predominantly Indian) and economic elites (predominantly non-Indian).

Diversity also had important political consequences. To some extent, Mauritius had no choice but to evolve such institutions. Just prior to independence, in a referendum on this question, 44 per cent of the population (virtually the entire non-Indian population) rejected independence and wished to stay as a British colony. Assuaging the misgivings of such a large section of the population made participatory politics in the post independence era a necessity.¹⁷ These institutions have ensured free and fair elections, the rule of law, a vibrant and independent press, and respect for property rights all of which have made Mauritius an attractive investment location.

¹⁶ The first Prime Minister, Sir Seewoosagur Ramgoolam, was a Fabian socialist and wedded ideologically to a socialist model of development.

¹⁷ The extraordinary effort devoted to assuaging minority interests is reflected in the ‘best loser’ system introduced under the British which guaranteed adequate representation to all the communities in Mauritius, even if they did not emerge victorious in elections. This system has helped to keep the participation and interest of the minorities groups in the democratic process.

Thus, both politics and the economics were shaped by the diversity of the population and the need to accommodate it in the face of large fissures. Another less well-known choice made by Mauritius, which in retrospect seems a farsighted one—but is really an illustration of unintended consequence—related to the sugar quota. Mauritius in the 1970s was offered the choice between access at the then high world price with limited quotas and access at a lower domestic EU price but with higher guaranteed quotas. Many countries chose the former attracted by the high price prevailing at that time. Mauritius chose the latter. The larger quantitative access, combined with the pressure from the domestic EU producers' lobby which raised domestic EU prices, handed Mauritius huge rents, which proved to be vital in financing private investment and generating growth.

5 The future

Like all countries, Mauritius faces real challenges for the future. The preferential sugar regime will almost certainly cease to provide the rents that it has in the past. And the fact of China's accession to the WTO and the dismantling of the old MFA arrangement have meant serious dislocations for the Mauritian textile and clothing industry. For example, textile and clothing exports, which averaged just over a billion dollars between 1998 and 2004, have declined sharply to just over US\$800 million in 2005 and 2006. Moreover, Mauritius, as a middle-income country cannot qualify for the European Union's preferences under the EBA (everything but arms) scheme, and from 2008, Mauritius cannot qualify for the generous third-party fabric rule of origin requirement in the United States' African Growth and Opportunity Act (AGOA).

In the face of these challenges, the question often posed is: what will Mauritius do next? What industries or services will replace the inevitable decline of sugar and clothing? While these may be interesting questions, they are almost certainly the wrong ones for outsiders to ask? The key point is that Mauritius has reached a stage of development and maturity and sophistication that, long before the outside world had even recognized the looming challenges, the Mauritian domestic system had started the necessary processes to confront them. Whether Mauritius upgrades into high-value added financial services or information technology (this is already happening), one can be confident that Mauritius will figure out a way. The world can, in fact, stop worrying about Mauritius because it has demonstrated the ability to worry for itself.

7 Lessons for other African countries

To summarize: the Mauritian development 'strategy' was one of heterodox policy interventions, especially on exports, but one that was implemented in the context of a favourable trading environment externally and very strong economic and political institutions domestically. One clear message is that attempting to replicate the Mauritian experiment might be hazardous for other countries, in part because the trading environment is now less favourable. Preferential margins for African countries will slowly but inevitably decline as global liberalization proceeds apace and as China proves to be a major competitor for African manufacturing exports. Perhaps, more importantly, it may be difficult for other countries to replicate the key elements of the

Mauritian globalization strategy—heavy intervention, extensive subsidization, and targeting, including through the creation of EPZs—because the preconditions for ensuring that an interventionist strategy succeeds, notably, the quality of domestic institutions and political processes, may not be in place.

But the impact of strong institutions has been much broader and deeper. If Mauritius has demonstrated one thing, it is the invaluable benefit conferred by a domestic political system that is inclusive and provides a basis for keeping social conflict manageable—which indeed was Meade’s biggest worry.

In Africa, social stability is still elusive because of persistent internal conflicts, despite the progress made on democratization in recent years. In the ten years between 1995 and 2005, nearly half the countries in Sub-Saharan Africa have seen some form of internal conflict (see tables 3a and 11 in Johnson, Ostry and Subramanian 2007). Against this background, Mauritius stands out as a beacon of possibilities. But creating an inclusive political system that has kept internal conflict at bay (despite the latent possibilities that were not very different in Mauritius than in the rest of Africa) is hard work, and was done, in Mauritius, in the early days and by the early political leadership. It is no coincidence that the only two African countries that have posted consistently high rates of economic growth are Botswana and Mauritius, which are also the only two uninterrupted democracies since independence.

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