

To Grow or Not to Grow: Is Africa Different? No.

by Thorvaldur Gylfason*

1. Sources of growth

Over the past fifteen years a revolution in thinking about economic growth around the world has taken place. Before this revolution, most academic economists viewed economic growth as “exogenous” – meaning that growth was taken to be essentially immune to economic influences over long periods. Rather, economic growth was traced to one and only one source, technological progress. As Robert Solow (1970, p. 77), a Nobel laureate and leading growth theorist, put it: “To change the rate of growth of real output per head you have to change the rate of technical progress.” But as time passed and it came increasingly evident that countries were capable of growing at quite different rates over long periods, the conventional wisdom that long-run growth was solely a matter of technology seemed ever more untenable.

Economists could not be expected to go on leaning on engineers for explanations of why growth rates differ so greatly across countries as well as over time. We saw, for example, how the East Asian countries grew by leaps and bounds from the 1960s onwards, while many others languished. There had to be an economic explanation for this and for similar episodes elsewhere beyond mere technology. Hence the revolution in economic growth theory that started around the mid-1980s. Arthur Lewis, also a Nobel laureate and leading growth theorist, would not have been surprised. To him, “the proximate causes of economic growth are the effort to economize, the accumulation of knowledge, and the accumulation of capital.” (Lewis, 1955, p. 164).

The chief tenet of the growth revolution was, and remains, that economic growth must be “endogenous” – meaning that growth must respond to economic forces such as those released by different economic systems or different economic policies. When you think about it, this is rather obvious, at least in retrospect. Central planning as practiced in the Soviet Union and elsewhere was bound to stifle economic efficiency and growth, and this turned out to have been the case, as a comparison of living standards in pairs of countries such as Estonia and Finland, the Czech Republic and Austria, Madagascar and Mauritius, and Burma and Thailand, to name but a few, makes clear. These countries started out in similar circumstances and yet ended up a few decades later with vastly different standards of living. The most obvious explanation is that Estonia, the Czech Republic, Madagascar, and Burma, which the generals that rule the country renamed Myanmar a few years ago, were marred by a rigid system of central planning with all the inefficiency that such a system entails, while Finland, Austria, Mauritius, and Thailand were and continue to be mixed market economies. The key here is this: as a rule, a mixed market economy uses its scarce resources more efficiently than a planned economy, thereby creating more favorable conditions for rapid economic growth. This is exactly what Sir Arthur Lewis meant by the “effort to economize.”

* Thorvaldur Gylfason is Research Professor of Economics at the University of Iceland and Research Fellow at the Centre for Economic Policy Research (CEPR) in London, SNS – the Swedish Center for Business and Policy Studies in Stockholm, the Center for Economic Studies (CESifo) at the University of Munich, and the U.S.-Japan Center of Business and Economic Studies at New York University. His most recent book in English is *Principles of Economic Growth* (Oxford University Press, 1999).

There are also other pairs of countries that have grown at different speeds even if their economic system was essentially the same. Consider Tunisia and Morocco, Spain and Argentina, and Botswana and Nigeria. Their economic system has not been all that different and yet Tunisia, Spain, and Botswana have grown more rapidly than Morocco, Argentina, and Nigeria. Why? To make a long story short, the first group has, by and large, followed better – that is, more growth-friendly – economic policies than the second group. Even within a given economic system, some types of policy and private behavior are more conducive to economic efficiency and growth than others. What are the hallmarks of growth-friendly economic policies? In this article, I want to highlight a few policies and private undertakings that, according to economic theory and empirical evidence, seem to be good for growth. Further, I want to present some empirical indications that what is good for growth around the world is also good for growth in Africa, more specifically the member countries of MEFMI. My point is that the lessons of modern growth economics are, at least in principle, general and not region-specific.

As a point of departure, it is convenient to use Figure 1 to describe some of the main determinants of economic growth that have been identified in the rapidly expanding empirical literature on the subject. The empirical studies in question typically apply multiple regression analysis to cross-sectional data or panel data that reflect developments within countries as well as differences across countries. In Figure 1, positive charges assigned to arrows indicate positive effects in the direction shown, and negative charges indicate negative effects.

2. Investment

Arrow 1 refers to the by now fairly well documented effect of investment on economic growth. Even so, as the example of the Soviet Union and its satellites makes clear, a large volume of investment provides no guarantee for rapid growth. Nikita Khrushchev justified the Soviet Union's gigantic investment and industrialization efforts by saying that enough quantity insures quality. He was wrong. To be conducive to rapid growth, investment must be of high quality. Herein lies one of the advantages of a mixed market economy compared with central planning. A market-based system provides strong incentives to private firms to invest only in worthwhile – that is, profitable – projects. Central planning, by contrast, is conducive to politically motivated investments (“white elephants”) rather than profit-oriented ones.

Figure 2 shows the relationship between the annual rate of growth of gross national product (GNP) per capita from 1975 to 1998 and the average share of investment in gross domestic product (GDP) over the same period in the eleven member countries of MEFMI. The regression line drawn through the scatter of observations indicates that each ten percentage point increase in the investment ratio is associated with an increase in per capita growth by 1½ per cent per year. Even if this is a small group of countries, the pattern of growth and investment shown in the figure is strikingly similar to that observed for the world as a whole. So, even if we do not adjust the volume of investment for quality, which is not easy to do in practice, we still see a clear pattern: investment is good for growth (but we still need to be on guard against white elephants).

3. Education

Arrow 2 describes the positive effect of education on growth. Also here we must distinguish quantity from quality. The problem is that all the available and commonly

used measures of education – school enrolment, years of schooling, expenditure on education – reflect education inputs rather than outputs, quantity rather than quality. Yet, there is pretty strong evidence that more education is associated with more rapid growth across countries, and the MEFMI countries are no exception, as shown in Figure 3. As far as economic growth is concerned, however, the supply of education may matter less than demand. This is relevant here because public expenditure on education tends to be supply-determined and of mediocre quality, and may thus fail to foster efficiency, equality and growth, in contrast to private expenditure on education, which is generally demand-led and thus, perhaps, likely to be of a higher quality and more conducive to growth.

Arrow 3 refers to the idea that rich countries, having already exploited many of the most promising growth opportunities available to them, have less potential for rapid growth than poor countries that have yet to exploit their best opportunities for growth. This phenomenon is known as catch-up or convergence. If this were the end of the story, we would expect to see poor countries growing faster than rich countries around the world. This, however, is not the case. Why not? One reason is that poor countries can afford to send fewer of their young people to school than rich ones, as indicated by arrow 4, and the poor countries grow less rapidly than the rich as a result. Hence, combining arrows 2 and 4 helps explain why rich countries do not, in general, grow less rapidly than poor ones. The poor, in other words, are not as a rule converging on the rich, and education helps explain why. Even so, many poor countries have in recent years managed to narrow the income gap that separates them from richer countries very considerably. It is worthwhile to remember that the world record in economic growth per capita since 1965 still belongs to Botswana.

4. Openness

Arrow 5 describes the effect of openness on economic growth. Recall Sir Arthur Lewis's emphasis on the "effort to economize." One of the oldest lessons of economics is the one about the gains from trade. Economic specialization through trade enables nations to do what they do best, and leave the rest to others. This makes, or at least has the potential to make, every participating nation better off, provided we manage somehow to distribute the gains so as to compensate those individuals who lose from trade. True, this may be easier said than done, but the point is that when a nation becomes better off, it is, in principle at least, possible if not always practical to ensure that no one is left worse off than before. The chief challenge of globalization in the modern world is to put this fundamental principle into viable practice.

What is the empirical evidence? Figure 4 shows the relationship between economic growth as measured before and the sum of exports and imports of goods and services relative to GDP (converted to international dollars using purchasing power parity rates) in the eleven member countries of MEFMI from 1980 to 1998. The regression line drawn through the scatter of observations indicates that each ten percentage point increase in the trade ratio is associated with an increase in per capita growth by almost 1 per cent per year. The small size of the sample notwithstanding, this pattern of growth and trade is remarkably similar to that observed for the world as a whole. Openness, however, is not solely a matter of exporting and importing goods and services, but also financial capital. Figure 5 shows the cross-sectional relationship between per capita growth and foreign direct investment (FDI) relative to GDP (again converted to international dollars using purchasing power parity rates) in the MEFMI membership from 1975 to 1998. Each ten percentage point increase in the FDI ratio goes along with an increase in per capita growth by 1 per cent per year. Investment is

good for growth, we have said before. This applies to foreign as well as domestic investment.

5. Natural resources

Arrow 6 may surprise you: it describes the effect of natural resource abundance on economic growth. Let me, therefore, devote a bit more space to this recently rediscovered determinant of growth than the older ones – investment, education, openness – that I have reviewed above. Recent empirical research, initiated by Jeffrey Sachs and Andrew Warner (1995), has uncovered a strong and robust cross-country relationship between economic growth and the abundance of, or dependence on, natural resources. There are five main channels through which natural resource dependence seems to influence growth.

First, countries that are rich in natural resources experience booms and busts, not only due to commodity price fluctuations in world markets but also due to resource discoveries that typically create intermittent upswings in export earnings that cause the national currency to appreciate in real terms to the detriment of other export industries. This phenomenon is known as the “Dutch disease” because this is what happened in the Netherlands in the early 1960s following the discovery of large reserves of natural gas within Dutch jurisdiction in the North Sea. As it happens, the Dutch got over this ailment pretty quickly, so the Dutch disease is a misnomer, but the name stuck. Iceland is another case in point: exports of goods and services have been stagnant since 1870 (this is not a misprint!), hovering around a third of GDP all this time. A reasonable interpretation of this must involve Iceland’s dependence on the export of fish, which has kept the real exchange rate of the national currency too high and too volatile for a long time, and thus stifled the growth of other – that is, nonfish – exports.

In second place, countries that are rich in natural resources tend to be marred by rent seeking on the part of producers who thus divert resources away from more socially fruitful economic activity (Auty, 2001). In particular, the combination of abundant natural resource rents, ill-defined property rights, imperfect or missing markets, and lax legal structures may have quite destructive consequences. In extreme cases, civil wars break out – such as Africa’s diamond wars – which not only divert factors of production from socially productive uses but also destroy societal institutions and the rule of law. In other, less extreme cases, the struggle for huge resource rents may lead to a concentration of economic and political power in the hands of elites that, once in power, use the rent to placate their political supporters and thus secure their hold on power, with stunted or weakened democracy and slow growth as a result. Rent seeking can also take other, more subtle forms. For example, governments may be tempted to thwart markets by granting favored enterprises or individuals privileged access to common-property natural resources, or they may offer tariff protection or other favors to producers at public expense, creating competition for such favors among the rent seekers. Extensive rent seeking – that is, seeking to make money from market distortions – can breed corruption in business and government, thus distorting the allocation of resources and reducing both economic efficiency and social equity. Insofar as natural resource abundance involves public allocation of access to scarce common-property resources to private parties without payment, thereby essentially leaving the resource rent up for grabs, it is only to be expected that resource-rich countries may be more susceptible to corruption than others. Empirical evidence and economic theory suggest that import protection (which is often extended to foreign capital as well as goods and services), cronyism, and corruption all tend to impede economic efficiency and growth (Bardhan, 1997).

Furthermore, natural resource abundance may fill people with a false sense of security and lead governments to lose sight of the need for good and growth-friendly economic management, including free trade, bureaucratic efficiency, and institutional quality. Put differently, abundant natural capital may crowd out social capital, by which is meant the infrastructure and institutions of a society in a broad sense: its culture, cohesion, law, system of justice, rules and customs and so on. Incentives to create wealth through good policies and institutions may wane because of the relatively effortless ability to extract wealth from the soil or the sea. Manna from heaven can be a mixed blessing. Arrow 6 is intended to reflect the effects of natural resources on economic growth through the Dutch disease and rent seeking.

Third, arrow 7 suggests that natural capital may crowd out human capital as well as social capital by hurting education. Specifically, natural resource abundance or intensity may reduce private and public incentives to accumulate human capital. Awash in cash, natural-resource-rich nations may be tempted to underestimate the long-run value of education. Of course, the rent stream from abundant natural resources may enable nations to give a high priority to education – as in Botswana, for instance, where government expenditure on education relative to national income is among the highest in the world (recall Figure 3). Even so, empirical evidence shows that, across countries, school enrolment at all levels is inversely related to natural resource abundance or intensity. There is also evidence that, across countries, public expenditures on education relative to national income, expected years of schooling, and school enrolment are all inversely related to natural resource abundance (Gylfason, 2001). This matters because more and better education is good for growth.

Fourth, natural resource abundance may blunt private and public incentives to save and invest and thereby impede economic growth (arrow 8). Specifically, when the share of output that accrues to the owners of natural resources rises, the demand for capital falls, and this leads to lower real interest rates and less rapid growth (Gylfason and Zoega, 2001). In other words, natural capital may crowd out real capital as well as human and social capital. Moreover, if mature institutions are conducive to an efficient use of resources, including natural resources, and if poorly developed institutions are not, then natural resource abundance may also retard the development of financial institutions in particular and hence discourage saving, investment, and economic growth through that channel as well. As in the case of education, it is not solely the volume of investment that counts because quality – i.e., efficiency – is also of great importance. Unproductive investments – white elephants! – may seem unproblematic to governments or individuals who are flush with cash thanks to nature's bounty.

Fifth and last, arrow 9 suggests that natural resource abundance may reduce openness by discouraging exports and capital inflows. This point follows directly from the first two. The Dutch disease manifests itself through reduced incentives to produce nonprimary goods and services for export which the overvalued currency of the resource abundant country renders uncompetitive at world market prices. Hence the reduction in trade. Rent seeking appears in many guises, including demands by domestic producers for protection against foreign competition, for example in the form of restrictions against foreign direct investment. Natural capital may thus crowd out foreign capital. This form of the Dutch disease – from natural resource riches to foreign capital controls – needs closer scrutiny in future empirical research. This is important because foreign trade and foreign capital are good for growth (recall Figures 4 and 5).

There are several ways to measure natural resource abundance. The share of primary exports in total exports of goods and services or GDP is one measure. The share of primary production in employment or the labor force is another. A third is the share of natural capital (i.e., oil reserves, mineral deposits, forests, agricultural land, etc.) in national wealth, defined as the sum of natural capital as described above, real capital accumulated through investment in machinery and equipment, and human capital built up through education and training. All three measures are inversely related to economic growth across countries. Here I will resort to using the share of agriculture in GDP as a proxy for natural resource abundance. A small or at least declining share of agriculture in GDP is a sign of successful diversification, industrialization, and the development of services. Moreover, agriculture in developing countries is generally less high-skill labor intensive than industry and services. As a result, agriculture contributes less than other industries to growth through education. There are countries where the economic predominance of agriculture goes hand in hand with a lack of general education that would be required for better governance and more rapid economic growth.

Figure 6 shows the relationship between per capita growth as measured above and the average share of agriculture in GDP from 1970 to 1998 in the MEFMI membership. A 25 percentage point decrease in the share of agriculture in GDP is associated with an increase in per capita growth by 1 per cent per year. This pattern rhymes pretty well with the pattern observed for the world economy at large. Once again, Africa is no exception.

6. Inflation

Before concluding, a word needs to be said about inflation. Recent empirical evidence indicates that high inflation hurts economic growth through a number of channels, including money and finance. It is worth emphasizing that this is a recent discovery. After all, not long ago only technological progress was considered capable of influencing long-run growth. Further, inflation was widely regarded as being solely a monetary phenomenon, so that the possibility that inflation could have something to do with real growth was by many considered remote. But not anymore. The crux of the matter is that inflation is a relative price – the price of money and other nominal assets in terms of real assets – and it is, therefore, fully capable of having real effects. Specifically, high inflation punishes people and firms for holding cash, and thus deprives the economy of essential lubrication, because producers need to have a certain amount of cash on hand in order to facilitate production. Consider a farmer: he needs cash in order to be able to keep his tractors in running order, to buy fuel, to replace spare parts that wear out, and so on. Thus, cash needs to be viewed as an input into production; this is sometimes called “working capital.” If high inflation makes it too expensive for the farmer to hold cash, it also increases the incidence of broken tractors, and thereby disrupts production. The result is impaired efficiency and slow growth. Broadly speaking, the extent of liquidity represented by the ratio of money, broadly defined, to GDP indicates the financial maturity of a country, or financial depth: the more mature a country’s financial markets – that is, the better the financial markets can serve their core function of channeling saving into high-quality investment – the higher will be the rate of economic growth, other things being the same. So, high inflation hinders financial development and economic growth as well. Put differently, monetization is a good thing, but printing money is not the way to achieve it. On the contrary, excessive monetary expansion increases inflation and thereby ultimately reduces the amount of money available to finance economic

transactions.

What do the data say? Figure 7 shows the relationship between the ratio of money and quasi-money and GDP in 1998 and the annual average rate of inflation from 1990 to 1998 in the eleven members of MEFMI. The figure shows that a 10 percentage point increase in annual inflation is associated with a decrease in money and quasi-money by 3 per cent of GDP. A similar pattern emerges when we look at data for the world economy as a whole. Once again, Africa conforms to the general world-wide pattern. There is, however, no clear evidence of a two-dimensional correlation between inflation and growth, neither in the MEFMI group nor in the world economy at large. The reason is that the relationship between inflation and growth is a complicated one, and involves several factors – among them, real interest rates and saving – other than financial maturity.

In Figure 7, it is, of course, possible that the causation goes both ways. Financial immaturity may contribute to inflation just as high inflation may hinder financial development. A similar qualification applies to Figures 2-6. Even so, the policy implication is clear: keeping inflation low and liquidity reasonably high is most likely good for growth.

7. Conclusion

In the words of Sir Arthur Lewis (1968, p. ix), “rapid economic growth is available to those countries with adequate natural resources which make the effort to achieve it.” I agree – except, with the benefit of hindsight, I think that Lewis’s qualification concerning natural resources was unnecessary. As I see it, human resources are more important for growth than natural resources. Anyhow, recent developments in growth theory and mounting empirical evidence indicate that Lewis was right. The key to understanding this is the realization that efficiency works like technology: like improved technology, increased efficiency is a means of producing more output from given inputs or, equivalently, of requiring fewer inputs to produce given output. And efficiency is a broader concept than technology, and more powerful. You cannot advise a country to invent – imitate perhaps, yes, but not invent – new technology in order to grow faster. But you can advise a country to adopt policies that promote economic efficiency. In fact, that is easy. So, whatever a nation does to become more efficient – through more and better investment and education, trade liberalization, diversification, privatization, stabilization, you name it – will also help it grow more rapidly for the benefit of all. To grow or not to grow is in large measure a matter of choice.

References

- Auty, Richard M. (ed.) (2001), *Resource Abundance and Economic Development*, Oxford University Press, Oxford and New York.
- Bardhan, Pranab (1997), “Corruption and Development: A Review of the Issues,” *Journal of Economic Literature* 35, September, 1320-1346.
- Gylfason, Thorvaldur (2001), “Natural Resources, Education, and Economic Development,” *European Economic Review* 45, May, 847-859.
- Gylfason, Thorvaldur, and Gylfi Zoega (2001), “Natural Resources and Economic Growth: The Role of Investment,” CEPR Discussion Paper No. 2743, March.
- Lewis, W. Arthur (1955), *The Theory of Economic Growth*, Allen & Unwin, London.
- Lewis, W. Arthur (1968), *Some Aspects of Economic Development*, Ghana Publishing Corporation, Accra and Tema.

Sachs, Jeffrey D., and Andrew M. Warner (1995, revised 1997, 1999), "Natural Resource Abundance and Economic Growth," NBER Working Paper 5398, Cambridge, Massachusetts.

Solow, Robert M. (1970), *Growth Theory: An Exposition*, Oxford University Press, Oxford.

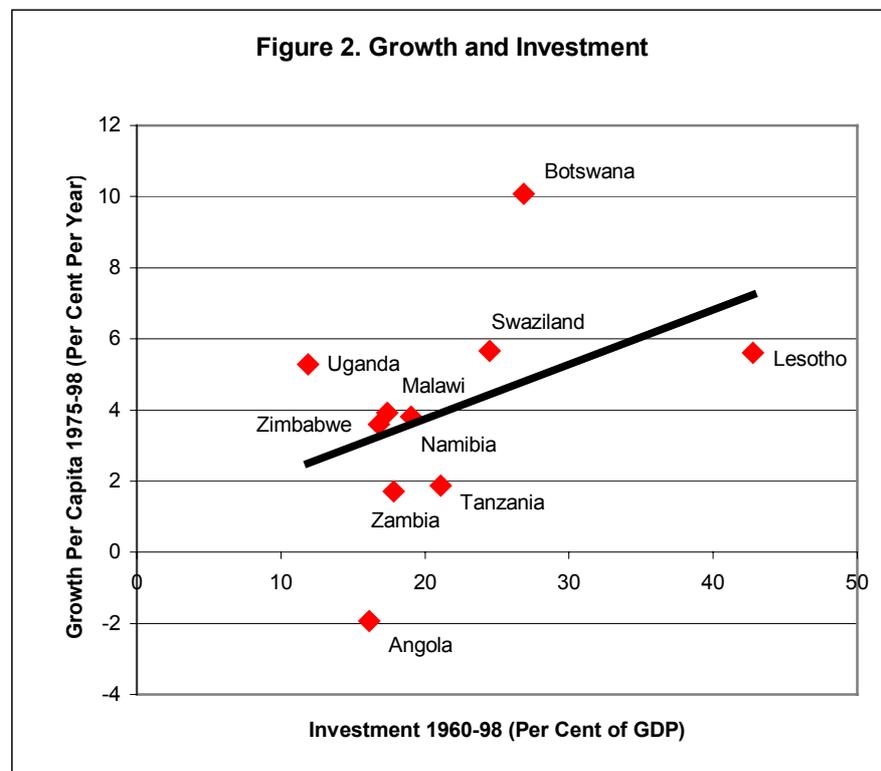
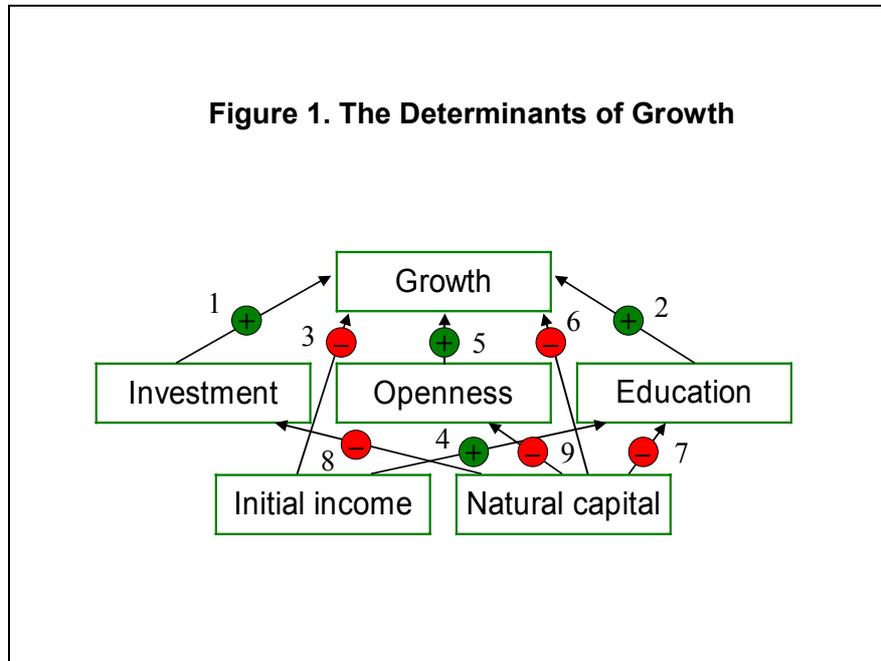


Figure 3. Growth and Education

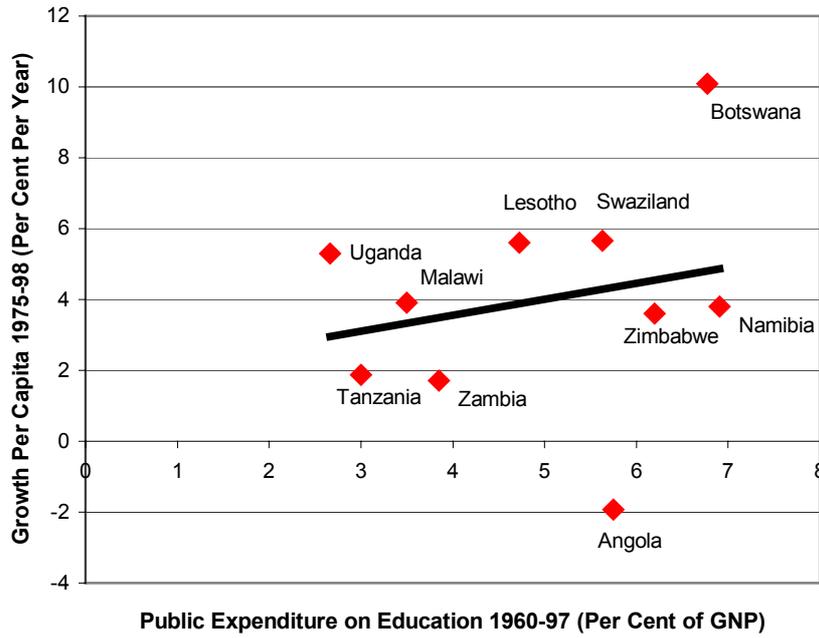


Figure 4. Growth and Foreign Trade

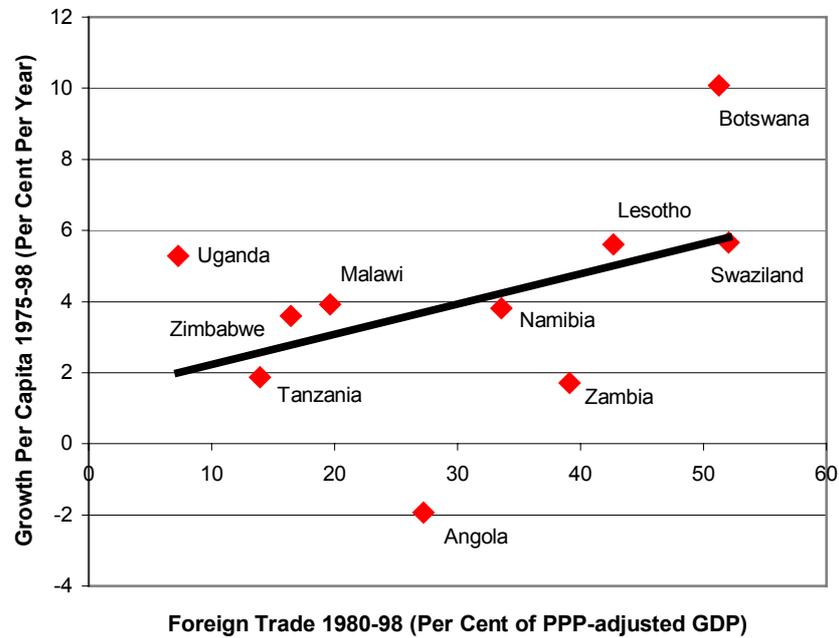


Figure 5. Growth and Foreign Investment

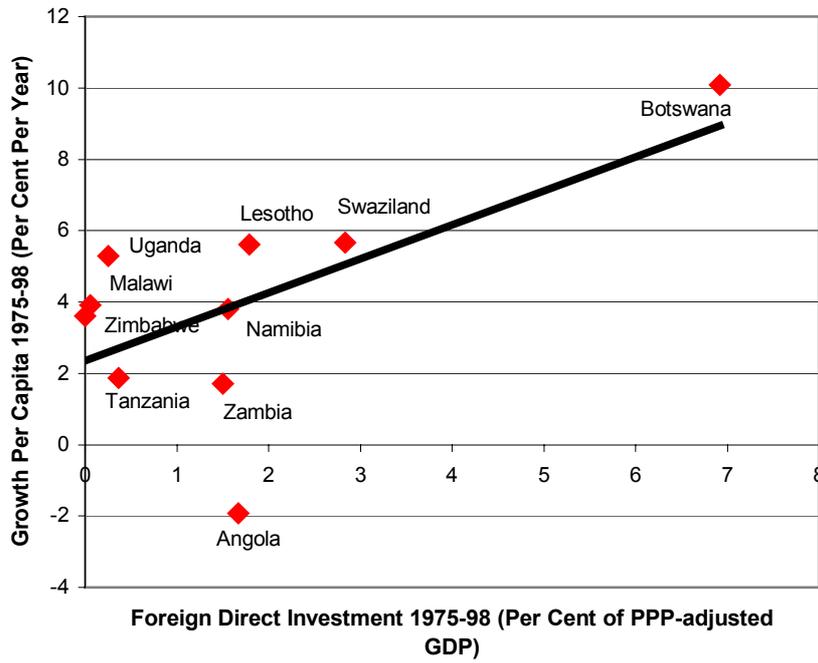


Figure 6. Growth and Agriculture

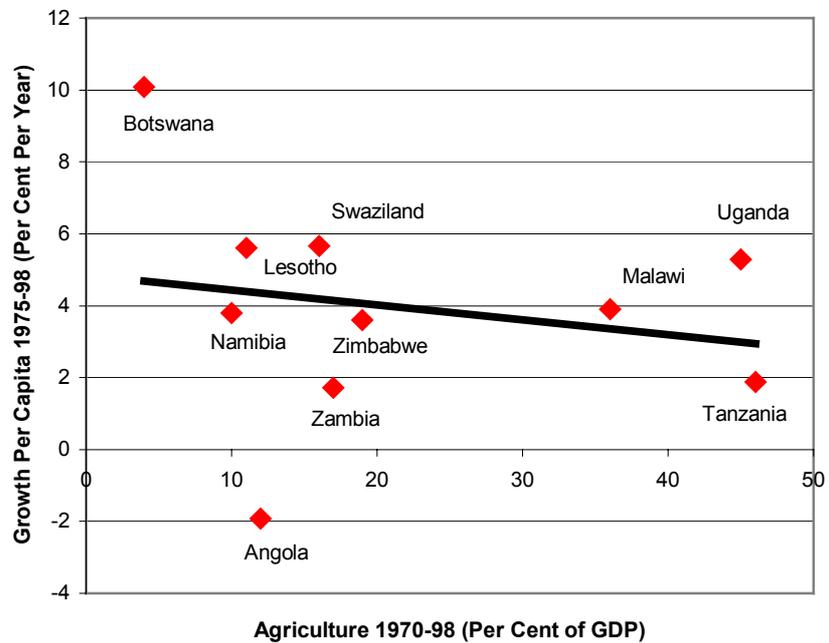


Figure 7. Inflation and Finance

