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Flower Boom

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Abstract

This article seeks to explore the sources of the boom in flower exports from Ecuador in the last fifteen years. Rising from almost nothing in the late 1980s, fresh cut flowers now account for 8 percent of the country's nonpetroleum export earnings. The research attempts to establish whether trade liberalization and macroeconomic reforms played a decisive role in stimulating the export boom or whether changes in the global flower market created Ecuador's comparative advantage in flower exports independent of the policy regime. The article concludes that both sets of forces played an important role.

Nontraditional or New Traditional Exports: Ecuador's Flower Boom¹

by Larry Sawers

Ecuador is one of the poorest countries in South America, and has suffered numerous adverse external shocks in the last two decades. The extraordinarily rapid growth of the flower industry is one of the few bright spots in the country's dismal economic history since the end of the petroleum boom in 1982. From 1987 to the present, the crop's share of the country's nonpetroleum export earnings rose from 0.2 percent to 8 percent. (See Table 1.) An understanding of the country's success in exporting flowers provides important insights into Ecuador's economic past and perhaps its future, and suggests lessons for other developing countries as well.

Ecuador's trade regime has experienced repeated modification in the last 20 years and is now far more liberal than earlier. Much of this liberalization occurred between 1988 and 1992. Trade reform slowed after 1992 and even took some steps backward in the second half of the 1990s. At the same time, Ecuador's macroeconomy became increasingly unstable, imposing further obstacles to the country's export sector. The trajectory of trade liberalization and macroeconomic stability matches that of flower exports. From 1988 to the present, flower export earnings grew from US\$ 4 million to nearly \$300 million. Flower export earnings grew 125 percent in 1989 – the year that

¹ The field research for this article was carried out between September 1999 and June 2000 in Ecuador. This included interviews with scores of individuals, including flower growers, individuals involved in flower marketing, flower breeders, officials of the growers' trade association and an NGO that supports nontraditional exports, officers of the Quito chamber of commerce, officers and representatives of airlines that ship flowers, USAID and embassy officials, and Ecuadorian economists working in consulting firms and at universities. The candor of these respondents proved extremely useful to my research, but the opinions that some of them expressed could produce legal or administrative difficulties or friction with colleagues if they were publicized. Thus, I have made every effort to disguise the identity of some of my respondents.

My research was generously supported by a Fulbright research award and by sabbatical and research leaves and a research grant from my university. I would especially like to thank my colleagues who offered liberally their advice, encouragement, and insights, especially Eileen Stillwaggon, María Caridad Araujo, Martha Starr, Kara Olson, Alan Isaac, Walter Park, and Gustavo Arteta.

serious policy reform began, and averaged 45 percent annually until 1995. Flower exports slowed in the second half of the 1990s and almost stalled in 2000. As the economy began to recover in 2001 and in 2002, flower export earnings resumed their rapid growth. The coincidence of trade liberalization and macroeconomic stability and the explosive growth of flower exports suggests a causal link that this article explores.

Countries with a strong antiexport bias to their trade regimes tend to have only a few products with a comparative advantage that is sufficiently pronounced to permit exportation. These products are conventionally labeled ‘traditional exports.’ As the bias against exports is progressively reduced, an ever larger number of industries will have a comparative advantage that allows exportation. Even small reductions in the antiexport bias may produce vertiginous growth in nontraditional exports (from almost nothing to something) but provide little or no stimulus to traditional exports that have already filled their niche in world markets. Accordingly, to understand the impact of trade liberalization on economies with a strong inward orientation, one needs to examine not only the growth of exports in general, but the pattern of export diversification as well.

All new exports are by definition nontraditional, so Ecuadorian flowers are a nontraditional export. Flowers might also be merely the country’s most recent traditional export, that is, they have an overwhelming comparative advantage that only emerged in the late 1980s because of a particular convergence of external market forces at that time. Ecuador has a long history of developing new ‘traditional’ exports (shrimp is a recent example), not as a result of important changes in policy, but because favorable external conditions suddenly presented themselves. The forces that created the new, soon-to-become-traditional export were essentially external, and did not arise from changes in the public policy regime.

The question this research seeks to answer is whether the explosive growth of flower exports from Ecuador resulted from a reduction in the antiexport bias of the policy regime or whether external developments created an opening into which Ecuadorian entrepreneurs entered despite the economy’s antiexport bias. Are policy makers in Quito responsible for the success of the flower industry or was the flower boom a positive external shock that just happened to occur on their watch?

A Trade Regime in Need of Reform

If one had a convincing measure of the antiexport bias of Ecuador’s trade regime from the early 1980s to the present, one could simply search for its correlation with flower exports to establish the importance of policy reform on the industry.² In addition to high nominal tariffs, nontariff barriers

² One measure of trade protection is the effective rate of protection, but its computation requires enormous amount of data even in the best of circumstances. To compute effective rates of protection, one must know – among other things – the cost structure of the industry in question (to determine value added); nominal tariffs (and the tariff equivalence of all nontariff protection) on all imported or importable inputs; export taxes, including implicit ones such as the overvaluation of the exchange rate, permit fees, bribes paid to officials, excessive transportation costs due to corruption in airline supervision, the budgetary and time costs of filling out the numerous forms required to export one’s product, and so on. There is additionally a cost associated with the risk implied by the potential delay or denial of the permit to export highly

to trade and political and economic chaos have imposed almost insuperable obstacles for Ecuador's exporters, yet measuring all of these barriers to trade is virtually impossible. How can one find the data that would permit measuring the time costs of standing in line at the Central Bank waiting for an export permit? How does one place a value on the risk that a delay in receiving that permit will make it impossible to sell the highly perishable product? How does one value the impact on the flower industry of political demonstrations that block the highways to the airport during the make-or-break Valentine's Day season? Because of these and other difficulties in measuring trade openness, there is a long tradition of using case studies to examine the effects of policy reform on exports and economic growth (Edwards 1993, 1366ff). The narrative that follows and the information on policy reforms presented in Table 2 are the raw data of the independent variable without any attempt to distill this information into a single index of trade openness.³

Beginning with coffee in the mid nineteenth century, followed by cacao a few decades later, Ecuador experienced a series of primary product export booms that shook the country out of its isolation from the global economy. Then in the 1950s and 1960s, Ecuador grew from a minor producer of bananas into the world's largest exporter (Schodt 1995, 106–108). Disease swept through the banana plantations of Central America and the Caribbean in the 1940s, political unrest soured the investment climate in important banana exporting countries, and a series of events undermined United Fruit Company, until then the world's largest banana producer. Ecuadorian banana growers adroitly exploited the opening in the world market that these factors created. In 1973, petroleum replaced bananas as Ecuador's most important export. The pipeline that brought petroleum from the Ecuadorian Amazon to the world market was completed just as world oil prices quadrupled. Also in the 1970s, recently developed techniques of mariculture were brought to Ecuador, turning thousands of hectares of mangrove swamp into shrimp ponds. By the end of the 1980s, Ecuador was one of the world's largest exporters of shrimp, which had supplanted coffee as Ecuador's third most important export. The flower boom of the 1990s is merely the latest of these primary product export booms.

Until the 1980s, each of these export booms raised Ecuador's per capita income. After the boom, per capita income would stagnate or decline. The oil bonanza of the 1970s had the most dramatic impact, doubling per capita income in a decade. The prosperity allowed an unprecedented

perishable products or licenses to import crucial inputs. Macroeconomic and political instability also have profound effects on the ability to export. Even if one could find proxies for the independent variables, without an *a priori* understanding of the leads and/or lags involved in the relation, regression analysis can tell us little about the causal relationship between policy reform and flower exports.

³ I have been able to find only one econometric analysis of trade liberalization and nontraditional export growth in Ecuador and it aptly illustrates the difficulty of examining this issue without being able to compute effective rates of protection or measure many other variables that might affect the profitability of exporting (Freire et al. 1997, 29–36). This study uses dummies representing each of the years in which reforms were implemented instead of changes in effective rates of protection. The dummy for 1990 is positive and significant as expected (since important trade reforms were implemented in that year). The dummy for 1992, however, is negative and significant even though import tariffs were reduced in that year. It is likely that the negative value of the dummy reflects the spike in inflation and interest rates and the generally dismal economic outlook in 1992 that overwhelmed the effect of lower tariffs.

and unsustainable 25-fold increase in the external debt, reaching \$6 billion in 1981. The government showered benefits on many sectors of the economy. For example, the subsidy of domestic consumption of petroleum amounted to 7.5 percent of GDP in 1981. These subsidies quickly acquired the status of entitlements and have been nearly impossible to revoke. With the debt crisis in the early 1980s and falling petroleum prices in the mid 1980s, Ecuador entered a period of prolonged stagnation; per capita income fell in both the 1980s and 1990s.

In the nineteenth century and first half of the twentieth, Ecuador's trade regime had an antiexport bias.⁴ Virtually the only sources of government finance were export and import duties, both of which penalized agricultural production. The government borrowed from domestic banks to finance its perennial deficit; as much as 80 per cent of the budget was financed through debt. The monetization of the debt resulted in inflation, which in turn produced – despite repeated nominal devaluations – a persistent overvaluation of the sucre, prejudicing agriculture specifically and exports in general.

In 1957, Ecuador launched a program of import-substituting industrialization (ISI), following the pattern recommended by the Economic Commission for Latin America and employed throughout Latin America. The government established tariff barriers on the import of consumer goods and low import tariffs or drawbacks on imports used by import-substituting industries. The government subsidized credits to import-substituting industries and provided them tax breaks. The overvalued sucre and the system of multiple exchange rates subsidized the imports of capital and components required by import-substituting industries. The overvalued currency, on the other hand, penalized exports, as did the export taxes that were the main source of government revenue. Retail price ceilings on many agricultural products further discriminated against exports. At first, the weak and underfinanced state was unable to provide much support for industrial development. The petroleum boom of the 1970s, however, permitted a substantial increase in industrial subsidies; industrial growth averaged over 10 percent annually from 1972 to 1980 (Grindle and Thoumi 1993, 133). Under these hothouse conditions, the usual weaknesses of ISI were masked until the end of the decade. The net effect of all of these policies was to increase dramatically the antiexport bias of the country's trade regime and macroeconomic policy stance. The debt crisis ended the era of generous industrial subsidies and reinforced the persistent industrial stagnation.

Policy Reform

Ecuador has implemented a wide variety of policies that have affected the flower industry. None of these were directed specifically at the flower industry, but instead were efforts to restructure the agricultural sector, reduce the antiexport bias of the country's trade regime, or reshape the macroeconomy in a way that supported export expansion.

⁴ As explained below, the government took aggressive steps to promote the growth of banana exports in the early post-war era that helped the banana industry to overcome this antiexport bias.

Policy Reform in the Agricultural Sector

A variety of policy reforms specific to the agricultural sector have permitted or encouraged the growth of the flower industry in Ecuador. In the 1940s and 1950s, Ecuador was one of the least developed countries in South America. The social and economic structure of the Sierran countryside where floriculture would flourish in the 1990s remained quasi-feudal at least until the 1950s. Wealthy land owners began to divest themselves of marginal land and convert their better land to dairy production. A land reform law promulgated in 1963 gave modest impetus to this process. Less than 15 percent of agricultural land was directly affected by the reform and fewer than 20 percent of peasants benefitted (Anderson 1997, 244). The northern Sierra, where the flower industry is concentrated, was the region least affected by land reform (Schodt 1991, 222).

The threat, if not the fact, of expropriation, combined with rural labor shortages, did encourage the elite to transform the rich agricultural land in the Sierran valley bottoms into dairy pasture. The government encouraged dairying through subsidized credit, guaranteed minimum prices, and technical assistance. The number of cattle in the Sierra more than doubled from 1954 to 1987, and output of all major Sierran crops decreased between the late 1960s and early 1980s (Whitaker and Colyer 1991, 143, 145). The displaced peons were forced to scratch out a living on the steep hillsides. Erosion and lack of fertilizer produced falling yields for most crops (Korovkin 1997, 94). Breaking the ties between the best agricultural land and the peasantry created a rural proletariat that would later find employment in the flower industry.

More important than any legal reforms in transforming the face of Sierran agriculture was the change in the Ecuadorian economy. The petroleum boom produced huge subsidies for import-substituting industries and urban bureaucracies, raised urban wages, and pulled the population out of the countryside (Whitaker and Colyer 1991, 80). The rapid incorporation of idle or underutilized land into production because of the threat of expropriation also increased rural labor demand. Farms of all sizes replaced subsistence production with cash crops as urban demand for agricultural products rose. Rural agriculturalists thus became acclimated to wage labor. The exodus from the farms to the cities was preponderantly masculine, so Sierran agriculture became the province of women, older adults, and children (Waters 1997, 55). Other than a job in the floriculture industry, the only off-farm work open to women left behind in the Sierran countryside was poorly paid domestic service. At present, 60 percent of the nearly 40,000 flower workers in Ecuador are female (unpublished data from Expoflores).⁵

⁵ Export diversification (that is, the growth of nontraditional exports) has often produced employment growth (since nontraditional exports tend to be labor intensive), especially of women (Raynolds 1998, 2002). Women in Ecuador's flower industry earn wages that are a large multiple of wages of domestic service workers (Korovkin 2003, 24). Flower workers also receive health and retirement benefits that servants do not have. Furthermore, female flower workers often have supervisory and technical positions in contrast to the experience of women incorporated into other industries in Ecuador (Faulkner and Lawson 1991). The growth of women's wage work often entails a 'double burden,' that is, the job outside the home plus the continuing responsibility for housework. This has been documented among Colombian flower workers (Meier 1999, 282), but women in the flower growing regions of Ecuador work no more hours per day than women in the rest of the country (Newman 2001, 24–25).

Health and environmental problems caused by the pesticides used in flower cultivation accompanied these gains in income, but I was able to find only a single quantitative study of the issue (Yépez Urbano 1997, 63–64), and that study

The petroleum boom also allowed the government to invest heavily in the infrastructure that would later become important to flower cultivation. The government built and upgraded roads, airports, power generation facilities, flood control projects, schools, and universities. There were 28 major irrigation projects begun in the 1970s. By the end of the 1980s, the financing of irrigation accounted for 12 percent of the public foreign debt (Whitaker and Colyer 1991, 186). Irrigation water is supplied to farmers at far below cost, but most of the money spent on irrigation facilities went to large farmers in the coastal region (Whitaker and Colyer 1991, 28, 182). The government offered some extension and research services and subsidized credit to farmers, but none to flower growers.

In sum, the economy of the flower-producing region of Ecuador has been dramatically transformed in the last three decades and the way the government used the fiscal bounty of the petroleum boom played a key role in that transformation. Nevertheless, policy reforms specifically directed at the agriculture sector have played only a minor role in laying the groundwork for the flower boom.

Macroeconomic Policy Reform

reported on only a single flower farm. Investigators in Colombia have conducted many studies of pesticide intoxication of floriculture workers and the pesticide runoff from flower farms, though without statistics based on carefully drawn samples (Meier 1999, 283–284). There are still no systematic studies of the effect of pesticides on flower workers in Ecuador.

The financial crisis of 1982 ended the petroleum boom and forced Ecuador to begin rethinking its macroeconomic policy regime. The highly overvalued currency, high effective rates of protection of imports, substantial export duties, huge subsidies to import-substituting industry, rapid inflation, and macroeconomic instability prejudiced exports, encouraged capital flight, and choked off domestic investment, leading to a stagnant economy, an unsustainable current account deficit, and a substantial external debt burden. The following discussion presents an overview of macroeconomic policy reforms in Ecuador over the last two decades.⁶ Table 2 presents a detailed list of policy reforms.

Oswaldo Hurtado, 1982–1984: Faced with financial crisis, Hurtado attempted to pursue a policy of fiscal austerity, but he never had the political power that would have allowed him to make fundamental economic reforms.⁷ His minority party was unable to gain coalition partners in the Congress. Neither the economic elites nor the public at large understood the need for austerity measures after ten years of the petroleum boom. Opposition to austerity was expressed in wide-

⁶ Thoumi and Grindle 1992; Grindle and Thoumi 1993; Whitaker and Colyer 1990; Viteri Díaz 1998; Hofman and Buitelaar 1994; de Janvry, Sadoulet, and Fargeix 1991; Santamaría 1995; Acosta 1999; Salgado 1987; Mosley 1991; Freire et al. 1997; Albornoz 1999; Hey 1996; Anderson 1997; Larrea 1998; and Beckerman 2001; Locay 1994; International Trade Commission 1995; Banco Central 1999.

⁷ Ecuador's political economy and economic history help to explain the seemingly permanent political gridlock that Hurtado and his successors faced (Grindle and Thoumi 1993, 123–130). The country is profoundly divided along racial, class, and regional lines. Even by Latin American standards, the distribution of income is especially unequal, and the middle class is especially small (IADB 1998, 25). There are profound conflicts between the executive and legislative branches that produce constant struggle over how and by whom policy is formulated. There is no dominant political party to give the country consistent direction. The president usually governs with his party holding only a minority (once as few as three) seats in the Congress. The electorate appears to vote against incumbents rather than for candidates. The political culture is strongly clientelistic and political parties are organized around *caudillos* who promise their supporters extravagant rewards rather than on interest groups with a programmatic orientation. Labor unions are strongly linked to political parties and have a long history of doctrinal conflict and ideological rather than pragmatic orientation. The public and especially the elites are accustomed to receiving substantial subsidies and paying little in taxes.

spread protests, a general strike, and violent demonstrations. Hurtado reacted pragmatically to the unfolding crisis, without a comprehensive vision to guide his administration. He continually changed course in response to protests and demands of various pressure groups, and inflation undermined whatever gains his policies earned. Hurtado's accomplishment was not implementing economic reform, but rather forcing reform onto the nation's political agenda.

León Febres Cordero, 1984–1988: Febres Cordero campaigned on a platform that mixed the call for liberal reforms with populist rhetoric, and his administration ultimately employed both approaches to economic policy. In the first two years of his administration, he pursued a liberal strategy, devaluing the sucre, reducing tariffs, and balancing the fiscal budget. His policies met persistent and often violent opposition. Riot police tear gassed the Congressional chamber, the president himself was kidnapped by dissident soldiers, and a guerilla army grew increasingly menacing. In 1986, petroleum prices tumbled by half, provoking a fiscal crisis (since half the government's revenues came from petroleum sales). A year later, an earthquake ruptured the petroleum pipeline and halted exports for six months. Severe drought worsened the crisis. The generalized discontent and economic chaos pushed the government to reverse its course and implement a populist agenda. The budget deficit grew, inflation mushroomed, and the real value of the sucre appreciated, leaving the economy in shambles.⁸

Rodrigo Borja, 1988–1992: In addition to repairing some of the damage produced in the previous two years, Borja's administration implemented major initiatives to liberalize foreign commerce and open the economy to foreign direct investment. Nominal tariffs were cut, but perhaps even more importantly, the government reduced substantially the red tape required of exporters. Furthermore, as soon as Borja took office, he imposed nominal devaluations that pushed down the real value of the sucre. After he left office, the sucre began a real appreciation that continued until 1999. As Borja's administration made these efforts to open the economy, the flower boom took off. Borja initially imposed a restrictive fiscal and monetary policy to limit inflation, but his ability to control spending weakened as political opposition to his programs mounted and his coalition in the Congress lost the majority in 1990. The Central Bank's efforts to dampen the resulting inflation produced high real interest rates that weighed down the economy and choked off the recovery.

Sixto Durán Ballén, 1992–1996: Durán Ballén attempted to impose a more rigorous, less timid liberal reform, but he ultimately failed to make much progress due to internal opposition and adverse external shocks, especially the war with Peru in 1995. The forced resignation of the vice-president following allegations of corruption and the continuing drought added to the political and economic crisis. The Central Bank's efforts to counter the resulting fiscal deficits and the steady appreciation of the real exchange rate produced continuing stagflation.

⁸ To some observers, the systematic destruction of the economy in 1987 and 1988 cannot be explained by simple incompetence. They speculate that Febres Cordero's intention was to produce economic collapse in order to make the country ungovernable by his political enemies who were certain to succeed him (Thoumi and Grindle 1992, 65).

Interregnum, 1996–1998: The little progress in liberalizing the economy that was won under Durán Ballén soon disappeared in growing economic chaos and stagnation. In 1996, Abdala Bucaram Ortíz assumed the presidency. He was forced to resign after seven months in office due to allegations of massive corruption and extortion. The congressional leader Fabián Alarcón became interim president, but the collapse in petroleum prices, the financial crisis of East Asia that spread to Russia and Brazil, devastating El Niño floods, and the lack of a political mandate forced him to adopt a crisis-management mode rather than pursuing genuine reform.

Jamil Mahuad, 1998–2000: The downward spiral of the economy continued under Mahuad's administration. Soon after he assumed office, a banking crisis engulfed any effort to carry out serious economic reform. A inept response to the crisis and allegations of presidential corruption led to plummeting public confidence in the banking system, massive capital flight, and the bankruptcy of several important financial institutions. Expansion of the money supply to bail out failing banks produced a run on the sucre. As political opposition mounted, Mahuad announced plans to replace the national currency with the U.S. dollar in a desperate effort to arrest the sucre's slide and at least give the appearance of doing something to confront the crisis. The sucre's plunge was arrested, but Mahuad's efforts to answer his critics failed. Instead, massive demonstrations led a quasi-coup in which the army forced the president to resign.

After 20 years of economic crisis, the Ecuadorian economy may have reached its nadir. Mahuad's vice president and successor, Gustavo Noboa, was able to push the reform process forward in the first few months after the coup, but lawmakers in the Congress became increasingly less cooperative as public discontent grew. In 2003, Lucio Gutiérrez, the military leader of the quasi-coup in 2000, was elected president on a populist platform. Noboa is under investigation for the mismanagement of Ecuador's foreign debt negotiations and has absconded to the Dominican Republic.

Ecuador has taken important steps in the last two decades toward dismantling import-substituting industrialization and liberalizing foreign commerce. By one measure, it is now one of the most open economies in Latin America: exports amounted to 58 percent of GDP in 1999, second only to Costa Rica in the region (World Bank 2001, 298–299). The tariff for most imports is 30 percent or less and the average tariff is about 13 percent, though temporary surcharges have been in place since early 1999.⁹ Much of the red tape that used to get in the way of foreign trade has been simplified. Ecuador is a member of the WTO and the Andean Pact with its common external tariff. Subsidies to import-substituting industries have been slashed. Dollarization will enforce fiscal discipline and reduce exchange risk. Financial markets have been substantially liberalized and most restrictions on foreign investment have been eliminated.¹⁰

⁹ One should note that various other taxes are imposed on imports that are not called tariffs in Ecuador. At present, importers are required to pay the value added tax, which is now 12 percent. There are several other earmarked taxes on imports – such as the 0.7 percent tax for rural development – that total to 3.7 percent. The Alarcón and Mahuad administrations imposed surcharges on all imports that amounted to 10 percent. Thus, tariffs that are not officially called tariffs range between 26 and 46 percent, and are still higher for automobiles.

¹⁰ Even though Ecuador's trade regime is far more liberal than it was ten or twenty years ago, there are still many serious obstructions to trade that indirectly impose costs on exporters. Customs officials occasionally demand tariffs higher than

Macroeconomic policy reform has made progress in the last two decades, but much room for improvement remains. Privatization has barely begun, tax evasion is rampant, and massive subsidies to cooking gas, gasoline, and electricity persist. The public sector is notoriously inefficient. Prudential regulation of the banking system is lax and the financial system lacks transparency. Corruption is epidemic. Ecuador remains very dependent on petroleum exports. The industry accounts for about a fifth of GDP and now produces over two fifths of the government's revenue (*Economist Intelligence Unit* 2001, 25). Public support for the government's economic policy remains conditional and unenthusiastic. Demonstrations and organized dissent continue. Guerrillas have reappeared in eastern Ecuador, and the FARC (Fuerzas Armadas Revolucionarias de Colombia) have occupied a zone along the northern border with Colombia, kidnapping oil workers and school teachers and bombing the petroleum pipeline.

Other Government Policies Affecting Floriculture

the WTO maximum allowed tariffs. Various nontariff barriers to trade remain, including import permits, licenses, and inspections on certain goods. Ecuador also continues to impose various formal and informal quotas on imports, and still bans the import of used automobiles, tires, and clothing. More importantly, non-transparent procedures, inefficiency in the customs service, and arbitrary administration of sanitary registration procedures (for example, the registration of pesticides used in floriculture) continue to pose barriers to trade. Exporters face a hostile public, which sees exporting as a form of theft of the nation's wealth.

While trade was liberalized in Ecuador after 1988 and modest progress was made in macroeconomic policy in the early 1990s, other policies that affected floriculture were not changed. Little or no attention was paid to policy toward the agricultural sector in the 1990s. The fiscal crisis prevented serious attempts to improve the country's infrastructure. The Quito airport (from which almost all of the flowers are shipped) has not been upgraded since the 1970s (though it is presently being remodeled) and congestion on the roads used to bring the flowers to the airport steadily increases. The government has failed to improve its security procedures at the airport. As a consequence, the United States has for many years restricted the number of Quito-Miami flights. Until recently, the Quito airport was operated by Ecuador's Air Force, which restricted the number of carriers allowed to use the airport.¹¹ These restrictions reduced competition and allowed airlines to charge higher freight rates to the flower exporters, putting Ecuador's flower growers at an important competitive disadvantage.¹²

¹¹ The motives of the Air Force were unclear. One grower suggested that it received bribes from existing carriers to block entry of potential competitors. The general manager of an airline thought that the airlines trying to obtain permission to fly out of Quito refused to pay the bribes needed to get official approval. Other respondents claimed that the issue was simply one of bureaucratic imperative: for the Air Force, the airport was just another profit center that, like the other factories, farms, and hotels it owned and operated, helped to finance its operations. In early 2002, administration of the Quito airport was transferred from the Air Force and placed directly under the authority of the national government, but the Air Force is pressuring the government to return the airport to military control.

¹² Freight rates from Quito to Miami are nearly double the Bogotá-Miami rate – even though the flight from Quito is only 18 percent longer than from Bogotá – and the quality of the transport service from Quito is poor.

Many developing countries in the 1980s and 1990s implemented policies aimed at increasing nontraditional exports (Willmore 1997; Colindres 1993; Bulmer-Thomas 1998; Calogero, de Janvry, and Sadoulet 1999; Carter, Barham, Mesbah, and Stanley 1993; Derosa 1991; Rosene 1990; Kaplinsky 1993; Clark 1995). Policies in support of nontraditional exports included tax subsidies and/or drawbacks. Governments established free trade zones in which producers did not have to pay tariffs on imported inputs and could often avoid costly bureaucratic delays. To jump start the process and move the fledgling exporters of nontraditional products past their infancy, national governments, multilateral institutions, and nongovernmental organizations (NGOs) established a variety of export-promoting organizations to lobby their national governments for policy reform and to provide technical, marketing, and managerial assistance to exporters.

Ecuador, in contrast, provided no tax subsidies or drawbacks to nontraditional exports. Ecuador passed legislation authorizing free trade zones during the Borja administration, but the law was never implemented. The government established an NGO in 1997 charged with promoting exports. The Corporación de Promoción de Exportaciones e Inversiones (CORPEI) offers technical support to the flower industry by producing market studies, supporting trade shows and trade missions, and helping with commercial contacts in other countries.¹³ The extent of the organization's support to specific industries is confidential, so its effect on floriculture cannot be established.

Other NGOs whose mission is to promote exports have been established without the government's sponsorship. In 1982, the U.S. Agency for International Development (USAID) financed a study by the Asociación Nacional de Empresarios del Ecuador (ANDE), an NGO supporting entrepreneurship, that identified various potential leading sectors of the economy.¹⁴ One of the sectors it identified was nontraditional exports. Informed by the results of the study, USAID, ANDE, and the Federación Ecuatoriana de Exportadores (FEDEXPOR) set up an NGO, the Corporación Promoción de Exportaciones Agrícolas No Tradicionales (PROEXANT) whose mandate was to encourage nontraditional exports, including flowers.¹⁵ USAID paid the salaries of the chief officers and donated automobiles, computers, and office equipment. Between 1984 and 1996, USAID gave about \$20 million in credits and for promotional activities to PROEXANT. Since 1996, the U.S. Congress has forbidden USAID to give any support to PROEXANT because of complaints from U.S. flower growers. PROEXANT and USAID provided technical assistance and marketing advice to flower growers. Aside from its role in starting the floriculture industry in southern Ecuador in the environs of Cuenca, however, USAID and PROEXANT had little to do with

¹³ Private communication from Valeria Escudero, Coordinadora Sectorial para Flores y Madera, CORPEI, June 23, 2000.

¹⁴ Interview with Edgar Guillén, U.S. Agency for International Development, Quito, June 12, 2000.

¹⁵ Interview with Marco Peñaherrera, General Manager of PROEXANT, Quito, June 15, 2000.

Ecuador's flower boom. PROEXANT devoted most of its resources to products other than flowers since the NGO was most active after the flower boom was already under way.

The Link between Policy Reform and Flower Exports

The foregoing discussion argues that programs targeting agriculture as a whole, flower cultivation specifically, or nontraditional exports in general, did not have much impact on the flower industry. This suggests that, if government policy played any role in the Ecuadorian flower boom, it was the liberalization of trade and macroeconomic reforms that made the difference. The last twenty years have produced continuous tinkering with the policy regime. Out of this jumble of policy changes, however, one can clearly discern an inflection point – between 1988 and 1992 during the presidency of Rodrigo Borja. His government maintained a low real exchange rate, reduced import tariffs, and – very importantly – swept away much of the red tape that had strangled exports. These years were also a period of comparative macroeconomic stability, bracketed by the economic chaos during the last two years of the Febres Cordero administration and the slide into a financial and currency crisis that began in the mid 1990s. Coincident with Borja's tenure as president the flower boom got underway. The close fit between the pace of policy reform and the expansion of the flower industry is highly suggestive of a causal connection.

Policy reform cannot have had much impact on petroleum export earnings since they depend only upon the world price of petroleum and the ability of the pipeline to move the petroleum to the port, which in turn depends upon earthquakes, landslides, sabotage, mechanical breakdowns, and the like. Policy reform is unlikely to have much impact on other traditional exports that have already established their niche in world markets. If policy reform did stimulate flower exports, however, we should expect that it would also stimulate the growth of other nontraditional exports as well. If, on the other hand, if only flower exports experienced rapid growth in the early 1990s, it is unlikely that policy reform played an important role. What follows will try to show that policy reform in the early 1990s had no important effect on nonpetroleum traditional exports, but was associated with a sharp expansion of nontraditional exports.

As can be seen from Table 3, traditional nonpetroleum real export earnings taken together (bananas, shrimp, coffee, cacao, and fish) grew steadily in the 1970s, fell in the early 1980s, and resumed their growth in 1984. Nevertheless, for all of these products except coffee, export growth rates between 1990 and 1994 were lower than in the previous five years and were lower in the second half of the 1990s than in the first half. Coffee export earnings grew between 1990 and 1994, but the data are misleading. In 1994, a frost in Brazil led to a tripling of the price Ecuador could get for its coffee, producing a spike in export earnings (and pulling up the average for all traditional nonpetroleum exports). But the number of countries exporting coffee has continued to increase, and Ecuador's coffee yields are a third of the South American average (Schodt 1991, 222). Real coffee export earnings in 2001 were only 10 percent of the 1994 peak. Cocoa exports have also fallen prey to global competition though the decline seemed to have bottomed out by the very end of the 1990s; exports in the 1990s averaged a little over half the peak level of exports in the mid 1980s. Fish exports grew rapidly in the 1980s and experienced modest and slowing growth in the 1990s. Banana exports grew more slowly in the 1990s than in the last half of the 1980s though Ecuador's share of

the world banana market has grown from 16 percent in the 1970s to around 20 percent in the last few years. Shrimp exports soared in the 1970s and early 1980s as shrimp farms replaced the harvesting of wild shrimp. The industry continued to grow in the 1990s until the arrival of the white spot virus in 1998. Between 1998 and 2001, shrimp export earnings fell by 70 percent even though shrimp prices were rising through the 1990s. As expected, the data for traditional nonpetroleum exports as a whole or for each export individually provide no evidence that policy reform during the Borja administration stimulated their growth.

In contrast, several of Ecuador's nontraditional exports (that is, exports that are not officially designated by the Banco Central del Ecuador as traditional) grew rapidly in the 1990s. None of these exports accounted for much over 1 percent of nonpetroleum exports in 1989 except for processed seafood. (The latter industry is an extension of the traditional export industry, fresh and frozen fish. In 1989, the majority of processed seafood was fish meal, but exports of canned fish grew dramatically through the 1990s.) Table 4 shows that the average annual growth of all nontraditional real export earnings was nearly 30 percent in the first half of the 1990s and about 12 percent in the late 1990s, about triple the growth rate in traditional (nonpetroleum) export earnings adjusted for the spike in coffee prices. In the early 1990s, average annual export growth rates for the five most successful nontraditional exports was between 42 and 67 percent. Four nontraditional exports continued rapid growth between 1995 and 1998, averaging between 24 and 42 real annual growth rates. No data are available to indicate the growth rates of these industries in the 1980s, but earlier growth rates would not be very illuminating since very small absolute increases could imply very large percentage increases.

This pattern of export growth and diversification is exactly what one should expect from a successful liberalization of the trade regime when macroeconomic fundamentals are improving: continued growth in traditional exports not plagued by industry-specific problems and rapid growth in those nontraditional exports whose comparative advantage is revealed by the reduction in the antiexport bias. Flower exports experienced spectacular growth in the 1990s, growing from 0.2 percent of nonpetroleum exports in 1987 to 8 percent at present. Nevertheless, four other nontraditional exports had higher average annual growth rates in the early 1990s as did two others between 1995 and 1998. The cut flower industry in the 1990s was near the middle of the pack of a half dozen successes.¹⁶

¹⁶ The reader may wonder at this point why the flower industry deserves the special attention that this article gives it. Floriculture stands out among Ecuador's nontraditional exports for several reasons. The largest nontraditional export is processed seafood, but this industry has merely added a layer of processing to the already well established (traditional) fishing industry; hence, the Banco Central has stretched the definition of nontraditional in order to include processed seafood. After processed seafood, the cut flower industry is the largest nontraditional export. Moreover, growth in the next largest nontraditional export – metal products – faltered after the mid 1990s whereas the flower industry has continued to grow. Lastly, the comparative advantage of the flower industry is more firmly rooted in the country's geography than for the other nontraditional export successes of the 1990s, so one could reasonably expect a brighter future for flower exports.

Contrary evidence of the importance of policy reform for the flower export boom in Ecuador comes from the growers themselves. Those with whom I spoke uniformly disparaged the importance of trade policy reform to their industry. They seemed to know or care little about the government's macroeconomic policy reform, and complained bitterly of government policies that were still an obstacle for their industry, most importantly high interest rates and the government's treatment of air transport. On the other hand, one should note that there are very few flower growers in Ecuador who worked in the industry in the early 1990s – it is a new industry – and none of my respondents had done so. First-hand experience with truly adverse trade policy is thus rare in the flower industry. I suspect also that the entrepreneurial, buckaroo spirit of the growers and their immersion in the day-to-day business of getting flowers on the next plane directed their attention away from the complexities of economic policy formation.

Parallels with the banana boom shed light on the issue. “Most banana producers assert vehemently that it was private initiative responding to opportunities provided by the market” that created the spectacular expansion of banana exports in the 1950s and their continued growth since then (Schodt 1995, 105). They ignore the thousands of miles of roads that the government paved in the 1950s that permitted transport of the bananas to the port, the government-financed upgrading of port facilities, substantial government credits to the banana growers, threats of land reform whose purpose and effect was to induce United Fruit Company to sell its land in Ecuador to local producers, technical assistance in finding effective methods to deal with the diseases that had devastated banana production elsewhere, a relatively realistic exchange rate in the 1950s when the banana boom began, and the establishment of minimum prices for exported bananas (Schodt 1995, 118–124). The inability of the banana or flower growers to see or admit the importance of government policy should not be considered evidence against the hypothesis that policy reform stimulated the growth of nontraditional exports.

The Global Flower Market

The fact that a half dozen nontraditional exports attained spectacular growth rates just as the government initiated a major reform of the trade regime clearly suggests – though of course cannot establish – the importance of government policy to Ecuador's flower boom. What follows argues that the timing of the flower boom cannot be fully understood by considering only these policy changes.

Ecuador produces some of the finest roses in the world, and massive quantities of medium quality roses and other flowers as well. Its ability to do so rests on the facts of its human and physical geography. Labor, land, and water cost less even than in Colombia, Ecuador's most important competitor. Ecuador's location straddling the equator produces optimal sunlight for flower cultivation. Colombian flowers are grown on the plains around Bogotá where growing conditions are fairly uniform. The Ecuadorian highlands, in contrast, have little level ground, and Ecuadorian flowers are produced in a wide variety of microclimates that vary with altitude, prevailing wind, and rainfall, allowing Ecuador to grow a remarkable variety of flowers. The diversity of ecological zones in Ecuador is exploited by inventive entrepreneurs who seek to match flower, field, and market to maximize profits. Prime growing conditions allow Ecuador to produce

mostly roses (75 percent of the country's flower exports) instead of low markup carnations and chrysanthemums (less than 2 percent of exports) (Expoflores, June 2003, 45).¹⁷

¹⁷ Ecuador's geography also poses problems for flower growers. The greater distance to the market (and breaks in the cold chain) mean that Ecuadorian flowers have a shorter vase life than U.S. or Colombian flowers. Distance is not the only problem. In late 1999, two volcanoes near the epicenter of Ecuador's flower cultivation erupted, one of them emitting ash almost daily for over a year. The Quito airport was closed on two occasions, and the volcanic ash damaged some flowers that were not in greenhouses (León 2000). The eruptions were followed by unusually rainy weather. The rain spawned land slides and volcanic lahars, blocking roads used by some flower growers. The bad weather also meant less sunshine, and flowers took three to fourteen days longer than normal to mature. By the time many growers could ship their flowers for Valentine's Day, Colombia's bumper crop had depressed prices. Ecuadorian growers with forward contracts managed, but growers selling at spot prices took a severe beating since they were shipping at the end of a depressed market. The cause of the flower industry's worst ever year (2000) was not just financial and political chaos, but some geographical bad luck.

The geography of Ecuador did not change in the 1990s, so we must look to the nongeographic aspects of the country's comparative advantage to understand the dating of the flower boom. Flowers were grown for export from Ecuador for a brief period around 1970, only a few years after flower exports from Colombia began.¹⁸ Given Ecuador's geographical superiority in flower production, why did Colombia take the lead in exporting flowers to the U.S. flower market and why was Ecuador's flower boom put on hold for 15 years?

In the two decades before Ecuador's flower boom began, flower cultivation and marketing became a global enterprise (U.S. International Trade Commission 1994, II-16–II-19 and 1995, I-34, II-11–II-15; Méndez 1993, 110–111; International Trade Center 1997, 181ff; Fairbanks and Lindsay 1997, 1–17). Before the 1950s, high transportation costs forced flower growers to locate close to retail markets. Cheap air freight and superhighways allowed the reorganization of the industry around minimizing production rather than transportation costs. Flower production fled the cold, dark Northeastern United States with its high labor and energy costs to Florida, Colorado, California in the 1950s, and to Colombia in the late 1960s.

The year-around availability of cheap Colombian flowers by the 1970s reduced the costs and risks of holding large inventories, permitting a dramatic reorganization of flower marketing. Until then, high mark-up, low volume, independent florists accounted for almost all of the flowers sold in the United States. Increasingly, outlets that made their profits on high sales volume of cheap, almost exclusively imported flowers supplanted the traditional florists, who continue to market domestically produced flowers. In 1977, only 13 percent of U.S. supermarkets sold flowers, but by the mid 1990s, 85 to 90 percent sold flowers at least seasonally. Supermarkets now account for 40 percent of U.S. flower sales. Flowers are also sold through street and road-side vendors, gas stations, convenience stores, department stores, discount chain stores, and drugstores, and by telephone, through catalogues, home shopping television networks, and via the internet. The lower price and greater convenience of buying flowers led to a steady growth in U.S. flower consumption – and the United States buys over 70 percent of Ecuador's flowers.¹⁹

¹⁸ That first effort failed due to difficulties in recruiting workers and disagreements between the growers and union leaders, according to Andres Pérez, President of the Cámara de Comercio de Quito, (interviewed September 23, 1999).

¹⁹ Ecuador's flower boom was also stimulated by the rapid growth in flower demand after 1992 by consumers in the former Soviet Union and Soviet bloc countries who preferred the type of roses produced in Ecuador (International Trade Center 1997, 182). By 1997, 10 percent of Ecuador's flower exports went to Russia (Expoflores, unpublished data). Exports to Russia collapsed with that country's financial crisis in 1998, but bounced back to 6 percent in 2002 (Expoflores, June 2003, 45).

In response to the avalanche of Colombian flowers, Miami became the center of the U.S. flower distribution system. This process was abetted by the astute efforts of Colombian business firms and the Colombian flower growers association.²⁰ An even larger distribution center was built at Alsemeer near the Amsterdam airport. The Miami and Alsemeer facilities can clear through customs, auction, repack, and ship millions of stems per day. Eighty percent of Ecuador's flowers are shipped to these two centers. Dutch flower breeders, Israeli manufacturers of computer-driven drip irrigation systems, and U.S. pesticide companies developed the technology of modern flower cultivation. A global industry coalesced whose product was the development of floriculture in developed and developing countries. Putting flowers into a field or a country for the first time always requires creative adaptation, but a system for developing new flower fields in new countries was in place by the mid 1980s. Ecuador was one of first targets of this new global industry. By 1985, three companies that together cultivated 25 hectares exported 30,000 boxes of flowers from Ecuador. Ten years later, more than 60 countries exported significant quantities of fresh cut flowers (International Trade Center 1997, 6).

Colombia instead of Ecuador played the leading role in this transformation of the U.S. flower market for several reasons. Colombia's government undertook vigorous efforts to lower the country's antiexport bias at the same time as the country's flower boom was getting underway. Between 1967 and 1973, the peso was devalued and import restrictions relaxed. That led to an export boom in which total exports nearly doubled and nontraditional exports increased six fold. Colombia's population was triple Ecuador's and it had a higher per capita income as well, so a larger critical mass of entrepreneurs was in Bogotá than in Quito. In contrast, the antiexport bias of Ecuador's trade regime was at an all-time high during the 1970s. The decade's petroleum boom produced some of the classic symptoms of the Dutch disease that discouraged exports, but it also laid the foundation on which the flower boom would be constructed in the following decade. It drew tens of thousands of migrants off the farm and into the major cities. The commercialization of agriculture in the northern Sierra disrupted traditional forms of labor supply and land tenure so that by the 1980s, the land and labor for the flower boom was in place. Furthermore, the petroleum boom filled the government's coffers, allowing it to build the roads, airports, power generation plants, and irrigation infrastructure needed to cultivate flowers.

²⁰ The growers association persuaded Avianca Airlines and several other carriers to provide special handling for flowers so that they would arrive in the United States in good condition. It organized a handling company in Miami with cold rooms in which customs inspections could be performed and flowers sorted for shipment. This allowed the evolution of a system of brokerage houses that could distribute flowers to wholesalers all over the United States and Canada. Some Colombian firms established wholly owned importer/distributor companies, sidestepping the brokerage houses and shipping directly to wholesalers.

In 1973, Colombia's government reversed its efforts to stimulate exports when it began to use the overvaluation of the peso to dampen inflation. By 1978, the real exchange rate was even more overvalued than it had been in 1967 and the inward orientation of the country's macroeconomic policies continued to intensify until 1984. Between 1980 and 1983, for example, the proportion of imports requiring import licenses grew from 30 percent to virtually 100 percent (Edwards 1997, 46). By the mid 1970s, the government no longer considered flowers to be a nontraditional export and ended any favored treatment of the industry (Méndez 1993, 112). The rapid growth of coca production in the 1980s produced symptoms of the Dutch disease. As the Soviet Union floundered and the Cuban economy weakened, Colombian guerilla forces were left without their traditional sources of finance. They turned to kidnaping, extortion, drug processing and exporting, money laundering, and bank robbing for their funds. The drug cartels grew increasingly lawless and violent. Many Colombian growers began to look for a haven from this violence for their businesses and families. As Colombia became progressively less attractive to flower growers, Ecuador's success in reforming its economy attracted investors from Colombia, Ecuador, and elsewhere. In the early 1990s, a major restructuring of the Andean Pact allowed freer movement of capital between member countries, making it easy for Colombians to bring their investment funds to Ecuador.²¹

Conclusion

Cut flower exports from Ecuador show signs of being a nontraditional export whose rapid growth has been permitted by a reduction in the antiexport bias of the trade regime. The trajectory of policy reform and macroeconomic stability in Ecuador closely match the experience of a half dozen industries that exported almost nothing in the 1980s and enjoyed spectacular export growth in the 1990s. Some of these nontraditional exports grew even more rapidly than flower exports. Though we have no convincing way to measure it, the narrative evidence presented in this paper strongly suggests that the government reduced the antiexport bias of its policy regime to permit these industries to exploit their comparative advantage. At the same time, the success of Ecuador's floriculture industry indicates that flowers are a new traditional export with a comparative advantage so pronounced that it would permit significant exports even without policy reforms. The country's physical geography gives the flower industry an extraordinary edge in the global flower market. This geographical advantage, however, could not find expression in the market until the appropriate land, labor, entrepreneurship, and infrastructure were in place, and this required a transformation of the Ecuadorian economy that had to await the petroleum boom of the 1970s. Furthermore, the evolution of the global and U.S. market in flowers between 1950 and 1990 and the deterioration of

²¹ A substantial proportion of the investment in Ecuadorian flower cultivation is Colombian flight capital. Since the early 1990s, money deposited in a bank in Colombia can be withdrawn from a branch of the bank in Ecuador without any special restrictions or even reporting. Thus, it is impossible to know how much Colombian capital has financed the Ecuadorian flower industry.

Colombia's economy in the 1980s radically altered Ecuador's ability to export flowers. By 1990, all the pieces of the puzzle were in place. I conclude that the success of Ecuador's flower industry was created by changes in both policy reform in Ecuador and by the transformation of the global flower market. Ecuador's flower exports are both a nontraditional export and a new traditional export.

Stepping back from the narrow question posed by this article – how to understand Ecuador's flower boom – this research can serve to remind us of the importance of the following two points. First, the foregoing analysis emphasizes the contingent and conjunctural nature of comparative advantage. For example, the Indian ability to export software or the Bahamian success in banking could not have existed until advances in communication technology made geographic proximity of producer and customer unimportant. Similarly, without a sophisticated air transport system, Ecuador's comparative advantage in flowers did not exist. It is not just new technologies that create comparative advantage. Ecuador's entry into cut flower export was also created by the complete restructuring of wholesale and retail marketing infrastructure and institutions in the United States. Moreover, without adverse macroeconomic policies and generalized mayhem in Colombia in the 1980s, Ecuador's flower boom would have been slowed or perhaps blocked. Comparative advantage is not just a matter of technology and geography; it is created (and destroyed) by the combined effects of human actors.²²

This research also reminds us that nontariff barriers to trade comprise a great deal more than quotas or import licenses. This article points to a range of issues that includes bureaucratic delays that raise the risk of exporting or corruption in the administration of airport that raises freight rates. More importantly, a government can affect foreign trade in ways that go far beyond trade policy, even trade policy broadly defined. A government that, through incompetence, misguided policy, and corruption, lets its financial system implode, producing soaring real interest rates and plunging maturities on commercial debt, is not building a sound foundation for foreign commerce. When the government lets a financial meltdown turn into an generalized economic and political meltdown, the ensuing chaos undermines the ability of exporters to get their goods onto the market.²³ After 1997, almost all of Ecuador's traditional exports slumped and growth rates in all of its nontraditional exports decelerated dramatically as economic and political turmoil engulfed the country. The 50 percent fall in the real value of the sucre in late 1999 could not offset the other problems that the

²² This point is not about the distinction between exogenous or natural comparative advantage (pertaining to resource endowments, production functions, or tastes) or endogenous or acquired comparative advantage (pertaining to economies of specialization in production). Both types of comparative advantage are contingent and conjunctural.

²³ See Eichengreen 2004 for a fuller discussion of the importance of macroeconomic stability to the success of reforms to a country's trade regime.

crisis created for exporters. Even banana exports and Ecuador's share of the world banana market fell in 1998–2000, although bananas are grown far from the areas where the mass demonstrations and road blocks were concentrated (and where the volcanoes blanketed the landscape in ash). Ecuador's experience shows that exporting requires a certain minimal economic and political stability, and that the best conceived trade policies cannot by themselves promote exports.

Works Cited

- Acosta, Alberto. 1999. "Ecuador: Un país atrapado en un ajuste tortuoso e interminable." *Revista de la Facultad de Ciencias Económicas*, Universidad de Cuenca, 2 No. 5 July, 161–179.
- Albornoz, Vincente. 1999. "El tipo de cambio y las exportaciones en el Ecuador." *Tendencias económicas financieras y políticas* 3 Segundo Semestre. December, 113–119.
- Anderson, Joan B. 1997. "Ecuador." In Laura Randall, ed., *The Political Economy of Latin America in the Postwar Period*, Austin: University of Texas Press, 232–274.
- Banco Central del Ecuador, Dirección General de Estudios. 1999. *Boletín Anuario* 21. Quito.
- Banco Central del Ecuador, Dirección General de Estudios. 2000. *Información estadística mensual*. No. 1775, Quito, January 31.
- Banco Central del Ecuador, Dirección General de Estudios. 1997. *Sesenta Años de Información Estadística*, Quito.
- Beckerman, Paul. 2001. "Dollarization and Semi-dollarization in Ecuador." Policy Research Working Paper 2643, Washington: World Bank, Economic Policy Sector Unit, July.
- Bulmer-Thomas, Victor. 1998. "The Central American Common Market: From Closed to Open Regionalism." *World Development* 26 No. 2, 313–322.
- Henry Bruton. 1998. A Reconsideration of Import Substitution, *Journal of Economic Literature* 36, 903–36.
- Calogero, Carletto, Alain de Janvry, and Elisabeth Sadoulet. 1999. "Sustainability in the Diffusion of Innovations: Smallholder Nontraditional Agro-exports in Guatemala." *Economic Development and Cultural Change* 47 No. 2, 345–369.
- Carter, Michael R., Bradford B. Barham, Dina Mesbah, and Denise Stanley. 1993. *Agro-exports and the Rural Resource Poor in Latin America: Policy Options for Achieving Broadly-based Growth*. Agricultural Economics Staff Paper Series No. 365, Madison: University of Wisconsin.
- Clark, Mary A. 1995. "Nontraditional Export Promotion in Costa Rica: Sustaining Export-led Growth." *Journal of Interamerican Studies and World Affairs* 37 No. 2, 181–223.
- Colindres, Ana María. 1993. "Nontraditional Exports in Guatemala." In Wim Pelupessy and John Weeks, eds., *Economic Maladjustment in Central America*, New York: St. Martin's Press, 111–127.
- Derosa, Dean A. 1992. "Increasing Export Diversification in Commodity Exporting Countries: A Theoretical Analysis." *International Monetary Fund Staff Papers* 39 No. 3, 572–595.
- Devereux, John, and Michael Connolly. 1996. "Commercial Policy, the Terms of Trade and the Real Exchange Rate Revisited." *Journal of Development Economics*. 50, 81–99.
- Edwards, Sebastian. 1993. "Trade and Growth in Developing Countries." *Journal of Economic Literature* 31, 1394–1434.
- Edwards, Sebastian. 1997. "Trade Liberalization Reforms and the World Bank." *American Economic Review* 87 2, 43–48.

- Eichengreen, Barry. 2004. "What Macroeconomic Measures Are Needed for Free Trade to Flourish in the Western Hemisphere." *Latin American Politics and Society* **46**, 1–27.
- El Comercio*. 1999. "Los químicos afectan a los paperos del país." October 16, B2.
- Expoflores (Asociación Nacional de Productores y/o Exportadores de Flores Del Ecuador). *La Flor del Ecuador*. Quito, monthly.
- Fairbanks, Michael, and Stace Lindsay. 1997. *Plowing the Sea: Nurturing the Hidden Sources of Growth in the Developing World*. Cambridge: Harvard Business School Press.
- Faulkner, Anne H., and Victoria A. Lawson. 1991. "Employment Versus Empowerment: A Case Study of the Nature of Women's Work in Ecuador." *Journal of Development Studies* **27** No. 4, 16–47.
- Freire, María Belén, Mónica Marynella Salvador, and Katiuvshka Yánez. 1997. "Determinantes de las exportaciones no tradicionales en el Ecuador 1976–1995." *Cuestiones Económicas* No. 30, 9–87.
- Grindle, Merilee S., and Francisco E. Thoumi. 1993. "Muddling Toward Adjustment: The Political Economy of Economic Policy Change in Ecuador." In Robert H. Bates and Anne O. Krueger, eds., *Political and Economic Interactions in Economic Policy Reform: Evidence from Eight Countries*, Cambridge, Massachusetts and Oxford: Blackwell, 1993, 121–178.
- Hey, Jeanne A.K. 1995. "Ecuadorian Foreign Policy Since 1979: Ideological Cycles or a Trend towards Neoliberalism?" *Journal of Interamerican Studies and World Affairs* **37** No. 4, 57–88.
- Hofman, André A., and Rudolf M. Buitelaar. 1994. "Extraordinary Comparative Advantage and Long-run Growth: The Case of Ecuador." *CEPAL Review* **54**, 149–165.
- IADB (Interamerican Development Bank). 1998. *Economic and Social Progress in Latin America: Facing up to Inequality in Latin America*. Washington: Johns Hopkins University Press.
- International Trade Center. 1997. *Cut Flowers: A Study of Major Markets*. Geneva: UNCTAD/WTO.
- de Janvry, Alain, Elisabeth Sadoulet, and André Fargeix. 1991. "Politically Feasible and Equitable Adjustment: Some Alternatives for Ecuador." *World Development* **19** No. 11, 1577–1594.
- Kaplinsky, Raphael. 1993. "Export-processing Zones in the Dominican Republic." *World Development* **21** No. 11, 1851–1865.
- Korovkin, Tanya. 2003. "Cut-Flower Exports, Female Labor, and Community Participation in Highland Ecuador." *Latin American Perspectives* **30**, 18–42.
- Korovkin, Tanya. 1997. "Taming Capitalism: The Evolution of the Indigenous Peasant Economy in Northern Ecuador." *Latin American Research Review* **32** No. 3, 89–110.
- Larrea, Carlos. 1998. "Structural Adjustment, Income Distribution, and Employment in Ecuador." In Albert Berry, ed., *Poverty, Economic Reform and Income Distribution in Latin America*, Boulder: Westview, 179–204.
- León, Henry. 2000. "Efectos de la ceniza volcánica en el agro ecuatoriano." *Cultivos controlados* **2** No. 1, 22–23 and No. 2, 18–19.
- Locay, Luis. 1994. "Transit Time Through Customs as an Instrument of Trade and Drug Policy: The Case of Colombian Flowers." *North American Journal of Economics and Finance* **5** No. 1, 23–29.

- Meier, Verena. 1999. "Cut-Flower Production in Colombia – A Major Development Success Story for Women?" *Environment and Planning*, **31** No. 2, 273–289.
- Méndez, José A. 1993. "The Development of the Columbian Cut Flower Industry: A Textbook Example of How a Market Economy Works," in J. Michael Finger, ed., *Antidumping: How It Works and Who Gets Hurt*, Studies in International Trade Policy, Ann Arbor: University of Michigan Press, 103–119.
- Mosley, Paul. 1991. "Ecuador." In Paul Mosley, Jane Harrigan, and John Toye, *Aid and Power: The World Bank and Policy-Based Lending*, Volume 2, Case Studies, New York: Routledge, 412–439.
- Newman, Constance. 2001. "Gender, Time Use, and Change: Impacts of Agricultural Export Employment in Ecuador." Policy Research Report on Gender and Development, Working Paper Series, No. 18, Washington: World Bank, Development Research Group, February.
- Rosene, Chris M. 1990. "Modernization and Rural Development in Costa Rica: A Critical Perspective." *Canadian Journal of Development Studies* **11** No. 2, 367–374.
- Raynolds, Laura T. 1998. "Harnessing Women's Work: Restructuring Agricultural and Industrial Labor Forces in the Dominican Republic." *Economic Geography* **74** No. 2, 149–169.
- Raynolds, Laura T. 2002. "Wages for Wives: Renegotiating Gender and Production Relations in Contract Farming in the Dominican Republic." *World Development* **30** No. 5, 783–798.
- Salgado, Germánico. 1987. "Ecuador: Crisis and Adjustment Policies. Their Effect on Agriculture." *CEPAL Review*, No. 33, December, 129–138.
- Santamaría, Eliana. 1995. "El tipo de cambio real en el Ecuador: 1977-1994, Un análisis de series de tiempo." *Cuestiones económicas*, Banco Central del Ecuador, No. 26, September, 15–47.
- Schodt, David W. 1991. "Agricultural Performance in a Small Petroleum-Exporting Country: Ecuador during the 1970s and 1980s." In Michael J. Twomey and Ann Helwege, eds., *Modernization and Stagnation: Latin American Agriculture into the 1990s*, New York: Greenwood Press, 1991, 215-231.
- Schodt, David W. 1995. "State or Market: The Development of the Ecuadorian Banana Industry." In Steve Chan, ed., *Foreign Direct Investment in a Changing Global Political Economy*, International Political Economy Series, New York: St. Martin's Press, 104–126.
- Servicio de Información Agropecuaria, Ministerio de Agricultura y Ganadería del Ecuador.
<http://www.sica.gov.ec/comext/docs.htm>.
- Thoumi, Francisco, and Merilee Grindle. 1992. *La política de la economía del ajuste: la actual experiencia ecuatoriana*. Quito: Facultad Latinoamericana de Ciencias Sociales (FLACSO).
- U.S. International Trade Commission. 1994. *Fresh Cut Roses from Colombia and Ecuador*. Publication 2766, Washington, March.
- U.S. International Trade Commission. 1995. *Fresh Cut Roses from Colombia and Ecuador*. Publication 2862, Washington, March.
- Viteri Díaz, Galo. 1998. *Las políticas de ajuste, Ecuador 1982-1996: Evaluación de resultados*, Quito: Corporación Editora Nacional.

Waters, William F. 1997. "The Road of Many Returns: Rural Bases of the Informal Urban Economy in Ecuador." *Latin American Perspectives*, **24** No. 3, 50-64.

Whitaker, Morris D., and Dale Colyer. 1990. *Agriculture and Economic Survival: The Role of Agriculture in Ecuador's Development*. Boulder: Westview.

Willmore, Larry. 1995. "Export Processing Zones in the Dominican Republic: A Comment on Kaplinsky." *World Development* **23** No. 3, 529-535.

Willmore, Larry. 1997. "Export Promotion Policies in Central America." *Cepal Review* No. 62, 173-186.

World Bank. 2001. *World Development Report*. New York: Oxford.

Yépez Urbano, Daniel. 1997. *Estudio del sector florícola en el Ecuador*. Quito: Corporación Financiera Nacional, Gerencia de División de Planeación Estratégica, September.

Table 1. Flower Exports and Employment in Floriculture, 1985–2002

| Year | Boxes Exported | FOB Value of Exports (1000s of U\$S) | Rate of Growth (in Percent) | Share of Total Exports (in Percent) | Number of Workers | Dollars per kg. Exported |
|------|----------------|--------------------------------------|-----------------------------|-------------------------------------|-------------------|--------------------------|
| 1985 | 29,506 | N.A. | N.A. | N.A. | N.A. | N.A. |
| 1986 | 71,044 | N.A. | N.A. | N.A. | N.A. | N.A. |
| 1987 | 125,489 | 3566 | N.A. | N.A. | N.A. | N.A. |
| 1988 | 145,028 | 4101 | 15.3 | N.A. | N.A. | N.A. |
| 1989 | 324,395 | 9,225 | 124.9 | 0.4 | N.A. | N.A. |
| 1990 | 426,806 | 13,598 | 47.4 | 0.5 | N.A. | N.A. |
| 1991 | 565,473 | 19,247 | 41.5 | 0.7 | N.A. | N.A. |
| 1992 | 725,722 | 29,936 | 55.5 | 1.0 | N.A. | N.A. |
| 1993 | 905,601 | 39,575 | 32.2 | 1.3 | N.A. | N.A. |
| 1994 | 1,248,806 | 59,165 | 49.5 | 1.5 | N.A. | 2.63 |
| 1995 | 1700237 | 84,326 | 42.5 | 1.9 | 14,119 | 2.76 |
| 1996 | 2,336,708 | 104,806 | 24.2 | 2.1 | 18,065 | 2.36 |
| 1997 | 2,386,825 | 131,010 | 25.0 | 2.5 | 25,383 | 2.68 |
| 1998 | 3,206,876 | 161,962 | 23.6 | 3.9 | 35,414 | 2.79 |
| 1999 | 3,383,781 | 180400 | 11.4 | 4.1 | 35,782 | 2.95 |
| 2000 | N.A. | 194650 | 7.9 | 4 | N.A. | 2.46 |
| 2001 | N.A. | 211773 | 8.8 | 4.6 | N.A. | 3.11 |
| 2002 | | 289343 | 36.6 | | N.A. | 3.59 |

Source: Unpublished data from EXPOFLORES; Expoflores March 2002, 44, 46; Dirección General de Estudios, 2000, Table 4.1.1; Servicio de Información Agropecuario, Ministerio de Agricultura y Ganadería del Ecuador, web site; Banco Central 2000, Table 4.2.2.

Table 2. Trade and Macroeconomic Policy Reforms, 1982–2000

| | |
|----------------------------------|---|
| Osvaldo Hurtado 1982–1984 | <ul style="list-style-type: none"> – pursues fiscal and monetary austerity – devalues sucre in 1982 and again in 1983 – establishes a crawling peg, but adds a fourth level to the multiple exchange rate regime – raises import tariffs – <i>sucretises</i> and extends public guarantees to the private external debt – maintains essential structure of ISI with high levels of effective protection, huge subsidies to industry and urban consumers, and agricultural price ceilings. |
| León Febres Cordero 1984–1988 | <ul style="list-style-type: none"> – implements series of mini-devaluations beginning 1984 – unifies exchange rate, 1985 – floats the sucre, 1986 producing a rapid fall in its real value – partially liberalizes setting of interest rates – generates budget surplus in 1984 and 1985, reducing inflationary pressures – eliminates almost all price ceilings on agricultural products and most remaining duties on agricultural exports; sets up an agricultural commodities exchange market, 1985 – signs agreement with the U.S. Overseas Private Investment Corporation forswearing nationalizations or expropriations; breaks with Andean Pact by dismantling policies that discriminate against foreign investors – reduces or eliminates restrictions on import of manufactures – especially consumer goods – reduces maximum tariff to 98 percent and average tariff from 51 to 38 percent – is rewarded with generous renegotiation of the external debt with the support of the IMF – reestablishes price ceilings, multiple and fixed exchange rates, and foreign exchange rationing at highly subsidized rates in 1987, increasing the overvaluation of the exchange rate – falls into arrears on its external debt – spending on public works mushrooms, especially in the president's political base, Guayaquil – increases government salaries and consumer subsidies sharply, so budget deficit grows to nearly 14 percent of GDP, and inflation and unemployment soar |
| Rodrigo Borja 1988–1992 | <ul style="list-style-type: none"> – reduces maximum tariff (except for automobiles) to 60 percent in 1990, 35 percent in 1991, and 20 percent in 1992 – eliminates various non-tariff barriers to trade, including the ban on the import of vehicles and restrictions on other imports – reduces substantially red tape that prejudiced exports, simplifying documents and administrative procedures – opens maritime (but not air) transport to competition – lobbies Andean Pact to liberalize trade and foreign investment among signatory countries – adopts new investment code in 1991 giving equal treatment to national and foreign capital, allowing unrestricted repatriation of profits, and dropping prohibitions on investment in certain sectors – sharp devaluation of the sucre in 1988 while maintaining system of multiple exchange rates and foreign exchange rationing – weekly mini-devaluations and occasional larger ones keep the real exchange at its lowest level at any time between 1970 and the 1999 collapse of the sucre – current account deficit 4.5 percent of GDP in 1989, 1.4 percent in 1990, but over 4 percent by 1991, provoking a unilateral debt service moratorium. – fiscal deficit 1.7 percent of GDP in 1991, but 7 percent in the following year – inflation from low of 30 percent in 1990 to 60 percent in 1992 – official disinterest in privatization and deregulation persists – high real interest rates |

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| | |
| <p>Sixto Durán Ballén 1992–1996</p> | <ul style="list-style-type: none"> – large nominal devaluation in 1992 and another in 1993, but less than inflation – overvaluation of the sucre grows steadily for next six years – unifies exchange rates and liberalizes exchange market – war with Peru in 1995 brings economic crisis – dirty float within a very narrow band and further real appreciation of the currency – requires exporters to purchase interest-free, six-month bond for 15 percent of the value of exports – exporters still required to sell their foreign exchange earnings, but period in which they can retain it extended; with steady nominal devaluations, the penalty imposed by the overvaluation is thereby eased – central bank allows futures market in foreign exchange – forms free-trade zone with Venezuela, Bolivia and Colombia in which national and foreign investors treated equally – U.S. responds by eliminating the 7.8 percent customs duty on flower imports from Andean Pact countries in 1992 – withdraws from OPEC, the only country ever to do so – joins the World Trade Organization, though still has not fully met accession commitments – services the external debt in a timely fashion and renegotiates it in 1994, but the economic crisis of 1995 again leaves the country in arrears – authorizes the privatization of the customs service, though it apparently has not yet done so – attempts to impose fiscal austerity by reforming taxes, increasing public utility rates, reducing government employment, and cutting spending, but war with Peru in 1995 throws government’s finances into chaos so the public sector as a share of GDP returns to its 1992 level by 1995 – restrictive monetary policy leads to continued stagflation |
| <p>Jamil Mahuad, 1998–2000</p> | <ul style="list-style-type: none"> – floats sucre in February 1999 – banking crisis beginning in March 1999 engulfs any effort to carry out serious economic reform – declares week-long bank holiday, imposes freeze on most of the country’s bank accounts that ultimately lasts more than a year, levies a 1 percent tax on all financial transactions, and then announces unlimited bank deposit insurance – public confidence in banking system plummets, leading to massive capital flight and the bankruptcy of several important financial institutions – unable to reach an agreement with the IMF that would have opened the way to Paris Club rescheduling of external debt, in arrears since 1995 – moratorium on Brady bond and Eurobond service, further undermining the confidence of investors – expansion of the money supply to bail out failing banks worsens situation, and leads to a run on the sucre at the end of 1999, producing a 50 percent drop in its value in three months – announces plans to dollarize, but is ousted from power before implementation |
| <p>Gustavo Noboa, 2000–2003</p> | <ul style="list-style-type: none"> – continues plans to dollarize; by September, sucre is no longer legal tender – IMF extends \$300 million credit, contingent upon passage of a series of structural reforms, especially the ending of fuel subsidies and a relaxation of restrictions on foreign investment – Congress refuses to approve most of the second-round reforms sought by Noboa and the IMF – Moodys’s ratings on Ecuador’s dollar-denominated debt falls to Caa3 – popular opposition to the liberalization of fuel prices continues, forcing the government to repeatedly postpone the move – Constitutional Court declares unconstitutional value added tax increase supported by Noboa |

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|--|--|
| | <ul style="list-style-type: none">- prices almost double in 2000 (after the exchange rate was fixed) and increased another 38 percent in 2001, putting considerable pressure on the tradable goods sector- domestic interest rates in early 2002 were still 12 points over LIBOR- between 1999 and 2001, 400,000 Ecuadorians emigrate, fleeing the collapsing economy- export earnings fall by nearly 20 percent from 1997 to 2001, and only remittances from emigrants kept the current account deficit in check- GDP grew 5.4 percent in 2001, leaving economy still 10 percent smaller than in 1997 |
|--|--|

Table 3. Average Annual Growth Rates of Traditional Real Export Earnings, 1984 to 2001

| | <i>Total</i> | <i>Bananas</i> | <i>Shrimp</i> | <i>Coffee</i> | <i>Cacao</i> | <i>Fish</i> |
|-----------|--------------|----------------|---------------|---------------|--------------|-------------|
| 1970–1980 | 10.1 | 8.3 | 36.0 | 21.1 | 48.3 | 17.2 |
| 1981–1983 | -12.9 | -14.3 | 31.3 | 2.3 | -46.7 | 10.9 |
| 1984-1989 | 11.8 | 16.6 | 16.7 | 1.8 | 64.9 | 47.8 |
| 1990-1994 | 12.2 | 14.2 | 10.3 | 45.0 | -0.7 | 7.1 |
| 1995-1998 | 4.2 | 11.6 | 12.6 | -28.8 | -8.9 | 3.3 |
| 1999-2001 | -20.9 | -9.5 | -30.3 | -25.3 | 33.8 | 0.2 |

Table 4. Average Annual Growth Rates and Shares of Real Export Earnings of Nontraditional Exports, 1990–2001

| | <i>Years</i> | <i>Cut Flowers</i> | <i>Processed Seafood</i> | <i>Metal Products</i> | <i>Fruit Juice & Preserves</i> | <i>Garments and Cloth Products</i> | <i>Leather & Plastics</i> | <i>All Nontraditional Exports</i> | <i>Traditional Nonoil Exports</i> |
|--------------------------------------|------------------|--------------------|--------------------------|-----------------------|------------------------------------|------------------------------------|-------------------------------|-----------------------------------|-----------------------------------|
| <i>Average Annual Growth Rate</i> | <i>1990-1994</i> | 42.4 | 17.9 | 56.1 | 59.0 | 59.6 | 66.7 | 29.1 | 12.2 |
| | <i>1995-1998</i> | 27.5 | 23.8 | 2.3 | 41.5 | 6.0 | 42.5 | 12.0 | 4.2 |
| | <i>1999-2001</i> | 9.4 | 1.1 | 16.5 | -1.2 | 5.4 | 6.3 | 6.1 | -16.0 |
| <i>Pct. Of Total Non-oil Exports</i> | <i>1989</i> | 0.8 | 4.7 | 1.4 | 0.1 | 0.4 | 0.2 | 15.7 | 84.3 |
| | <i>2001</i> | 7.7 | 10.7 | 6.8 | 2.1 | 2.4 | 2.5 | 51.2 | 48.8 |