OBSERVING THE ETHIOPIAN ECONOMY, 2010

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Report Prepared for USAID

November, 2010

This paper is based on a 2-week visit to Ethiopia in September 2010, under the auspices of USAID. I have framed it as an observer's report, with the purpose of conveying, especially to younger USAID economists, some aspects of how one incorporates economic analysis into the process. The paper should be read keeping this underlying purpose in mind.

The single overarching guideline to good economic observation is to work within, and to constantly keep in mind, a sound theoretical framework. Dealing piecemeal with each separate element that one observes, and coming up with a separate plausible ad hoc explanation for each one, is the opposite, indeed the enemy of professionalism. What makes economic analysis such a powerful tool is its capacity to fit the separate pieces one observes into a coherent whole.

An Expectation of Dutch Disease

The particular feature of the Ethiopian economy that first struck my mind was the fantastic excess of imports over exports. In fact, exports in recent years have accounted for less than a third of the annual flow of foreign exchange available to the country. Starting right there, it would be wrong for the observer to conclude that this "trade

imbalance" was a problem that somehow was in urgent need of correction. Rather, this imbalance is the consequence of two separate factors -- large inflows of foreign aid and emigrant remittances, each of which provides the country with more foreign exchange than its exports. In recent years these non-export flows of foreign exchange have been supplemented by significant and increasing amounts of foreign direct investment.

All this places Ethiopia in that group of countries whose economies have had to adapt to huge inflows of foreign exchange. This syndrome, as is well-known to economists, typically leads to the phenomenon that we call "Dutch Disease" -- a sharp appreciation of the domestic currency, rendering the dollar quite cheap, in real terms. Obviously, this is a natural, supply and demand result. When the supply of anything experiences a large and rapid expansion, it is perfectly natural that its price (in real terms) should fall. If the nominal exchange rate is fixed, the fall in the real price of the dollar takes place via a rise in the internal price level, predominantly of nontradable items (house prices, rents, local wage rates, restaurant meals, local transportation costs, etc.) Tradables prices are held in check by the fixity of the exchange rate. With a flexible exchange rate it would be possible for the full adjustment to be reflected in a fall in the local-currency price of the dollar (the nominal exchange rate). But this rarely occurs in practice. Often, the authorities in a flexible-exchange-rate country will take steps to keep the nominal price of tradables from falling, so that in those cases as well, the appreciation of the real exchange rate comes from a rise in the internal price level. Sometimes, the adjustment is split, coming partly from a fall in the nominal exchange rate and partly from a rise in the internal price level.

The phenomenon of Dutch Disease has been widely observed in countries experiencing massive inflows of foreign exchange. Notable cases include The Netherlands (at the time of the discovery of oil and natural gas under the North Sea, from which Dutch Disease got its name), El Salvador (from foreign aid and remittances), Russia in recent years (from oil and gas discoveries), several Latin American countries in the late 1970s and early 1980s (from large inflows of capital), others in the 1960s and later (from a boom in the world price of coffee and other export commodities).

Thus there were good reasons to expect a similar result in Ethiopia. But -- and this was our first surprise -- the data showed no evidence of the sort of real appreciation of the currency that we associate with Dutch Disease. Moreover, day-to-day observation of prices in the local economy tended to confirm the judgment that Ethiopia was not suffering from the case of Dutch Disease that we had good reason to expect that we would find.

Probing the Puzzle -- Why No Dutch Disease?

Once again I want to recall the importance of linking our observations to the framework of economic theory. We started by observing the phenomenon of a massive inflow of foreign currency. If this were the sole major influence at work, it would produce the expected appreciation of the currency that characterizes Dutch Disease. Yet we do not observe this result. This is not a denial of a well-documented theoretical result. Rather, it is a signal that in addition to the great inflow of foreign exchange, some other force or forces were probably simultaneously at work, operating to offset the pressure toward appreciation of the real exchange rate generated by the huge inflow of dollars.

In the Ethiopian case the main offsetting force appears to be found in the high rate of spending by the government plus its public sector companies, and in the apparent import-intensiveness of that spending.

Let us start with the initial inflows of foreign exchange. Without a doubt these will be spent partly on tradables and partly on nontradables. This is particularly true for remittances, which typically go to families of low or modest incomes, who spend a significant portion of these receipts on locally-produced nontradables. The Dutch Disease phenomenon arises because the entire inflow (from foreign aid, remittances, and capital inflows) is in foreign currency (say, dollars). This expands the supply of dollars by the full amount of these flows. If the recipients of these flows spend only a portion of them on tradables, we have a situation where the supply of dollars has increased more than the demand, causing a downward pressure on the real price of the dollar. The extent of this downward pressure is measured by the amount of the inflows that ends up being spent on nontradables. In order for the real exchange rate to remain constant under such circumstances, some other, "independently-sourced" new demand for tradables has to come into the picture, creating a new demand for the dollars that were being sold to finance the purchase of nontradables by their recipients. Our explanation of the Ethiopian case is that this extra slug of demand for foreign exchange came principally from the government itself and from the nation's public sector enterprises. Readers should be aware that the "extra slug" of demand for dollars that we are talking about here is above and beyond the foreign-aid and capital-flow dollars that the government and the public sector companies themselves received and then spent on tradables. In order to

absorb the dollars that were sold to buy nontradables, we absolutely need a new demand that was not itself financed by flows from outside the country.

Our perception is that the main source of this extra demand was credit expansion by the Central Bank and the rest of the banking system. There is no doubt that there was massive credit expansion in this period, and there is no reason for us to think that this credit expansion was used exclusively for the purchase of tradables. Quite to the contrary, the evidence virtually shouts at us that a substantial piece of this credit was spent on nontradables.

Let us go step by step through the process of credit expansion by the banking system. Typically, this involves a parallel increase in the country's broad money supply (M2). That is, the banking system as a whole experiences an increase in its assets (debt obligations of the government and the public sector companies) matched by an increase in its monetary liabilities (M2). But if these recipients of new credit were to spend <u>all</u> of that money on foreign exchange to buy imports, there would be a corresponding contraction of M2, matched by a loss of foreign assets by the banking system. So in the end this operation would produce no monetary expansion. It would simply amount to a shift of assets held by the banking system -- an increase in its holdings of credit obligations, matched by a reduction in its holding of foreign exchange. This imagined operation, with the government plus public sector companies borrowing money solely to finance new imports, and borrowing just enough to match the foreign exchange previously sold to the Central Bank (say, by receivers of remittances) would close the gap between the supply of and the demand for dollars, and would leave the real exchange rate

unchanged -- all without this credit-expansion operation in and of itself (once the money was spent for imports) imposing any inflationary pressure on the economy.

This is not what happened in the Ethiopian case. The credit expansion went well beyond the point envisioned in the above exercise. What we observe is that the real exchange rate remained fairly constant (apart from a crisis-induced blip in 2008), while bank credit and the money supply expanded dramatically. The constancy of the real exchange rate means that the credit-financed spending on imports pretty much filled the aforementioned gap of supply exceeding demand. The fact that the money supply and the price level increased significantly means that a substantial portion of the increase in credits was in fact spent on nontradables -- sufficient to push up the general price level.

In a sense, one can say that the expansion of money and credit, in Ethiopia, "trumped" the effect of excess supply of foreign exchange on the real exchange rate, but at the same time had enough force left over to pull the nontradables price level up. Intermittent devaluations of the birr succeeded in keeping the real exchange rate within a relatively narrow band (except for the blip in 2008) during this process.

Limits on the Rate of Credit Expansion

Whatever rate of inflation emerged in the process just described, it was less than the rate that would have resulted naturally, in the absence of special intervention by Ethiopian policymakers (in this case, the Central Bank). Acutely aware of the role of excessive monetary expansion in generating inflation, yet pressed by the government to constantly provide new credits to finance its ambitious programs (plus those of favored enterprises), the Central Bank resorted to a ploy that had earlier (1950s and 1960s) been used by some Latin American Central Banks to help keep their own inflationary prices

under some degree to control. This ploy consisted of monthly limits on the rate of expansion of credit by the country's commercial banks;. These limits were imposed on each individual commercial bank, but they were in no sense motivated by any considerations having to do with the individual banks. The motivation was clearly macroeconomic, aimed at containing the rate of expansion of the broad money supply (M2).

I have no reason to doubt that these bank-by-bank limits on the rate of credit expansion achieved their macroeconomic purpose of reducing the rate of monetary expansion, and hence the rate of inflation, below the rate that would have emerged in the absence of the credit limits. But they obviously introduced new distortions into the country's credit markets and ultimately into its growth process.

In the course of my stay in Ethiopia we had several opportunities to meet with representatives of Ethiopia's private sector. Without exception, these representatives expressed frustration, complaining that their businesses were being held back by an insufficient access to bank credit. Most of them referred to specific expansion possibilities which they expected to be highly profitable (real rates of return as high as 30% per annum), which, they asserted, they could not carry out because of lack of access to sufficient credit.

I have no reason to doubt that veracity of these assertions. In a real sense, they are confirmed by two additional and important pieces of evidence -- first, the emergence of a sort of informal capital market in which private companies were raising new capital by issuing shares of stock; and second, evidence of a significant parallel market in loans to business firms, in which interest rates of 30% and more were said to prevail. I did not

have the opportunity to dig deeper into these very interesting revelations, but it is clear that these arrangements would not likely be resorted to by businesses with easy access to bank credit. As I understand it, the equity issues and the parallel market for credit are not supported by a strong institutional structure of laws and regulations. Hence their operations have to be based on personal confidence and trust. This obviously limits the extent of its coverage to friends, family members, etc. We were informed that a significant portion of the operations in this area involved funds invested by Ethiopian emigrants (from the diaspora, as they call it) in enterprises mounted by their friends and relatives. With respect to the local informal credit market, the first point to note is that in our conversations, the lenders in this market were uniformly referred to as "loan sharks", a term which, at least to our ears, brings up visions of enforcement by threat, coercion, and, for extreme case, severe physical violence. Yet we were also told, in the same conversations, that transactions in this "market" were quite common, especially in the outlying regions of the country. Moreover, we were informed that these transactions were not confined to mini- or micro-credits, but extended to large loans, ranging at least up to hundreds of thousands of dollars. This evidence suggests that we are dealing here with a genuine market, where borrowers pay and lenders receive a "market rate" of interest, and where most of the loans are repaid in a normal way, without resort to unsavory methods.

A Note on the "Ethos" of Policymaking in Ethiopia

To gain some sort of a "feel" for the way things work in Ethiopia, as far as economic matters are concerned, one has to understand the "mindset" that seems to prevail among the country's policymakers, and, to a certain extent at least, among its

people. The starting point is the idea that, in one sense or other, profits are evil, and that the search for profits involves, in one form or another, the exploitation of the rest of society. I tend to associate this view of profits more with Fabian Socialism (Harold Laski, Sidney and Beatrice Webb, George Bernard Shaw) than with Karl Marx and his followers, but I would not insist upon this particular association. I found a lot in common between the approach of policymakers in Ethiopia today and those in the India that I came to know during my year of work there in 1961-62 and my later visits in the early 1970s. Things done in the public sector tended ipso facto to be viewed in a positive light; those done in the private sector were correspondingly viewed with suspicion. The idea that market forces could be trusted to bring about a socially desirable outcome was given almost no credibility at all. The Indian government of that time made detailed five-year plans, detailing the expected future of the economy, industry by industry and sector by sector. When the ensuing reality differed from what had been planned, the authorities made every effort to "remake" the reality, forcing it to conform to the plan, rather than recognizing that very likely some plan targets had been set too high and others too low. Public sector enterprises, too, were managed with an eye to keeping their profits low. Notoriously, the state electricity enterprises rarely showed profit rates higher than three or four percent -- a policy that led to a perennial lack of funds for capacity expansion and prevented any access to the international capital market. The result was predictable: regular brownouts and power rationing, constant electricity shortages impeding investment and economic growth. Indian socialism of that time was not Marxian, but it operated to hold back the country's growth quite seriously. India's positive experience

with the liberalizations of the past 10-20 years gives ample testimony of how much progress was lost due to the constraining policies of previous decades.

A two-week visit is not enough time to permit a detailed appreciation of public policies, or even of economic performance. But it is sufficient to give clear impressions concerning important aspects. I have already mentioned the fact that the government first and the public sector enterprises second, were given strong priority in their access to credit from the Central Bank and from the banking system as a whole. Beyond these there were favored activities in the private sector. The government appeared to be following a strategy of attempting to "pick the winners" of the private sector development race. I understand that coffee, oilseeds, and flowers were recipients of special incentives and other special treatments, including preferred access to credit. None of these activities appear to be failing, which is a good sign. On the other hand, we have all of the private-sector activities that were left behind as the putative winners were picked. And our testifiers assert that in these areas many investment projects with very high rates of return are simply waiting in the wings, impeded by lack of credit, or of import licenses, or of other necessary government approvals.

There can be no doubt that economic efficiency would be promoted if these restricted and curtailed investments were allowed to freely compete for funds (and for permits and licenses where these are involved), against those entities and firms which up to now have had favored access. Moreover, it is a virtual certainty that with such free access, the rate of economic growth would be nudged upward. Investment opportunities with high rates of real return, previously denied access, would now come into play, displacing others with lower rates of return if total national investment demand remains

the same, and actually augmenting the growth rate with their full marginal productivity to the extent that the total volume of national investment were to increase if equal access were given to the previously deprived investment opportunities.

On Economic Growth

Ethiopia's economic growth performance has been truly remarkable. Moving up from an average real growth of 3.6% per year from 1998-99 through 2002-03, the growth rate spurted to an average 11.4% from 2003-04 through 2008-09, according to the country's official national accounts. This growth spurt is so spectacular that it almost automatically gives rise to questions about its accuracy. We are in no position to go behind the detailed work that underlies the country's national accounts, but we can perform a number of rough checks on the plausibility and coherency of the final figures.

In Tables 1 and 2 we show the breakdown of the country's growth by major sector. Table 1 gives the growth rate of each sector's output, while Table 2 shows the number of percentage points of aggregate growth that each sector contributed.

As can be seen in Table 1, the agriculture sector experienced a high spurt of growth in 2003-04. This is mainly accounted for by the sector's recovering from a negative growth of over 16% in 2002-03. Apart from that we see the rate of expansion of agriculture declining over time, though it is still, at 6.4%, very impressive in 2008-09. The agriculture story told by Table 2 is even more dramatic, with agriculture contributing 7.7 points of GDP growth in 2003-04, with its contribution declining to 2.6% by 2008-09.

All this is important as an input into my own thinking about Ethiopia's growth statistics. My original thought was that there might be a significant overstatement in these figures, situated in the area of subsistence farming. This thought was based on the

fact that it is easy to check on a country's aggregate output of products like coffee, seeds, and even flowers which are either exported or at least pass through subsequent processing stages at which figures on total output can be checked. In contrast, it is hard to check on

TABLE 1

Growth Rates of Sectoral GDP

(percentage points)

Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Sector						
Agriculture	16.9	13.5	10.9	9.4	7.5	6.4
Industry	11.6	9.4	10.2	9.5	10.0	9.9
Services	6.3	12.8	13.3	15.3	16.0	14.0
TOTAL	11.7	12.6	11.5	11.8	11.2.	9.9

Source: NBE Annual Report, 2008-09

TABLE 2

Contributions of Each Sector to Aggregate GDP Growth

(percentage points)

Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Sector						
Agriculture	7.7	6.3	4.9	4.2	3.1	2.6
Industry	1.6	1.3	1.4	1.3	1.3	1.3
Services	2.4	5.0	5.2	6.3	6.8	6.0
TOTAL	11.7	12.6	11.5	11.8	11.2.	9.9

Source: NBE Annual Report, 2008-09

(Figures have been adjusted so that the details add up to the totals for each year.)

possible mistakes in estimating the output of subsistence agriculture. Here a mistake could lead one to impute higher than actual production, which automatically on a subsistence farm means higher than actual home consumption or other use of the imputed extra output. This type of mistake in national income accounting is far harder to verify than would be a mistake in estimating coffee or oilseeds or flower production. Hence mistakes on the output of subsistence farms are less likely to be caught by the internal checks of the national accounts office than are mistakes connected with the production of commercial crops.

On my visit to Ethiopia I emphasized the issue of subsistence farm output as being a likely source of error in Ethiopia's national accounts. I still maintain that view, and for this reason I would urge those both in and outside Ethiopia's public sector to seek independent checks on the output of subsistence farms. The most direct checks would be via sample surveys of the farm households themselves -- a task that is both difficult and expensive given the huge number of such households and the wide variety of soil and climate conditions over which they are dispersed. An indirect check is also possible, based on the use of agricultural inputs such as seeds, fertilizers, etc. But it should be realized that this indirect type of check is more suitably applied to the agricultural sector as a whole, rather than to just its subsistence component.

All such checks are advisable. However, given the results shown in Table 2, in which by the last two years agriculture is accounting for less than a third of the nation's total GDP growth, I would surmise that at least for these years, errors in estimating agricultural output probably would not account for more than one and certainly no more than two percentage points of recorded GDP growth.

The other most plausible source of possible exaggeration in the national estimates of GDP growth is the services sector. What makes this sector a plausible culprit is the difficulty of breaking down the value of its output (in nominal birr) into its separate components of quantity times price. What is very easy for products like coffee, oilseeds, blue jeans and shoes is much more tricky when it comes to many of the components of service sector output. And relatively small errors in this breakdown can produce large errors in the growth rate. Consider an initial situation in which a service sectors output is 1000, and its price level is 100, for a total value of sector output of 100,000. Now assume that this value grows by 20%, to 120,000, and that the "true" price level of the sector grew from 100 to 114, while the true output grew from 1000 to 1053 (= 120,000 ÷ 114). A mistake of only 3% in the measurement of price (to 111 rather than 114) would automatically cause the corresponding output figure to be 3% higher at 1081 (120,000 ÷ 111), giving us an estimated real growth rate of 8.1% rather than 5.3%.

The possibility of error in the growth estimates in the services sector is rendered more plausible by the fact that by standard national accounting procedures no change of total factor productivity is measured for such items as educational and government services. Thus the productivity gains implicit in the high growth rates of Ethiopia's services sector (averaging 11.4% over the last 5 years, as shown in Table 1) would have to be concentrated in only a fraction of that sector, since major components of it are constrained to have zero productivity growth (in technical terms, their output in the national accounts is measured by their inputs of labor, capital and materials).

The Economists' Breakdown of the Growth Rate

One of the great innovations in economic analysis was the discovery around 1950 of a natural way to break an economic growth rate of real output into components due to added labor inputs, added capital inputs, plus a contribution that I like to call real cost reduction. In the economics literature this last component has gone by many names -- "technical advance", "improvements in total factor productivity", "improvements in output per unit of total input". Of all these terms, I believe "real cost reduction" is the one that is the most accurately descriptive, as well as being the most easily understood by a broad audience.

The breakdown proceeds by "assigning" to increments of labor a contribution to growth equal to their respective real wage rates (an estimate of their marginal productivity), and by "assigning" to new increments of capital estimates of what would be their normal or expected real rates of return (gross of taxes and of depreciation).

A quick approximation to the labor contribution to growth is found by multiplying the rate of growth of the employed labor force by labor's share in the GDP. For Ethiopia in the recent period this would be something like (2.5% per year labor force growth) times approximately 0.5 (an estimate of labor's share in the GDP).[1] The resulting figure of 1.25% represents the points of growth that we would expect to come from the labor that was added each year to the employed labor force. This calculation implicitly assumes that the average "quality" of the increments to the labor force is equal to the average quality of the pre-existing total labor force.

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[1]Labor's share includes not only the wage payments received by those who work for wages, but also wages that have to be imputed for the self-employed plus family workers in family-owned farms, restaurants and other businesses.

For the capital contribution to growth the most convenient procedure is to multiply net investment (as in fraction of GDP) by its expected real gross-of-taxes-and depreciation rate of return. Gross investment in Ethiopia has averaged a little under 24% over the past 6 years. Of this something like 8-10 percentage points should be allowed for the depreciation and retirement of existing capital stock, each year. This leaves net investment at around 15 (= 24 minus 9) percent of GDP, on average during these years.

What real rate of return should be applied to this net investment, in order to reach a plausible assessment of capital's contribution to Ethiopia's growth rate during the last 6 years? This is not an easy question to answer without making a detailed survey of the country's existing capital stock and the investments that were made during the period. We have good evidence that real rates of return are quite high in the strictly private sector of Ethiopia's economy. But the investment total we are considering also includes investment by public sector companies and by government itself in roads, public buildings and other infrastructure investment. Some of these produce no direct revenue that is counted in the GDP, others have rates of return that are definitely on the low side. Thus we face a situation of probably high measured (in GDP) rates of return to private sector investment, significantly lower measured rates of return in public sector enterprises, and very low[2] measured rates of return in many investments in infrastructure

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[2] The fact that these investments have low measured rates of return doesn't mean that they are therefore bad investments. Highways produce benefits in the form of reduced transport costs, that are captured by the users of these roads, but are not directly counted in the GDP, as part of them would be if tolls were collected on those roads. If one wants to learn whether such road projects are worthwhile, one has to undertake serious cost-benefit analyses of such projects. All one can say in advance of such studies is that the benefits of road projects are closely linked to the volume of traffic on each project. Only vehicles traveling on a road can perceive the benefits of time savings and cost-reduction that are generated by that road.

and public buildings.

One interesting starting point is the World Bank's longstanding practice of expecting the investments it finances to have a real net rate of return of at least 10%. This would correspond to a gross-of-depreciation rate of return of about 15%, allowing for depreciation at 5% of capital value. This same figure could result in a country in which 1/3 of total net investment took place in the regular private sector and yielded 25%, 1/3 occurred in public sector and specially favored (subsidized) private activities, yielding the World Bank's expected gross return of 15%, and 1/3 was pure public sector investment with low or even zero cash return, producing a measured return in the GDP of just 5%. This is simply an example to show that the use of a World Bank-based average gross return of 15% is quite compatible with high rates of return in the private sector.

Applying a 15% rate to net investment amounting to 15% of GDP yields a capital contribution to GDP growth equal to 2.25 percentage points.[3]

Using this figure, plus the 1.25 percentage points calculated earlier for the labor contribution, we have the following breakdown of Ethiopia's GDP growth for the period 2003-04 through 2008-09:

Labor Contribution	1.25
Capital Contribution	2.25
Real Cost Reduction	8.0
Total GDP Growth	11.5

The above breakdown of Ethiopia's growth can be compared with those for other countries, shown in detail in Appendix A1. We show there the growth breakdowns from

[3] As an extreme upper bound to capital's contribution we would consider an average real gross-of-depreciation rate of 20%, which, again applied to net investment of 15% of GDP, gives a capital contribution equal to 3.0 percentage points.

57 high-growth episodes during the period 1960 to 2001. These episodes were selected by a criterion that in order to qualify as a high-growth episode, the GDP growth rate during the episode had to average at least 4% in real terms, and had to exceed 4% in both the starting and ending years of the episode.

The outstanding feature of Ethiopia's recent growth episode is that the contribution of real cost reduction (8 percentage points!!), is higher than in any of the high-growth experiences recorded in Appendix A1. These include those of the great Asian Tigers -- China 1962-81 (4.5 points), China 1983-2001 (6.3 points), Hong Kong 1960-97 (4.3 points), Korea 1960-97 (4.6 points), Malaysia 1960-87 (3.1 points), Malaysia 1989-97 (4.1 points) and Singapore 1964-2000 (4.4 points).

Table 3 shows the distribution of the figures on real cost reduction from all of the 57 episodes recorded in Appendix A1. One can see there that there was not a single case as high as 7% among the 57 episodes, all calculated using the same methodology.

My conclusion from this exercise is that the authorities should carefully review the calculation of Ethiopia's GDP figures, at least for the recent high-growth period. We have seen earlier how easy it is for mistakes to creep into a calculation, even when it is done following reasonable professional practices. It is not easy to make the "right" imputations of agricultural productivity advances (and the corresponding increases in household consumption) on subsistence farms. Nor is it easy to delineate how much of the increase in the value of many service sector activities was attributable to increases in quantity, and how much to increases in price. So I am not suggesting that the existing figures resulted from poor professional practice -- but rather that they may have come from building on limited available evidence and from judgment calls that were

unavoidable but necessarily subject to high variances. My plea is that the relevant authorities should take seriously the fact that Ethiopia's results in the recent period are so vastly different from those of so many other high-growth experiences -- especially since all the calculations were based on exactly the same methodology. Note also that over the 41 years from 1960 to 2001, the average annual rate of real cost reduction in the U.S. (by the same methodology) was 1.6% and that in the U.K. was 1.4%. These are quite representative figures for the world's advanced economies.

TABLE 3

GDP Growth Rate Due to Real Cost Reduction in High-Growth Episodes

(Percentage Points of Growth Due to Real Cost Reduction)

Percentage Points of Growth Due to Real Cost Reduction	Number of Episodes
0-.99	1
1-1.99	2
2-2.99	11
3-3.99	24
4-4.99	12
5-5.99	6
6-6.99	1
7-7.99	0
8-8.99	0
TOTAL	57

Source: Appendix Table A1.

Why Flaws In The Data Can Matter

One might reasonably ask, why flaws in the data should create any important problems for policymakers or for government generally. The answer is quite straightforward -- better policies will emerge and the regular functions of government will be better carried out, when the agents involved are able to act on the basis of more accurate information. For example, an over-optimistic picture of past accomplishments can quite naturally cause leaders to establish excessively optimistic targets for the future. This is almost certain to lead to disappointments when future achievements fall short of these targets. But more importantly, it can lead to a situation in which the authorities try to force the economy toward meeting excessive targets in certain areas, leading to unwise use of resources. For example, we have already noted that the economic benefits of highway projects are linked to the volume of traffic that emerges on these new and improved roads. It makes great sense to build in 2011 and 2012 a highway capacity appropriate for the increased traffic that will emerge in 2013-2015 as a consequence of the economy's growth in those years. But it is not wise to make improvements now that are only going to be needed sometime after 2020. The poorer is a country, the greater is the number of areas whose new investments will yield high returns. So setting today's highway targets too high can divert resources away from other investments (e.g., improving the quality of education) where they likely would yield much higher returns, both to the economy and to society.

There can also be other reasons for setting targets too high. I worked for a long period (1963-77) as an external adviser to the planning process in Panama. That country had enjoyed excellent economic growth (around 8% per year) during the decade of the

1960s, and plans were now being drawn up for the early to mid-1970s. We in the planning ministry had analyzed the experience of the 1960s and had found its rapid growth to have mainly come from a very high rate (4-5% per year) of real cost reduction. We were delighted to see this result, but could find no serious basis to predict that real cost reduction would continue at such a high rate into the 1970s. We therefore built our future projections on an expected GDP growth rate of 4-5% with real cost reduction contribution around 2% per year. We were professionally quite content with this figure, and considered it to be the likely center of gravity for near-term future growth.

We were rather surprised, then, when we received from the country's government (Presidency plus Cabinet) what seemed practically an order for us to set the projected future GDPgrowth rate at 8%!!! This order did not come with a professional defense of the 8% rate. Rather, the argument behind it was purely political in nature. The current government did not want to appear less ambitious, and to aim at any lower growth rate than had been achieved in the previous decade!!

This experience reveals a certain quite natural tension that can emerge between the political authorities and those who perform the supporting technical and professional analysis. And the example shows that the difficulty can be present even when the previous period's high growth rate was genuine (i.e., not overestimated). In Ethiopia's case, if perchance the past six years' growth was indeed as high as 11.5% in real terms, involving a real cost reduction in (RCR) contribution that really was a virtually unprecedented 8 percentage points, there is little chance that such an unusual RCR event

would repeat itself in the following period.[4]

Looking to the Future

It should be clear from the above that I am troubled by the degree of optimism that is revealed in the setting of targets in the recently-released Growth and Transformation Plan. The "base case" target for GDP growth over the next 5 years is 11.2%. This is supported by an expected increase of gross investment from 24% to 30% of GDP, with nearly all the movement coming from added domestic saving (5.6 percentage points). Assuming the labor contribution to growth to continue at around 1.25% per year, and the allowance for depreciation to continue at 9 percentage points of GDP, we have the following expected breakdown of the plan's baseline growth rate.

Labor Contribution	1.25%
Capital Contribution (30 gross inv. minus 9 dep.) times 15%real return =	3.15%
Real Cost Reduction	6.80%
Projected Growth Rate	ll.20%

Note that the implied contribution of real cost reduction, at 6.8% per year, though lower than the 8% that we calculated for the past 6 years, is still higher than that recorded in Appendix A1 for all 57 episodes covered there -- and in particular higher than those

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4 Studies of the process of economic growth have repeatedly shown that it is very difficult to predict the location and extent of future real cost reductions. They really do reflect innovations, but these innovations can come in a thousand different forms -- administrative, marketing, organizational, personnel management, even advertising and sales (permitting a firm to exploit latent economies of scale in production and distribution) -- in addition to the application of newly-invented technologies and other scientific or engineering advances. Which of these sources will come to the surface during the next 5 or 10 years, and which will be the firms and industries where this occurs? This is a question that even the best scientific work finds very difficult to answer. In technical terms, the degree of serial correlation between the rate of real cost reduction in one five-year period and that in the next one is very low.

calculated for China and all the other Asian Tigers. Needless to say, this is expecting a great deal, and at the very least the Ministry of Finance and Economic Development should be urged to look into the likelihood of reaching such an ambitious target.

The Importance of Vigilance and Flexibility

Given the strong possibility that the GTP targets may turn out to be over-ambitious, what can be done about that, starting from the present moment? The answer, I believe is vigilance and flexibility. The economy has to be seen as a highly complex organism, with thousands, even millions of decision centers, each responding to the stimuli and deterrents, the incentives and disincentives that reach it in particular. Each center will generate its own forces of growth -- its own choice of how much to invest, its own projects, each with its own likely real rate of return on these new projects, and above all its own discoveries of way of reducing real costs. These choices are only indirectly influenced by public policy, and one can say with certainty that there is no conceivable way in which political policy by itself can directly create high rates of real cost reduction for most economic activities. What public policy can do is to create an environment which is favorable to the different decision centers being able to discover and implement investments with high rate of real return and to their being able to find and act upon opportunities for real cost reduction.

Policymakers should therefore try to see to it that the signals received by economic agents accurately reflect economic scarcities and economic values. High levels of protectionism are particularly antagonistic to economic inefficiency -- protection of 50% in an industry means that producers located there can freely use 12 birr worth of

resources to save a dollar, while exporters can only use 8 birr of resources to produce an additional dollar by that route (assuming a market exchange rate of 8 birr per dollar).

Similarly, distortions in the allocation of investment resources are impediments to economic efficiency and economic growth. One should consider carefully the fact that many private-sector businesses claim to have projects with prospective real returns of 25 and even 30 percent, which they say they are precluded from doing because of lack of credit, lack of necessary permits or approvals, lack of access to needed imported inputs, etc., etc. Opening up these currently constrained possibilities can only contribute positively to future economic growth and real cost reductions.

Once policymakers have pursued all the reasonable and feasible policy improvements they can manage in a given period, their next task is continued vigilance. It is virtually certain that the actual results in the economy will differ from their ex ante projections. And most likely these differences will stem from causes that are beyond the policymakers' control -- weather, agricultural bonanzas and crop failures, movements of world prices, the pace of foreign aid, capital movements and remittances -- plus, of course, the pace of private investment and real cost reduction in the different sectors of the economy. The next step is to steadily adapt one's vision to incorporate the new realities. Differences of the listed types are just that -- realities. The best recipe for success is for policymakers to be flexible enough to adapt their programs to new realities as they appear. And it is even better if the whole process -- perception of changes as they occur, and modification of goals and policies in response to those changes -- is shared with the general public.

TABLE A1

Breakdown of Growth Rates During High-Growth Episodes

1960-2001

		GDP Growth	Labor Contribution	Capital Contribution	Real Cost Reduction
OECD Countries					
Australia	1961-72	5.3	1.3	1.5	2.5
Canada	1965-73	5.1	1.5	0.7	2.9
Finland	1960-73	5.0	0.4	1.8	2.8
Finland	1993-2000	4.7	0.0	0.4	4.3
France	1960-73	5.4	0.5	1.4	3.5
Greece	1960-73	7.9	0.1	2.1	5.7
Japan	1966-90	6.4	0.6	4.9	0.9
Ireland	1966-78	5.3	0.4	1.4	3.5
Ireland	1986-2000	7.0	0.7	1.0	5.2
New Zealand	1960-66	5.5	1.2	1.4	2.9
New Zealand	1968-74	5.2	1.2	1.0	3.1
Norway	1970-77	5.0	1.0	2.5	1.4
Portugal	1960-73	6.9	0.1	1.8	4.9
Portugal	1975-80	5.1	1.6	1.1	2.3
Spain	1960-74	7.2	0.4	1.7	5.1
Asian Tigers					
China	1962-81	7.8	1.2	2.0	4.5
China	1983-2001	9.8	0.8	2.8	6.3
Hong Kong	1960-97	8.0	1.4	2.3	4.3
Korea	1960-97	7.9	1.4	2.0	4.6
Malaysia	1960-87	6.5	1.6	1.8	3.1
Malaysia	1989-97	9.3	1.5	3.6	4.1
Singapore	1964-2000	8.9	1.6	2.9	4.4
Thailand	1960-86	7.1	1.5	2.2	3.4
Thailand	1988-97	9.5	1.0	3.4	5.1
Other Asia					
India	1975-2001	5.7	1.0	1.5	3.1
Indonesia	1967-97	7.4	1.4	1.8	4.2
Israel	1960-96	6.1	1.6	1.4	3.1
Pakistan	1960-96	5.9	1.4	1.4	3.0
Philippines	1960-80	5.4	1.5	1.4	2.5

Table A1 (continued)

		GDP Growth	Labor Contribution	Capital Contribution	Real Cost Reduction
Africa					
Cameroon	1972-86	8.2	1.1	1.3	5.9
Cameroon	1994-2001	4.6	1.2	0.1	3.3
Egypt	1960-75	4.8	1.1	1.4	2.4
Egypt	1977-2001	5.8	1.3	1.8	2.6
Morocco	1966-77	6.8	1.4	1.8	3.6
South Africa	1960-74	6.1	1.2	1.1	3.8
Latin America					
Argentina	1990-98	6.4	1.0	1.1	4.3
Brazil	1960-80	7.3	1.6	2.0	3.7
Chile	1975-81	6.9	1.2	0.8	4.9
Chile	1983-98	7.4	1.2	1.9	4.3
Colombia	1960-80	5.4	1.4	1.2	2.8
Colombia	1985-95	4.5	1.7	1.1	1.8
Costa Rica	1981-79	6.5	2.0	1.3	3.2
Costa Rica	1983-99	5.1	1.6	1.2	2.3
Ecuador	19869-81	8.4	1.4	1.8	5.2
El Salvador	1960-80	4.9	1.7	1.0	2.2
El Salvador	1989-95	6.0	1.8	1.2	3.0
Guatemala	1960-80	5.6	1.4	0.8	3.4
Honduras	1961-68	6.0	1.4	1.4	3.1
Jamaica	1965-72	6.7	0.6	2.6	3.4
Mexico	1960-81	6.8	1.8	1.4	3.7
Mexico	1995-2000	5.4	1.2	1.1	3.1
Paraguay	1960-81	6.7	1.5	1.3	3.9
Peru	1960-74	5.3	1.3	0.7	3.4
Peru	1992-97	7.1	1.5	1.5	4.0
Uruguay	1974-80	4.8	0.3	1.7	2.8
Uruguay	1990-98	4.4	0.6	0.9	2.9
Venezuela	1960-65	4.2	1.6	0.7	3.9
For comparison only:					
United States	1960-2001	3.4	0.9	0.9	1.6
United Kingdom	1960-2001	2.4	0.2	0.8	1.4

Source: Arnold C. Harberger, On the Process of Growth and Economic Policy in Developing countries, (Washington, USAID PPC Issue Paper No. 13), December 2005, accessible through dec.usaid.gov by entering document number PN-ADE-081. Table A1 is based on Appendix Tables 10 through 52 in that document.