# Introduction to Development Economics

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What is development economics about? More than growth. We expect economies to grow, yet there are vast differences in the growth experiences of countries. Developing countries are not like young children – requiring time and nutrition to grow. Some developing countries have been poor for a long time, others have made rapid strides in short periods of time.

**Remark 1** *Comparisons are instructive. Think of Argentina and South Korea. In 1950, for example, South Korean GDP per-capita was 29% of the Argentine level. Of course, South Korean performance was affected by war in 1950. However, if we look at 1913, we see that the ratio was 32% and in 1939, it was 31%. By 2000, on the other hand, it was 167%!*

**Remark 2** *Differences are really huge. For example, in 2000, GDP (or income) per capita in the United States was over $33000.*[1] *In contrast, income per capita is much lower in many other countries: less than $9000 in Mexico, less than $4000 in China, less than $2500 in India, and only about $700 in Nigeria, and much much lower in some other sub-Saharan African countries such as Chad, Ethiopia, and Mali.*

Development is also about things like structural change. Institutional change. LDC's not only have lower levels of per-capita income (productiv-

[1] We use 2000 because of Penn World Tables availability.

ity), but also lack institutions common to DC's; e.g. law, property rights, administrative systems.

Let output be produced according to Cobb-Douglas production function:

$$Y_i = K_i^{\alpha}(A_i L h_i)^{1-\alpha} \tag{1}$$

where $Lh_i$ is the amount of human capital-augmented labor – quality adjusted labor force – used in production, and $A_i$ is a labor-augmenting measure of productivity. We can re-write (1)) in terms of output per worker

$$y_i = A_i k_i^{\alpha} h^{1-\alpha} \tag{2}$$

where $k \equiv \frac{K}{L}$. The nice thing about (2) is that we can use it to decompose differences in output per worker into differences in capital-output ratios, levels of human capital, and levels of productivity.[2] Thus, we see that output differences are due to:

1. differences in capital-labor ratios
   (a) perhaps due to misallocation of factor inputs or to costs of capital
2. differences in human capital levels
3. differences in TFP levels. Of course, differences in TFP levels can be due to lots of different factors – a measure of our ignorance, so to speak.

[2]Notice the use of capital output ratio rather than capital-labor ratio. This follows the lead of David (1977), Mankiw et al. (1992) and Klenow and Rodriguez-Clare (1997) in writing the decomposition in terms of the capital-output ratio rather than the capital-labor ratio, for two reasons. First, along a balanced growth path, the capital-output ratio is proportional to the investment rate, so that this form of the decomposition also has a natural interpretation. Second, consider a country that experiences an exogenous increase in productivity, holding its investment rate constant. Over time, the country's capital-labor ratio will rise as a result of the increase in productivity. Therefore, some of the increase in output that is fundamentally due to the increase in productivity would be attributed to capital accumulation in a framework based on the capital-labor ratio.

Focus on institutions and policies is the result of research on comparative economic performance which has produced some critical stylized facts:

1. Factor accumulation does not account for the bulk of cross-country differences in the level or growth rate of GDP per capita. Rather it is TFP, whatever that means. Differences in levels are large and cannot be explained by factor accumulation

2. Divergence, rather than conditional convergence, is the big story. There are huge, growing differences in GDP per capita.

3. Growth is not persistent over time

4. All factors of production flow to the same places – e.g., the rich countries

5. National policies influence long-run growth

These facts, which we need to explore at more length, suggest that development is not just about raising the savings rate. Nor is it a question about differences in the amount of things. It is primarily about why certain countries cannot adopt policies or develop institutions that permit long run economic growth.

SF5 also explains why it is instructive to study growth failures as well as successes.

# 1 Some Stylized Facts

Differences are long-lived. In figure 1 we plot the density of countries at different levels of per-capita gdp in three time periods. We can see that differences were much smaller in 1820 than in either 1913 or today. Of course we have more countries, but the amazing this is how large the gaps are now compared to then (recall that it is log $y$ we are measuring.).

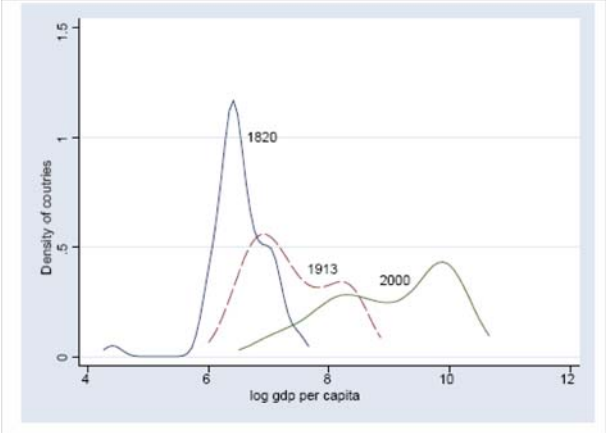


Figure 1: Estimates of the distribution of countries according to log GDP per capita in 1820, 1913 and 2000.

This suggests that something important happened in the 19th and 20th centuries. Actually this should not surprise you too much since modern economic growth is just that – modern. Before the period of sustained growth in pcy how could gaps really get large.

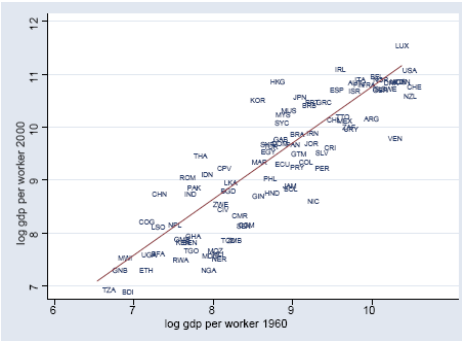


Figure 2: 2000 compared with 1960

Not a lot of reversal in fortune since 1960. Countries seem to lie along the 45 degree line. Of course there are exception – growth miracles and disasters, but the major differences are coming from long ago.

So some economic history is also in order to understand these long-term trends.

Another way to see how differences have expanded is to look at area groups. You can see in 5 that in 1820 the differences across areas was much smaller. You can also see that Asia is making a comeback in recent times.

# 2 Convergence

Convergence was easier at one time. Certainly it appears for the richer countries. We typically distinguish two types of convergence:

- *un*conditional convergence occurs when the income gap between two countries decreases irrespective ofthese countries' "characteristics" (e.g., institutions, policies, technology or even investments).
- *conditional* convergence occurs when the economic gap between two countries that are similar in observable characteristics is becoming narrower over time.

How doe we determine the latter? Suppose we estimate a "Barro" regression:

$$g_{t,t-1} = \beta \ln y_{t-1} + X'_{t-1}\alpha + \varepsilon_t \tag{3}$$

where $g_{t,t-1}$ is the growth rate over some time period, $y_{t-1}$is output per worker (or income per capita) at date $t-1$, and $X'_{t-1}$ is a vector of variables that the regression is conditioning on with coefficient vector ■ These variables are included because they are potential determinants of steady state income and/or growth. The Barro-regression industry is involved with choosing various possibilities for $X$. The coefficient $\beta$ is the item of interest here. convergence means that $\beta < 0$. Note that if we exclude the conditioning variables, and note that $g_{t,t-1} \simeq \ln y_t - \ln y_{t-1}$, then we can write (3) as

$$\ln y_t \simeq (1+\beta) \ln y_{t-1} + \varepsilon_t. \tag{4}$$

Now if there is no unconditional convergence we have exactly the picture in figure 2.

But there does appear to be some conditional convergence. If you just use the OECD economies – they are similar after all – you get a picture more like

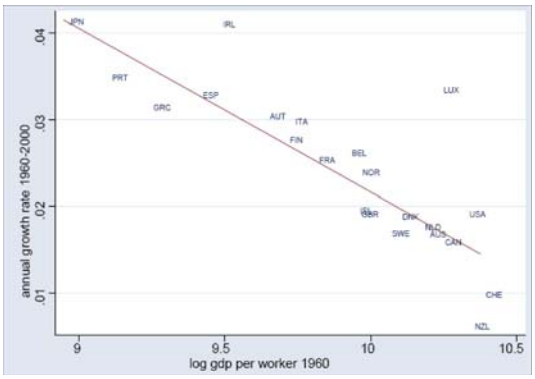


Figure 3: Annual growth rate of GDP per worker between 1960 and 2000 versus log GDP per worker in 1960 for core OECD countries.

But more recently convergence seems harder to attain. This may be due to growth disasters.

## 2.1 $\beta-$convergence

This is the most common test. Consistent with Solow model, and with tests of equation **??**). The test is that $\beta < 0$. One can define conditional and unconditional $\beta-$convergence. In the latter case there are no controls present. It is the assumption that all countries converge to the same steady state. One often finds support for this for OECD countries, but not in general.

Many cross-section studies employing the $\beta-$convergence approach find estimated convergence rates of about 2% per year.- This result is found in data from such diverse entities as the countries of the world (after the addition of conditioning variables), the OECD countries, the US states, the

Swedish counties, the Japanese prefectures, the regions of Europe, the Canadian provinces, and the Australian states, among others; it is also found in data sets that range over time periods from the 1860's though the 1990's.25 Some writings go so far as to give this value a status analogous to a universal constant in physics.

One problem with the $\beta$-convergence literature there is a general failure to develop tests of the convergence hypothesis that discriminate between convergent economic models and a rich enough set of non-converging alternatives. For example, while $\beta < 0$ is an implication of the Solow growth model this does not mean that $\beta < 0$ is inconsistent with economically interesting non-converging alternatives. One such example is the model of threshold externalities and growth developed by Azariadis and Drazen (1990). In this model, there is a discontinuity in the aggregate production function for aggregate economies. This discontinuity means that the steady-state behavior of a given economy depends on whether its initial capital stock is above or below this threshold; specifically, this model may exhibit two distinct steady states. (Of course, there can be any number of such thresholds.) An important feature of the Azariadis-Drazen model is that data generated by economies that are described by it can exhibit statistical convergence even when multiple steady states are present.

Suppose that this model was true but you ran cross-country regressions to check on $\beta$-convergence. You might still find $\beta < 0$ if countries converging to the low-income steady state tend to be below their steady states while high income countries tend to be above their steady states. Then the regression will pick up $\beta < 0$ even though there is really no convergence (there is conditional convergence, of course).

### 2.1.1 Non-linearity versus multiple steady states

We could have multiple steady states – convergence clubs. Or there might be non-linearities and threshold effects. Very difficult to distinguish in the data.

The data for the poor countries could be converging to a low income steady state, or the model may be non-linear. Very hard to tell. If the former, we

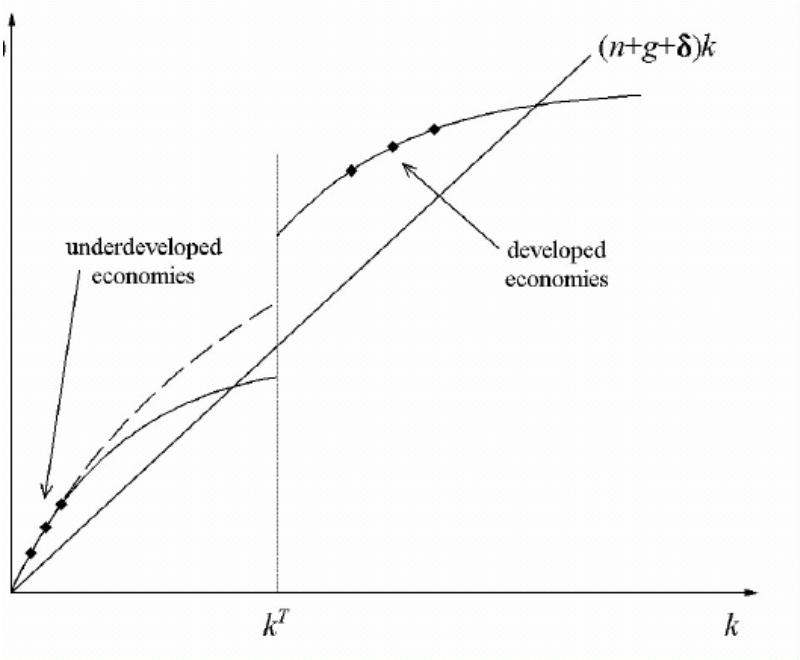


Figure 4:

have convergence clubs, if the latter, then perhaps there is convergence but it is very slow.

*Endogeneity* of the regressors is another issue that comes up in this literature. What if some of the Solow-variables (population, savings rates) are functions of income? It could appear that $\beta > 0$ even though there really is convergence. Or, $\beta < 0$ may be compatible with economic divergence if the physical and human capital accumulation rates for rich and poor are diverging across time. Notice that this problem will be especially severe if the institutional environment is a function of income levels and if this affects rates of return. Then in poor countries rates of return to human capital accumulation and investment will be low, and growth will be low.

*Measurement error* is a chronic problem for these studies. This is especially the case if the early periods, $\log y_{i,0}$, is measured with error. This means that a negative error in the initial income level will lead to a positive error in the growth rate. This tends to produce $\beta < 0$ even if there is no convergence. This is especially important because of the problems with data in poorer countries.

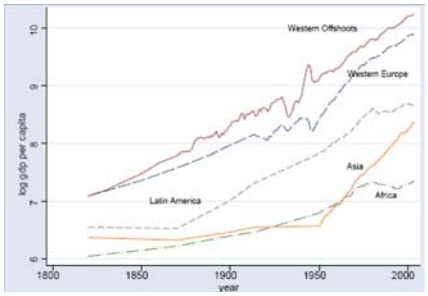


Figure 5: Evolution of GDP per-capita by groups

We can take an even longer view with more limited data. Going back a millennia shows the real differences and how large they have become. This further emphasizes that the big divergence among countries has taken place over the past 200 years or so. Another noteworthy feature that becomes apparent from this figure is the remarkable nature of world economic growth. Much evidence suggests that there was little economic growth before the 18th century and certainly almost none before the 15th century. Maddison's estimates show a slow but steady increase in West European GDP per capita between 1000 and 1800.[3] We owe our high levels of income today to this process of sustained economic growth, and Figure 6 shows that it is also this

[3]This view is not shared by all historians and economic historians, many of whom estimate that there was little increase in income per capita before 1500 or even before 1800. For our purposes however, this is not central. What is important is that starting in the 19th, or perhaps in the late 18th century, the process of rapid economic growth takes off in Western Europe and among the Western Offshoots, while many other parts of the world do not experience the same sustained economic growth.

process of economic growth that has caused the divergence among nations.

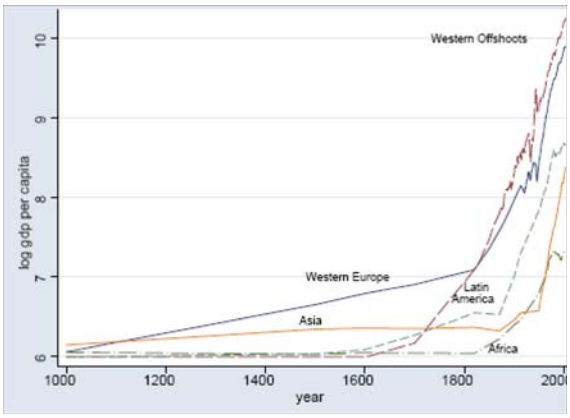


Figure 6: The evolution of average GDP per capita in Western Offshoots, Western Europe, Latin America, Asia and Africa, 1000-2000.

## 2.2 Correlates and Causes

We need to distinguish between the correlates of growth and fundamental causes. For example, we may find that successful economies have high levels of human and physical capital and technical progress. Is that a cause or just a correlate?

Consider figure 7. We can see that over fifty years or so South Korea and Singapore have closed the gap with the US in per-capita income – successes – while Nigeria has not. Now if we examine the successes we will see that capital accumulation (both types) has been more rapid, and the technical sophistication of production has improved as well. So the failure of Nigeria must be due to the failure to accumulate $h$ and $k$ as rapidly, and also due to the lower $A$. But is this an explanation? Why then didn't Nigeria do it?

We can list for now some potential *fundamental causes*:

1. luck (or multiple equilibria) that lead to divergent paths among societies with identical opportunities, preferences and market structures;

2. geographic differences that affect the environment in which individuals live and that influence the productivity of agriculture, the availability of natural resources, certain constraints on individual behavior, or even individual attitudes;

3. institutional differences that affect the laws and regulations under which individuals and firms function and thus shape the incentives they have for accumulation, investment and trade; and

4. cultural differences that determine individuals' values, preferences and beliefs.

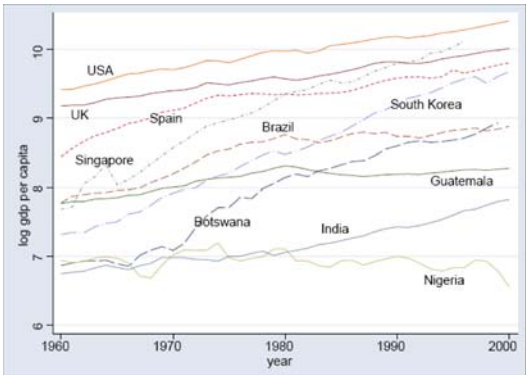


Figure 7: Evolution of Per-Capita GDP, selected economies

We would like to know more about the fundamental causes by the end of the course. But we still need to determine the relative role of the correlates first so we can understand mechanisms through which the fundamental causes operate.

# 3 Institutions

If one does look at institutions as critical for performance one is immediately drawn to the subsequent question: why certain societies adopt institutional

structures that are conducive to successful economic performance, while others do not. By studying lagging performers we can peek closer into the institutional black box. Studying growth failures is at least as valuable as growth miracles. With miracles the problem is to assess the relative importance of many fortuitous events. Failures may teach more.[4] The Tolstoy axiom about marriage is apropos – "Happy families are all alike; every unhappy family is unhappy in its own way." At least for economists, success in economic development is pretty well understood. Failure, however, is characterized by great diversity.

Consider Argentina. Endowed with resources, relatively educated labor force, immigration and high capital inflows at the turn of the century it was set for prosperity. In 1913 Argentina's GDP per-capita was 80% of the OECD average. By 1987 it was 32%. Argentina is clearly a case of success foregone. If we can understand the relative significance of factors that prevented prosperity we will learn much about the determinants of growth. And as institutional failures seem critical in this regard, we are perhaps well situated to do so.

Essentially, Argentina suffered a succession of policies that inhibited rather than fostered economic growth. The important question, however, is why this could persist for three-quarters of a century? Why did not the costs of these policies lead to a correction? This is a case of many pathologies, but viewed in this way we are left simply puzzled as to their persistence. If these policies led to such sustained poor performance, why were they not changed?

When we view the Argentine case from the vantage point of morphology, however, the focus is on the stability of the system. In many situations, stresses create forces that overcome the initial problems.[5] Crises are often the catalysts for economic reforms. However, in some economies the nega-

[4] Medical students study sick people after all. Residents work at hospitals not health clubs.

[5] Galor and Moav (2005) study how increases in higher extrinsic mortality leads to an increased prevalence of somatic investment, which leads to greater health in the long run.

tive feedback from bad policies is insufficient to break out of the economic malaise. The question is why are these states evolutionarily stable? What forces prevent individuals and institutions from an efficient response? Clearly, Argentina was, at no time during the 20th century as disadvantaged as South Korea in the 1950s.[6] Yet somehow the coordination failures in the Argentine were not overcome.

This is, to some extent, a question of anthropological economics; the study of the evolution of economic systems and the analysis of why some systems (species) became extinct, or at least branched off.[7] The idea is that one can learn the most about economic development by looking at those phenomena that separate those economies that made it (it being a successful transformation to a modern economy) from those that did not.[8] This is related, of course, to economic history; it is at the frontier of the two disciplines, where they approach each other.[9] Indeed, North has argued that the "central puzzle of human history is to account for the widely divergent paths of historical change. How have societies diverged?" (North 1990: 6).

It may also reflect the importance of culture (though this is something that tends to bring development economists, as well as economic historians and comparative economists, into disrepute; association of the devlops with the sociogs). Notice that when you ask this question you are necessarily emphasizing the importance of institutions, as opposed to lack of resources,

[6] In 1950, for example, South Korean GDP per-capita was 29% of the Argentine level. Of course, South Korean performance was affected by war in 1950. However, if we look at 1913, we see that the ratio was 32% and in 1939, it was 31%. By 2000, on the other hand, it was 167%!

[7] This seems related to the idea that history matters; that economic development is path dependent. The work of Brian Arthur emphasizes path dependence. In development economics we examine this notion when we look at history versus expectations, work by K. Matsuyama and Paul Krugman.

[8] It is interesting, in this regard, to remember that Rostow's Stages of Economic Growth was written as a manifesto for developing economies.

[9] Hence, Douglass North is probably the most important contributor to this field. An early, important, example of this is John Hicks's Theory of Economic History. The work of Avner Greif is a recent example of important work in this area.

as crucial for development economics.[10]

When we focus on institutions there is always the question of why inefficient institutions are not replaced by more efficient ones? Why doesn't an Alchian-like evolution process result in emulation of efficient institutions? How then can we explain the radically different performances of economies for long periods of time? North's answer focuses on the role of transactions costs and incomplete information. Organizations and institutions are positive feedback mechanisms. There is a lock-in effect at work. When institutions are inefficient entrepreneurs can seek non-productive means of wealth seeking (redistributive) rather than productive means.

Institutions determine the performance of economies, but what determines the efficiency of institutions? This is a central question for this approach.[11]

# 4 Development as a Field

Why is development economics a separate field? Pessimism. To some extent this stems from a belief that orthodox economics inappropriate. Why? Pervasiveness of market failure. Poor countries are different. Structural constraints.

How relevant is the western experience for developing countries? Notice that for the former, the key breakthrough was institutional innovation.[12] These societies had to develop new systems of organization that would foster innovation. This led to important breakthroughs. In the developing countries the primary factor is also institutional; were it not, then capital flows would suffice to make these countries grow faster.

[10] We shall re-examine this notion when we discuss Paul Romer's notion of "idea gaps versus "object gaps" in economic development.

[11] Greif presents an analysis of the evolution of institutions.

[12] This reflects a particular view of economic history, the work of Nathan Rosenberg and L. Birdzell (1986) and Douglass North (1990) being noteworthy in this regard. A Marxist, for example, would presumably take exception to the statement in the text.

To some extent this is a function of the view on convergence. If the world is explained by Solow-type growth models, then we should expect poor countries to converge to the per-capita incomes of the rich. The question is how long will this process take. This could seem to suggest that little needs to be done, in a policy sense, to initiate the growth process.[13] But this is almost certainly too sanguine a view. Besides, the fact of convergence does not indicate that pace. Simple catch-up may take an incredibly long time. Moreover, there is some evidence that convergence is, at best, conditional,[14] and a lot of evidence that divergence is the actual norm.

The experience of countries in transition is informative in this regard. If transition were relatively costless and painless, then one could argue that institutions are not important to economic development. Why? Because institutions are precisely what transition economies lack. Transition economies have already experienced the rural-urban transition, with large shifts of workers from agriculture to industry. They typically have large manufacturing sectors; often very large when we control for per-capita income. What is lacking in these economies are the institutions common to DC's. The fact that the transition to a market economy is rocky suggests that developing these institutions is tricky.

## 4.1 Structural Constraints

One of the central tenets of classical development theory is the view that developing countries face a different situation than DC's did. I will discuss one aspect of this below (export pessimism). One reason is a view of the development process that is due to Gershenkron. His central tenet was that,

> in a number of important historical instances industrializa-

[13] With the possible exception of measures to enhance capital mobility, and to study its effects on the process of convergence.

[14] That is, countries of similar orientation converge, but not independent of the institutional setting.

> tion processes, when launched at length in a backward country, showed considerable differences, as compared with more advanced countries, not only with regard to the speed of the development (the rate of industrial growth) but also with regard to the productive and organizational structures of industry which emerged from those processes. Furthermore, these differences in the speed and character of industrial development were to a considerable extent the result of application of institutional instruments for which there was little or no counterpart in an established industrial country (Gershenkron 1962: 7).

The idea is that Germany's industrialization would be different from Britain's due to timing. Gershenkron argued that "the more backward a country's economy [on the eve of industrialization] the greater was the part played by special institutional factors [banks, the State] designed to increase the supply of capital to the nascent industries" (Gershenkron 1962: 354). The implication for LDC's was that they would have to follow a different path as well. A modern application of this view is in Amsden's analysis of Korea.

There are, of course, advantages as well as disadvantages in a later start. The late industrializers can import technology rather than invent it themselves. Facing a portfolio of modern techniques the key problem seems to be that of applying technology, although experience suggests that there is an extra organizational problem of getting advanced techniques to work well in backwards countries.

Development economics is clearly more than just growth theory. In the latter we deal with balanced growth paths; expanding economies where the structure of the economy is unchanged. One view of development economics is that it is precisely structural change which is the defining characteristic. Structural change here refers to changes in the relative importance of sectors in the economy. Development is the transformation of the economy via these

changes that are the key elements to economic growth.[15]

What are these structural changes? The principal changes that are identified are:

- increases in the rates of accumulation (Rostow, Lewis);
- shifts in the sectoral composition of economic activity, whether output or employment or factor use (Kuznets, Chenery); often called industrialization;
- changes in the location of economic activity (urbanization);
- and such changes as the demographic transition and changes in income distribution.

The basic methodology of structural change analysis is cross-country or time series regressions of the experiences of many countries. In the cross-section mode, the basic regression is one of the form:

$$X = \alpha + \beta_1 \ln y_i + \beta_2 (\ln y)^2 + \gamma_1 \ln N_i + \gamma_2 \ln(N_i)^2 + \Sigma_i \delta_i T_i + \phi F_i \qquad (5)$$

where $X$ is the dependent variable of interest, $y_i$ is per capita gross product in country $i$, $N$ is population, $T_i$ is time period, and $F$ is net resource inflow as a share of domestic product. The idea of (5) is to capture the dynamics of the transition to an industrialized country. One sees how the dependent variable, be it consumption, or share of employment in manufacturing or whatever, varies with income.

[15] Thus, according to Chenery (1979: xvi) economic development is viewed "as a set of interrelated changes in the structure of an economy that are required for its continued growth." Kuznets argues that "some structural changes, not only in economic but also in social institutions and beliefs, are required, without which modern economic growth would be impossible." (1971: 348). Abramovitz is perhaps even more categorical: "Sectoral redistribution of output and employment is both a necessary condition and a concomitant of productivity growth" (1983: 85).

One can see the Chenery approach as producing stylized facts of structural change in development. We observe the shift in sector shares, the demographic transition; changes in the nature of trade, and other changes that occur as the economy becomes richer.[16] This analysis gives us a picture of the normal development process. Of course there is a question if there is a "normal" process. And if there is, what are the causes that make this common across countries? In addition, one can always add the questions of whether these changes need to be pushed by planners, or whether market forces will bring them about themselves.

To what extent are developing countries different? Some argue that a different type of economics is needed because of structural constraints that are different from western economies. One structural constraint that early development economists focused on was the presence of developed economies. The idea is that the terms of trade hurt the prospects of the developing economies (Prebisch thesis).[17] Of course, similar arguments were made a century-and-a-half ago when economies that are now developed were just beginning to industrialize. It is not clear, however, that these constraints are significant, over and above the policies of the respective governments. Another example would be rural-urban migration (Harris-Todaro effects) and limitations on relative price flexibility.

One aspect of structural constraints that is important are missing markets. Credit markets, in particular, are underdeveloped, and this has dramatic effects on development. We would want to know how critical are financial markets to development. This is interesting from the transition perspective, because these economies are underdeveloped in this sense, despite being industrialized. It could be quite useful in gauging the importance

[16] One typical finding was the Kuznets curve – the notion that income inequality increased in the development process.

[17] Because developing countries exported primary products while the developed world exported manufactured products. Since the former had low elasticities, expansion of output lowered revenues. This was taken as an argument in favor of import substitution.

of these factors.

Development economics has typically ignored institutional and organizational development.[18] How does organizational development affect the ability to contract? One suspects that this is critical, however. Consider the investment decisions of a rural household. Without secure financial markets, the best way to invest for the future may be to have more children, since they can provide for retirement. With social security systems and with secure financial markets, however, the family may invest in physical capital, which may have a potent effect on productivity. Underdeveloped financial markets may thus play a large role in underdevelopment traps.

The contrast between development and transition economics is easy to characterize. Development economics takes structural constraints as given. Transition economics assumes that things are elastic, and that the major problems are allocation-related. Structural transformation is relatively ignored. In transition economics initial conditions are important, but much of the literature has applied insufficient focus on this.

Why is development economics so concerned with growth? It is largely the belief that growth is the surest way to alleviate poverty. That is not a perfect correlation. But it seems to be a key channel.

Early development economics focused on capital formation as the key to growth. The key problem was that investment had failed to materialize in poor economies. Arthur Lewis has stressed that:

> "the central problem in the theory of economic development is to understand the process by which a community which was previously saving...4 or 5 per cent of its national income or less, converts itself into an economy where voluntary savings is running at about 12 to 15 per cent of national income or more. This is the central problem because the central fact of economic devel-

[18] This may have been a function of the general development of economics, as these issues were ignored by most economists during the period prior to the late 70's.

> opment is rapid capital accumulation (including knowledge and skills with capital). We cannot explain any 'industrial' revolution (as the economic historians pretend to do) until we can explain why saving increased relatively to national income."[19]

Rostow emphasized the sharp increase in capital accumulation as one of the key structural elements of development.

The key task was then to start the development process. But how? Two views:

In the Rosenstein-Rodan version, Balanced Growth, the problem was what we would now call a coordination problem. Entrepreneurs failed to invest because, in isolation, there was no assurance that others would simultaneously invest. Hence, where would the demand for output come from? Coordinated investments were the key.[20] As we shall see, there is a modern rebirth of this idea. For now, note that this view gave the intellectual underpinning for planning in the development process.[21]

The critique of this view, by Hirschman, shared the major diagnosis that capital formation was the problem. The difference was how to create the inducements to invest. The unbalanced growth view saw these incentives coming from the forward and backward linkages in the process. But it also gave assurance to the import-substitution view, since resulting shortages would be inducements for entrepreneurs to invest.

[19] Lewis (1954: 155) reprinted in Agawarla and Singh, p. 416. Lewis went on to note that: "the central fact of economic development is that the distribution of incomes is altered in favour of the saving class" (1954: 156).

[20] Scitovsky emphasized the role of pecuniary externalities. The idea being that when one firm invests it affects the prices that other enterprises will face in the future. If firm A expands capacity, then the price of inputs to B will fall. Hence if B is considering investment it should think about what would happen if A invested. In such a case its demand would increase. But A does not take into account its effect on B. So coordinated investment is needed to incorporate the pecuniary externality.

[21] It is also similar to ideas that led to indicative planning in advanced capitalist economies.

There was also a notion of "hidden resources" available to be tapped that was important here. This was important, for it implied that increased investment would not involve sacrifice of other aims. There were again two strands. The Nurkse-Lewis view was that surplus labor, residing in the countryside, could be used to work on investment projects. If labor were surplus in the countryside, then shifting this labor to the cities would not affect total output. Moreover, since the marginal product of agricultural labor was unchanged, factor payments to agriculture need not change. Hence, if consumption did not increase among the remaining rural labor force, an untapped potential was available to work on investment. This was a net increase, for these workers were consuming anyway, even though their marginal products were zero. Of course, there were a lot of if's in this.

The second strand of the disguised potential view, again associated with Hirschman, focused on latent entrepreneurship. Creative disequilibria would pose challenges and generate responses. Latent entrepreneurship would emerge, technological breakthroughs would occur, and shortages would be ameliorated. This is a sort of decentralized disguised resources, as opposed to the Nurkse-Lewis model, which was much more suited to planning.

This all combined to present a certain optimism about development. An important element of the development orthodoxy was the notion of multiple equilibria. LDC's were viewed as being stuck in a low-level equilibrium trap. The key problem was to attain the take-off to self-sustained economic growth, as Rostow termed it. This trap could be due to problems with demography. Or it could be due to pecuniary externalities and increasing returns, ala Rosenstein-Rodan. In any event, the idea was that what LDC's needed was a "Big Push" or a critical minimum effort to escape the trap.

These ideas are returning in economics. Paul Krugman refers to this as a counter-counter-revolution in development economics (see below). He has suggested that these ideas lost their force in the early 60's due to the inadequate modeling of the period. We shall look at modern versions soon

enough, but I would suggest that this is not the reason why these ideas lost their force. More important, I would argue, were the practical policy difficulties associated with achieving coordination, and with the non-market failures that accompany such efforts.[22] A non-market failure refers to the inefficiencies of non-market institutions. These are due, in large part, to the weak incentives associated with hierarchy.[23] The prevalence of non-market failures in socialist economies has become accepted wisdom. It leads to distortions that are often orders of magnitude greater than any market failures. It also leads to rent-seeking behavior, which has become a problem that dominates LDC's.

One interesting line of inquiry, that this analysis suggests, is to study the relative importance of market versus non-market failure in developed versus underdeveloped economies. That is, how does economic development affect the relative importance of the two types of failures. One might argue that in LDC's the competence of government officials is relatively low, so that non-market failures may be high. But one must also note that the underdeveloped state of credit and labor markets may be important too. It seems that development economics has focused heavily on the latter, while comparative economics has focused on the former. A fusion could be quite helpful. But now we must return to our story.

Although the hidden resources view reflected a good deal of optimism, there was a pessimistic side to the picture shared by the classical development theorists. This dealt, almost exclusively, with the external environment. Nurkse argued that the "era of export-led growth" was over, and that trade could not act as an engine of growth for developing countries. This was primarily due to the fact that the demand for the tropical products of the developing countries was income inelastic.[24] Prebisch and Singer completed

[22] See Bardhan (1993).

[23] Williamson distinguishes between the high-powered incentives associated with market relations and the weaker incentives associated with non-market governance.

[24] This fit very much in line with the balanced growth prescription.

the argument with their thesis that the commodity terms of trade for developing countries inexorably declined, and would continue to decline, over time. This occurs because the foreign demand for LDC exports was lower than for imports. Essentially, LDC exports were exogenous. A devaluation would not increase revenues. Hence, controlling imports would not hurt the volume of trade. This led to the prescription of import-substitution policies.

One sees in this a preference for quantitative controls. The typical neoclassical response to these problems, if they existed, would be to impose a tariff or subsidy. But the reflexive policy seemed to focus on quantitative restrictions.[25] This reflects, to some extent, the view of human behavior in developing countries; what we may term the structuralist view. We shall return to this below.

The final piece in the puzzle is the two-gap model, associated with Chenery, among others. The essence of the two-gap model is the notion that foreign exchange is a key bottleneck. Start with a Harrod-Domar model, where growth is the ratio of the savings rate to the marginal capital-output ratio. If the latter were 3, then to achieve a respectable growth rate of output of say, 5%, would require an investment rate of 15%. Hence the focus on increasing savings. Now add to this a dependence of growth on key imported inputs. Imagine a Leontief production function with imported inputs that have no domestic substitutes. This implies that increased domestic savings will not have a positive effect on growth unless sufficient foreign exchange can be earned to finance the necessary imports. But here the foreign exchange bottleneck enters the picture. Due to elasticity pessimism the LDC faces an inelastic demand for its exports. These cannot be augmented. Hence to increase growth foreign exchange must be augmented by foreign aid, and by restrictions on imports. Notice how this easily fit with the preference for planning and the pessimism about the external environment.

[25] The typical view would be that imports of consumption goods by the rich needed to be curtailed to finance investment. But rather than tax imports, quantitative restrictions were imposed.

Needless to say, this anti-export bias in development economics did not last. The basic flaw was the lack of concordance with the facts. The successes of countries that pursued export promoting strategies, combined with the costs associated with import-substitution (e.g., rent-seeking) played a critical role. A series of important studies of actual experience played an important role as well.

It is important to understand how this view of the development problem arose out of a particular approach to the problems of LDC's; what is called the structuralist view. The essence of the structuralist view is inflexibility. The structuralist sees obstacle, bottlenecks, and constraints everywhere. Essentially the world is inelastic. This general inflexibility is exacerbated in LDC's, where the peculiarities of peasant behavior inhibit adjustment. People are ruled by custom and tradition, not self-interest. There is a lack of entrepreneurial ability.[26]

The structuralist view is consistent with a general distrust of the price mechanism. When the world is inelastic, very large price increases are needed to achieve even small quantitative changes. Large price changes are, however, disturbing to the social order, primarily because they result in changes in income distribution. This may lead to political reactions that overturn the policies. Administrative and quantitative controls are thus the best way to achieve results.

It is hard not to see the connection between the structuralist view and the standard ideology of planning. The view that the world is inelastic, and the general distrust of the price mechanism is the characteristic view of Soviet economic man. It is interesting to note that the Soviet planning model developed with a view to achieving large scale change. It too was a development model. And it was a development model designed to achieve a maximum of change in a minimum of time. Gregory Grossman termed this the "Economics of Virtuous Haste." Mobilization is the key notion of

[26] The connection to views about the former socialist economies is too obvious to miss.

the Soviet planning model, along with a strong tendency to dismiss notions of economic efficiency.[27] The massive changes that this system succeeded in producing in the Soviet Union, and other economies, was a strong example for many developing countries. Nehru seems, for example, to have been a great admirer of the Soviet Union, and this admiration explains the adoption of many of the features of early Indian planning.

There has, of course, occurred a counter-revolution to the development orthodoxy.[28] The current wisdom emphasizes the value of export-promoting strategies rather than the inward-looking policies. Moreover, it treats agents in developing countries as rational, and tries to explain why they behave the way they do. That is, what is the nature of market incompleteness that leads to imperfect outcomes. In general the new orthodoxy is more neo-classical. It is also less optimistic.[29] The current view treats the development process as more complex than did the development orthodoxy. This is due, in large part, to the fact that modern development economists tend to eschew uni-causal theories of development. Development is seen as a complex multi-factor process; consequently there are no simple answers.

Recent analyses have also dropped the notion of irrational peasants. Today the focus is on how rational agents adapt their institutions to cope with the problems they face. For example, how does an Indian village cope with uncertainty over climate in the absence of futures markets and formal insurance. Today the emphasis is on the role of institutions in coping with missing markets. Constraints come not from irrationality,[30] but rather from path dependence.

[27] Soviet growth, of course, was almost exclusively extensive. This system was quite successful at solving the rural-urban migration problem, but at what cost?

[28] Krugman argues that there is now a counter-counter-revolution; the re-discovery of the "Big-Push" type models. It is not clear that this will really be a counter-counter-revolution, however, in the sense of changing the overall view of the development process. One does not see in the rebirth of these models a new view towards openness, for example.

[29] Except with respect to the external environment. Just as the old orthodoxy was pessimistic on this regard, the new view is optimistic about the beneficial effects of openness.

[30] Which must be distinguished from bounded rationality.