

OBSERVATIONS ON ECONOMIC POLICY IN MADAGASCAR

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This report covers my main observations on a mission to Madagascar 13-20 November, 2005. The purpose of the mission was to allow me to get a first-hand appreciation of different aspects of the work of the Ministry of Finance and of the Central Bank. Most of my visiting time was devoted to discussions with representatives of the Ministry of Finance, but time spent studying the macroeconomic data for Madagascar led me to some observations that may be useful to those in charge of Central Bank policy.

Let me repeat at the outset a disclaimer that I have made at all stages -- those leading up to my visit plus those taking place during the visit itself. Specifically, I did not come to Madagascar as an expert on Madagascar or on its economy. Instead I came with a lot of experience in other developing countries, and with a lot of time spent in studying the economics of public finance, and the problems of economic policy in developing countries. My comments in this report are fundamentally based on this experience and study. My week in Madagascar gave me, I believe, a pretty good sense of the environment there -- the stage of development of the economy, the administrative structure, the will and desire of the President and his ministers to proceed decisively on the path of reform and modernization. The observations in this report

reflect my attempt to draw from my previous experience some lessons and thoughts that seem particularly relevant to the situation of Madagascar today, as perceived by me during my stay.

Customs Reform -- Moving Toward a Uniform Tariff

I was greatly impressed by the steps that have been taken, both in legislation and at the administrative level, to modernize Madagascar's customs regime. There has already been substantial progress toward narrowing the band of tariff rates, toward improving customs valuation procedures and toward making customs administration more transparent and efficient. Given this notable progress, one may ask what is the need for further steps, or, if they are needed, what is the reason for urgency.

The answer is that, to me, the time seems ripe for "finishing the job". Let me start with the vision that lies behind the movement for restructuring and reform that has prevailed in many successful developing countries over the last few decades. At the root of this movement is the recognition of the overriding importance of the world market economy. The option of autarkic "self-development" behind high barriers to international trade had been tried many times with poor results. Successful cases of poor countries moving upward on the ladder of economic development were characterized by an openness to the rest of the world. Export growth, typically at rates significantly greater than the growth of GDP itself, was an overwhelming characteristic of these successful cases. As things turned out, I think it is fair to say that one important element in the success of these countries was their being able to find and exploit important items of comparative advantage.

Sometimes items of a country's comparative advantage are visible for all to see -- for example, in the form of known but as yet unexploited mineral reserves. But more often comparative advantage eludes those who try to guess it in advance. It was not very long ago

when Taiwan and Korea were among the poorest countries in the world. Since then, their exports have multiplied more than a hundredfold, including dozens of products that nobody would have guessed in advance were items of comparative advantage for the country. For those countries, the goods fueling their export booms were mainly manufactures of different, often unexpected types. For Chile, the successful developing country that I know best, the comparative advantage “surprises” came in other sectors. Thirty years ago there was no cultivated salmon industry in Chile, yet today Chile ranks with Norway and Scotland as the three top salmon-exporting countries in the world. Similarly, thirty years ago there were no kiwi-fruit trees in Chile, yet today Chile and New Zealand rival each other for the world championship of kiwi-fruit exports. And while Chile was traditionally a well known source of good wine, there existed in Chile thirty years ago no important production of table grapes. Yet today, in the American winter, you can go into any supermarket over the length and breadth of the United States and find counters piled high with Chilean table grapes. Now other fruits, like plums and nectarines are following along the same path.

What does economics tell us about what determines a country’s comparative advantage? The answer comes loud and clear -- the real exchange rate is the decisive variable. To see this one only has to think of real-world cases. When Chile pursued an autarkic, self-sufficiency-oriented policy of heavy import restrictions, with tariffs ranging up to more than 200%, and with prohibitive license regimes, multiple exchange rates and prior deposits to boot, copper accounted for the great bulk of the country’s export earnings. Why? Because the vast array of restrictions had curtailed the demand for dollars to the point where an export dollar could be converted into only a very low price in terms of local purchasing power. At such a low value of the export dollar, copper was almost the only important product that could profitably compete. As the real

exchange rate became more favorable to exports, people found it profitable to pursue the export potential of many other products.

How did the real exchange rate become more favorable to exports? Largely, by reducing restrictions on imports -- ultimately, in the Chilean case, by reaching a uniform tariff of just 10%. This reduction of restrictions greatly expanded the demand for foreign currency, bringing its price up to the point where all sorts of unexpected items turned into profitable sources of export revenue.

The analogy with the recent history of Madagascar is tempting. Here, the nominal price of the dollar has risen from around 1200 ariary two years ago to around 2000 ariary today. To date this rise in the nominal price of the dollar has been substantially (though not fully) reflected in the real exchange rate. This has rendered profitable many potential export industries, and, of course, has added to the profitability of existing export lines. What I see ahead is the potential for the development of important new export sources. In the process, Madagascar will likely discover, as Taiwan, Korea and Chile did, some unexpected new entries on her list of major exports. This is what economics predicts is likely to happen with a major increase in the real price of foreign currency.

I am thinking here of a new economic policy regime (compared to Madagascar's traditional structure of recent decades). This regime would have as one of its pillars the openness of the country to international trade. But openness under what rules? This brings us to the desirability of moving in a clear and determined way toward a set of rules that then will give businesses and economic agents generally a firm basis for their expectations about the policy framework that will apply -- not just now, but in the future as well. Obviously, one is not looking here for just any set of rules -- one wants it to be as good a set as one can reasonably

achieve, a set that will provide desirable incentives to economic activity for a long time to come.

This is where the particular desirability of a uniform tariff comes in. The uniform tariff has the special virtue that it conveys equal “effective protection” to all import-competing activities in the economy. This includes not only all existing such activities, but also any and all potential new ones that might emerge in the future.

The notion of effective protection is simple enough, once it is clearly understood. But many people in public administrations and in legislatures around the world have not fully grasped its meaning and importance. Here I will try to summarize the story in a way that is meaningful in the setting of Madagascar today. Suppose we have a businessman who is about to engage in producing a new import-substitute product. Suppose that this product is presently protected by an import duty of 20%, and that its production uses imported materials whose cost amounts to half of the international price of the final product.

In this case the 20% tariff means that the local producer can incur up to 2400 ariary in costs, in order to displace \$1 of imports of the final product in question. This would be the end of the story if all the costs were local costs. In that case we would have effective protection of 20%, precisely equal to the nominal protection rate given by the 20% tariff.

But with imports of materials costing half of the international price of the product, and entering free of duty, the story becomes completely different. Now we no longer save \$1 when we displace \$1 of imports of the final product. Instead we only save half a dollar, because we are increasing the country’s imports of materials by 50 cents at the same time as we reduce its imports of the final product by one dollar. Now the accounts read as follows. The 20% tariff allows us to incur up to 2400 ariary of costs to produce a final-product import substitute costing \$1 in the international marketplace. This 2400 can be divided into two parts -- 1000 ariary to

buy the one-half dollar needed for importable materials, and 1400 being the maximum that we could spend on domestic inputs and still cover costs. The best way to look at this situation is that up to 1400 of domestic resources can be “profitably” occupied in order to save half a dollar of foreign exchange. That is the same as up to 2800 of domestic resources being used to save one dollar of foreign exchange, with a nominal exchange rate of 2000 ariary per dollar (which we are taking as the baseline in this example). This represents effective protection at a 40% rate, even though the nominal rate is just 20%.

The above example shows how the rate of effective protection can be very different from that of nominal protection, simply because of the existence of imported materials (or other inputs) which are subject to a different rate of duty than the final product. If the imported materials in the above example had to pay a duty of 10%, they would contribute 1100 ariary of cost, leaving only 1300 available to be spent on domestic resources. Thirteen hundred ariary to save half a dollar means 2600 to save one dollar -- that is, an effective protection rate of 30% (compared with the nominal tariff of 10%).

If now we assume the imported materials pay the same rate of tariff as the final product, i.e., 20% in this case, then the cost to the user of these imported materials would be 1200 ariary, leaving the other 1200 as the maximum that could be spent on domestic resources without incurring losses. Twelve hundred ariary of domestic resource costs to save half a dollar of foreign exchange is equivalent to 2400 to save one dollar -- which means (with a market exchange rate of 2000 per dollar) effective protection equal to 20%, the same as the nominal rate on the final product.

The propositions illustrated in this example are quite general. So long as different rates of duty apply to final products on the one hand and the imported inputs into the production of

domestic substitutes on the other, we can have rates of effective protection on the activities of making those domestic substitutes that are wildly different from the nominal rates that one reads off the tariff schedule. That is the first proposition. It serves as an important warning about the likely consequences of differentiated rates.

The second proposition presents the antidote to the dangers signaled by the first proposition. It (the 2nd proposition) states that if the same rate of tariff applies to all imports, then the effective rate of production will equal the nominal rate, for the domestic production of all import substitutes -- not just those that are already being produced, but also any and all of those that might be brought into being in the future (e.g., as economic agents search for new lines of comparative advantage).¹

Thus, in moving to a uniform tariff one is ensuring a situation in which the degree of effective protection is known right now, and also known in advance to the extent that a uniform tariff remains, and at the same rate. The advantages in terms of clarity and potential predictability should be obvious.

¹The formula for the rate of effective protection is $\tau_{ef} = (\tau_{nf} - \sum_j a_{jf} \tau_{nj}) / (1 - \sum_j a_{jf})$.

Here

τ_{ef} = rate of effective production of the final import-substitute product f .

τ_{nf} = rate of nominal tariff on f .

a_{jf} = fraction of the costs of final product f (at international prices) that is accounted for by input j .

τ_j = rate of nominal tariff on j .

Note that if all the τ 's are equal to τ^* , this formula reduces to

$$\tau_{ef} = (\tau^* - \sum_j a_{jf} \tau^*) / (1 - \sum_j a_{jf}) = \tau^* (1 - \sum_j a_{jf}) / (1 - \sum_j a_{jf}) = \tau^*.$$

This ensures that a uniform tariff is sufficient to make effective production equal to nominal protection across the board, even extending to cases where nobody has yet engaged in the local production of a given import-substitute product.

On the other side, having a differentiated tariff means potentially widely differing degrees of effective protection for different import-substitute activities. Indeed effective protection can be very different for a single customs classification like men's shirts. This can happen because shirts can be made of different fibers (cotton, wool, silk, etc.), which occupy different fractions of the total cost of the final product simply because some (like silk) are more expensive than others (like cotton).

This wide variation in effective protection rates means that the country's economy is paying 2800 ariary to save a dollar in some lines, 2600 in others, 2400 in still others. With high fractions of cost going to imported inputs, these numbers can get to be a lot bigger -- e.g., 3600 if the final product tariff is 20% and if three quarters of costs (at international prices) are accounted for by imported duty-free inputs. These wide differences in the resource costs of saving a dollar in different ways are greatly mitigated by having a uniform tariff.²

An added advantage of a uniform tariff is to be found in the arena of political economy. Here one should consider the position of the authorities versus a whole range of actors in the private sector. If tariff rates range from zero to 20%, one can be quite sure that a great many (maybe even most, maybe even all) private sector producers of import substitutes will be knocking on the doors of the relevant ministry, and on those of higher executive levels, and on

²Some economic inefficiencies remain under a uniform tariff, because of the different treatments accorded to import substitutes on the one hand and export products on the other. For example a 10% uniform tariff (the rate originally adopted by Chile in 1979), the incentives in contemporary Madagascar would be to use domestic resources of up to 2000 ariary to produce an extra dollar by any export route, but to use up to 2200 ariary to save a dollar via any import-substitution route. Economic purists would normally press to go all the way to free trade in order to eliminate this residual discrimination in favor of import substitutes. But economists oriented toward pragmatic policy reforms would generally be very pleased with a move from a differentiated tariff structure with rates from zero to 20% to a uniform tariff at a rate of somewhere around 10%.

those of the legislators most involved in tariff rate-setting -- always asking for the highest rate of protection (here 20%) on their final products, together with the lowest rate (here zero percent) on their imported inputs. Such pressures are often very hard to resist, but even when resisted they are a drain on the time and energies of the authorities concerned. From an economic point of view they are particularly noxious, because they always drive in the direction of increasing the degree of effective protection to the activity in question.

Contrast this with the situation of the authorities when a uniform tariff is in place. Now, first of all, private sector interests cannot point to a high tariff that they would like to apply to their outputs and a much lower tariff that they would like to be applied to their imported imports. No, in this case the supplicants cannot point to others getting better treatment than that which they receive. Rather, the supplicants have to present themselves as special cases, to which the authorities can readily reply "Why should you be given separate treatment when all the others are treated equally?" Without doubt, not only does the economy operate more efficiently, but the task of the authorities in keeping it where it is, is made much easier under a uniform tariff.

During my stay in Madagascar, I was extremely pleased by the degree of acceptance that I encountered for the idea of moving at some deliberate speed from the present tariff schedule toward a uniform one. As far as I could infer, such a move was looked on favorably by all the relevant authorities with whom the subject came up. In addition, in my meetings with representatives of the private sector, there were important voices that pronounced in favor of a decisive transition from the present tariff schedule to a uniform one.

Given this degree of support for the idea, I am inclined to be optimistic about its chances for implementation. And thinking in these terms, what comes to mind is the danger that the transition might end up by generating a significant loss in revenue. This would be an unfortunate

result, especially so in light of Madagascar's chronic revenue shortfalls. In my opinion, the present state of Madagascar's public finances dictates that great care should be taken, in the design and administration of the transition to a uniform tariff rate, to ensure that this transition is accomplished without a loss of revenue.

A Word on Multinational Arrangements

In discussions of future trade policies, the issue of multinational arrangements invariably surfaces, in one form or another. We did not have time to dig deeply into the precise nature of existing agreements, even less into their likely future evolution. But it is clear that such arrangements were "on everybody's mind", and I was often asked to comment.

My first reaction was immediately to draw an analogy between such arrangements (free trade areas, customs unions, monetary unions, economic unions, and the like) on the one hand, and the time-honored institution of marriage on the other. All, or nearly all of us know from our own observations that some marriages seem to be made in heaven, while others get a barely passing grade, and still others seem doomed to failure from the outset. I feel the same can be said of cooperative economic arrangements among nations. Some such arrangements are excellent, others mediocre, while still others carry far more costs than benefits.

A good example of the latter category is the Central American Customs Union of the 1960s and 1970s. This union established a common external tariff schedule, it seems, almost by comparing the existing schedules of the five policymaking countries, and choosing, for each product or category, the highest of the five individual rates to be the new common external tariff rate. By doing so they practically built the customs union on the basis of what economists call "trade diversion" shifting demand by union members away from economically cheaper external sources toward economically more expensive internal (i.e., within-the-union) sources. Trade

diversion is viewed by economists as bad because it is a cost-increasing move. In contrast, we have trade creation within a customs union. This is an economic plus because it entails cost-decreasing moves -- with Guatemalans shifting their demand away from home sources (where Guatemalan costs are higher) toward lower-cost (e.g., Salvadoran) sources within the union and with Salvadorans similarly shifting their demand away from their own local producers of high-cost products to lower-cost sources in other member countries of the union. It is easy to visualize a union which results in every member country abandoning a set of high-cost (for it) activities and every country also greatly expanding its own particularly low-cost activities. The result in this case would be the whole union gaining through the replacement of high-cost production in some parts of the union by low-cost production in other parts of the union.

Customs union nirvana would occur

- a) if such trade-creating, cost reducing consequences of the unions amply dominated, vis-a-vis the bad, cost-increasing effects of trade diversion (shifting from cheaper outside sources to more expensive within the union sources), and
- b) if the low-cost activities that expanded as a result of trade creation were widely spread throughout the union.

One cannot generalize about customs unions or other multinational arrangements, but one can say that experience finds that there are serious dangers of too much trade diversion and too little trade creation. As with a big step like marriage, countries contemplating a multinational arrangement should consider it well, and carefully assess its likely costs and benefits, before taking the big step. By weighing costs and benefits carefully, a country might be able to negotiate an improved arrangement. For the worst of cases, it is better to leave an arrangement, or not to join in the first place, than to condemn oneself to a setup that mainly adds clouds to the

country's economic horizon.³

Reforming the Value-Added Tax

There have been many gaps in the operation and administration, to date, of Madagascar's value-added tax. Its yield, at something like 4% of GDP is far below what a broad-based VAT at such a substantial rate should yield, and there is no doubt that its administration has failed to reach many potential sources of VAT revenue, while at the same time making substantial efforts to improve compliance in other directions.

One of the main sources of headaches has been the financial sector, an area of the economy that has always brought trouble to VAT administrators. In Madagascar the attempt was made to define the value-added of the financial sector in a rather arbitrary manner, with the result that many observers found it to be overtaxed, as compared to a technically-defined norm.

I do not believe that any easy way can be found to define the value-added of financial sector firms in a way that is clearly analogous to a corresponding definition for, say manufacturing or retail establishments. It is quite naive to think one can properly treat, say, the interest received by banks or the premiums collected by insurance companies as a direct counterpart of the "sales" of non-financial firms. Once one recognizes this, one gets into questions of how to treat a whole range of potential offsets, such as the provisions that banks make, anticipating the likelihood of bad loans, or the simple reserves that insurance companies establish, out of which all sorts of insurance claims have to be paid.

³The so-called Andean Pact, embracing the economics of Western South America, was not the worst multilateral arrangement, but it did impose serious restrictions on any country aiming at a major modernization and liberalization program. Thus it turned out that Chile, in the moment of its decisive moves toward modernization and liberalization, chose to abandon the Andean Pact rather than seriously pare down its own modernization program. It is doubtful that the "Chilean miracle" could have emerged, had Chile remained obedient to all the rules and constraints of the Andean Pact.

Given these complications, it should come as no surprise that many countries, even quite advanced and sophisticated ones, have chosen simply to leave the financial sector outside of the value-added nexus. When people hear of this, they often react by thinking that such a decision implies a great loss of revenue for the government. Such is not the case, however. In fact, it is easily possible that the government will end up earning more revenue by “leaving the financial sector out” than it would gain by properly “counting it in.”

To see how this can occur, consider the case of a farmer who raises tomatoes, some of which he sells to a nearby cannery, and the rest of which he sells direct to consumers in the local farmer’s market. If the farmer is “in the system”, he should pay VAT on his entire sales, say 800 to the tomato cannery and 200 to the general public. But at the same time the farmer will get a credit for the tax already paid on his purchased inputs (seeds, fertilizers, pesticides, gasoline, farm machinery, etc.) Assume that these costs then amount to 300 plus a 20% VAT. So we have the farmer paying (or rather, collecting and then paying) a tax of 200 on 1000 of output, and receiving back a credit of 60 (for tax paid on 300 of input costs). The farmer’s net payment is in this case 140 if he is part of the VAT network.

Now suppose that the farmer is excluded from the network. He himself sends to the Treasury no value-added tax on his output, but at the same time he receives no credit for tax paid on inputs. The uninstructed might here leap to the conclusion that the government ends up poorer, to the tune of the 140 of net tax that it received in the previous case. But this conclusion is badly in error. In fact, in the case of the present example, the government actually ends up getting more tax revenue by leaving the farmer out than it would receive by counting him as part of the VAT network. This occurs because, when the farmer is out of the network, no tax is paid on his sales to the cannery. Thus the cannery receives no credit against the tax previously paid at

the level of the farmer. In short, in this new scenario, the value-added tax on the farmer's output is simply paid by the cannery, at the cannery level. The cannery is in principle no worse off, because in the end it is the final consumer of canned tomatoes who pays that tax. But instead of the farmer being the collection agency for part of it and the cannery for another part, now (with the farmer out of the network) the cannery becomes the collection agency for the whole amount (= value-added tax rate times selling price of canned tomatoes).

Once this "trick" of the VAT system is recognized, one can further probe the differences between the farmer's being in or out of the system. When the farmer is "in", the consumers who buy in the farmer's market are supposed to pay the VAT in their purchases of tomatoes. When the farmers are "out of the VAT network" no such tax is legally due. Loss to government = $40(20\% \times 200)$. But now, when the farmer was in the system, he received a credit of 60 (= $20\% \times 300$) for tax paid on his purchased inputs. Now, when he is out of the system, he still pays that tax, but receives no credit. The end result in this case is that the government actually gains 20 in revenue (plus 60 because of the elimination of the farmers credit, and minus 40 because of the loss of tax on sales to consumers through the farmer's market). Depending on the sizes of these two types of transactions the net result can go either way. But if the great bulk of the farmer's output goes to the cannery, and not too large a fraction of his costs are for purchased inputs subject to VAT, then we can be pretty sure that the rough order of magnitude of VAT receipts will be similar, independent of whether the farmers are "in" or "out of" the VAT network.

It is my judgment, and that of many other economists who have studied the subject, that the case is similar with respect to the so-called financial sector. To the extent that most of its transactions are with business firms that are themselves in the system, the case is like the farmer with most of his sales to the cannery. Here it is just a question of where the tax is collected -- at

the bank or insurance firm, or at their clients' operations. No change in revenue is involved here. The revenue change will come from a loss of revenue in the financial sector's direct dealings with consumers (analogous to farmers' market sales), and a gain due to the financial sector's purchases of inputs on which value-added tax is paid. Such tax would be credited out of the picture if the insurance companies were in the VAT network, but it remains as a final tax if they are not part of that network.

My best guess is that in most countries the government may actually gain a little by leaving the financial sector alone. For sure, it will not lose a lot of revenue. And in any case, it will save a huge amount of time, trouble and administrative cost by freeing itself of all the headaches involved in administering a VAT to the financial system.⁴

Two items came up in our discussions of specific aspects of the Madagascar case. The first concerned the fact that the current reform bill (going through the congressional process at the time of my visit) took steps to put the banking system outside the VAT network (as I and others would recommend), but seemed to leave the insurance sector untouched, and therefore still inside the network. My presumptions would go toward a similar treatment for both banking and insurance, and I therefore wondered why they had been handled so differently. We did not go sufficiently deeply into this aspect for me to feel ready to recommend that insurance too

⁴I should note here the importance of the difference between leaving a sector out of the VAT network (sometimes called exempting it), and keeping it in, with a zero rate on its final sales. In both cases the sector pays nothing and its business customers end up paying (i.e., collecting) the VAT on its value-added in addition to their own. But when the sector is in the network with a zero rate, it gets credit for the tax in its inputs, while when it is out of the network, it gets no such credit. Thus, giving the business or the financial sector a zero rate instead of the regular rate would definitely involve a significant loss of revenue to the government. All public finance experts that I know favor the use of zero rating only in very special circumstances -- most notably, for exports as part of comprehensive system of border tax adjustments.

should be excluded from the VAT network. But my analysis and instincts go in that direction. So my recommendation on the subject is to undertake a study of this matter between now and the time of the next major tax bill, with an eye to possibly ending up by putting insurance along with banking into the “excluded” category, so long as the study dictates that this is the most beneficial course to take.

The second point that came up with respect to the financial sector concerned the precise wording of the new “system” that was proposed in the new law to prevail for the banking system. The law was written in such a way as to appear to connote that the banking system was to be “out of the VAT network” but it connoted this without saying so directly. This led me to worry that future interpretations could use this ambiguity in some arbitrary way so as to blunt the apparent purpose and intent of the desired change. It is worth noting that all of the knowledgeable Madagascar officials who were present in our meetings assured us that the intent of the law was, quite clearly, to exclude the banks from the VAT network, so that it would fit precisely into the analysis as presented above. My question was, if the knowledgeable officials have no doubt, why cannot the legislation be written so as to remove the ambiguity? On the other hand, if the ambiguity has a specific purpose, it seems reasonable that all concerned should be fully informed about it, so they might add their voice in its support (if it is right), or mount their opposition to it (if it is wrong).

Macroeconomic Assessments of Potential Revenue Gains

This subject arose in our discussions of tax administration and tax evasion. The Directorate General reported on many different efforts and programs which it was pursuing in order to improve administration and reduce evasion. All of these seemed to me to be relevant steps in the right direction -- well conceived and carefully designed to approach the specific

cases of particular groups of taxpayers.

In spite of all these efforts, however, it remains true that tax revenues only account for about 10% of GDP in Madagascar, and that this fraction has not risen significantly in recent years. Other countries with somewhat similar tax structures manage to collect significantly greater fractions of their GDP. Also, a rough attempt to apply Madagascar's own tax rates to different elements of its own GDP seems to lead to potential tax collections that are far higher than the actual receipts of recent years.

I believe that it is highly advisable to pursue this macroeconomic approach to estimating potential tax yields. The idea is to work in close cooperation with the technicians responsible for the national income accounts. These accounts are typically built up from data on production, sales, employment wages, etc., sector by sector, industry by industry, and often region by region throughout the economy. The aggregate national accounts represent a good starting point, and I was pleased to see, at our last meeting, that the Directorate General had already begun to work with these aggregate data.

The big challenges are: a) to extract as much relevant information as possible from the aggregate national accounts, and b) to proceed to do the same for as fine a breakdown of these accounts as can be developed (of course, with the collaboration of the relevant national accounts experts).

The easiest track to follow is that of national consumption. In principle, consumption is the ultimate base of the value-added tax.. A first-approximation target for VAT revenues would thus be determined by multiplying national accounts consumption by the rate of value-added tax. This must then be refined, however, by adjusting overall consumption to exclude those parts of it that are legally excluded from the tax base. The imputed rent from owner-occupied housing, for

example, forms part of aggregate consumption and aggregate GDP, but is not a part of the legal base of the VAT. Similarly, I am informed, most expenditures on educational and medical services are not a part of the VAT base. As indicated earlier, direct sales to consumers by entities that are outside the VAT network (the farmers and/or financial sector firms of my example) should also properly be excluded.

Working down from aggregate consumption in this way, one should presumably reach a figure that has at least a presumptive claim to be a reasonable estimate of the “true” base of Madagascar’s value-added tax. Applying the VAT rate to this base would give one the “revenue target” for the value-added tax.

Without a doubt there would be a substantial gap between actual revenues and this target. The next piece of national accounts detective work would be to try to pin down exactly which parts of the potential base accounts for this revenue shortfall. In this way one can develop specific programs for attacking these unexploited parts for the base -- programs which would include specific revenue targets ($= \text{VAT rate} \times \text{estimated unexploited base}$) to be achieved as a result of new and expanded enforcement efforts.

The next step (which, of course, can be done concurrently with the first, at least up to a point) is to carry out similar exercises for particular sectors, industries, regions, etc.

I foresee this whole process as being one of intense interaction between the tax administration authorities and the national accounts people. Most laymen are unaware that the building of a set of national accounts does not consist of simply adding up a set of easily-found figures on production, consumption, investment, etc. Almost all such data are built up from original source materials that are partial in their coverage and that contain elements of non-comparability from one source to the next. Any serious student of national accounting will tell

you that building a set of accounts is more of a subtle art than a precise science. Key assumptions must be made to cover gaps in the underlying data and to achieve a degree of compatibility among basic data from scattered and heterogeneous sources.

This means that the collaboration between the tax administration people and the national accounts people can well turn out to be a two-way street. Some of the assumptions used in the national accounts may at first glance seem unreasonable to the tax people. Such cases should properly lead to serious discussion between the two groups. It seems reasonable that such discussions will in most cases be resolved by the national accountants making a solid defense of their assumptions and procedures. But it is also reasonable that in some fraction of the cases, the doubts of the tax administrators will have some foundation. In these cases the end results should be an improvement in the procedures on which the national accounts are based.

All in all, I believe that the approach discussed here merits a very serious effort, entailing the full-time efforts of several professionals. It is not enough for it to be a part-time extra duty for officials who are already heavily burdened. Ideally, for a tax administration entity that is already understaffed, these incremental efforts would be supported by the addition of personnel to fill the gaps left by those who would staff the “macroeconomic” project. But even if no new staff is available, hard choices should be made in order to free a nucleus of highly qualified professionals to serve as full-time staff for the macroeconomic effort.

Issues of Tax Incentives

It was pointed out at some length that Madagascar had made widespread use of tax incentives in the past. These incentives were largely concentrated on tax holidays (in which the business entity in question pays no tax on its income for a specified number of years), and on an allowance for the investing firm to claim 50% of the amount invested as an expense (in the year

of the investment) followed by standard depreciation allowances adding up to the full amount of the investment over its normal economic life.

Economic analysis has no good words for either of these classes of incentive. On tax holidays, the first point to be made is that they are an extremely scattershot instrument of tax policy. Their ultimate effects can be as low as zero (if no taxable income is generated within the holiday period, and as high as the tax rate times the firm's entire income from the investment (in the case where this entire income accrues during the holiday period). Moreover, it is very hard to see where within these limits the future effects of a holiday will lie -- the holiday is granted at the time the investment is made, with no knowledge at that time concerning how successful that investment will be.

A second point concerning tax holidays is that they are usually tied to an act of investment. This creates no "accounting" problem if the investment represents the entire capital of a company. But once a company is running as a going concern, how does one give a tax holiday to the income from this year's new investment, while still taxing at full rates the income from investments of previous years? Of course, one can turn to formulas for prorating future income between this year's investment and that of other years, but these are simply arbitrary divisions of the firm's total income and are not linked to the actual success or failure of this year's investment.

The final point, a matter of wide consensus among tax experts, is that tax holidays are extremely expensive ways of stimulating investment. That is to say, they "buy" extra investment at a very high cost in terms of lost tax revenue. This is a particularly telling observation in a case like that of Madagascar, where tax performance has been so much of a problem.

With respect to the deductibility (from income subject to tax) of 50% of a company's investment, followed by the allowance of depreciation of the full amount of that investment, it takes no mathematical genius to see that this amounts to granting deductions (for tax purposes) totaling 150% of the amount invested. This incentive falls into a lamentable category, which even has the capacity to turn an investment with negative economic returns into something that would interest private investors. This is unlikely in the present case, but there is no doubt that such an incentive greatly favors short-lived investments over those with longer economic lives, and has the capacity to induce investors to accept short-lived investments with, say, an 8% economic rate of return while rejecting other (longer-lived) investments with a 12% economic return. The reason for the difference is that the "bonus" of 50% deductibility occurs 5 times in a chain of 5 investments of 5-year life, but only once in the case of a single investment of 25-year life.⁵

In our discussions, I got the distinct impression that the decision had been reached to phase out the granting of investment incentives. This is a very wise move, especially considering the high fiscal costs of the incentives that Madagascar has adopted, plus the country's vital need to increase its revenue base. One should not forget that the true and correct incentives to invest come from investors finding prospects of high economic yield. This yield

⁵This particular defect could be averted by simply requiring that the initial 50% deduction be counted as part of normal depreciation. In this case, companies would be allowed to take subsequent depreciation of only 50% of the investment costs, if they were allowed an initial deduction of half of those costs. In general, a sort of technical "neutrality" applies to the initial deduction of the fraction α of investment costs, followed by the subsequent depreciation (in the normal pattern) of the remaining fraction $(1-\alpha)$ of those costs. The feature of this neutrality is that the incentive is not biased in favor of short or long lived investments, or in favor of any particular shape of the pattern of yields versus any other. Moreover, this neutrality feature also precludes turning investments with negative economic returns into items of interest to private investors.

itself provides the proper stimulus to invest. And investors are willing to invest in projects even of more moderate economic yield when they are faced with a set of sound economic policies that they feel they can rely on for an extended period of time. Providing the proper economic policy framework is a far better way of attracting new investments than is the widespread reliance on specific investment incentives.

Monetary Policy, Exchange Rate Policy, and the Real Exchange Rate

This section of my report was not a part of my original assignment. It arose out of my own examination of the recent monetary, exchange rate and macroeconomic history of Madagascar, as I tried to come up with a coherent diagnosis of what had happened, together with a framework into which I could set an array of possible scenarios for the near- and middle-term future.

My starting point, almost inevitably, was the major devaluation of the currency starting in the first quarter of 2004. The exchange rate with the dollar jumped from around 1200 ariary in December 2003 to over 1750 in March and to around 2000 thereafter. This obviously generated significant incentives for the production of tradable goods -- both those for export and those that serve as import substitutes. To me and to others, it seems possible that this nominal devaluation could end up being validated as an important real devaluation, which in turn would set the signals that would determine the package of products in which Madagascar would have a comparative advantage in the years immediately ahead.

This scenario provides an attractive framework for us to think about Madagascar's future economic development. But the question arises, is it a realistic scenario? Is it based on an accurate diagnosis of the role played by the recent major devaluation? It is to these questions that I now turn.

There are many different sets of circumstances that have historically given rise to major devaluations. Thus we have: a) ongoing inflations in which the exchange rate has not been free to keep pace, leading to intermittent large catch-up devaluations; b) devaluations that were the product of moments or periods of weakened confidence, leading to a flight from the currency that could only be stemmed by a major devaluation; c) a major curtailment of the supply of foreign currency (through a curtailment of flows of capital and/or foreign aid into the country or through a fall in the world price of a major export commodity) leads to a higher equilibrium price of foreign currency; d) a similar rise in the price of foreign currency arises because of a major increase in demand for imports (spurred perhaps by economic growth in the nontradable sector of the economy, perhaps by an important liberalization of import restrictions).

In general, one can say that in cases c) and d), the disturbance itself causes a significant change in the equilibrium real exchange rate, while this is not likely to be true for cases a) and b).

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Where does Madagascar's recent devaluation fit into this schema? To me, one should not rule out the possibility that it corresponds most closely to case b). I am not sufficiently grounded in all the facts to be able to give a firm answer, but certainly the elements internal uncertainty, weakened confidence and a clamor toward capital flight were present. If Madagascar's devaluation story is this and only this -- a transitory blip of weakened confidence and nothing more -- then the expectation would be that the equilibrium real exchange rate after the disturbance when natural conditions were once again restored would not be much different from the one that prevailed before the disturbance ever started.

But this in turn means that if the nominal exchange rate remains around 2000, real exchange rate equilibrium will be restored when the internal price level has risen around 67%. If the nominal rate drifts to 2400 ariary per dollar, then equilibrium would be restored when the price level had about doubled.

All of this follows from our assumption that no major change has taken place in the underlying determinants of the economy's real equilibrium -- i.e., from the fact (which we are for the moment accepting as true) that the events leading up to the 2004 devaluation represented a transitory blip, not a major shakeup, on the economic scene. In these cases one can consider the nominal exchange rate to be the effective numeraire (sometimes called the nominal anchor) of the economy. It is as if we were in a tall building in which each floor was designed just like every other, and as if we then took the elevator from the 12th floor (1200 ariary per dollar) to the 20th floor (2000 ariary per dollar). When we got off we would find ourselves in a place with the same real setup (same design, arrangement of rooms, etc.) as the 12th floor from which we had started.

If the monetary policy and exchange rate arrangements from now to say, next year were such as to bring the exchange rate to 2400 -- again with no profound change in the underlying determinants of the real exchange rate, then the new equilibrium would entail a price level that had about doubled from its pre-devaluation level. It would be like getting off the elevator at the 24th floor instead of the 20th. In short, if the devaluation was principally the result of a transitory disturbance, and no major change in underlying determinants had occurred, then, almost no matter how high the nominal price of the dollar went (or was brought via policy measures), the real equilibrium of the economy would in the end look much the same -- like getting off the elevator on the 28th or the 35th floor rather than the 20th or the 24th.

In this case, of course, we would have to abandon the idea of the nominal devaluation leading to a real devaluation that would give lasting new incentives to the production of export goods and import substitutes. Indeed, I would go further and say that we would have to abandon that idea willingly, not reluctantly or with a heavy heart. Why? Because in this case it would be the underlying reality of the economic situation that would be the determining factor. If the underlying reality of the situation was that the events surrounding the 2004 devaluation represented a blip of confidence and not an economic earthquake, then no purpose whatsoever is served by us pretending that it was an earthquake.

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What would an “earthquake scenario” look like? The easiest cases to understand are those of a country undergoing a debt crisis, or of a country whose major export market has suffered a major collapse (typically because of a precipitous fall in its world-market price). In these cases the country still demands imports at much the same scale as before, but does not command an adequate flow of foreign exchange from exports in order to pay for them. Maybe the Central Bank has reserves large enough to cover the gap for a few months, but soon enough the need for adjustment will make itself felt. A big rise in the real price of foreign currency is an essential part of the required adjustment. This operates both to curtail the demand for imports and to stimulate efforts to expand exports. It usually takes substantial time before one sees major expansion in the production of export goods and of additional import substitutes in response to a major real devaluation, but such effects do indeed occur, as we have shown earlier in this report.

All the countries beset by the debt crisis of the early 1980s fit the above description quite well. In these cases the adjustment was so severe that it entailed a major decline in real GDP as the country swung from being the recipient of important inflows of funds to having to be a net

payer of outflows of funds (principally for debt service).

Happier “earthquake” scenarios accompanied programs of massive trade liberalization combined with the country’s climbing out from a previous recession. Here Brazil 1965-73 and Chile 1975-79 are good examples. Both the trade liberalization and the growth of GDP engendered big increases in the demand for imports. This made the equilibrium real price of foreign currency much higher than before (when imports were restricted and the economy in recession). Each of these cases saw an important diversification of the country’s export base.

In contrast, El Salvador 1986-88 and Mexico, 1994-96 represent cases of essentially transitory disturbances which ended up with the real exchange rate returning pretty close to its pre-disturbance level. No important change in the underlying determinants of the economy’s real exchange rate equilibrium in the end dictates that the price level will move up to pretty closely matching the upward move in the price of foreign currency.

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Where does Madagascar’s devaluation experience fit into this picture? Two responses come quite easily. First, it is certainly possible that the 2004 devaluation episode was in essence a transitory blip. And second, that if it was an earthquake (in our analogy), it was certainly not of the debt-crisis type.

What is harder to say is whether recent trade liberalizations and the recent economic recovery are big enough to represent a major change in the determinants of real exchange rate equilibrium. As I write this, I have before me the print version of International Financial Statistics of October, 2005. Its data on exchange rates go through August, and show a nominal exchange rate floating close to the 2000 ariary per dollar level from May through August. Its data on consumer prices show a rise from index 122 in the fourth quarter of 2003 to index levels

around 160 in January-April 2005. Unfortunately the data on imports and exports do not extend that far. The best we have are the national accounts figures that show imports of goods and services rising from 2,254 billion ariary in 2003 to 3938 billion in 2004, while the average real price of foreign currency (1995 = 100) rose from 70.1 to 102.2. Exports of goods and services in the same period rose from 1,352 billion ariary to 2,479 billion. These figures could fit into a scenario like those of Chile 1974-79 and Brazil 1965-73, where economic recovery plus trade liberalization were the driving forces behind big increases in the demand for foreign currency that helped to validate (i.e., confirm as equilibrium phenomena) real prices of foreign currency that were much higher than before.

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How to proceed? The key element here is to be sensitive to what the economy is trying to tell us, and to recognize the futility of trying to ram the economy into a mold that does not fit. So one can imagine the Central Bank aiming at keeping the dollar at around 2000 ariary by judicious interventions. If as a consequence of this, the index level of the price level stabilizes well below 200 while economic growth proceeds satisfactorily, this will attest to the existence of some sort of earthquake scenario. If the same sort of policy leads to the price level stabilizing at index 200 or more (having started at 122 before the devaluation) this will attest to a “transitory blip” interpretation of the 2004 devaluation. If this approach is followed, I would not advise doing so in the context of a strict fixing of the exchange rate. That would impose too much rigidity at a time when one is, as it were, “feeling one’s way” as one tries to find out what the economy is trying to tell us. Intervention to keep the nominal rate in a relatively narrow band is a better way to conduct the above experiment.

An alternative experiment would be based on a much freer float, with interventions only to prevent abrupt spikes in the nominal exchange rate; and to provide the money supply “required” for a price-level target. In this case the nominal exchange rate would be the variable that would tell us which scenario (“blip” or “earthquake”) we were experiencing. If the nominal exchange rate moved so as to match the overall move in the price level (from a pre-devaluation base), this would signify a blip scenario. If, on the other hand, the nominal, freely floating price of foreign currency reflected a devaluation well above the cumulative change of the price level, that would signify an “earthquake” scenario.

These examples should be sufficient to give readers a sense of how one can set up a framework that lets the economy speak for itself. Real life is always more complicated than such examples, of course, mainly because new things are always happening -- changing world prices, technical advances in the production of tradables and nontradables, new political developments, etc., etc. I will here give some examples of how the panorama can turn out to be somewhat more complex than the above simple example dictate.

In the case where the Central Bank is trying to maintain a more-or-less stable nominal exchange rate, its principal actions consist of buying and selling foreign exchange so as to keep the rate within the desired band. This will often mean significant expansions of the money supply. Sometimes the public will willingly hold the expanded amounts of money without causing any serious rise in the price level. But sometimes they will want to spend these balances, causing the price level to increase. This is exactly what would happen under the “blip” scenario. This would be the mechanism by which the price level would be trying to catch up with the devaluation so as to restore something like the earlier equilibrium real exchange rate. If the Central Bank starts to fight against this price rise (thinking of it as “inflation” rather than

“real exchange rate adjustment”, it will be unleashing its own new deflationary force on the economy. This would be unwise, but I have no doubt that the Central Bank would find itself under some degree of pressure to get in the way of the natural adjustment of the price level in this case.

In the case where the Central Bank decides on a more-or-less freely floating exchange rate, the underlying “numeraire” of the economy becomes in a sense, the money supply. I like to think in this context of a broad concept of money (M2 or M3), certainly not simply of the base money supply M0 that represents direct liabilities of the Central Bank. In any event, when the Central Bank opts for a relatively free float, the question arises of how to determine the appropriate rate of expansion of, say, M3. Modern “inflation targeting” approaches essentially say, figure out a price level target and give the people the amount of M3 they want, consistent with the target price level.

But that leaves open the question of how to find out what this desired level of M3 is. At least in my own interpretation, modern inflation targeting approaches basically rely on the some sort of servomechanism (like the so-called Taylor rule), to let the economy speak for itself. In such a setup, the authorities would start with their best guess as to the package of policies that would aim at the desired inflation target, but would respond with greater stimulation of the economy showed signs of reduced activity and/or of prices falling short of the target, and would respond by putting in the monetary, credit and interest-rate brakes when the economy showed signs of overheating and/or of prices rising faster than contemplated by the inflation target. All this sounds a lot easier than it turns out to be in practice. Reading the ongoing evidence to determine the direction the economy is taking is itself not an easy task. Even more tricky is getting a first-approximation guess as to the desired quantity of real cash balances that people are

willing to hold. For example, it is far from adequate just to guess that desired balances will rise in proportion to real GDP. The recent experience of Russia under a substantially fixed exchange rate, for example, saw real M2 balances (willingly held by the Russian public) increasing at more than twice the rate of real GDP. Very large purchases of “petrodollars” by Russia’s Central Bank were in effect “sterilized by the public”, as the public willingly held most of the M2 balances thus generated. It was easy for the Russian Central Bank to generate this monetary expansion, because it was preventing the price of the dollar from falling. But if it had been working with a free float and had kept the nominal money supply increasing at, say, 5 or 10 percent pr annum, it would have unleashed huge deflationary forces in the economy as people’s desire for higher real cash balances could only be satisfied through a drastic fall in the general price level.

So, when a fixed or more-or-less fixed exchange rate policy is pursued by the Central Bank, the big problem of interpretation that arises concerns how to interpret the price level rises that take place under such a system. In principle, those price level increases that reflect an adjustment of the real exchange rate towards its equilibrium should be allowed to happen, but those that reflect genuine inflationary forces should be resisted by restrictive measures (credit and interest rate policy).

On the other hand, when the exchange rate is left free on more-or-less free to find its own level, the money supply is no longer an endogenous variable that will tend to seek and find its own level. In this case the authorities have to try to guess what is the money supply that people will want to hold, consistent with the price-level target that the authorities have set, or at least have in mind.

Between the above extremes lie a whole host of alternative approaches to monetary policy. This is not the place to try to explore them, but a key feature that enters the picture at this stage is the behavior of the Central Bank's international reserves. One can think of many ways to start the real exchange rate down a particular path, but keeping open the possibility of modifying that path if the Central Bank's international reserves showed: a) a continuing tendency to increase; or b) a continuing tendency to fall. The idea would be to zero in on the equilibrium real exchange rate, using the movement of international reserves as the signal as to whether the actual real exchange rate was too high or too low.