COSTA RICA: FISCAL POLICY AND PAYMENT FOR ENVIRONMENTAL SERVICES

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This small Central American republic has maintained a democratic and non-military tradition. It is also perceived as one of the most environmentally conscious countries in the region. Although this country has a tiny fraction of total landmass, it has 5% of the world’s biodiversity. Its varied terrain, situated in an isthmus, and its tropical and subtropical climate regimes make it ideal for biodiversity. Costa Rica has also seen a succession of egalitarian regimes and has a unique social welfare system providing health and education services. Although poverty has remained at a constant level over the past decade (20% of population is considered to live in poverty, according to data from the Inter-American Development Bank, IDB) and inequality in income distribution has increased.

Although free trade zones are providing a significant part of the country’s hard currency needs, exports continue to be based in commercial agricultural crops. Costa Rica continues to be the region’s most important beef exporter to the US. Industrialization policies helped develop some light industries (food processing, chemical inputs, textiles, some electronic components). Tourism has now become the second largest source of foreign exchange. The renewed emphasis on eco-tourism may help make Costa Rica a showcase of development strategies that are sustainable. But the beauty and ecological variety of this country is a small fraction of what used to be its treasure. From being 100% covered by lush forests, Costa Rica has been deforested and its soils degraded: only 15% of the original forest remains and most of its soils have been seriously affected by agricultural practices. Fortunately, national protected areas have multiplied and government appears to be seriously committed to preserving what’s left. However, these remaining riches are seriously threatened by new patterns of growth and several economic forces.

EVOLUTION

In the years after WWII, food-sufficiency was emphasized in the midst of the import substitution strategy. GDP growth maintained satisfactory rates and per capita income improved steadily, while income distribution remained at equitable levels. But the structure of exports was skewed in favour of coffee and when these prices collapsed in the seventies, together with the hike in oil prices, the external deficit became unsustainable. In the early eighties Costa Rica had already entered a pattern of high indebtedness and 60% of its export earnings were being devoted to debt service. As the debt crisis was detonated, Costa Rica declared a moratorium, a measure that cut its access to new loans. This is when Costa Rica turned to the World Bank and the IMF.

Costa Rica was the first country in Central America to undergo a process of structural adjustment under the
direction of the International Monetary Fund (IMF) and the World Bank. The Costa Rican economy was presented as a success by both the IMF and WB, but the reality of its main indicators shows that this is not an accurate assessment. There are severe imbalances, both in the country’s external accounts and internal accounts. The trade deficit continues to expand, while the fiscal balance continues in a fragile position. The traditional primary deficit has been reduced, but this may not be sustainable, as recent trends show. Inflation continues to be a problem, although there is some improvement in terms of variability of the price index.

On the social front, real wages have maintained a disquieting downward trend. Income inequality has worsened recently. In rural areas, many small scale producers have been left out of the official support programs that promote exports rather than food security. Because some of the crops that are export-oriented require large scale investments, this has also led to some land concentration and greater inequality in rural areas.

Today Costa Rica is one of the most open economies in the region. This is the result of adjustment programs and IMF-sponsored structural reforms of the 1980s. These reforms were inspired in the principles of the Washington Consensus examined above. The main features in these reform packages were the following: financial liberalization; the almost complete dismantlement of the support system for agriculture and industrial activities; promotion of exports.

The introduction of these changes was done not through a wave of privatizations, the reduction of social investments or the withdrawal of the State from economic life. The reform of State intervention took place through the gradual reduction in the fiscal appropriations to agencies that had intervened in economic life. On the other hand, State monopolies were maintained in telecommunications, insurance, energy and alcohol. But in the case of the financial monopoly that had characterized the previous regime, Costa Rica simply opened the market to external investors and this explain why State banks continue to be important actors today. And during the 1990s, although social expenditures oscillated, they maintained certain stability (especially in education and health), in contradiction with the view that fiscal balance had to be the main priority. The sector that really suffered by fiscal austerity is related to infrastructure, where roads, ports, bridges and other components have seriously deteriorated.

The Costa Rican economy has maintained an erratic performance since the 1980s crisis. Although the country has been able to avoid acute crises, the main macroeconomic aggregates have suffered of chronic instability. Figure V.9 shows GDP growth rates for the period 1991–2008 and
reveals an inconsistent stop and go pattern. This is the consequence of structural problems that remain unsolved under the new strategic approach: concentration of exports in a few number of agricultural problems, lack of adequate productive linkages between sectors, etc.

In the new strategy, exports were supposed to be the main growth engine. The two components that made the strongest contribution to growth in 1992-2008 were the industrial and the services sectors (22% and 23% respectively). And the contribution of the free trade zones to the growth of the manufacturing sector has increased from 11% in 1992-1996 to 73% in 2002-2006. The concentration of exports to the US market remains a serious problem. Finally, in several commercial crops (macadamia or pineapple, for example) the concentration of production in big foreign-owned firms also implies high profit remittances. In any event, the economy appears to be incapable of sustaining adequate growth rates and good years are inevitably succeeded by periods of mediocre performance, with a growing deterioration of the trade balance.

Costa Rica’s exports have been based on its natural resources and labour. Under the new strategy with an open economy and export promotion, it has been trying to diversify markets as well as products. However, these efforts have not yet crystallized in a comprehensive structural transformation and the export base continues to rely heavily on the natural resource base and low cost labour. In the sixties, 60% of exports earnings came from commercial crops (coffee and

Figure V.9

Source: Carlos Murillo, Costa Rica Country Study.
banana). In 2008, 52% of exports came from free trade zones where in-bond industries are based, but commercial crops such as pineapple and melons continue to play an important role in exports. These crops have their own environmental costs (and human health costs) due to their use of agrochemical inputs.

The in-bond industries do require better trained labour inputs. However, it is rather misleading to think of these exports as high technology for several reasons.⁷¹ First, the definition of R&D intensive industries is a product-based definition. This means that the R&D component is related to the final product, not to the segment of the production process that is carried out in the free trade zones.

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⁷¹ This applies to the Mexican experience, as we shall see below.
trade zones. Second, typically in maquiladoras or in-bond industries the assembly operations are not related to any meaningful technological development process in the host country. Costa Rica is no exception. There are some spill over effects from in-bond industries that may lead to some technology dissemination, and even some innovation, but the general experience here is that if this is not linked to a well designed industrial policy, in-bond industries will not lead to industrialization and technological development.

**MONETARY POLICY**

After the crisis in 1980–1982 Costa Rica was marked by severe macroeconomic disequilibria, both on the domestic front (high inflation, unemployment, high and unsustainable fiscal deficits) as well as the country’s external accounts (current account deficit, deteriorating terms of trade, high indebtedness, exchange rate volatility). The new strategy based on exports and economic openness required a different approach to monetary policy.

The external imbalances were attacked through a crawling peg regime of mini-devaluations that helped maintain a real exchange value that would help exporters without unduly contributing to inflationary pressures. Simultaneously, measures were adopted to prevent speculative exchange operations against the colón, the local currency. The central bank’s intervention led to a policy of accumulation of foreign currency reserves that generated a high cost. The struggle against inflation had mixed results in the 1980s, mostly

**Figure V.11**

![Figure V.11](image)

*Source: Carlos Murillo, Costa Rica Country Study*
due to the devaluations of the exchange rate. It showed better marks in the 1990s, with less volatility, although it still remained close to the two-digit level.

The new policy approach included the deregulation of the capital account and the modernization of the financial sector was pursued as a high priority objective. It was thought that greater competition would bring about better services and a wider gamut of assets that would be available for the public. Also, this would attract greater flows of foreign direct investments. But the central bank had to maintain a delicate balance in order to prevent creating perverse incentives to short term speculative portfolio capital flows.

During this period, the trade balance maintained a growing deficit that attained alarming levels (18% in 2007). In this context, it is important to note that although the contribution of in-bond industries to the trade balance is, by definition, positive, it is not enough to compensate the large deficit generated by all the other sectors of the economy.

In 2006 Costa Rica adopted a new approach to monetary policy. The sole objective of the central bank’s posture is to maintain price stability and reduce inflation to one digit levels. A system of bands within which the exchange rate could vary was established, allowing the central bank to intervene within that range to maintain stability and order in the currency market. As a result, the exchange rate appreciated by 10.7%. Interest rates dropped as the bank chose not to create incentives for speculative capital inflows (this was also due to less demand for funds to cover the fiscal deficit as revenues had increased). As a result, credit availability for the private sector increased (by

![Figure V.12](image.png)

*Source: Carlos Murillo, Costa Rica Country Study*
39%), maintaining investment and consumption at high levels.

But the global crisis of 2008 slowed down the economy and inflation reached 13.4%, significantly above the 8% target. According to the central bank, there are two main causes for this. First, as interest rates dropped in the developed countries, capital inflows increased and this affected money supply. Second, in the first two quarters of 2008 prices of certain basic inputs (food stuffs and fuel) rose significantly more than most forecasts had predicted. To this we must add the fact that bottlenecks in several markets may have given firms and traders the power to set and manipulate prices.

**FISCAL POLICY**

The country has maintained a chronic primary deficit that has been basically covered through new public debt that increases servicing costs. This puts pressure on interest rates and this has generated distortions that act as incentives for speculative investment. The primary deficit in Costa Rica has been the result of a weak tax collecting system as well as a skewed tax system.

The open economy model has failed to provide adequate fiscal revenues. Perhaps this is a reflection of some of the measures introduced in the structural adjustment programs in the eighties, when tax concessions and subsidies were allocated to private

Credit: Miguel B. Sánchez

Wikimedia Commons
enterprise linked to tourism or agricultural exports. The fiscal deficit has prevented Costa Rica from carrying out badly needed investments in infrastructure.

Recently, tax reform has focused on changes in income taxes and in the transformation of the sales tax into a value added tax. Improved tax collection systems have increased fiscal revenues significantly (24% and 27% growth in 2006 and 2007 respectively). This had favourable repercussions, but the international crisis in 2008 brought about slower growth and a fiscal revenues dropped by 28% in 12 months while expenditures increased by 4%. The small primary surplus observed in 2007 was rapidly wiped out.

The structural adjustment programs implemented in Costa Rica under supervision of the IMF and World Bank were supposed to lead to lower debt levels. The debt burden actually increased, even in spite of the fact that Costa Rica was an active participant in the Brady Plan. In the nineties new debt reductions were conditioned to the implementation of adjustment measures and adherence to an open economy model that intensifies the dependence on export markets and loans.

After the 1982 crisis, one of the most important challenges for Costa Rica’s economy has been the management of its large public debt. This has weighed heavily on the stability of macroeconomic policy, growth

Chicago Mercantile Exchange.
Credit: L Noise,
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and social welfare. As a result of the renegotiation of external debt, the ratio of consolidated public debt to GDP dropped from 95% to 51% in 2006 (external rate to GDP was 16.3% in 2005). Most of the financial resources to service this debt were found in the domestic market. The central bank has maintained a debt/GDP ratio close to 11% during this period, mostly due to the sterilization of incoming capital flows which has been perceived as indispensable to keep money supply within the targets established by the central bank every year.

POVERTY AND INEQUALITY

Until the 1980s Costa Rica’s history was one of an egalitarian system and real wages had been constantly on the rise. The country had also been able to maintain a good pattern of income distribution during decades due to its social welfare programs. The structural adjustment programs of the eighties brought about a reduction of 17% in real wages (1980–1990) and increased economic polarization in the Costa Rican society. And although employment started to improve, it is also true that the jobs that were created at the time were poor quality jobs, with greater instability and few benefits. Clearly, the burden of the adjustment process fell unduly on the poorest segments of Costa Rica’s society.

Also as a result of SAPs many small scale farmers were reluctant to give up their traditional crops which provided food security and lost access to government support for export crops. The non-traditional (i.e., commercial) crops that were favoured at the time required infrastructure investments many farmers were caught in a difficult situation and either sought

Figure V.13

off-farm income generating activities or even sold their plots.

Poverty has remained at a constant 20% level and recently inequality started to increase. Although the Gini coefficient maintained a low level during most of the 1990s, it started to deteriorate after 1997 and peaked in 2001. Some progress was made after that but things went wrong again in 2005 and it is likely that austerity measures to counter the effects of the 2008 global financial crisis will lead to further deterioration in this indicator.

The environmental implications of poverty cannot escape policy makers. Rural poverty will undoubtedly undermine the long term viability of all national protected areas. A sustainable conservation policy based on the creation of biodiversity islands in a sea of rural poverty is doomed. Compatibility between agricultural policies and long term environmental goals has to be a core component of the national development strategy.

PAYMENTS FOR ENVIRONMENTAL SERVICES AND MACROECONOMIC POLICY
In 1997 Costa Rica launched an innovative program designed for the long term conservation of its forested areas. The Program for Payment of Environmental Services is directed to the improvement and protection of existing forested areas, as well as to the development of new ones. This has several beneficial effects, in terms of better soils and water management, air quality, and enhanced biodiversity. This instrument is also an important tool in attaining the Carbon Neutral position that Costa Rica has defined as a national goal by 2021. Finally, the program is being dovetailed with country level efforts to coordinate policies in the context of REDD, the set of mechanisms for reducing emissions from deforestation and degradation that have been the object of the Kyoto Protocol’s COP 13 (Bali), COP 14 (Poznan) and that will be taken up in COP 15 (Copenhagen, December 2009).

The program is based on the environmental services supplied by forested areas (including plantations) instead of a direct subsidy to investments in this sector. The Program is aimed at pre-defined priority areas which cover more than 29,800 square kilometres, a surface equivalent to 80% of Costa Rica’s territory (51,000 square kilometres).

Payments are made by the implementing agency FONAFIFO (Fondo Nacional de Financiamiento Forestal) to land owners who adopt healthy forest resource management practices, including agro-forestry and sustainable forest management. The program covers four types of environmental services: carbon emissions’ mitigation, hydrological services, biodiversity conservation and scenic values. A parallel objective is
poverty alleviation. Priority is given to projects that are located in natural protected areas, biodiversity corridors, land belonging to indigenous groups and areas with low social development indicators. Also, small and medium producers have precedence over other projects and the surface per project cannot exceed 300 hectares. Plots with less than 50 hectares receive 50% of the payments in advance while protection projects receive 20% in advance.

This Program for Payment of Environmental Services (PPES) has allowed for the reforestation of 400,000 hectares in more than 8,300 projects in 1997-2008. The government has already allocated 90 million USD to this program. In the beginning, payments in the program oscillated around $22 USD - $42 USD per hectare a year. This amount was determined in accordance to alternative land use patterns, choosing cattle production which had the highest profitability level at the average cost of renting one hectare for grazing. In more recent years, payments vary depending on the type of contract. In the case of conservation projects, payments amount to $816 USD per hectare, with a schedule of payments (first payment is 50% of total amount, with 20% in the second year and 10% during each of three years). Approximately 90% of total resources are concentrated in projects of this type, as can be observed in Figure V.14. Second, projects for protection purposes involve payments are $320 USD per hectare for five years, and owners cannot modify the use of their land. Only 9% of payments in the PPES are allocated to these projects. Finally, projects for natural regeneration in former grasslands involve payments of $205 USD per hectare.

Figure V.14

Source: Carlos Murillo, Costa Rica Country Study
This program is financed through a special tax of 3.5% on all sales of hydrocarbon fuels. This is, in fact, an environmental tax explicitly directed towards the improvement of forests. Average annual revenues generated by this tax amount to $13.8 million USD. These resources are insufficient to ensure an adequate to the demand received from the owners of forested lands. An estimated 38,000 applications have remained unattended. In 2004 more than 800,000 hectares of applications were pending (Engel, Wünscher and Wunder 2009).

The program was also strengthened in 2001-2005 by a special non-recoverable loan from the Global Environmental facility. A new phase of this is being implemented today with another special non-recoverable loan of $30 million USD and a special contribution from the World Bank of $10 million USD. This loan had some conditions related to the participation of the private sector in order to ensure the financial sustainability of the program. As of today, revenues from the private sector do not represent more than 1% of total revenues.

There are several problems with the resource management aspects of PPES. One is related to the resource management aspect of the program. PPES is focused on conservation, not on sustainable production. This
is why although the program makes a positive contribution to the expansion of forests, the forest-products sector is suffering from an acute deficit. Another problem is related to targeting and efficiency issues (recently addressed by the work of Engel, Wünscher and Wunder 2009). The main conclusion from their study is that the amount of environmental services achieved with a given conservation budget can be substantially enhanced through improved targeting. But unless resources for the PPES are increased significantly, the long term perspective is rather bleak. No matter how much efficiency is extracted from limited resources, the scale of the problem will defeat efforts to ensure long term conservation of Costa Rica’s forests.

The other problem is related to lack of resources and thus, to macroeconomic policies. Clearly, given the number of applications and the surface that is eligible for support through this program, the amount of resources is too small. Consider the following. The total eligible surface (priority areas) is 28,000 square kilometres. Until 2004, total surface under contract in this program was 2,300 square kilometres, or less than 8.5% of the total eligible surface. These calculations reveal that the program is still a marginal component of Costa Rica’s policies. Evidently, if it is to become a core element in the long term strategy for sustainable development, it has to step up its activities and increase its coverage. Resources from international agencies and the private sector do not appear to be able to cover the costs of expanding this program.

During the past decade, Costa Rica’s government has been expanding its expenditures in environmental policies. However, current trends indicate that in the short term fiscal policy will continue to face a significant deficit. This means that expanding resources for the forest sector and for the PPES will remain an elusive goal. In fact, as a response to the downturn of the economy (which reduces tax and non-tax fiscal revenues), the Ministry of Finance is cutting spending. It remains to be seen if appropriations for the PPES remain untouched or if they can increase.

The combination of fiscal constraints and the contraction of credit may prove dangerous for the program and for Costa Rica’s forests. Today, the competition between alternative land uses is clearly disadvantageous for forests. A comparison of cost structures and profits associated to diverse land uses reveals that commercial crops and cattle are substantially more profitable than forested land. Foregone benefits also are skewed against conserving forested land.⁷²

⁷² The RATIOS values of land devoted to pineapple, banana and ranching are 5.2, 3.5 and 2, respectively, while the value of forested land is 1.5. All values are in millions of colones per hectare per year. Foregone benefits are 274,000, 108,000 and 34,000 colones per hectare every year if forested land is conserved instead of shifting to pineapple, banana or ranching, respectively.
THE CONFLICT BETWEEN MACROECONOMIC POLICY OBJECTIVES AND ENVIRONMENTAL POLICY OBJECTIVES

The relationship between debt sustainability and fiscal policy is at the heart of the future of the PPES. If the private sector and the international community are unable to ensure that enough resources are allocated to the PPES, then fiscal expenditure will have to continue providing the bulk of the resources needed here. The restrictions are significant. The following formal analysis used by the Central bank of Costa Rica can help explore how this may play out (BCCR 2007).

Formally, a government is supposed to comply with the following condition:

$$ps_t = (r_t - g_t)d_{t-1}$$  \hspace{1cm} (1)

where

- $ps_t$ = primary surplus/GDP
- $r_t$ = real interest rate
- $g_t$ = GDP real growth rate
- $d_t$ = public debt/GDP

The dynamics of this relation between primary surplus and debt service can be analyzed through the following relation:

$$d_t = (ps_t - s_t) + (r - g)d_{t-1}$$  \hspace{1cm} (2)

where $s_t$ is equivalent to the seigniorage (defined here as the rate of change of...
the monetary base to GDP). Equation 1.2 shows that the ratio of public debt to GDP will tend to increase (decrease) when the real interest rate paid by the public sector for its debt is greater (less) than the real rate of growth of GDP and/or when the relative levels of the primary surplus in terms of GDP are inferior or greater. According to the analysis of Costa Rica’s central bank, these indicators help reveal the vulnerability of the public debt position in case of external shocks in interest rates or downturn in growth rates. Accordingly, the central bank insists on the need to intensify efforts to maintain an adequate primary surplus. And this will be achieved by cutting or stabilizing current fiscal expenditures.