6-1-1986

An Analysis of Inflation in the Small, Open Economy of Costa Rica

Victor Brajer

Follow this and additional works at: https://digitalrepository.unm.edu/laii_research

Recommended Citation

This Working Paper is brought to you for free and open access by the Latin American and Iberian Institute at UNM Digital Repository. It has been accepted for inclusion in Research Papers by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.
An Analysis of Inflation in the Small, Open Economy of Costa Rica

by

Victor Brajer
Department of Economics
University of New Mexico
Table of Contents

I. Introduction...........................................1

II. Inflation in the 1970s.................................3
    Food Prices........................................5
    Wages...............................................7
    Import Prices.....................................10
    Oil Price Increases...............................12
    Exchange Rate Policy............................14
    Fiscal Policy.....................................17
    Monetary Policy.................................20
    Some Econometric Evidence.......................25

III. Inflation in the 1980s...............................31
    Fiscal Policy....................................32
    Monetary Policy................................33
    Imports and Exports.............................36
    Foreign Debt.....................................38
    Foreign Exchange and Devaluation.............39
    Effects on the Economy.........................42
    Some Additional Econometric Evidence........43

IV. Conclusion..........................................47

    Bibliography....................................50
I. Introduction.

The existence of inflation has long been one of the great concerns of economic theory. In the 1970s, however, the phenomenon of rising prices became a problem of global dimensions for the first time. Industrial and developing nations alike were carried along by the wave of increasing prices, and even nations with long traditions of price stability experienced high domestic inflation rates.

Costa Rica is an example of a nation with such a tradition. Having long enjoyed an atmosphere of political and economic stability quite atypical of the Latin American region, Costa Rica suddenly found itself facing double-digit inflation rates in the mid-1970s, and close to triple-digit rates in the early 1980s. This study reviews Costa Rica's experience with inflation over the past twenty-five years and evaluates alternative explanations of its causes. Focusing primarily on the inflationary experience of the mid-1970s, and the inflationary "explosion" that took place in the early 1980s, a variety of inflation models are formulated and tested empirically as they apply to Costa Rica.

Throughout the analysis of this country's inflationary experiences several relevant questions are constantly kept in mind:

1. To what extent has the inflation been "imported" rather than domestically induced? Conceptually, a distinction can be drawn between an inflationary impulse that has its origins in the domestic economy and one that originates abroad. But the "internal-external" dichotomy is by no means exact, and a variety of interpretations exist in many cases.

2. What have been the relative roles of monetary and non-monetary (structural and cost-push) factors in determining the rate of inflation? Just as a vast literature exists concerning the monetarist-Keynesian debate in the
developed economies, so too has much been written about the importance of monetary and structural factors in generating inflation in developing nations, particularly in the Latin American region. Unfortunately, there are many difficulties involved in testing for different causes of inflation and then in interpreting those results.

3. Has the underlying mechanism of inflation changed in recent years so that the type of inflation currently being experienced is fundamentally different from that of the mid-1970s, or is the mechanism basically the same? This is an important question, for by examining how external inflation led to domestic inflation at one period in time and the policy actions that were taken to deal with the impact of international inflation, it might be possible to better analyze and suggest appropriate policy responses to future outbreaks.

With these issues in mind, the remainder of this paper is organized as follows: Section II examines both internal and external inflationary factors in Costa Rica over the decade of the 1970s, and the variations in government policy for dealing with them. In addition, a number of statistical regression models are used to empirically analyze the inflation experienced between 1951 and 1979. Then, Section III examines more recent developments in the Costa Rican economy, and attempts to explain the country's current economic and financial crisis. The analysis of this inflationary experience is aided somewhat by the use of some simple least squares regression tests, which help demonstrate the roles of rising import prices (domestic and worldwide) in the overall inflationary process. Finally, Section IV offers some concluding remarks.
II. Inflation in the 1970s.

For over two decades Costa Rica enjoyed fairly stable price levels, with annual increases typically less than 4 percent. Its inflation record was not the best in Central America, but was still excellent by Latin American standards, especially considering its ambitious full-employment policies and commitment to social welfare. In 1973 this pattern was disrupted, and in conjunction with the worldwide inflation boom, prices began to rise at double-digit rates. The timing of this behavior suggests that the inflation was largely foreign-induced, a hypothesis favored by international monetarists, who claim that under fixed exchange rates domestic prices are closely linked to world prices.

Also significant from a monetarist viewpoint is the rapid liquidity expansion the economy underwent in the 1970s. After growing at an annual rate of less than 10 percent during the 1960s, the money supply grew by over 20 percent per year in the 1970s (see Table 1). In determining the causes of the inflation of that decade, an important issue is whether the expansion of the money supply stimulated inflation or merely played an accommodating role. Table 1 indicates that the acceleration in money supply preceded the acceleration in prices. This suggests that, at least for 1970-1972, price changes were not responsible for the money expansion—that is, increases in the money supply were not the result of an accommodating monetary policy. Later, it seems that a variety of factors could have been responsible for the steady growth in liquidity. These include not only external factors—import prices and foreign reserve flows—but also internal factors—fiscal deficits, wage payments and food prices.
<table>
<thead>
<tr>
<th>Year</th>
<th>Cost of living index</th>
<th>Money supply index</th>
<th>Import price index</th>
<th>Food price index</th>
<th>Wage payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>3.20</td>
<td>7.57</td>
<td>-0.99</td>
<td>-4.08</td>
<td>4.02</td>
</tr>
<tr>
<td>1959</td>
<td>0.00</td>
<td>7.29</td>
<td>-1.00</td>
<td>-5.32</td>
<td>3.67</td>
</tr>
<tr>
<td>1960</td>
<td>0.90</td>
<td>1.41</td>
<td>2.08</td>
<td>-1.12</td>
<td>7.14</td>
</tr>
<tr>
<td>1961</td>
<td>3.96</td>
<td>-2.54</td>
<td>1.01</td>
<td>2.27</td>
<td>-2.80</td>
</tr>
<tr>
<td>1962</td>
<td>2.70</td>
<td>13.03</td>
<td>0.00</td>
<td>0.00</td>
<td>9.80</td>
</tr>
<tr>
<td>1963</td>
<td>2.99</td>
<td>12.16</td>
<td>1.00</td>
<td>14.44</td>
<td>-3.91</td>
</tr>
<tr>
<td>1964</td>
<td>3.14</td>
<td>6.17</td>
<td>1.01</td>
<td>2.91</td>
<td>7.62</td>
</tr>
<tr>
<td>1965</td>
<td>-0.01</td>
<td>5.28</td>
<td>1.98</td>
<td>-6.60</td>
<td>5.06</td>
</tr>
<tr>
<td>1966</td>
<td>0.11</td>
<td>19.57</td>
<td>2.91</td>
<td>1.94</td>
<td>7.70</td>
</tr>
<tr>
<td>1967</td>
<td>1.25</td>
<td>16.36</td>
<td>0.95</td>
<td>-0.95</td>
<td>7.65</td>
</tr>
<tr>
<td>1968</td>
<td>4.03</td>
<td>6.49</td>
<td>-0.94</td>
<td>-1.92</td>
<td>9.60</td>
</tr>
<tr>
<td>1969</td>
<td>2.79</td>
<td>14.56</td>
<td>3.78</td>
<td>3.92</td>
<td>8.68</td>
</tr>
<tr>
<td>1970</td>
<td>4.60</td>
<td>8.28</td>
<td>6.26</td>
<td>4.72</td>
<td>8.56</td>
</tr>
<tr>
<td>1971</td>
<td>3.10</td>
<td>29.39</td>
<td>5.07</td>
<td>5.41</td>
<td>7.49</td>
</tr>
<tr>
<td>1972</td>
<td>4.56</td>
<td>14.21</td>
<td>7.58</td>
<td>12.82</td>
<td>7.97</td>
</tr>
<tr>
<td>1973</td>
<td>15.21</td>
<td>24.38</td>
<td>22.50</td>
<td>44.70</td>
<td>15.15</td>
</tr>
<tr>
<td>1974</td>
<td>30.11</td>
<td>19.21</td>
<td>30.83</td>
<td>27.22</td>
<td>18.87</td>
</tr>
<tr>
<td>1975</td>
<td>17.26</td>
<td>24.09</td>
<td>12.35</td>
<td>-5.60</td>
<td>18.84</td>
</tr>
<tr>
<td>1976</td>
<td>3.54</td>
<td>30.35</td>
<td>0.11</td>
<td>-2.28</td>
<td>14.87</td>
</tr>
<tr>
<td>1977</td>
<td>4.18</td>
<td>24.36</td>
<td>9.55</td>
<td>22.80</td>
<td>17.02</td>
</tr>
<tr>
<td>1978</td>
<td>5.97</td>
<td>24.00</td>
<td>13.46</td>
<td>0.83</td>
<td>13.63</td>
</tr>
<tr>
<td>1979</td>
<td>9.19</td>
<td>10.40</td>
<td>17.58</td>
<td>12.40</td>
<td>15.04</td>
</tr>
</tbody>
</table>

Sources: IMF International Financial Statistics; Costa Rican Quarterly Economic Reports.

During the period 1972-1973 Costa Rica experienced food price inflation, galloping import prices, and rapid liquidity growth (Table 1). In 1974 the increase in import prices was tremendous, and was accompanied by continuing food price inflation, the highest trade deficits ever recorded, losses in foreign reserves and a currency devaluation. This was followed by the 1975 world recession and a gradual slowing in the rate of increase in import prices, but continuing liquidity growth. With the renewal of world economic activity in 1976-1977 and the quadrupling of coffee
prices, Costa Rica experienced its biggest economic boom ever. International reserves grew to tremendously large magnitudes—seven to eight times the 1972 level—and the stock of money rose by over 30 percent. Nonetheless, domestic inflation was alleviated in 1976, falling back down below the double-digit level, where it would remain for the rest of the decade. The next few sections examine in more detail several of the factors which may have contributed to the inflationary surge experienced in the mid-1970s.

Food Prices.

Problems of agricultural supply are a potential cause of Costa Rica's inflation of the mid-1970s. The importance of the country's agricultural sector is evident, as it produced nearly one-fourth of GNP, provided 75 percent of total export income, and employed 40 percent of the total work force at that time. Further, food accounted for about half of the average family's budget, with food items having a weight of about 50 percent in the cost-of-living index.¹ From 1973-1975 inflation in food prices was much higher than at any other time in the country's prior economic history (Table 1). This increase was apparently caused by both erratic domestic production and worldwide food scarcity.

Maize, beans and rice are the principal staples in Costa Rica, and each suffered drops in production in one or two of the years during the period 1973-1975 (Table 2). Overall, food production averaged about 2 percent per year during this time, compared to the 7.76 percent annual growth experienced from 1966-1971 (Table 3). Bad weather undoubtedly

¹ This figure is typical for the Central American nations. See Siri and Dominguez (1981) for other examples.
played a role in this process, but also complicating matters was the lack of sufficient storage capacity in the country. Limited storage space made it impossible to carry over surpluses from prior years to ease subsequent deficits in food production, thereby making shortages inevitable.

TABLE 2 VOLUME OF PRODUCTION OF STAPLE PRODUCTS, 1970-1974
(1000 metric tons)

<table>
<thead>
<tr>
<th></th>
<th>Rice</th>
<th>Corn</th>
<th>Beans</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>56</td>
<td>71</td>
<td>12</td>
</tr>
<tr>
<td>1971</td>
<td>69</td>
<td>70</td>
<td>9</td>
</tr>
<tr>
<td>1972</td>
<td>63</td>
<td>76</td>
<td>14</td>
</tr>
<tr>
<td>1973</td>
<td>82</td>
<td>65</td>
<td>11</td>
</tr>
<tr>
<td>1974</td>
<td>62</td>
<td>61</td>
<td>14</td>
</tr>
</tbody>
</table>


TABLE 3 TOTAL FOOD PRODUCTION (percentage change), 1972-1974
(annual average)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.76</td>
<td>3.74</td>
<td>3.60</td>
<td>-0.87</td>
</tr>
</tbody>
</table>

Source: FAO Production Yearbook.

Food shortages do not necessarily result in price increases, since they can be alleviated by additional imports. But the domestic food problems that began in 1973 coincided with a worldwide slowdown in food production which almost doubled the prices of most staples. Prices of rice, for example, rose rapidly in late 1972 and continued to rise through 1974. Consequently, the amount of money spent on food imports jumped significantly, increasing by over 25 percent in 1973 alone (from $32.1
million to $40.8 million).² Significant pressure on domestic food prices was thus exerted by both the domestic shortfall in production and by the record import prices of foodstuffs. This in turn helped contribute to the overall inflationary pressure experienced in the mid-1970s.

Wages.

A frequent consequence of rising prices is the upward adjustment of wages and salaries, which provides a "cost-push," adding further to the inflationary process. In many developing countries, however, wages often respond slowly to inflation because of the excess supply of labor that exists. This is especially true of developing economies with large agricultural sectors, where, due to the seasonal pattern of production and the fluctuations in external demand, unemployment and underemployment are common problems. It has been argued that in such countries the rate of inflation in the labor market would at most correspond to changes in the cost-of-living index—in other words, the labor market would not be a significant source of cost-push pressure.³

In Costa Rica the situation appears to be different. In the first place, over 60 percent of the labor force is employed by the non-agricultural sector, and evidence exists to suggest that this sector has been subject to the influence of market forces (notably high and steady rates of economic growth and generally favorable labor supply conditions) which have provided a steady upward pressure on the general wage level.⁴

³ See, for example, Siri and Dominguez (1981), pp. 187-89.
⁴ This seems to have held true at least until the first inflationary spurt in 1973. For a detailed study, see Gregory (1981).
While manufacturing wage increases did lag behind the inflation boom of 1973-1975, they rose at an annual rate of 13.7 percent over the entire decade, during which time inflation was only averaging 10.0 percent per year (Table 4). For the five-year period preceding the country's first inflationary surge (1968-1973), wages increased almost 10 percent annually, while the yearly increase in the consumer price index averaged less than 6 percent. And for the period 1975-1979, manufacturing and non-agricultural wages climbed nearly 14 percent each year; the CPI registered only a 5.9 percent annual increase for this same period. Nominal wages in the manufacturing and non-agricultural sectors seem to have generally kept ahead of rising price levels.

<table>
<thead>
<tr>
<th>TABLE 4 NOMINAL WAGE GAINS (annual percentage changes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td>1968-73</td>
</tr>
<tr>
<td>1973-75</td>
</tr>
<tr>
<td>1975-79</td>
</tr>
<tr>
<td>1970-79</td>
</tr>
</tbody>
</table>


Also important to consider is the government's fairly aggressive use of legal minimum wage policies to influence the general wage level. This public policy may not have substantially affected the non-agricultural sector (except possibly for the 1975-1979 period), but in the agricultural sector, where equilibrium wage levels are often lower, the imposition of legal minimum wage levels may have caused wages to rise faster than they would otherwise have. Since extensive wage data are unobtainable and minimum wages are often easily evaded in rural areas, it is difficult to
determine the extent to which the legal levels were actually being enforced. Available data do suggest, however, that nominal agricultural wages, like those of the manufacturing sector, may have kept ahead of the rising cost of living. Agricultural minimum wages rose at an annual rate of nearly 9 percent from 1968-1973, and by 15.6 percent in the period following the mid-1970s inflationary surge (Table 4). The consumer price index increased at a slower pace during both of these periods, implying that on average real agricultural wages (or at least real minimum wages) were growing.

Another important influence on the overall wage level, especially from 1977-1979, may have come from public sector wage policies. Between 1977 and 1979 there were large annual real increases (13.4 percent) in the total public wage bill. This reflected in part the steady growth of public sector employment, where the overall rate of employment expansion was 13 percent per year--almost three times as high as the growth of the labor force. But it also reflected large increases in average real wage levels--most of the public sector was granting real wage increases of 10 percent per annum. With public sector wages generally higher than private wages, then, and the increasing conspicuousness of public sector employment, it seems likely that the public sector wage increases had an important influence on wage expectations and policies throughout the rest

---

5 Figures were obtained from a 1980 unpublished World Bank report on Costa Rica's economic position and prospects.

6 By the end of the decade the government was the second largest absorber of labor, after agriculture, in the economy.
of the economy. Overall, it seems plausible that rising wage levels may have been a significant ingredient of the country’s inflation problem.

Import Prices.

Traded goods represent a direct channel for the transmission of inflation that is extremely important for small, open economies. While the dependence of the Costa Rican economy on international trade did not increase markedly throughout the period studied (Table 5), inflation in the price of imported goods became a major problem in the 1970s. Changes in the price index for imports, which had been negligible compared to changes in the index of consumer prices until the late 1960s, began to increase more rapidly in 1969 (Table 1). By the mid-1970s the inflation in international prices began reaching record magnitudes. Nevertheless, an analysis made by the Central Bank of the factors contributing to domestic inflation in 1973 showed that only 29 percent was attributable to "imported" inflation.

Of the recorded rises in the overall price of imported goods, however, that of 1974 was the most extreme—over 30 percent (in U.S. dollars). Consequently, the import bill rose from 2722 million colones in 1973 to 5132 million colones in 1974, an increase of more than 87 percent. This

7 The gains in real wages are not attributable to increases in productivity. A comparison between real wage increases and productivity gains shows that from 1964-1975 wages grew 3.05 percent (in real terms) annually, while productivity gains averaged around 1 percent. From 1975-1979 the difference was even more pronounced, with real wages rising 7.75 percent per year, and productivity increasing by only 0.42 percent.


9 The devaluation of the colón in 1974 was also a factor in this large increase in imports. The effects of the devaluation are discussed in more detail in a later section of this paper.
far outstripped the gains made in exports (which grew by a "mere" 52 percent in 1974), causing the balance-of-trade deficit to rise to unprecedented levels (Table 5).

**TABLE 5 FOREIGN TRADE**

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports (millions of colones)</th>
<th>Imports (millions of colones)</th>
<th>Trade Deficit</th>
<th>External Trade*/GDP (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>754</td>
<td>918</td>
<td>164</td>
<td>23.18</td>
</tr>
<tr>
<td>1965</td>
<td>740</td>
<td>1,180</td>
<td>440</td>
<td>24.45</td>
</tr>
<tr>
<td>1966</td>
<td>897</td>
<td>1,181</td>
<td>284</td>
<td>24.25</td>
</tr>
<tr>
<td>1967</td>
<td>951</td>
<td>1,262</td>
<td>311</td>
<td>23.90</td>
</tr>
<tr>
<td>1968</td>
<td>1,131</td>
<td>1,416</td>
<td>285</td>
<td>24.86</td>
</tr>
<tr>
<td>1969</td>
<td>1,256</td>
<td>1,623</td>
<td>367</td>
<td>25.70</td>
</tr>
<tr>
<td>1970</td>
<td>1,531</td>
<td>2,097</td>
<td>566</td>
<td>27.81</td>
</tr>
<tr>
<td>1971</td>
<td>1,492</td>
<td>2,315</td>
<td>823</td>
<td>26.69</td>
</tr>
<tr>
<td>1972</td>
<td>1,864</td>
<td>2,224</td>
<td>360</td>
<td>26.39</td>
</tr>
<tr>
<td>1973</td>
<td>2,290</td>
<td>2,722</td>
<td>432</td>
<td>26.16</td>
</tr>
<tr>
<td>1974</td>
<td>3,492</td>
<td>5,132</td>
<td>1,640</td>
<td>34.45</td>
</tr>
<tr>
<td>1975</td>
<td>4,187</td>
<td>5,384</td>
<td>1,197</td>
<td>30.27</td>
</tr>
<tr>
<td>1976</td>
<td>5,082</td>
<td>5,948</td>
<td>866</td>
<td>28.25</td>
</tr>
<tr>
<td>1977</td>
<td>7,098</td>
<td>7,886</td>
<td>788</td>
<td>30.10</td>
</tr>
<tr>
<td>1978</td>
<td>7,355</td>
<td>9,145</td>
<td>1,790</td>
<td>28.79</td>
</tr>
<tr>
<td>1979</td>
<td>7,909</td>
<td>10,875</td>
<td>2,966</td>
<td>29.18</td>
</tr>
</tbody>
</table>

* Average of exports and imports.


Probably a full one-third of the increase in import prices was attributable to the unparalleled oil price increase (which is discussed in detail in the next section). But still, prices of imported capital goods, raw materials and intermediate goods rose appreciably in 1974. These goods made up a significant portion of total imports; the fact that the demand
for them was quite inelastic compounded the problem of their rising prices.\textsuperscript{10}

Finally, in 1975 the rise in import prices began slowing, and by 1976, the tremendous surge in the prices of internationally traded goods seemed to have subsided. The close parallel of this pattern with the movement of domestic prices further indicates that the behavior of import prices was crucial to both the rise and the subsequent decline in the domestic inflation rate in the mid-1970s. In sum, it seems that the inflation in traded items placed a substantial cost-push pressure on domestic prices. Higher import prices clearly occupied a prominent place in the inflationary experience of the mid-1970s.

Oil Price Increases.

The first OPEC oil price increase was clearly not one of the originating factors in the mid-1970s inflation. The annual inflation rate was already running at a level of 17 percent when the Organization of Petroleum Exporting Countries raised oil prices in November of 1973, and over the preceding twelve months inflation had averaged around 12 percent. But rising oil prices may have played a significant role in further stimulating inflation. Some analysts have argued that Costa Rica was somewhat immune to the oil shock, given the importance of hydroelectric power in filling many of its energy needs.\textsuperscript{11} However, a more careful examination of the facts indicates that this reasoning may have been incorrect.

\textsuperscript{10} Due to the strategy of import substitution which had been pursued in the 1960s and 1970s, the dependence on imported machinery, raw materials and parts was high, and the price elasticity of import demand, then, low.

\textsuperscript{11} See, for example, the study by Bulmer-Thomas (1977).
After the 1973 OPEC oil price rise, the government did take several actions to try to reduce the country's dependence on foreign oil. Efforts were begun almost immediately to expand and develop hydroelectric resources and facilities, and negotiations were initiated with Venezuelan producers to obtain preferential treatment and guarantee steady supplies. In addition, the government took control of the Refinadora Costarricense de Petroleo (RECOPE), the country's main refining company. By 1975 the government controlled all petroleum distribution in the country as well, with a plan to absorb future crude oil price increases, insulating both consumers and the private business sector to some extent.

Despite these efforts, the fuel component of the wholesale price index rose by 81 percent in 1974, with the import bill for petroleum jumping by $45 million (an increase of 150 percent) over the 1973 total. In addition, oil purchases as a percentage of total imports rose steadily throughout the 1970s (Table 6). Undoubtedly, this largely reflected the tremendous rise in the price of oil (an increase of over 1100 percent) from 1973-1980. However, Costa Rica was also not able to reduce its use of foreign oil to the degree originally intended. By 1979 hydroelectricity accounted for only about 36 percent of commercial energy consumption, with the rest still being supplied by imported crude and petroleum products. Part of the problem was the unreliability of the country's natural power source. Droughts periodically lowered the water levels of the rivers and dams which fueled the country's hydroelectric power stations, limiting their output and making it necessary for more oil to be imported. These "emergency" transactions most often took place on the Caribbean spot market, where

---

prices ranged upwards of $38 per barrel at times. With the second oil shock in 1979 intensifying the situation, imports of oil accounted for over 11 percent of the total import bill by 1980, an all-time high. The oil shocks of the 1970s clearly had a profound impact on the economy of Costa Rica.

### TABLE 6 DEPENDENCE ON FOREIGN OIL

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Imports (millions of colones)</th>
<th>Oil Imports</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>2,317.3</td>
<td>51.7</td>
<td>2.23</td>
</tr>
<tr>
<td>1972</td>
<td>2,473.4</td>
<td>69.9</td>
<td>2.83</td>
</tr>
<tr>
<td>1973</td>
<td>3,026.5</td>
<td>113.6</td>
<td>3.75</td>
</tr>
<tr>
<td>1974</td>
<td>5,706.9</td>
<td>282.3</td>
<td>4.95</td>
</tr>
<tr>
<td>1975</td>
<td>5,947.3</td>
<td>514.2</td>
<td>8.65</td>
</tr>
<tr>
<td>1976</td>
<td>6,602.4</td>
<td>527.1</td>
<td>7.98</td>
</tr>
<tr>
<td>1977</td>
<td>8,753.7</td>
<td>759.3</td>
<td>8.67</td>
</tr>
<tr>
<td>1978</td>
<td>10,150.9</td>
<td>867.3</td>
<td>8.54</td>
</tr>
<tr>
<td>1979</td>
<td>11,970.7</td>
<td>1,269.2</td>
<td>10.60</td>
</tr>
<tr>
<td>1980</td>
<td>13,102.9</td>
<td>1,510.0</td>
<td>11.52</td>
</tr>
</tbody>
</table>


**Exchange Rate Policy.**

The impact of rising import prices on the domestic price level of an open economy can be partially contained by the country's exchange rate policy and the international value of its currency. Revaluations can reduce the effects of import price rises and thereby the cost effects on the rest of the economy. On the other hand, a policy of devaluation runs the risk of intensifying the impact of rising import prices, especially when the demand for those imports is inelastic. During the early part of the 1970s, the colón was subjected to a variety of factors which may have influenced its international value, contributing at the same time to the country's inflation problem.
After the abandonment of the Bretton Woods system, Costa Rica officially maintained a fixed parity with the United States, its most important trading partner. Since nearly a third of its imports came from countries with floating exchange rates, however (20 percent from Europe and 10 percent from Japan), the international value of the colón showed some fluctuations during this time. These fluctuations were relatively small, however, and it is likely that their impact on the domestic price level was minimal.\(^{13}\)

Of possibly greater significance was the official colón devaluation of 1974. Through the early 1970s a dual exchange rate system had been in effect, with the official rate at 6.625 colones to the dollar, while free market transactions were often taking place at a rate of 8.57 colones/dollar. On March 30, 1974, however, the exchange rate unified at the higher market rate. This measure was reportedly taken for administrative reasons and not because of pressure on the reserves.\(^{14}\) Officials justified this explanation by pointing to the improvement made in the country's external position at the time--at the end of November 1973 the Central Bank's reported reserves of gold and foreign exchange stood at $35 million, more than double the amount for the corresponding date in 1972.

This argument tends to sidestep an important question: was the colón devaluation "necessary," given the state of the country's foreign reserve position? The fact that the free market exchange rate was almost 30 percent higher than the official rate certainly suggests that the colón was

---

\(^{13}\) See the analysis done for Guatemala and El Salvador by Siri and Dominguez (1981), p. 191.

\(^{14}\) See the Costa Rican Quarterly Economic Report for 1974 and the study by Bulmer-Thomas (1977). The exact reason for the devaluation seems open to question. For a different view, see Pfefferman (1982), pp. 151-52.
overvalued. But more importantly, whether $35 million of external reserves is "large" or "small" depends on the demands made on those reserves. Typically, the level of foreign reserves is compared to the number of months of imports it could finance. In this case, those $35 millions in reserves were barely enough to pay for one month's worth of imports. Official reports notwithstanding, the most reasonable conclusion one could reach is that Costa Rica's foreign reserves were extremely low. This may have had much to do with the devaluation of the colón.

Whatever the cause of the devaluation, its inflationary effects seem to have been somewhat contained, however. While the devaluation did make Costa Rica's exports more attractive (especially in the Central American area, where sellers converted revenues at the official exchange rate), the government simultaneously introduced an export tax to siphon off part of the windfall gains accruing to exporters. This reduced the incentive to export and increased the domestic supply above the level that would otherwise have prevailed, lessening upward pressure on domestic prices. Also, while the 30 percent devaluation obviously increased the prices of some imported items, in fact comparatively few products were affected since about 80 percent of all imports were already being paid for at the free market rate.\textsuperscript{15} Overall, it appears that the devaluation of 1974 and the changing value of the colón played relatively minor roles in the country's mid-1970s inflationary experience.\textsuperscript{16}

\textsuperscript{15} Quarterly Economic Review for Costa Rica, Second Quarter, 1974, p. 6.

\textsuperscript{16} This, too, is subject to question. While an Oficina Internacional del Trabajo report from 1979 states that only 3 percent of the 1974 inflation is attributable to the colón devaluation, a study by Galbis (1982) indicates that the exchange rate effect is more in the vicinity of 15 percent.
Fiscal Policy.

A common cause of money growth in less developed countries is the fiscal incapacity to raise enough taxes to pay for government expenditures. Latin American monetarists have long believed that the phenomenon of rising prices originates in, and is maintained by, the excess demand generated by expansionist fiscal and monetary policies. With its public sector playing such a dominant role in its economy in the 1970s, Costa Rica may have provided the classic example of the "overspending" developing country. But in addition, several factors existed which made the application of fiscal restraint very difficult, and thus the control of inflation through fiscal policy virtually impossible.

Fiscal deficits in the 1970s as a percentage of gross domestic product show a noticeable increase over levels from previous years (Table 7). Only in 1974 does this percentage dip below 2.5 percent and this reflects the tremendous surge in government revenues (up by 40 percent due to exceptionally high coffee revenues) rather than retrenchment on the expenditure side. These consistently high budget deficits demonstrate the government's active involvement in the process of economic change and the high priority given to social needs. Through the 1950s and 1960s the State had taken on a decisive role with respect to education, health, and many other public services. During the 1970s, however, this role increased even more, with the public sector becoming the most important and direct participant in economic activity. In 1975 both public sector revenues and expenditures were over one-third of GDP. In addition, public sector investment averaged nearly 40 percent of annual capital formation in the country, and the government became the second largest absorber of labor, after agriculture, in the economy.
TABLE 7  BUDGET INFORMATION, 1965-1979

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues (millions of colones)</th>
<th>Expenditures (millions of colones)</th>
<th>Balance</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>473.6</td>
<td>476.2</td>
<td>2.6</td>
<td>0.07</td>
</tr>
<tr>
<td>1966</td>
<td>521.7</td>
<td>559.3</td>
<td>37.7</td>
<td>0.88</td>
</tr>
<tr>
<td>1967</td>
<td>695.4</td>
<td>747.6</td>
<td>52.2</td>
<td>1.13</td>
</tr>
<tr>
<td>1968</td>
<td>808.3</td>
<td>785.7</td>
<td>(22.6)*</td>
<td>--</td>
</tr>
<tr>
<td>1969</td>
<td>945.7</td>
<td>889.4</td>
<td>(56.3)</td>
<td>--</td>
</tr>
<tr>
<td>1970</td>
<td>975.3</td>
<td>1,041.2</td>
<td>65.9</td>
<td>1.01</td>
</tr>
<tr>
<td>1971</td>
<td>1,008.0</td>
<td>1,332.6</td>
<td>324.6</td>
<td>4.55</td>
</tr>
<tr>
<td>1972</td>
<td>1,143.5</td>
<td>1,520.6</td>
<td>377.1</td>
<td>4.59</td>
</tr>
<tr>
<td>1973</td>
<td>1,387.2</td>
<td>1,725.8</td>
<td>338.6</td>
<td>3.33</td>
</tr>
<tr>
<td>1974</td>
<td>1,936.2</td>
<td>2,112.6</td>
<td>176.4</td>
<td>1.33</td>
</tr>
<tr>
<td>1975</td>
<td>2,399.5</td>
<td>2,860.2</td>
<td>460.7</td>
<td>2.74</td>
</tr>
<tr>
<td>1976</td>
<td>2,692.3</td>
<td>3,665.8</td>
<td>973.5</td>
<td>4.71</td>
</tr>
<tr>
<td>1977</td>
<td>3,486.9</td>
<td>4,233.3</td>
<td>746.4</td>
<td>2.83</td>
</tr>
<tr>
<td>1978</td>
<td>4,110.7</td>
<td>5,426.4</td>
<td>1,315.7</td>
<td>4.42</td>
</tr>
<tr>
<td>1979</td>
<td>4,344.0</td>
<td>6,653.9</td>
<td>2,309.0</td>
<td>6.67</td>
</tr>
</tbody>
</table>

* Surplus indicated by parentheses.


Despite the importance of the public sector in the country's economy, a number of factors operated to prevent the use of fiscal restraint in controlling inflation. One of the most obvious was the importance given to growth objectives over those of price stability. In many developing countries a premium is placed on growth; anti-inflationary measures which might slow growth rates are often delayed, applied unenthusiastically, or avoided altogether. Thus, near the end of 1975 (a year in which inflation topped 30 percent, while real GDP growth was barely 2 percent), the government clearly focused on the growth problem, intending to bring about a better growth performance in 1976. The budget presented to Congress in December of 1975 called for an expenditure of 3300 million colones, a
massive 40 percent increase over the figure presented earlier in the year (and this does not even include the expenditure of autonomous agencies, which brought the total up to 7000 million colones).\textsuperscript{17} The potential inflationary consequences of such an action were apparently overlooked in light of the growth "crisis" which faced the country's economy.

Some contractionary fiscal actions were undertaken in 1974 and 1975. In an effort to increase government revenues, tax rates on corporate income were raised, as well as those rates applied to income derived from consultancy services, patents, trademarks and interest payments. These modifications, along with increased import and export duties and higher profits tax rates, were all expected to help fill the Treasury's coffers, but insofar as they were equally likely to discourage local and foreign companies from making the new investments which were vital for the country's development, they were not applied as strictly as they otherwise could have been. Political factors might have played a part in this process as well. The fact that newly-elected President Oduber did not enjoy majority support in Congress in the mid-1970s (having split with ex-President Figueres and lost the backing of Figueres' followers) made the passing of any type of "austerity" laws very difficult, and the strength of possible fiscal restraint limited at best.\textsuperscript{18}

Fiscal restraint was also complicated by the lack of administrative machinery to control public sector expenditures and by a comprehensive system of revenue earmarking. The inability of the Central government to control the level of public expenditures rendered it impossible to chart

\textsuperscript{17} Quarterly Economic Review for Costa Rica, First Quarter, 1976, p. 11.
a fiscal course consistent with explicit credit and exchange rate policies. Part of the reason for the lack of a consolidated public sector budget can be traced to the plethora of public sector institutions and the legal, sometimes constitutional, safeguards guaranteeing the separate identity and financial autonomy of these units.\textsuperscript{19} There were over 500 autonomous public sector institutions in operation in the 1970s, with many enjoying full administrative and financial autonomy under the Constitution. In addition, on the revenue side, about half of the total tax collections were earmarked for specific purposes. Of the 115 taxes collected in the country some 80 or so were wholly or partially destined to be spent in particular, predetermined ways, or by particular, predetermined agencies.

Because of these factors, the Central government's fiscal policy was forced to be continually expansionary, always searching for new resources to meet new needs, rather than diverting resources from existing, less important uses. Implicitly, then, the choice was made for an ever-expanding public sector. It seems clear that the resulting fiscal deficits played an important role in stimulating internal monetary growth and contributing to the overall inflationary experience of the mid-1970s.

Monetary Policy.

Monetary policy is closely linked to fiscal policy in developing nations because budget deficits are financed to a large extent by increases in the money supply. In developed countries noninflationary financing of fiscal deficits is often the rule, but in developing countries the presence of underdeveloped financial markets and institutions makes difficult the

\textsuperscript{19} Reported in a World Bank report on Costa Rica's economic prospects.
financing of budget deficits through government bonds. It is not surprising, then, to find that the tremendous rise in government spending which began in the early 1970s was accompanied by a rapid growth in the money supply. Costa Rica's money stock, which had grown at an average rate of 10.8 percent from 1963-1970, began increasing at rates in excess of 20 percent (Table 1). Part of the pressure for price increases in the mid-1970s might easily have been due to this unprecedented rate of money supply growth. It should be noted, however, that this record growth was taking place before the worldwide economic disruptions of 1973-1975.

Domestic factors seem to have been responsible for much of the acceleration in money supply growth. In addition to the expansionary fiscal policy pursued, direct inflationary financing by the Central Bank was substantial. From 1970-1973 Central Bank credit to the public sector increased at an annual real rate of over 22 percent. Overall domestic credit increased substantially during this time as well, growing by more than 20 percent.20

Monetary policy in an open economy is also vulnerable to international activity. An increase in international reserves can make the money supply—or the monetary base—a policy variable more difficult to control. Further, if there is a link between money supply changes and inflation, then reserve changes can be a cause of inflation as well.21 In 1971 and 1972 there was an unusual increase in international liquidity, with external reserves for many countries increasing at unprecedented rates.22

20 IMF International Financial Statistics.
21 Heller (1976) explicitly considers the link between reserve levels and inflation.
At first glance, Costa Rica appears to have shared in this increase. One indicator of reserve accumulation is the percentage increase in reserves in a given year compared with the long-run degree of fluctuation (both positive and negative) in the country's reserves. After increasing by about 13 percent annually in the period from 1963-1968, foreign exchange levels in the early 1970s began fluctuating much more wildly, growing by over 70 percent in 1971 and by nearly 40 percent in 1972 (Table 8).

**TABLE 8 ANNUAL RESERVE LEVELS**

<table>
<thead>
<tr>
<th>Reserve Level (US$ million)</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1963-1968*</td>
<td>13.79</td>
</tr>
<tr>
<td>1969</td>
<td>41.95</td>
</tr>
<tr>
<td>1970</td>
<td>-43.57</td>
</tr>
<tr>
<td>1971</td>
<td>72.78</td>
</tr>
<tr>
<td>1972</td>
<td>38.54</td>
</tr>
<tr>
<td>1973</td>
<td>7.72</td>
</tr>
<tr>
<td>1974</td>
<td>-10.18</td>
</tr>
<tr>
<td>1975</td>
<td>34.44</td>
</tr>
<tr>
<td>1976</td>
<td>90.89</td>
</tr>
<tr>
<td>1977</td>
<td>97.89</td>
</tr>
</tbody>
</table>

*average of absolute value of annual percentage changes


Another indicator of reserve availability tells a different story. Governments in developing countries usually attempt to maintain reserves in a relatively fixed relation to imports. Annual deviations in reserve/import ratios from their long-run averages therefore may be more indicative of the excessiveness of reserve levels. In the early 1970s in Costa Rica, the reserve/import ratio did not increase; in fact, it was actually lower than the average ratio of the mid-1960s (Table 9). The most obvious implication of this analysis is that the increase in foreign ex-
change earnings was likely diverted to imports, without having much effect on domestic price levels.

**TABLE 9  RESERVE/IMPORT RATIO**

<table>
<thead>
<tr>
<th>Year</th>
<th>Reserves (millions of colones)</th>
<th>Imports</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>193.25</td>
<td>1624.0</td>
<td>.119</td>
</tr>
<tr>
<td>1970</td>
<td>109.05</td>
<td>2098.1</td>
<td>.052</td>
</tr>
<tr>
<td>1971</td>
<td>188.42</td>
<td>2317.3</td>
<td>.081</td>
</tr>
<tr>
<td>1972</td>
<td>261.42</td>
<td>2473.4</td>
<td>.106</td>
</tr>
<tr>
<td>1973</td>
<td>282.06</td>
<td>3026.6</td>
<td>.093</td>
</tr>
<tr>
<td>1974</td>
<td>302.29</td>
<td>5674.6</td>
<td>.053</td>
</tr>
<tr>
<td>1975</td>
<td>439.21</td>
<td>5947.3</td>
<td>.074</td>
</tr>
<tr>
<td>1976</td>
<td>838.40</td>
<td>6602.4</td>
<td>.127</td>
</tr>
<tr>
<td>1977</td>
<td>1659.15</td>
<td>8753.7</td>
<td>.190</td>
</tr>
</tbody>
</table>


Overall, monetary policy seems to have been fairly accommodatory to rising prices in the early 1970s. During the mid-1970s, however, it became more expansionary. As was the case with fiscal policy, this may have reflected the importance given to growth objectives over price stability. In fact, one of the reasons given for the declining rate of growth in economic activity was that the growth in the money supply was not keeping pace with prices. Because of the fear that the economy was not growing, an attempt was made in 1974 and 1975 to channel money to productive investments. There was an easing up on bank credit, with the Central Bank authorizing national banks to contract foreign loans without its approval. In addition, the banking system was authorized to extend unlimited credit to finance the export of non-traditional industrial and agricultural products. Finally, having suffered from a flight of capital as a result of

---

the relatively low interest rates offered, the government took steps to attract foreign funds and to control the outflow of Costa Rican capital, in particular by raising interest rates on foreign currency deposits. The effectiveness of this set of actions was apparent, with domestic credit rising by 45 percent per year over the period 1974-1975 and the money supply increasing by over 22 percent.\(^{24}\)

In 1976 contractionary measures were finally taken. The government still planned to increase credit for productive activities, but cut back drastically on personal credit. By limiting bank credit expansion to 14 percent (compared to the 40 percent increase in 1975), it was estimated that the money supply would only grow by 13 percent.\(^ {25}\) The interest rate structure was fixed in accordance with this same plan, with an 8 percent rate granted to small-scale farmers, for example, and a charge of 18 percent applied to consumer loans.

Despite these actions, the money supply grew by over 30 percent in 1976, an all-time high growth rate. A tremendous surge in foreign reserve levels, triggered by record coffee revenues, this time played a prominent role in the money supply increase. But oddly enough, this record money supply expansion was accompanied by a sudden and drastic drop in domestic prices. To sum, it seems that both domestic and external factors (each at different times) were responsible for the monetary acceleration of the 1970s. But it is also apparent that the relationship between monetary policy, money supply growth and inflation is neither straightforward nor simple.

\(^{24}\) IMF International Financial Statistics.

\(^{25}\) Reported in a World Bank report on Costa Rica’s economic prospects.
Some Econometric Evidence.

One way of obtaining more rigorous estimates of the relative importance of the money supply, wage payments, import prices, food shortages, and inflationary expectations in explaining a country's inflation is through the use of econometric tests. This section examines, with some simple regression models, the inflation experienced by Costa Rica between 1958 and 1979. Two types of models are tested—a simple monetarist specification, which attempts to explain changes in the consumer price level with changes in money supply, income, and price expectation variables; and an extended monetarist model, which considers not only money demand, but also supply factors—specifically wage changes and increases in import prices. Annual data are used, with ordinary least squares regressions being the econometric technique employed. In addition, some of the tests extend the time period studied, using data from as early as 1951.

Results from the simple monetarist equation are presented in Table 10. The model performs adequately as measured by its coefficient of determination, or R-squared value. When judged by the statistical significance of its variables, however, the model's performance becomes questionable. It can be seen (by the t-statistics in parentheses) that changes in the current money supply, $M_t$, are not significant in any of the equations tested and in one case even take on a negative value.

---

26 This extended model is developed in Brajer (1983).

27 The R-squared value is a statistic which measures the explanatory power of the model; that is, how much of the variation in the dependent variable is explained by variations in the independent variables.

28 By "significant" is implied significance at a five percent confidence level, the most commonly used measure of statistical significance.

29 Being derived from a simple manipulation of the quantity theory of money,
Lagged money supply changes, $M_{t-1}$, seem to have more importance in explaining the inflation rate, although the coefficients in some of the regressions are only statistically significant at the ten percent level. In addition, the performance of this variable is erratic. Its significance rises appreciably when the expectations term, $A_t$, is added, but drops when the wage variable, $W_t$, is included, suggesting that the wage and money variables are capturing the same influences on the economy to some extent.

The expectations variable measuring the opportunity cost of holding money, $A_t$, has a positive and statistically significant coefficient in all but one of the regressions reported.\footnote{For more on the development of such a variable, see Nugent and Glezakos (1979).} The one exception is in the regression model run on data from 1951-1969. One possible reason for this is that in this earlier test period inflation fluctuated little, with no apparent trend. "Expected" inflation could have been constant and somehow captured by the constant term in the model. (Note that only in the equation where expectations are insignificant is the constant term significant).

Finally, the coefficient of the income variable, $GDP_t$, though of the correct sign, is never statistically significant. The extremely poor performance of this variable is surprising, and along with the erratic behavior of the money supply variable, casts some doubt on the applicability of a simple monetarist model to the case of Costa Rican inflation.

\footnote{For more on the development of such a variable, see Nugent and Glezakos (1979).}

The money supply variables are expected to take on positive coefficients; that is, as the amount of money in circulation increases, price levels will tend to rise.
<table>
<thead>
<tr>
<th>Model</th>
<th>Test Period</th>
<th>$P_t$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A</td>
<td>1958-1979:</td>
<td>$P_t = 0.17M_t + 0.31M_{t-1} - 0.26GDP_t$</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.02) (1.74) (0.69)</td>
<td></td>
</tr>
<tr>
<td>1-B</td>
<td>1958-1979:</td>
<td>$P_t = 0.11M_t + 0.35M_{t-1} - 0.17GDP_t + 1.02A_t$</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.07) (3.11) (0.72) (5.49)</td>
<td></td>
</tr>
<tr>
<td>1-C</td>
<td>1958-1979:</td>
<td>$P_t = -0.09M_t + 0.10M_{t-1} - 0.29GDP_t + 0.81W_t$</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.56) (0.60) (0.92) (2.93)</td>
<td></td>
</tr>
<tr>
<td>1-D</td>
<td>1951-1969:</td>
<td>$P_t = 3.07 - 0.12M_t + 0.06M_{t-1} - 0.10GDP_t + 0.17A_t$</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.30) (1.27) (0.56) (0.72) (0.88)</td>
<td></td>
</tr>
<tr>
<td>1-E</td>
<td>1951-1979:</td>
<td>$P_t = 0.09M_t + 0.39M_{t-1} - 0.33GDP_t + 0.77A_t$</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.80) (3.47) (1.76) (4.40)</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 11 EXTENDED MONETARIST MODEL RESULTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Test Period</th>
<th>( P_t ) Equation</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-A</strong> 1958-1979:</td>
<td>( P_t = 0.26W_t + 0.40PM_t + 0.32A_t )</td>
<td>0.96</td>
<td>( (4.47) ) ( (8.46) ) ( (3.16) )</td>
</tr>
<tr>
<td><strong>2-B</strong> 1958-1979:</td>
<td>( P_t = 0.16M_{t-1} + 0.40PM_t + 0.45A_t )</td>
<td>0.95</td>
<td>( (3.91) ) ( (7.57) ) ( (3.71) )</td>
</tr>
<tr>
<td><strong>2-C</strong> 1958-1979:</td>
<td>( P_t = -0.03M_{t-1} + 0.47PM_t + 0.26W_t )</td>
<td>0.94</td>
<td>( (0.56) ) ( (9.33) ) ( (2.41) )</td>
</tr>
<tr>
<td><strong>2-D</strong> 1958-1979:</td>
<td>( P_t = 0.07M_{t-1} + 0.38PM_t + 0.18W_t + 0.39A_t )</td>
<td>0.96</td>
<td>( (1.15) ) ( (7.65) ) ( (1.99) ) ( (3.31) )</td>
</tr>
<tr>
<td><strong>2-E</strong> 1951-1969:</td>
<td>( P_t = 0.13M_{t-1} + 0.28PM_t + 0.08A_t )</td>
<td>0.61</td>
<td>( (2.74) ) ( (3.06) ) ( (0.50) )</td>
</tr>
<tr>
<td><strong>2-F</strong> 1951-1979:</td>
<td>( P_t = 0.11M_{t-1} + 0.46PM_t + 0.22A_t )</td>
<td>0.92</td>
<td>( (2.91) ) ( (8.85) ) ( (2.05) )</td>
</tr>
</tbody>
</table>
Results from the extended monetarist model are given in Table 11. The explanatory power of this model is much higher than that of the simple monetarist model, primarily because of the strength of the import price variable, $PM_t$. Given the high import/GDP ratio in Costa Rica, this result is not surprising.\footnote{31}

As expected, the coefficient for import prices is consistently significant statistically. Even in equation 2-E, which tests data from the earlier period 1951-1969, the import coefficient remains robust, providing further evidence of the importance of external prices in generating domestic inflation.\footnote{32}

The wage variable, $W_t$, is positive and significant in each of the regressions in which it is included. It should be noted, however, that in equation 2-D the wage coefficient is barely significant at the five percent level. Unfortunately, continuous wage data was not available before 1958 and so the effect of rising wage levels on domestic prices could not be tested over the 1951-1969 period.

The money supply variable gives some mixed results. While its coefficient is positive and significant in some of the regressions, in others (especially in the presence of the wage variable) it loses its significance and even takes on the wrong sign. This type of behavior suggests that the money supply variable and the wage variable may be capturing the same in-

\footnote{31}{The import/GDP ratio is not always an accurate indicator of a country's susceptibility to imported inflation. See Bhalla (1981), pp. 85-89, for example.}

\footnote{32}{Since the years 1973-1976 contain extreme and simultaneous movements in domestic and import prices, a correlation between these variables is practically imposed by the data. The good performance of the import price variable for the earlier period of low domestic and foreign inflation demonstrates the stability of the relationship between these variables.}

- 29 -
fluences on the economy. In any event, the role of the money supply in stimulating domestic inflation again must be called to question.

The variable designed to capture inflationary expectations, $A_t$, also provides some mixed results. While its coefficient is significant and positive in the models tested using 1958-1979 data, in the earlier period model it is insignificant, and in the regression run on data from the entire test period, it is barely significant at the five percent level. Again, considering the relatively small fluctuations in domestic price levels that took place from 1951-1969, it is not surprising that an adaptive expectations variable perform poorly. But with the constant term also insignificant in these regressions, the question of what role expectations are playing here seems to be left basically unanswered.

To sum, the statistical inflation models considered here confirm the hypothesis that cost-push factors (especially import price increases) played a large role in explaining domestic inflation. The effect of monetary growth is uncertain, however. The simple monetarist model performs fairly well in some of the regressions, but seems incapable of explaining variations in inflation rates for the period of time before the worldwide economic "shock" of 1973.
III. Inflation in the 1980s.

Following the 30 percent and 20 percent inflation rates of 1974 and 1975, increases in the cost of living index were kept down to single-digit levels. Domestic prices rose by only 3.5 percent in 1976, 4.2 percent in 1977 and 6 percent in 1978. This has been attributed not only to higher levels of production, but also to monetary and credit restraints and to the imposition of price controls on many goods. The end of the worldwide inflationary phenomenon undoubtedly played an extremely important role in this process as well.

By 1979, however, inflation began accelerating dramatically. Prices rose by more than 9 percent that year, followed by increases of 18 percent and 65 percent in 1980 and 1981, respectively. Recent figures show that the inflation rate exceeded 80 percent in 1982, giving Costa Rica one of the highest levels of inflation in all of Latin America. Much of the blame for the country's predicament has fallen on the Carazo regime (in power from 1978-1982) whose economic philosophy involved "opening up" the country to increased competition and greater reliance on market forces. This attempt at laissez-faire economics was definitely inconsistent with the country's long-standing social objectives and probably did contribute in part to the rising domestic price levels.

Basically the inflationary explosion was the result of huge public sector deficits which could not be financed internally, forcing a tremendous rise in foreign debt. Along with a rather serious deterioration in the balance of trade position (caused by the rising cost of imports and falling coffee prices), this increase in external debt put an unmanageable...
strain on foreign reserve levels. A massive devaluation of the colón was the inevitable outcome, with the colón being officially devalued in 1981. The dramatic rise in domestic price levels was a direct result of this devaluation.

The next few sections of this chapter analyze the inflationary process of the early 1980s in more detail. In addition, by using some simple least square regression tests and the most recent quarterly data available, the respective roles of the colón devaluation, of rising import prices, and of money supply growth in the overall process can be better demonstrated.

Fiscal Policy.

Although the fiscal deficit as a percentage of expenditure had always been high, it grew tremendously in the late 1970s (from 12.7 percent in 1974 to 37 percent in 1979).\(^{34}\) With revenues highly sensitive to conditions in the world markets for coffee and bananas there existed the constant danger that actual would not reach planned revenue. Most of the budgetary problem, however, was caused by the decentralized nature of public expenditure. Spending decisions were carried out in over 600 public sector institutions, and only 10 percent of expenditure was directly under the control of the central government. The lack of administrative machinery to control public sector expenditure, together with a comprehensive system of revenue earmarking, made the task of fiscal restraint quite difficult.\(^{35}\)

\(^{34}\) Quarterly Economic Review for Costa Rica, First Quarter, 1980, p. 15.

\(^{35}\) This point is discussed in more detail in Section II, pp. 19-20.
Another reason for the increase in budgeted expenditure was the government's ongoing concern with developing the country's infrastructure and level of basic services. Consistently high budget deficits in the early and mid-1970s had reflected the high priority given to social needs. This pattern continued into the late 1970s, as the government tried to maintain the economic progress of the last few years. Road construction and improvements formed a key element of this process, as did extended health services in rural areas, railway improvements, projects to alleviate urban poverty and housing improvements. Consequently, after experiencing budget deficits of 973.5 million colones and 746.4 million in 1976 and 1977, respectively, the deficit reached 1,315.7 million colones in 1978 and a staggering 2,309.9 million in 1979. 36

Monetary Policy.

Monetary policy was essentially accommodatory to the expansionary fiscal policy. The ever-expanding public sector deficit was largely financed by the banking system, which provided an additional monetary stimulus to the economy. Therefore, despite steps taken by the government to limit the growth of the money supply (which included the raising of cash reserve requirements to restrict commercial bank lending and the issue of bonos cafeteleros --tax-free bonds bearing 12 percent interest which drew off part of the record coffee earnings of 1976 and 1977), money growth remained at a fairly high level throughout the 1970s (Table 12). Domestic credit grew rapidly as well, expanding three times faster than GDP between

---

36 IMF International Financial Statistics.
1977 and 1980;\textsuperscript{37} over 60 percent of this expansion went to the public sector.

\textbf{TABLE 12} \textbf{MONEY SUPPLY GROWTH}

(percentage figures)

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>30.35</td>
</tr>
<tr>
<td>1977</td>
<td>24.36</td>
</tr>
<tr>
<td>1978</td>
<td>24.00</td>
</tr>
<tr>
<td>1979</td>
<td>10.40</td>
</tr>
<tr>
<td>1980</td>
<td>17.02</td>
</tr>
</tbody>
</table>


The resort to inflationary deficit financing was partly due to the limited absorptive capacity of the capital markets in Costa Rica. Equally important, however, was the failure of the government to provide yields on debt competitive with other market opportunities. With time deposits yielding 13 percent in 1979, for example, government bond yields were still held at 8 percent. The volume of public bonds purchased by the private sector fell dramatically (Table 13), leaving the government little choice but to seek finance from the banking system.

Late in 1978, a major reform took place in the banking system. Recognizing that the practice of keeping savings and lending rates at "below market" levels created certain inefficiencies and distortions, the central bank completely altered the interest rate structure by releasing rates from government control. It was hoped that this would promote an increase in savings and, together with the abolition of preferential interest rates

\textsuperscript{37} IMF International Financial Statistics.
(which had helped create artificial shortages of funds for certain activities), raise the volume of investment.\footnote{38}

The reform did have the required effect, in part. As the interest rates paid on time deposits rose (from 8 percent to an average of 13-14 percent) these deposits increased rapidly (Table 13). In contrast, ordinary savings deposits, which maintained their original interest rate of 8 percent, and demand deposits, which paid no interest, showed much lower growth rates, with the real growth of both negligible. In addition, the volume of government bonds held by the private sector dropped drastically, as mentioned previously, forcing the public sector to seek finance from the banking system.

\begin{table}[h]
\centering
\begin{tabular}{lcc}
\hline
 & (millions of colones) & (millions of colones) & (percent) \\
\hline
Demand Deposits & 3,037.5 & 4,190.5 & 38 \\
Foreign Currency Deposits & 938.1 & 2,190.0 & 133 \\
Savings Deposits & 956.3 & 1,310.0 & 37 \\
Time Deposits & 1,923.5 & 3,408.4 & 77 \\
Government Bonds & 909.3 & 632.1 & -16 \\
\hline
\end{tabular}
\caption{INCREASES IN PRIVATE FINANCIAL ASSETS}
\end{table}

Source: International Monetary Fund.

Unfortunately, maintaining uniformity in the structure of lending rates proved to be an impossible task, due to certain institutional characteristics of the Costa Rican banking system.\footnote{39} This development, along with disruptions in the availability and distribution of subsidized

\footnote{38} Reported in a World Bank report on Costa Rica's economic prospects.

\footnote{39} These characteristics are explored in detail in the 1980 World Bank report on Costa Rica's economic position and prospects.
credit, tended to undermine the original intent of the financial liberalization, which had been to integrate domestic capital markets and to bring financial interest rates more into line with the opportunity cost of capital.

All in all, the government's strategy to combat inflation through a tighter monetary policy was apparently not very effective. While continuous annual data on money supply variables are not available for the 1980s, a report by two senior bank economists in September 1982 noted that in the twelve months prior to June of that year, the money supply had expanded by 166 percent. 40

Imports and Exports.

Consistent trade deficits were the rule in Costa Rica throughout the 1970s, yet they had rarely grown to intolerable levels. The terms of trade even improved temporarily in 1977. In August of that year the deficit was only $45.5 million, compared to the $86.3 million recorded at the same time in 1976. The narrowing of the gap was mainly due to the coffee boom. Earnings from this one export rose from $90 million in the first eight months of 1976 to over $220 million between January and August 1977. 41 By the end of the year, however, there were indications that the trade gap would be widening again. Despite forecasts of a 24 percent increase in industrial exports and a 30 percent rise in the sale of non-traditional agricultural goods, coffee prices were declining and imports were beginning to grow more rapidly.

In 1978 and 1979 coffee production and exports reached record levels. Export earnings, did not, however, due to declining world prices for coffee. Meanwhile, import prices continued to rise, led by the doubling of petroleum prices in 1979. There was some discussion about introducing new measures to restrict imports (selective consumption taxes and tariff surcharges had been in effect for several years). The government was reluctant to take any such measures, though, which would restrict economic growth, preferring instead to concentrate its efforts on import substitution and export promotion.

Ironically, import dependence increased rather decreased as a result of the country's import substitution policies. While relatively fewer consumer goods entered the country, greater and greater amounts of raw materials, capital and intermediate goods were being imported. Consequently, any attempt to cut back imports (as part of a stabilization program, for example) became very difficult--such an action would have severely depressed the country's level of industrial activity. This import dependence was especially concentrated in the manufacturing sector, where imports of inputs far exceeded manufacturing exports. This reliance on imported inputs placed an additional demand on foreign exchange, and helped to accentuate the "normal" cyclical foreign exchange crises. Also, by favoring import substitution against export promotion projects, public policy implicitly kept the exchange rate over-valued. This hurt the development of the export sector, the same sector that had been singled out as holding the key to continuing economic growth.

By 1979, with exports still dropping in value and imports soaring to $1.45 billion, the trade deficit widened to $650 million, compared with deficits of $341 million in 1978 and $193 million in 1977. In 1980 the
trade deficit continued to increase, reaching an all-time high of $664 million,\textsuperscript{42} and placing tremendous pressure on foreign exchange reserves.

**Foreign Debt.**

In the late 1970s public expenditure was raised, without corresponding increases in taxation, to the point where the budget deficit reached 17 percent of GDP in 1981. There were attempts made to finance this deficit internally, but domestic bond issues were difficult to float, partly because of the small level of domestic savings relative to the government's financial needs. Financing, therefore, required not only a tremendous amount of credit from the nationalized banking system but also a great deal of borrowing from abroad. With the expanding public investment program dependent on foreign funds for nearly half of its financing, the size of the foreign debt grew rapidly as well.

From the comparatively modest total of $651 million at the end of 1976, the external debt figure rose to $1,396 million in 1979. By the end of 1980 it had reached around $1,800 million. In addition, much of this debt was of short duration, paying high rates of interest, so that the debt service ratio (repayment of principal plus payment of interest as a percentage of export earnings) steadily increased, topping 25 percent in 1980. In 1981 the public external debt continued to grow, and by the end of the year stood at $2,614 million--the highest in all of Latin America (measured in per capita terms).\textsuperscript{43} This massive debt required $1 million per day in service payments and constant negotiation of new funds just to repay old

\textsuperscript{42} IMF International Financial Statistics.

\textsuperscript{43} Quarterly Economic Review for Costa Rica, Third Quarter, 1982, p. 18.
loans. With private debt added in (about $1 billion) the debt per capita in the early 1980s stood at $2,000, a truly incredible figure when compared to the country's per capita national output level of $2,056.

**Foreign Exchange and Devaluation.**

Following the inflationary experience of the mid-1970s, levels of international reserves soared to unprecedented levels. At the end of 1977 foreign exchange holdings amounted to $183.7 million, nearly double the 1976 figure of $93.9 million and over five times the 1973 level.\(^44\) The strong export position (with coffee prices quadrupling between 1975 and 1977) obviously had something to do with this, but the inflow of foreign capital might have been even more important. Much of this capital apparently took the form of loans to the government, as its foreign assets increased from $84.7 million at the end of 1976 to $1,673 million by September 1977. Even in 1978, then, when the trade deficit began increasing, international reserve levels remained high due to the capital inflows which the country was able to attract. In May 1978 foreign exchange reserves actually reached a record level of $290.2 million.\(^45\)

In 1979, however, international reserves began to reflect the pressure brought about by the expansion of public debt and the falling value of traditional exports. By June they had fallen to $125.4 million, and the prospect of a colón devaluation was being considered as one of the ways to prevent a further decline. Throughout the remainder of 1979 and through 1980 reserves remained at dangerously low levels, dropping at several times

---

\(^{44}\) IMF International Financial Statistics.

to the equivalent of two week's imports. These falling reserve levels prompted much speculation against the colón, which was trading in the free market at levels up to 100 percent of its official value (8.6 colones to the U.S. dollar). A World Bank mission to Costa Rica concluded that a devaluation of at least 20 percent was necessary for the economy's well-being.

In October 1980 a series of trade restrictions, including a de facto devaluation, were introduced. The main restrictions were as follows: all foreign exchange at the official rate was abolished for travel abroad; and importers could only obtain half of their foreign exchange needs at the official rate, with the rest being secured on the free market. The adoption of this "dual" rate could not prevent the continued decline of the net international reserve position, however, and in December the government decided to float the colón.

This decision was met with considerable opposition. The business and commercial sectors, along with private consumers, objected to the move because of its inflationary implications. In addition, the Central American Monetary Council refused to accept colones in settlement of intra-regional trade debts, further weakening what had already become for Costa Rica a deteriorating trade picture (due to the unsettled political situation in Central America). The reserve position thus grew steadily worse.

---

By the end of 1981, the free rate of exchange had climbed to a level four to five times higher than the official rate.

The de facto devaluation of the colón was finally legitimized in December 1981, with the creation of a three-tier exchange rate system. In place of the official rate of 8.6 colones to the dollar, the National Assembly passed a bill changing the official rate to 20 colones per dollar. While this represented a large devaluation, few foreign exchange requests were actually being met at this rate. It had been reserved for servicing the foreign debt, the purchase of imported medicines, student scholarships abroad and a number of other minor items. The second tier in the exchange market consisted of a preferential rate of 38.25 colones to the dollar, which was used for imports of certain "essential" goods, food and machinery. The third level was represented by the free market rate, which was used for all other foreign exchange requests and which varied according to supply and demand conditions. While already above 40 colones per dollar at the time of the devaluation, this free market rate of exchange steadily depreciated through 1982 and by the end of the year stood at over 60 colones to the dollar.

In small, open economies, movements in the exchange rate can be an important determinant of inflation. This was clearly demonstrated in the case of Costa Rica. While the country had traditionally experienced a slightly higher inflation rate than the rest of Central America, its position became critical in 1981 following the depreciation of the exchange rate. Inflation skyrocketed, exceeding 65 percent in 1981 and 80 percent in 1982, as the effects of the devaluation moved through the economy.

---

Effects on the Economy.

The financial "crisis" of the early 1980s had its counterpart in the real economy as well. The country's overall economic performance in 1982 was extremely weak, with real GDP falling by 5 to 6 percent.\(^{51}\) In addition, the sharp rises in the cost of living, combined with the necessary wage restraint in the private and public sectors, seriously damaged the distribution of income. Declining real wages and rising unemployment (9.2 percent in 1981) caused labor unrest to reach unprecedented levels. Finally, despite Costa Rica's reputation for a high standard of living, a study conducted by the Ministry of Planning in 1983 reported that 336,000 of the country's 480,400 families were living below the official poverty line (set at $79 per month to cover expenditures on food, housing, clothing, health and education).\(^{52}\) These figures showed a sharp deterioration in living standards since 1980, when 42 percent of all families were classified as below the poverty line.

Unfortunately, the public sector was unable to pursue a counter-cyclical policy, in view of a commitment made to the IMF to reduce the budget deficit to 4.5 percent of GDP (one of the conditions the country accepted for IMF financial assistance). The economic plan of President Monge offered fairly sound policies in five key areas: the productive sector, public finances, monetary policy and the balance of payments, external financing and social planning. Nonetheless, it seemed that an up-

\(^{51}\) Ironically, this decline in real activity actually enabled the country to run a modest trade surplus in 1982, with exports valued at $1,110 million and imports falling to $1,032 million due to the devaluation. This surplus was "swallowed up" by arrears of debt servicing, however, leaving no room for any expansion of imports in the immediate future.

\(^{52}\) Quarterly Economic Review for Costa Rica, Second Quarter, 1983, p. 16.
turn in the Costa Rican economy would just have to wait for improved conditions for its exports in world markets. With the outlook for such an improvement guarded, the immediate prospects were, at best, for little or no real growth in the economy. All in all, Costa Rica was generally considered to be in the midst of the worst economic crisis it had ever faced.

Some Additional Econometric Evidence.

Through the use of some simple econometric tests, a more rigorous estimate of the relative importance of certain inflationary factors can be obtained. While continuous data from the 1980s are difficult to find, enough quarterly figures on money supply growth, import price inflation, and inflationary expectations exist to permit the running of some simple ordinary least squares regressions. The results appear below, in Tables 14, 15 and 16.

TABLE 14 GENERAL QUARTERLY REGRESSIONS

(1st quarter of 1970--1st quarter of 1982)

\[
P_t = 0.16P_{t-1} + 0.17P_{t-2} + 0.24P_{t-4} \quad R^2 = 0.85
\]

(8.97) (6.55) (9.18)

\[
P_t = 0.15P_{t-1} + 0.17P_{t-2} + 0.22P_{t-4} + 0.16M_{t-6} \quad R^2 = 0.90
\]

(9.71) (7.64) (9.67) (4.20)

\[
P_t = 0.16P_{t-1} + 0.16P_{t-2} + 0.22P_{t-4} + 0.03A_t \quad R^2 = 0.86
\]

(8.34) (6.09) (7.03) (0.74)

\[
P_t = 0.15P_{t-1} + 0.16P_{t-2} + 0.20P_{t-4} + 0.17M_{t-6} + 0.05A_t \quad R^2 = 0.90
\]

(8.94) (7.06) (7.10) (4.38) (1.40)
The results clearly demonstrate, once again, the importance of rising import prices in the overall inflationary process. The import price variable, PM, (current and lagged values) is strongly significant in all of the regressions shown in Table 14. It should be noted that this variable reflects not only the rising world prices of tradeable goods, but also the increasing domestic price of imports in Costa Rica, as the colón depreciated sharply in value in 1981 and 1982.

While at least one of the money supply variables appears significant in some of the equations, the reliability of this result is questionable. As with the monetarist models run using annual data before, these quarterly models exhibit a high degree of sensitivity to the time period studied, as Table 15 indicates. The regressions run on data from the first quarter of 1970 to the third quarter of 1981 yield rather different results from those which use the extended data set (to the first quarter of 1982). Not only does the explanatory power of the monetarist equation fall when the time period is extended, but the statistical significance of the money supply coefficients, as measured by the t-values in parentheses, changes appreciably as well.

The variable used to represent inflationary expectations, $A_t$, is positive and significant in all of the monetary equations. In the presence of current and lagged import price variables, however, it is not significant (Table 14). This suggests again that the lagged influence of import price changes might be partly responsible for the robustness of the expectations variable.

This importance was strongly established in Section 2.
TABLE 15 QUARTERLY MONETARY MODELS

(1st quarter 1970--3rd quarter 1981)

\[ P_t = 0.14M_t + 0.04M_{t-2} - 0.005M_{t-4} + 0.27M_{t-6} \quad R^2 = 0.47 \]

(1.60) (0.52) (0.06) (2.81)

\[ P_t = 0.21M_t + 0.07M_{t-2} - 0.10M_{t-4} + 0.23M_{t-6} + 0.21A_t \quad R^2 = 0.63 \]

(2.91) (1.01) (1.20) (2.80) (4.29)

(1st quarter 1970--1st quarter 1982)

\[ P_t = 0.009M_t + 0.18M_{t-2} + 0.27M_{t-4} + 0.09M_{t-6} \quad R^2 = 0.34 \]

(0.08) (1.42) (2.35) (0.66)

\[ P_t = 0.14M_t + 0.14M_{t-2} + 0.08M_{t-4} + 0.11M_{t-6} + 0.33A_t \quad R^2 = 0.61 \]

(1.55) (1.42) (0.87) (1.00) (5.49)

Finally, some regressions are run which attempt to more accurately illustrate the inflationary effects of the colón devaluation. Using an import price variable which captures only the world price of traded goods, regressions are run on quarterly data from the first quarter of 1970 through the fourth of 1980, and on data from the first quarter of 1970 through the first quarter of 1982. The purpose of this "experiment" is to separate the inflationary effects of rising world prices from those due to the depreciating value of the domestic currency.

The results, which appear in Table 16, are striking. The explanatory power of the equation and the significance of the import price coefficients fall appreciably in the second equation. The correlation between the import price variables and the inflation rate changes drastically also. The simple correlation coefficient between \( PM_t \) and \( P_t \) for the shorter time period was 0.43; between \( PM_{t-2} \) and \( P_t \) the coefficient was 0.57. Extending
the database only five quarters (to the first quarter of 1982) reduced these correlation coefficients to -0.03 and -0.08, respectively.

**TABLE 16** COMPARISON OF IMPORT PRICE EQUATIONS

(1st quarter 1970--4th quarter 1980)

\[ P_t = 0.26P_{t-1} + 0.42P_{t-2} + 0.28P_{t-4} \quad R^2 = 0.74 \]
\[ (2.64) \quad (3.98) \quad (2.78) \]

(1st quarter 1970--1st quarter 1982)

\[ P_t = 0.29P_{t-1} + 0.07P_{t-2} + 0.51P_{t-4} \quad R^2 = 0.24 \]
\[ (1.28) \quad (0.28) \quad (2.06) \]

The results in Table 16 thus provide further insights into the country's inflationary experiences. Up until 1979, the rising world price of imports strongly influenced the domestic economy. The growth in import prices levelled off in 1980, but their domestic price in Costa Rica continued to rise, because of the colón's declining value. The rising local cost of imported goods has therefore consistently influenced the domestic economy, and must be considered the key factor in the country's inflationary experiences of the 1970s and the 1980s.
IV. Conclusion.

This study has examined the inflationary experiences of Costa Rica over the past twenty-five years and has evaluated alternative explanations of its causes. Of special interest has been the country's high degree of dependence on international economic activity. Traded goods constitute over 30 percent of GDP. Further, over 70 percent of export revenue is derived from coffee and bananas. Thus, as a "two-crop" country, Costa Rica is particularly vulnerable to export prices determined in world markets. The domestic economy is also heavily dependent on imports whose prices are determined externally. Ironically, due to the import substitution strategies of the past two decades, the composition of imports has shifted from consumer goods to inputs for industry, making total imports much more inelastic with respect to price changes. As a result, the economy now bears more fully the burden of rising import prices than in the past; any attempt to cut back imports could severely depress the level of domestic industrial activity.

Also important has been the government's involvement in the process of economic change. In Costa Rica the State has assumed an active role with respect to education, health and many other public services, making the public sector the most important and direct participant in economic activity. Because of this, fiscal policy has continually been forced to be expansionary. Nevertheless, the country's inflation rate had traditionally been low (by Latin American standards), averaging on the order of 2-3 percent annually.

In the mid-1970s, Costa Rica was swept along with the worldwide inflationary phenomenon. Domestic price levels rose by 15 percent in 1973, 30 percent in 1974 and 17 percent in 1975, figures comparable to those for
the other non-oil-exporting developing countries. The analysis indicates that this inflationary experience was caused by both external and internal factors. Higher import prices played the dominant role in the inflationary process; the close parallel of domestic price movements with those of import prices leaves little room for doubt that the inflation was, to a large extent, imported. However, the granting of real wage raises (in excess of productivity gains) also played an important part in facilitating and accelerating the inflationary process. In addition, domestic economic policy seemed to be aimed primarily at promoting economic growth and decreasing the country's dependence on foreign trade, and thus did little to dampen the existing inflationary pressures. While it is not clear whether domestic monetary expansion provided an added source of inflationary pressure, growing fiscal deficits did help stimulate a record liquidity expansion in the 1970s. Thus, the analysis shows that while the inflation was mainly caused by external factors, their effect was exacerbated by expansionary domestic fiscal policy, an accommodating monetary policy and rising real wage levels.

The statistical models of inflation tested also indicate that import price inflation played a large role in explaining domestic inflation in the mid-1970s. With changes in import prices (current and lagged) and in wages both so important to the overall inflationary process, the extended monetarist model performed well, as judged by its coefficients of determination and by the statistical significance of its variables.

After 1975, monetary and credit restraints and the imposition of price controls on many goods, combined with a sharp drop in the inflationary pressure from import prices, enabled the country to regain its earlier price stability. By 1979, however, inflation began accelerating dramat-
ically, and by 1982 exceeded 80 percent. The main villain in this process was apparently the exchange rate, whose massive depreciation over an eighteen month period in 1980 and 1981 caused domestic prices to soar to unprecedented levels. Much of the blame must also fall on a continually expansionist fiscal policy which put a tremendous strain on the country's international reserve levels. The devaluation of the colón was the inevitable outcome of such policy action. The lesson that can be learned from the experience of Costa Rica is clear: despite a country's degree of openness to the world economy and to the effects of external shocks, domestic policy still matters and can still play a vital role in the country's overall development.
BIBLIOGRAPHY


IMF International Financial Statistics.


Quarterly Economic Review of Costa Rica. The Economic Intelligence Unit, Ltd. London.

UN Monthly Bulletin of Statistics.