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THE NICARAGUAN ECONOMY IN THE MEDIUM RUN

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1. INTRODUCTION

WHAT ARE THE medium-term prospects for the Nicaraguan economy where, by medium term, we refer to the year 2000? The difficult task of fortune telling is made enormously more complicated by the political economy that was established in the country by the *Frente Sandinista de Liberación Nacional (FSLN)* after the 1979 revolution in which they, with the aid of diverse social factions, overthrew the government of Anastasio Somoza Debayle.[1] After more than a decade, the FSLN then handed over power, in mid-1990, to a coalition of opposition parties (the *Unión Nacional Opositora* or UNO) headed by Violeta Chamorro. The 1990 election brought the first peaceful transfer of power in Nicaraguan history but, perhaps, represented more an abdication by the beleaguered Sandinistas than it did a sea change in the balance of class conflict. Some 40% of the electorate supported the Sandinistas through the darkest hours of their reign and remain committed to the principles of the revolution. From this assessment of Nicaragua's medium run prospects, three conclusions emerge.

First, the current-account deficits which characterized the 1980s will be unsustainable in the 1990s. Despite the willingness of the Reagan administration to supply the *contras* with lavish

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funding in the past, a similar supply of foreign exchange to the new administration, anticipated by many, will not be forthcoming. The only alternative to acquisition of the needed foreign exchange is to increase exports. The striking conclusion here is that increasing exports must take priority over stabilizing prices.

Second, whatever the course of Nicaraguan political economy in the years ahead, there will be no return to the *Somocista* model. The Sandinista revolution has transformed the expectations and consciousness of Nicaraguan society in fundamental, unalterable ways. Some new class accord, some social compact created out of the ashes of domestic bourgeois rule, will have to replace the Sandinistas. How quickly and creatively the national bourgeoisie respond to the new reality will determine, in large part, the pace and extent of the recovery. If the private sector expects a return to business as usual, it will be frustrated, and the growth of the economy — at least in the medium run — will be stunted.

Third, the new government is likely to face policy constraints at least as severe as those faced by the Sandinistas. While the latter were able to rally a degree of public support for the extremely harsh economic policies of their last years in power, the support of UNO is much less coherent and organized. The UNO government came to power on the promise of prosperity brought about by the immediate cessation of both the war and economic embargo. However, it enjoys none of the ideological cohesiveness of the FSLN. UNO operates under a political performance bond; if it does not deliver, its support, fragile at best, will dissipate.

To explore this assessment and the reasons behind it, Section 2 will begin by reviewing the macro-economy under the Sandinistas and the legacy it left for its successors. Section 3 discusses the transition to the new government, while Section 4 analyzes the current situation. Section 5 is devoted to projections for the medium term based on a 2-sector, 2-class macromodel, in which consistency projections are made that show that the recovery will be painfully slow and will involve, at least for the next decade, shifting resources from the nontraded to the traded goods sector, with low overall growth rates. Section 6 points out some policy implications of the simulations, and concluding sections survey dilemmas faced by the UNO, some of which are not very different from those which drove the Sandinistas from power.

Table 1 Basic Macro Data

Year	GDP Growth Rate	Per Capita GDP[1]	Inflation[2]	Imports[3]	Deficits Fiscal[4]	Deficits Current Account[4]
1970-74	6.3	102.9	9.8		3.0	85.76
1975-79	-4.5	100.0	14.2		5.7	122.26
1980	4.5	68.7	24.8	100.0	8.9	430.1
1981	5.4	70.1	23.2	110.1	8.8	590.6
1982	-0.8	67.3	22.2	87.7	12.4	491.6
1983	4.6	68.1	35.5	99.4	21.8	507.7
1984	-1.6	64.8	47.3	105.5	23.5	596.8
1985	-4.1	60.1	334.3	111.9	22.5	725.7
1986	-1.0	57.5	747.4	115.6	17.1	687.8
1987	-0.7	55.2	1,347.4	89.9	16.4	679.1
1988	-10.9	49.1	33,602.6	86.6	20.7	594.9
1989	-2.9	46.1	1,690.0	65.4	2.5	361.0
1990	-5.7	42.1	8,500.0	70.0	12.3	88.7[5]

Notes: 1. 1975-79 = 100 2. CPI 3. Quantity index; 1980 = 100.
4. As a percent of GDP. 5. Jan-Sept.
Sources: 1970-86 IMF (1989); 1987-1988; Taylor *et al.*, (1989)
CEPAL, (1988,1990) and Ocampo (1990).

2. THE MACRO ECONOMY UNDER THE SANDINISTAS

UNDER THE SANDINISTAS, *per capita* output declined to levels of the 1940s and, as shown by Table 1, is now only 42% of its pre-revolutionary level. Perhaps the only clear conclusion to be drawn is that the revolution was very expensive, at least in terms of output foregone. Some 25% of the gross domestic product (GDP) was lost in the insurrection itself, along with 1.2% of the population, most of whom were civilians. Nevertheless, despite the exceptionally poor growth in GDP *per capita* over their 10-year tenure, the Sandinistas still maintain a considerable base of popular support as well as control of the armed forces.

Repressed by price controls and relieved by imports, Nicaraguan inflation was less than half that of the rest of Latin

America up until 1984 (CEPAL, 1988: 19), at which point it began to accelerate rapidly (see Table 1). In 1988, the consumer price index (CPI) advanced by more than 33,600%, only to fall precipitously in 1989 as the result of a fiercely contractionary stabilization program introduced by the Sandinistas. At its worst, the inflation surpassed Bolivia's record rate of 11,750%. For two months at the end of 1988, Nicaragua's *monthly* inflation rate was more than 100% (Arana, 1989: Cuadro 6).[2]

Table 1 shows that when foreign exchange to purchase intermediate imports and capital goods was abundant, the economy grew with little inflation.[3] In 1983, Nicaragua had the fastest growing economy in Latin America, expanding at a rate of 4.6%. The country emerged from the first 3 years of reconstruction with relatively low inflation, a good start on the agrarian reform, and production up in all sectors except — significantly — cotton. Infant mortality was low, and an adult literacy campaign was successfully completed. After 1983, however, supply contracted steadily while nominal demand increased in tandem with the *contra* war (see Table 1).

Prior to the 1979 revolution, the private sector served as the engine of accumulation, investing as much as 16.8% of GDP in the 1970-74 period. Immediately following the revolution, a capital strike began, and the Sandinistas denounced the domestic bourgeoisie for "de-capitalizing" the economy (Gilbert, 1985: 172). Throughout the revolutionary period, private sector investment was sluggish despite the persistence of policies that guaranteed prices, gave preferential access to foreign exchange at subsidized rates, maintained relatively low taxes, and granted direct subsidies. Regressions on investment data show that, prior to the devastating 1972 earthquake, the stimulative effect of government investment on private investment (so-called *crowding in*) was weak, with a barely significant coefficient of lagged public-sector investment on private investment. Thereafter, the coefficient becomes highly significant, indicating a strong crowding in effect.[4]

The fiscal system was basically sound up until 1983 when the fiscal deficit jumped from 12.4% to 21.8% of GDP (see Table 1). Thereafter, the recurring fiscal crisis greatly restricted the degree of Sandinista autonomy in the design and implementation of public policy, both in administration as well as in the defense of the interests of the popular classes. In order to maintain social

spending (which had increased from 11% of the government budget under Somoza to a maximum of 39% of the Sandinista budget), the only available option was to reduce public accumulation. Defense expenditure began to crowd out public investment (which had averaged approximately 13.5% of GDP until 1984), and by 1988 public investment had dropped to only 4.4% of GDP.[5]

While a substantial fraction of the fiscal deficit was linked to policies which attempted to pull in the support of the domestic bourgeoisie, the real incomes of the poorest segments of Nicaraguan society were arguably defended by Sandinista policies, especially by the land reform. There were also contributions to the social wage made by expenditures for health and education, by rent control, and by the food price policy. Expenditure in these categories was not out of line with other countries in Latin America, with central government transfers reaching a peak of only 8.4% of GDP in 1984. Despite these efforts, real wages fell throughout the tenure of the revolutionary government.

Taxes increased to a maximum of 39.6% in 1984, although they were seriously undermined by hyperinflation later on, since lags in tax collection implied lower real revenues. In the early stages of inflation, the government benefited from higher prices since, at least through 1986, the private sector was willing to hold unusually large quantities of money in local accounts. Inflation shifted the corresponding real resources from the private sector to the government. This "inflation tax" eased the deficit temporarily but then disappeared when savers began to convert their local currency deposits to dollars through the black market.

Ironically, the Reagan administration's overt hostility helped to increase the flow of foreign capital from more sympathetic sources, thus allowing the Sandinistas considerably more flexibility than other governments in the region were able to employ. While most other countries in Latin America had to transfer significant resources abroad during the 1980s, Nicaragua became a net recipient of foreign capital. Over all, Nicaragua's exports paid for less than half its imports, and the country imported half of its material supply. Table 1 records the phenomenal deficits in the nation's current accounts racked up during the post-revolutionary period.

Foreign capital initially came from Latin America and Western Europe and, later, predominately from the Soviet Union and Eastern Europe. Taylor *et al.* notes that 70% of total imports took

the form of commodities tied both to donor supply and to specific destinations (1989:14) . Altogether, the foreign debt multiplied to more than five times GDP ($8.5 billion in 1990), and, from 1983 to 1988, Nicaragua led the region in its overall accumulation of debt (CEPAL, 1990: 34). Moreover, since the revolution, Nicaragua has been able to pay only about 30% of the total interest payments due on this debt (Envío, 1989b). Under the Sandinistas, Nicaragua was in a state of "undeclared moratorium," with its value-impaired debt selling for as low as 4 cents on the dollar in the secondary market.

Table 2 documents the near total collapse of exports in the period following the revolution. So far, exports have recovered to about only 60% of their pre-revolutionary levels. Nontraditional exports virtually disappeared along with the Central American Common Market (CACM) which had, in 1980, supported $1.1 billion in trade compared to only $0.4 billion in 1986. Much of the explanation lies in the US embargo and the loss of Nicaragua's

Table 2 Foreign Trade--Millions of U.S. $

Year	Total Exports $mn	Non Traditional %	Terms of Trade	-Exchange Rates- Official Rate	Black Market	Foreign Exchange Losses
1975-79	552.7	28.7	112			0.0
1980	445.1	20.4	100	100.0	100.0	0.0
1981	513.8	18.5	90	86.3	141.5	0.0
1982	408.6	16.9	85	75.6	241.6	2.7
1983	451.9	14.8	82	65.2	454.4	4.0
1984	412.4	13.9	103	48.5	749.3	5.5
1985	305.1	12.0	94	50.1	814.2	2.8
1986	257.2	15.3	99	35.1	627.4	7.6
1987	295.0	13.6	96	9.4	535.3	5.3
1988	235.7	14.6	95	100.7	301.5	0.0
1989	290.1	19.6	87	199.0	181.6	n.d.
1990	321.3	19.0	82	126.0	n.d.	n.d.

Sources: Ocampo (1990); Taylor *et al.*, 1989;

principal export market. There was also substantial deterioration in the terms of trade as seen in the fourth column of Table 2. Most observers quickly point to the lack of sufficient incentives for large private-sector exporters, especially as expressed in the overvaluation of the exchange rate. Taylor describes the 1986-87 exchange rate as one of the "most impressive cases of overvaluation in the economic history of Latin America, or indeed the world" (Taylor, *et al.*, 1989: 39). However, while it is easy to point to the grossly overvalued exchange rate as a major cause of the collapse of exports, there is more to the story.

The Sandinistas had a long history of trying, with varying degrees of success, to increase agro-export profits through means other than the official exchange rate. Throughout the period, the overvalued exchange rate was substantially offset by implicit, and explicit, subsidies, as well as by negative real interest rates. In 1982, the government introduced a system of multiple exchange rates although the implicit rate of devaluation was only 20% the first year and 15% for the next two years (De Franco, 1985: 6).[6] However, the system of multiple exchange rates soon got out of hand, causing foreign exchange losses which peaked at 7.6% of GDP in 1986 (Table 2). Not until the stabilization program was introduced (February 1988) was the multiple-exchange-rate system formally ended, and this source of money creation eliminated.

In the context of a computable general equilibrium model, Gibson (1985) argued that the Sandinistas should have undertaken a major currency devaluation much earlier on. While it was clear that there was a pressing need to devalue, the Sandinistas seemed to ignore the obvious, partly for political, and partly for misguided policy, reasons. The main argument was that devaluation would reduce real wages by provoking inflation. Moreover, given the hostile attitude of the domestic bourgeoisie, official devaluation would trigger a run-up in the black-market rate which would stimulate capital flight. In the end, the Sandinistas were unwilling to face the political consequences of an open assault on real wages and, in so doing, crippled the export market. The various schemes to make up for the overvalued exchange rate were too little, too late, and unevenly applied. What the Sandinistas apparently failed to recognize was that a successful real devaluation, however achieved, would necessarily transfer income from workers and urban capital to agro-exporters. They

could not, simultaneously, protect their clients *and* stimulate exports.

In retrospect, it is unclear that *any* real exchange rate would have been deemed sufficient to get exports back on their pre-revolutionary growth path. The core of the problem was that the private sector rejected Sandinista control over the allocation of foreign exchange through the system of a government export clearinghouse. Many ranking Sandinistas were intellectuals, and their policies were shaped by their analysis of why the agro-export model had failed (Hodges, 1986; Wheelock, 1980). The centers of power in pre-revolutionary Nicaragua were finance, commerce and trade, and, as a consequence, these were the sectors of the economy they sought to bring under state control. The rest of the economy, including an important segment of export agriculture, could safely be left in private hands. The black market for foreign exchange was tolerated as a social safety valve, imparting a degree of flexibility to the rigorous system of foreign exchange allocation and thus helping to avoid a direct confrontation with the domestic bourgeoisie (De Franco, 1989: 32).[7]

Breaking the equation of political with economic power goes against a long tradition in Nicaragua and, combined with ineffectual planning and administration, the Sandinistas' scheme proved untenable. First, in the context of war, embargo, and external shocks, profits were not forthcoming despite whatever help the state provided. Second, from the beginning, the domestic bourgeoisie never accepted its role as junior partner in the coalition. In their view, the private sector would eventually be eliminated, their property confiscated, and, until then, they would be used for short-run, strategic purposes.[8]

In failing to nationalize the export sector completely, the Sandinistas were forced to try to accommodate the private sector in some meaningful way. This they tried through various ideological campaigns such as *concertación* (roughly, social harmony), together with the concessions on taxes and subsidies mentioned above. However, accommodating the domestic bourgeoisie was politically unpalatable to many of their followers (not to mention important segments of the leadership), who were opposed to a return of bourgeois rule. The theory, expressed confidently by Wheelock, was that the Sandinistas could trade guaranteed profits off for political control (Wheelock, 1983: 35). At best, this was

probably naïve; it turned out to be an inchoate foundation on which to build the revolution.

3. THE END OF SANDINISTA RULE

AFTER INFLATION BEGAN to take root, though there were piecemeal attempts at stabilization in 1985 (e.g., the first devaluation since 1979), the Sandinistas did not make a serious commitment to reform until early 1988. By the end of 1987, the situation had reached a crescendo. The black-market premium was more than 50 times the official rate of exchange (as seen in Table 2), inflation was galloping, and real growth had faded to a dim memory. Ortega then announced a stunning package, beginning with a monetary reform that implied a maxi-devaluation of the córdoba from 70 to 10,000 to the dollar. The approach was highly contractionary, designed to restore profitability and eliminate distortions omnipresent in the system. Real wages in the formal sector were to be protected by a nominal increase of 500%. Government spending was slated to fall by 10%, and the numerous nominal exchange rates were collapsed into an official, and parallel, rate. Access to foreign exchange, for whatever use, was liberalized and price controls abandoned.[9]

As the war wound down over the next two years, the Sandinistas were able to reduce government spending to less than half its 1987 level. In 1989, 8,000 civilian, and 13,000 military, jobs were eliminated, which drove up the rate of unemployment from 24.7% to 32.7% (Envío, 1990b). The overall 1989 fiscal deficit was reduced to only 10% of the government budget and an astounding 2.5% of GDP (see Table 1). Despite the intensity of what amounted to an IMF-styled "orthodox shock," the reforms were insufficient to stop the hyperinflation. First, the nominal devaluation was followed by several more maxi-devaluations in 1988, and then by a milder and more frequent crawl of the exchange rate in 1989. Government spending — and, hence, Central Bank credit — was not contained as planned, due to both Hurricane Joan and a lag in the 1988 tax collections. The 1990 elections brought a massive injection of liquidity: first, to finance the ample Sandinista campaign, and second, to maintain the flow of private sector credit at a time when it was considered politically indispensable.

Beginning in the months just prior to the election, the Sandinista stabilization program began to unravel completely. There was a bulge in the creation of credit with which to finance the campaign and little restraint in financing the spring planting. No effort was made to continue the scheme of sequential mini-devaluations. Not only was the exchange rate frozen, but also government prices, which had been kept high to absorb some of the excess liquidity. To encourage production, the government decided to pay exporters at the exchange rate on the parallel market, thereby effectively reviving the system of multiple exchange rates. Central Bank losses on foreign exchange transactions, along with a liberal program of debt forgiveness, returned the rate of monetary emissions to crisis levels. The government deficit ballooned to 28% of GDP.

4. THE CURRENT STATE OF PLAY

THE CHANGE that took place on 25 April 1990 was profound, at least insofar as its rhetoric was concerned. However, from a practical standpoint, the policies UNO put in place during its first year in office differ little from the programs initiated by the Sandinistas in 1988 — and which would presumably have continued without the hiatus of the elections. Where the two regimes differ most is in their attitude toward privatization. The FSLN would have maintained the parastatals intact, as an important force in the economy, while the UNO now stresses the advantages of privatization and private-sector initiative. In the current situation, however, privatization may be little more than a borrowed cliché since there are few buyers for formerly state-owned property. As of September 1990, only 16 state enterprises were returned to former owners, and six of these were immediately taken over by their workers (Envío, 1990a).

Soon after the election, the new government introduced a 5-point program to combat the generalized economic crisis: (1) stop inflation through a continuation of the orthodox shock; (2) introduce currency reform to achieve convertibility; (3) secure foreign financing unavailable to the Sandinistas; (4) promote exports by progressive real devaluation; and (5) privatize the

parastatals to the extent possible, while leaving the major part of the agrarian reform intact.

Throughout the first year, the attention of the new government has been absorbed primarily in stabilizing the economy, points 1-3 above. The most visible component of the stabilization effort was the *córdoba oro,* introduced by Central Bank President Francisco Mayorga at 1-to-1 parity with the US dollar. During the presidential campaign, Mayorga had promised to stop hyperinflation by imposing fiscal and financial responsibility through monetary reform. But the *Plan Mayorga* did not work, and the Central Bank president was eventually forced to resign. As the currency reform began to fail, capital flight accelerated, and the foreign exchange constraint eventually began to tighten. A third of the new córdobas returned to the Central Bank, having been exchanged for dollars (Ocampo, 1990: 43), exchange parity with the dollar was ultimately lost, and the credibility of the new government became severely strained.

The effective dollarization of the Nicaraguan economy has now speeded up inflation, as has the government's attempt to bring the official exchange rate in line with the black market rate. Indexation is much more deeply rooted in the Nicaraguan economy than ever before. The most immediate practical implication is that real devaluation is now virtually impossible since the prices of nontraded goods rise with the exchange rate. Exporters will reap none of the usual advantages from currency depreciation if prices of nontraded goods increase in step with the exchange rate.

Perhaps the most damaging effect of the so-called *Plan Mayorga* was that it sharpened the conflict between organized labor and the new government (Neira, 199). The nominal rate of exchange became a highly visible indicator of the rate of expected increases in price, which allowed the unions to factor anticipated inflation into their demands. Taxes and public utility payments were also indexed, as were new deposits in the banking system. Together with the perceived weakness of the regime, dollarization promoted two devastating strikes in May and June of the new administration's first year, thus virtually eliminating any hope of immediate stabilization, not to mention real devaluation.

The inability of UNO to get government spending fully under control tends to fuel the hyperinflation. Table 1 shows that the

estimated fiscal deficit has returned to approximately 12% of GDP (still low by Sandinista standards). There are numerous reasons for this. For one thing, *contra* demobilization was not fully completed, which delayed the opportunity for further savings on the military budget. Besides, UNO's attempt to reduce the size of the state bureaucracy was frustrated by strikes. In fact, the size of the government has expanded recently, with new ministries and an "occupational conversion program" — in which displaced workers are offered either 4-months severance pay and credit to start a small business, or a tax credit, worth half a year's salary, to a prospective employer. Should workers refuse either of these options, they may continue to work at 90% of their salary. It is clear that these measures, while socially progressive, will not serve to reduce the fiscal deficit in any great measure.

The principal barrier to reducing the amount of the deficit is the size of the armed forces. As of May 1990, the army was 79,000 men, but it has since been pared back to 28,000, which now makes it the smallest army in Central America (Envío, 1991).[10] While this is indeed an impressive achievement, it fails to reduce the fiscal deficit in any significant way because much of the military budget in the past was subsidized by the Soviet Union. Moreover, the costs of re-integration have been substantial even though most amount to a one-time charge and will not continue to be a fiscal burden in the future.

Although the Chamorro government has managed to shore up the inflationary drain on fiscal revenues through the currency reform and tax indexation, its regressive measures have failed to increase total tax revenues. The elimination of multiple-exchange rates and losses due to the previously inverted relationship between interest rates on loans and deposits, has certainly helped stem monetary emissions. On the other hand, the exchange rate is still considerably overvalued (due, in part, to a desire to maintain convertibility at par), which means that the government must spend between $10-$15 million per month to defend the pegged rate (Ocampo, 1990: 43). However, above all, it is UNO's inability to secure external financing for the fiscal deficit that has forced a return to the printing press and, ultimately, the devaluation of the *córdoba oro.*

The ideological mainstay of the Chamorro government's program is the private sector, but so far it has failed to take a

commanding role in the recovery. Although UNO is staking much of its political future on presumed efficiency gains of re-privatizing the economy, the private sector appears to have little confidence that the government can indeed control emissions. The outlook is generally pessimistic. The representative of the domestic bourgeoisie, the *Consejo Superiór de la Empresa Privada* (COSEP), maintains that the climate is simply not right for investment and privatization and insists that all confiscated property be returned immediately to former owners (Guermas and Neira, 1990: 30). The Chamorro government has been most visible in its support of the cotton farmers, elite of the agro-export sector.[11] With incentives ranging from interest-rate subsidies to fuel-tax rebates, acreage increased by 32%: from 85,000 in 1989 to 110,000 acres in 1990. Nevertheless, this was still short of the government's published goals (Envío, 1990b).

Nor has the United States come to UNO's rescue. Chamorro's request for an emergency aid package of $40 million was turned down last year on the grounds that Nicaragua would not be able to repay the loan. The US has pledged $541 million since UNO came to power but, as of April 1991, only $207 had been disbursed (New York Times, 1991). Chamorro's principal adviser, Minister of the Presidency Antonio Lacayo, was called to Washington and urged to accelerate privatization, reduce the size of the army, and withdraw its case against the United States in the International Court of Justice (ICJ) in exchange for faster disbursement (Envío, 1990a). That the US has taken such a hard line has, in effect, forced UNO to take account of the Sandinista opposition more than if the US had fully underwritten the new government. The world donor community has also lagged behind, claiming that until the new regime is able to stabilize the economy, normalization of relations with the world financial community will be impossible.

5. THE SHORT-RUN POLICY DILEMMA

WHEN UNO CAME TO POWER its policymakers identified inflation as the principal macroeconomic problem and boasted that it would impose a Sachs-style stabilization program which would end hyperinflation within 100 days. At the close of the first year in power, however, it is clear that hyperinflation maintains a tenacious

grip on the Nicaraguan economy. The principal argument made here is that it was, and continues to be, a mistake for the new government to focus exclusively on inflation as its worst enemy. Rather than concentrating only on inflation, the government should devote its primary efforts to increasing exports. To a great extent, inflation will then take case of itself.

The reasoning is as follows: Nicaragua is fundamentally a foreign-exchange constrained economy. This means that increases in demand that are not accompanied by increases in the availability of foreign exchange are immediately inflationary. Supply response is muted by the limited import capacity. Nicaragua is also "small" in the sense that the majority of its exports are sold at world prices denominated in dollars. Thus, while the prices of nontraded goods rise with the internal rate of inflation, the prices of traded goods increase with the rate of devaluation. If the rate of devaluation keeps pace with inflation, there is no movement in the terms of trade between traded and nontraded goods. On the other hand, if the rate of devaluation lags behind, as it usually does, the terms of trade move against traded goods. In other words, the real exchange rate appreciates, shifting income from rural exporters to urban importers. Inflation in foreign-exchange-constrained economies typically brings with it reduced incentives to export.

Both the Sandinistas and the UNO government have stressed the management of demand as the cure for inflation. Both followed the conventional wisdom which requires cutting the government deficit and restricting credit to the private sector. The other traditional way to reduce demand is to shift income from workers who spend to the bourgeoisie who save. Here the Sandinistas were wiser than the coalition government, recognizing that the degree of organization and militancy among those who typically suffer from such plans would not permit any significant contraction in demand to take place through this mechanism. UNO's problem is that it is widely recognized that any reduction in government spending ends up by reducing the social wage, which has the same income redistribution effect as a cut in nominal wages.[12] The Sandinistas have effectively blocked any direct redistribution, and they oppose indirect redistribution through cuts in government spending. Thus, the methods by

which demand is traditionally managed are largely unavailable to the UNO coalition, at least for the present.

What role does the exchange rate play in this account? Were dollars not held as an asset, devaluation could be expansionary, even in the short run (Gibson, 1985 and 1991b). Higher nominal exchange rates would lead to a depreciation in the real exchange rate, which would encourage local consumers to reduce their consumption of traded goods and increase their consumption of nontraded goods. This would free up foreign exchange, causing an increase in nontraded output and a fall in the price level. But when capital flight is an option, and dollars are traded on a black market, any increase in the official rate signals an increase in the black market rate. This causes a larger fraction of export revenues to be diverted to the black market, with the result that the supply of imports falls. Moreover, a large gap between the black-market rates and the official rates acts as an effective tax on exporters, discouraging exports and causing the foreign exchange constraint to bind even more tightly.

How can we be certain that the Nicaraguan economy fits the mold of a foreign-exchange-constrained economy? Several reasons suggest themselves. It is evident that the Nicaraguan economy is highly open and, with a debt of $9.5 billion, dependent upon foreign financing. Ocampo (1990) shows that the import coefficient (imports over real GDP) is remarkably constant, fluctuating between 28% and 32% from 1982 to 1990, which strongly suggests the presence of a foreign-exchange constraint. Moreover, regressions run by Taylor *et al.* confirm that inflation has not been "inertial" (or self-sustaining) as has been the case in the larger, more advanced economies of Brazil, Mexico and Argentina as well as in the developed economies (1989: 44). Wage increases in the previous period fail to explain adequately the wage increases of the current period, which implies that the wage-price spiral is not active, as it is in inertial inflation. This evidence is consistent with the hypothesis that foreign exchange constrains production. Were demand the primary constraint, one would expect costs of production, especially wages, to be the prime mover of price increases. Finally, the highly erratic nature of monthly price increases is again consistent with the hypothesis that the economy is tightly constrained regarding foreign exchange (Ocampo, 1990: Fig. 4).

This suggests that, rather than concentrating on stabilization through restraining demand, the new government should act, first and foremost, to remove any overvaluation of the exchange rate. This would reduce capital flight and increase local supplies of nontradeables. Inflation will then abate. These conclusions should not be interpreted as suggesting that UNO should abandon its stabilization efforts entirely, but, rather, that it would be far better to concentrate on policies which increase exports and the availability of foreign exchange.

Clearly, there is reason for some optimism about export growth under the new government. Nicaragua's natural trading base has been restored with the lifting of the embargo, and the price of cotton is improving. With incentives restored, the stage is now set for a dramatic recovery, if only the private sector cooperates. It will, nonetheless, be a difficult recovery since the domestic bourgeoisie has not invested in a decade and is no longer competitive, even by Central American standards. It is also true that perceived risk is higher now because of the absence of state subsidies. There were very few bankruptcies under the Sandinistas.

6. A MODEL OF THE MEDIUM TERM

THIS REVIEW OF the current situation clearly shows Nicaragua to be still a deep bind. The option of limping along, heavily subsidized by foreign capital, has now disappeared entirely and, in the coming decade, the economy must be restructured in fundamental ways. Exports should be increased, but it is just as clear that increasing exports will come at additional social cost. Whether the support for the new regime is sufficient to weather the necessary transformation is very much an open question. The purpose of this section is to quantify the tradeoffs involved in the needed restructuring.

Growth projections are based on a 2-sector, 2-class, 3-gap macro model summarized in the Appendix and discussed in greater detail in Gibson (1990). The two sectors are traded and nontraded goods, and the two classes are capitalists and workers. Given information on traded supply elasticity, investment and government expenditure, the model calculates exports, nontraded output, the foreign deficit and the public-sector borrowing

requirement (PSBR) — or the amount the government must raise to cover its deficit. The crucial assumption of the model is that the foreign exchange constraint does not bind. The model then calculates the amount of foreign exchange required to keep the foreign exchange constraint at bay. If this amount of resources is not available, either through exports or foreign loans, the behavior of the model changes radically. While the benchmark projections assume the required quantity of foreign exchange will be forthcoming, the assumption of no foreign exchange constraint will be dropped below. The consequences of this change in regime are seen to be catastrophic.

Table 3 reports the findings of the model for projections on to the year 2000. External resource requirements are computed for a somewhat optimistic set of assumptions about government expenditure, investment, and traded-good price elasticity. The model gives the same results for much higher nominal price levels without affecting the real variables so long as all relative changes remain the same. Thus, even if UNO does not succeed in its stabilization program in the early years of the simulations, the

Table 3 Results of Growth Exercises

Year	Real GDP Growth	Inflation CPI[1]	Real Exchange Rate[1]	-Savings[2]- Foreign	Gov't	PSBR[2]	Workers' Share[3]	Employment[1]
1990	0.83	1.04	1.02	9.0	-15.2	25.0	58.8	100.5
1991	0.86	1.09	1.03	7.6	-15.1	24.2	58.1	101.1
1992	0.90	1.14	1.05	6.1	-14.9	23.5	57.5	101.8
1993	0.93	1.19	1.06	4.7	-14.8	22.8	56.8	102.5
1994	0.96	1.24	1.08	3.3	-14.6	22.1	56.1	103.2
1995	1.00	1.30	1.09	1.9	-14.4	21.3	55.4	103.9
1996	1.03	1.36	1.11	0.6	-14.2	20.6	54.7	104.8
1997	1.06	1.42	1.13	0.7	-13.9	19.9	54.0	105.6
1998	1.09	1.48	1.14	1.9	-13.6	19.2	53.3	106.5
1999	1.12	1.54	1.16	-3.2	-13.2	18.5	52.6	107.5
2000	1.15	1.61	1.18	-4.4	-12.8	17.8	51.9	108.5

Notes: 1. 1989 = 100. 2. % of GDP. 3. % of total income.
Source: Model computations

projections (with the exception, of course, of the rate of inflation) will continue to be valid.

The key assumptions were that nominal government expenditure grows at only 2% and government investment at 3%, also in nominal terms. The nominal exchange rate grows at 5% per year, while the nominal wage grows at only 3% per year. Debt repayment is assumed to grow at 2%. Agricultural capitalists respond to the real exchange rate by increasing output by 1% for every 1% depreciation.[13]

Although the findings are based on very optimistic assumptions, they are not terribly encouraging. The results for real GDP growth are shown in the first column of Table 3. Real GDP grows by less than 1% until 1995 and only slightly above 1% thereafter. With the population growth rate at 3.35%, the result means continued contraction of *per capita* income throughout the 1990s. Inflation, however, remains under control, with prices increasing by only 60% to the end of the decade. Real wages fall by only 1% per year, but employment grows more slowly than output. What little optimism there is in these results hinges on private sector response in agro-exports. All of the growth over the next decade is concentrated in the agricultural sector which grows at an average of 2.9% per year. Because the real exchange rate appreciates, domestic expenditure switches to nontradeables, and exports grow by 13.6% per year.[14] The nontradeable sector, on the other hand, limps along at less than 0.2% per annum.

7. SOME RECOMMENDATIONS IN LIGHT OF THE PROJECTIONS

THE SIMULATIONS STRESS the essential role of exports. The message of the model is that the agricultural sector must grow much more rapidly than the rest of the economy. However, even under the favorable conditions of the model, the fourth column of the table shows that there will be no surplus on the trade account until 1999. Faster demand-induced growth would put this point off even further into the future. A brisker rate of nominal exchange-rate depreciation, on the other hand, would help advance the date, but at the cost of substantial deterioration in the distribution of income.

The origin of the surplus with which the economy will make its recovery is clear in the last two columns of the table. In the total GDP, the workers' share of income falls by 6.9 percentage points over the period. Here, the nominal devaluation is real, transferring income from workers to agricultural capitalists as the incentive needed to raise production. But it is clear from the discussion above that, to the extent the Sandinistas remain major players, the UNO coalition cannot permit the economy to recover exclusively on the backs of the working poor and the peasantry. Any real devaluation stronger than that along the path of Table 3 will probably be judged politically infeasible, despite Chamorro's mandate.

While an employed worker is slightly less well off during the recovery (due to the falling real wage), unemployed or underemployed workers benefit from the rise in employment. These workers emerge from the bulging informal sector to present themselves for work in the formal sector, some for the first time since the revolution. But note that the gain in employment is only 8.5% over the decade. Reducing the enormous informal sector was always an explicit goal of the Sandinistas, but these simulations make clear that the goal cannot be an immediate priority of the new regime.

The UNO has identified private-sector initiative as the driving force of their recovery program. Although the private sector has turned in a lackluster performance so far, it is highly unlikely that the coalition will change its approach in the medium term. The simulations show that if the private sector were only more responsive to the real devaluation, the workers' share would not have to fall as much. This coincidence of interests was a bitter irony to the Sandinistas but will become the essential feature of any workable program under UNO.

In the short-run, the emphasis will have to be on reviving traditional exports, which increased by 11.6% in 1990 over the 1989 level. Nontraditional exports (fishing, lumber, mining and beef) have also begun to recover, growing by 65.1% in 1989 and 7.4% in 1990. As suggested above, their full recovery will turn on re-opening the US market and the resuscitation of the Central American Common Market (CACM). Bulmer-Thomas notes that the biggest barrier to the latter is the accumulation of debt arrears between pairs of CACM countries (Bulmer-Thomas, 1988: 97).

More importantly, the recovery of the CACM depends upon a number of political factors, including ending the war in El Salvador, achieving some accord with the popular forces in Guatemala, and some debt relief in Costa Rica.

Stabilization will remain a problem, but should not draw the government's attention away from the more fundamental objective of seeking to improve export performance. Nontraded prices will probably be more volatile than is reflected in the simulations, since they bear the full burden of adjusting to shifts in aggregate demand. There is little that can be done about this. Since discretionary increases in foreign loans will be unlikely in the short run, the stabilizing effect of stop-gap imports will be absent. Price controls are out of the question since they have failed in the past and are now widely discredited. The main point is that the exchange rate must, at a minimum, keep up with the rate of inflation to insure no real appreciation.

The government deficit will also remain a problem. To avoid high rates of emission, much of the foreign capital will have to go to financing the government deficit. Firms should be encouraged to go abroad to arrange private financing to reduce the pressure on internal credit expansion. This should allow the government to maintain at least some existing social programs. The simulations show that the economy will not come out of the inflationary "danger range" of a current deficit of 10-12% of GDP by 2000 (and this is assuming that foreign financing can be found for public investment projects). Although the public-sector borrowing requirement (PSBR) declines steadily, the table shows that it is still high — in the vicinity of 17.8% of GDP — even by the year 2000.

Any reduction in demand that is politically feasible will help inflationary tendencies over the medium run. Getting control of the budget will mean increasing taxes, both their rate and coverage. So far, UNO's measures have actually reduced tax revenues from 23.5% of GDP (in 1989) to only 15% (by 1990). Taxes have also become more regressive in an effort to stimulate savings and investment, but this approach has a poor track record in other developing countries. At this juncture, it is unclear how much farther the new government can go in the direction of regressive fiscal policy. One possibility that has not been pursued is higher gasoline (*petrocórdoba*) taxes. This would have a favorable impact on the distribution of income, as well as on state

revenues, and could be used to replace more regressive indirect taxes.

Investment policy will have to maintain a delicate balance between the need for infrastructure, crowding-in, and budgetary constraints. In the next decade, the state will try to shift the burden of accumulation to the private sector, but infrastructural investment will probably crowd in private investment as before. The state must resist the temptation to balance public sector accounts by cutting investment. Research efforts should be directed at more precisely measuring the crowding in/out effects of public investment.

Above all, the economy must avoid debilitating foreign exchange bottlenecks. In this regard, untied foreign resources will play a crucial role (Taylor, *et al.*, 1989). The model can be used to illustrate just how essential the foreign capital inflow will be to the post-war recovery. Simulation results show that a 1% drop in foreign savings corresponds to a 1.7% appreciation of the real exchange rate. Given the assumptions made above about the price responsiveness of export agriculture, the appreciation causes agricultural output to fall by the same percentage. This leads to a vicious circle: as agricultural output falls, exports fall as well, and the foreign exchange constraint begins to bind even more tightly. The restriction on foreign exchange causes the supply of nontradeables to diminish, which produces the excess demand for nontradeables. With a binding foreign exchange constraint, the real exchange rate must then appreciate.

The 1% drop in foreign savings causes the CPI to rise by 0.6% and real wages to fall in proportion. The price-cost ratio in the nontradeable sector rises and labor's share in total income falls by 0.6%. Employment falls by 2%. Because taxes fall with output, there is a rise in the government deficit by 0.4% and the PSBR increases accordingly. Investment declines, since it is tied to the level of output. Although this presumably reduces productive capacity in the future, the short-run effect is stabilizing. Because investment falls, the real exchange rate does not appreciate as much as it would otherwise.

In the medium run, the surest way to increase *per capita* income is to defuse the population bomb. Official Sandinista policy supported, if not encouraged, the 3.35% rate of population growth. The average Nicaraguan woman bears 5.5 children,

which means that — in the next 5 years — 40,000 people will enter the workforce. As just one example of the problems population growth brings, consider that, while 20,000 families per year will need homes over the next decade, the Sandinistas were able to build only 4,000 homes per year during their term in office. Projecting the historical trend to the year 2,000 gives a housing deficit of an additional 180,000 homes (which must be added to the existing deficit of more than a quarter of a million) (Envío, 1989c). The *Asociación de Mujeres Nicaragüenses "Luisa Amanda Espinoza"* (AMNLAE), the Sandinista women's organization. was not successful in lobbying for abortion rights or freely available contraceptives. One of the reasons is deep divisions within the organization itself (Close, 1988: 161).

At the time of Somoza's fall, the population was just over 2 million; a decade later, it is 3 million. Food production, however, has remained at its 1979 level. With the agrarian reform, food has replaced export production. The clear need to increase exports was one of the reasons the Sandinistas spoke of "consolidation, productivity and output," rather than socialism, in agriculture (Envío, 1989a). For the new government, the reformed sector will remain the dynamic part of Nicaragua's domestic agriculture, at least in the near term. Between 1985 and the 1988-89 crop cycle, small producers and co-ops together produced 47% of agricultural output and harvested more than 70,000 additional hectares, while the large producers and the state have basically maintained or reduced their harvests (Baumeister, 1989: 34). In a sense, the food sector has shown that it can take care of itself, leaving the government free to promote agro-exports.[15]

Finally, "getting the prices right" has never been sufficient as a recipe for successful economic policy although, in the case of the UNO government, it will help their credibility. Gross misallocation of resources under the Sandinistas (such as re-export of medicines and farm machinery) was highly visible and created an impression of inept administration, even though it may have been quantitatively insignificant. If the Chamorro government is seen as a competent administrator, it will be much easier to secure foreign financing for investment projects. Removing gross distortions does not rule out the judicious use of subsidies to develop export strategies, particularly in nontraditional exports, or to protect

against sudden or excessive deterioration in the standard of living of the popular classes.

8. CONCLUSIONS

IT IS CLEAR from the foregoing that, despite the end of the war and the economic embargo, the elections of 1990 will not resolve the policy problems which ultimately drove the Sandinistas from power. Nicaraguan society remains highly polarized and unstable, increasingly so with the apparent failure of the new regime to keep its promises to solve certain problems. The terrain on which class conflict will play itself out has clearly shifted, but there has been no reconciliation.

To an extent, the private sector has been re-enfranchised, but they are wary of union militancy, which has already caused the new government to retrench on its campaign promises. Class conflict, effectively repressed by the Sandinistas in the name of unity during the *contra* war, quite possibly may intensify in the near term. The difference is that conflict with organized labor will not now be as easily suppressed as it was under the Sandinistas. One of the principal findings of the present discussion is that stabilization ultimately requires a transfer from workers and peasants. This is perhaps less feasible now than ever.

The projections document the painfully slow path to recovery the economy will have to undertake. Progress cannot be measured in terms of the overall growth rate (seen to be low in the simulations above), given the contraction of the nontradeable sector the restructuring will require. Success will require a delicate balance of incentives for private sector exports (through the maintenance of a realistic real exchange rate), restrained demand, and attention to social programs.

NOTES

1. There are numerous historical accounts of the events leading up to the revolution. A recent concise and balanced view can be found in Close (1988).

2. Nicaragua never quite matched Bolivia's monthly maximum rate of 182% which occurred in February 1985. The figure in the text is computed from the CPI, December 1987 to December 1988. Inflation measured by the CPI is much higher than that of the GDP deflator, due to the presence of scarce consumer goods in the former.

3. The relationship is obviously not strict. The argument, developed below, is that the output of nontraded goods stands in a relatively fixed relationship to intermediate imports.

4. The stability of the process is in question, however; the data shows clear evidence of heteroskedasticity after 1972. To conserve space, neither the regressions nor the data are presented; both are available from the author.

5. Since as much as 30% of the investment was bulky, long-term, and tied to donor suppliers, the effective investment rate was lower.

6. The government also introduced the Program of Export Incentives (*PIE*) in 1982, which provided for foreign exchange "certificates." These could theoretically be used to import both intermediate and luxury goods. Dollar-denominated accounts were established, and then later frozen, by the government; producers never had effective access to dollars.

7. The black market has been costly in other ways, however. In a simple growth model, Gibson (1991a) shows that the existence of a black market in a highly politicized context can itself lead to unstable dynamics, with hyperinflation as the unfortunate result.

8. Consider this from Enrique Bolaños, former president of COSEP:

> We consider that the mixed economy we have practiced for seven years has two characteristics: one ... is that it is a transitory tactic of the moment, in other words, the use of the term mixed economy is the cornerstone of government propaganda (Envío, 1987; author translation).

From Ramiro Gurdián, president of UPANIC, the association of large-scale agricultural producers and also president of *Coordinadora Democrática Nicaragüense* (CDN):

> The FSLN is a Marxist party, Leninist and Stalinist. They say they are going to establish democracy, but their intention is to gain time (Gurdián, 1988: p. 40).

9. For an analysis of the stabilization package in a computable general equilibrium model, see Gibson (1991b).

10. This does not count the Costa Rican National Guard.

11. For breakdown of the class structure in Nicaraguan agriculture, see Colburn (1986).

12. Neira (1990) convincingly argues that the failure of the *Plan Mayorga* was due to the ability of organized labor to force the government to abandon what was seen as a "draconian stabilization program," since it aimed to reduce demand through redistribution.

13. This is roughly equivalent to recent econometric estimates; see Taylor, *et al.*(1989: 37, n. 7).

14. This is slower than the 20% suggested by Arana, but consistent with Taylor, *et al.*, who note that a "highly successful strategy" would allow exports to grow to $1 billion by the year 2000 (Arana, 1989: 32; Taylor, *et al.*, 1989: 44).

15. Despite the hyperinflation, peasants turned in their best harvests in basic grains since 1980 during the last crop cycle (Arana, 1989, p. 37).

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APPENDIX

The purpose of this appendix is to sketch the model used for the projections. Full details appear in Gibson (1989). The two sectors of the model are agriculture and nonagriculture and the social classes are divided into capitalists and workers. Potential agricultural output, Q, corresponds to the maximum amount which could be produced assuming full utilization of the means of agricultural production. $x_1 \leq Q$ is the level of output corresponding to the current planting decision. The ratio:

$$\mu = x_1/Q \tag{1}$$

defines capacity utilization in the agricultural sector. Agricultural output is either consumed as food by workers or is exported:

$$ep_1\mu = m(1-s_w)(1-t_w)(wl_1\mu + wl_2u + w_g) + ep_1\epsilon \tag{2}$$

where e is the exchange rate, p_1 the price of agriculture, m the fraction of workers' income spent on food, s_w the fraction of workers' income saved and t_w the tax rate on workers' income. w is the wage rate and the l_i are the direct labor coefficients. u is defined as the normalized level of nonagricultural output. w_g is government wages and ϵ the level of net exports, both normalized by Q. Note two assumptions: 1. there is no capitalist consumption of agricultural goods; and 2. there is no investment demand for agriculture.

Rather than present a demand-supply balance for the nonagricultural sector as in equation 2, we write the savings-investment balance directly:

$$s_c(1-t_c)(\Pi_1\mu_1 + \Pi_2u + j_c) + s_w(1-t_w)(wl_1\mu_1 + wl_2u + w_g) + e\Phi + s_g = [p_2\theta + (1-\theta)ep_0]i \tag{3}$$

where s_c and t_c are the savings and tax parameters for capitalists. The Π_i are unit profits defined as:

$$\Pi_1 = (ep_1 - wl_1) \tag{4}$$

$$\Pi_2 = (p_2 - ep_0a - wl_2) \tag{5}$$

where p_0 is the foreign price of imports and a is the input-output coefficient for noncompetitive intermediate imports. j_c, in equation (3), is payments to capitalists by the government normalized by Q. Φ is normalized foreign savings, defined as:

$$\Phi = p_0[au + (1-\theta)I + m_g] + j^* - p_1\epsilon \tag{6}$$

and θ the fraction of investment, I, which is imported. m_g are normalized government noncompetitive imports and j^* is normalized government debt service.

s_g is normalized government savings:

$$s_g = (t_c\Pi_1 + t_wwl_1)\mu + (t_c\Pi_2 + t_wwl_2)u - p_2g - w_g - j_c - ej^* - ep_0m_g \tag{7}$$

where g is the level of government consumption, normalized by Q.

Total investment is divided into public, i_g, and private, i_p, both normalized by Q:

$$i = i_0 + (1+\alpha)i_g + \beta\mu \tag{8}$$

where α represents a "crowding-in" effect of public on private investment. β is the responsiveness of total investment demand to agricultural harvests. p_2 is defined as:

$$p_2 = (1+\gamma)(ep_0a + wl_2) \tag{9}$$

where γ is a fixed and given mark-up over costs. Finally the PSBR is defined as:

$$\sigma = \frac{p_2\theta i_g + (1-\theta)ep_0i_g - s_g}{[ep_1\mu + (p_2 - ep_0a)u]} \tag{10}$$

The model now consists of the 10 equations in the 10 unknowns: μ, ϵ, u, Π_1, Π_2, Φ, s_g, i, p_2 and σ. The rest of the variables are taken as given parameters. See Gibson (1989) for details on the data base employed and other results of the model.