# NONTRADITIONAL OR NEW TRADITIONAL EXPORTS:
## Ecuador's Flower Boom[1]

*Larry Sawers*
*American University*

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*Abstract: This article explores the sources of Ecuador's boom in flower exports since the late 1980s. In that boom, fresh cut flower exports rose from almost nothing to 9 percent of the country's nonpetroleum export earnings. This research addresses 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 surveys the many changes in economic policy toward agriculture in general, flower cultivation, nontraditional exports, international trade, and macroeconomic stability. Growth rates in traditional and nontraditional exports are examined to see if they correlate with changes in key policies. The article also examines how the restructuring of the global flower market affected Ecuador's floriculture industry.*

Ecuador is one of the poorest countries in South America and has suffered numerous adverse external economic shocks in the last two decades.

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.

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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 2002, flowers' share of the country's nonpetroleum export earnings rose from less than 0.2 percent to 9 percent. An understanding of the country's success in exporting flowers provides important insights into Ecuador's economic past and perhaps its future, and it offers lessons for other developing countries as well.

Ecuador's trade regime has experienced repeated modification since the early 1980s and is now one of the most open in South America. Most of Ecuador's trade liberalization occurred between 1989 and 1994, a period also marked by unusual macroeconomic stability in the country. Flower export earnings in real terms grew 114 percent in 1989—the year that serious policy reform began—and then averaged 42 percent growth annually until 1995. (See table 1.) The coincidence of trade liberalization and macroeconomic stability with the explosive growth of flower exports suggests a causal link that this article explores.

Countries whose trade regimes have a strong antiexport bias tend to have only a few products whose comparative advantage is sufficiently pronounced to permit exportation. These products are conventionally labeled *traditional exports*. A progressive reduction in the antiexport bias allows an ever larger number of industries to begin exporting. 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 exports in 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—petroleum was a nontraditional export from Ecuador in 1973. Since the country only recently began exporting flowers, they are a nontraditional export. Flowers can also be seen as the country's newest traditional export, that is, they—like bananas, petroleum, and shrimp—might have an overwhelming comparative advantage sufficient to overcome any antiexport bias in the country's trade regime. Flowers' comparative advantage, however, only emerged in the late 1980s because of a particular convergence of external market forces. Ecuador has a long history of developing new traditional exports, not as a result of important changes in policy, but because favorable external conditions suddenly presented themselves. The forces that created the new—but soon-to-become-traditional—exports 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

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

| Year | *Export Volume (in Metric Tons)* | *Rate of Growth of Export Volume (%)* | *Value of Exports (1000s of US$)* | *Rate of Growth in Value of Exports (%)* | *Rate of Growth in Real Value of Exports (%)* | *Flowers' Share of Total Exports (%)* |
|---|---|---|---|---|---|---|
| 1985 | 531 | — | 526 | — | — | 0.02 |
| 1986 | 1,278 | 140.7 | 1,706 | 224.3 | 229.0 | 0.08 |
| 1987 | 2,259 | 76.8 | 3,566 | 109.0 | 104.7 | 0.18 |
| 1988 | 2,611 | 15.6 | 4,101 | 15.0 | 12.2 | 0.19 |
| 1989 | 5,840 | 123.7 | 9,225 | 125.0 | 113.9 | 0.39 |
| 1990 | 7,682 | 31.6 | 13,598 | 47.4 | 40.5 | 0.50 |
| 1991 | 9,949 | 29.5 | 19,247 | 41.5 | 38.6 | 0.68 |
| 1992 | 13,543 | 36.1 | 29,936 | 55.5 | 53.6 | 0.97 |
| 1993 | 16,439 | 21.4 | 39,575 | 32.2 | 30.6 | 1.3 |
| 1994 | 22,479 | 36.3 | 59,165 | 49.5 | 48.5 | 1.5 |
| 1995 | 30,628 | 36.3 | 84,326 | 42.5 | 39.9 | 1.9 |
| 1996 | 42,422 | 38.5 | 104,806 | 24.2 | 21.1 | 2.1 |
| 1997 | 45,948 | 8.3 | 131,010 | 25.0 | 24.5 | 2.5 |
| 1998 | 57,770 | 25.7 | 161,962 | 23.6 | 24.7 | 3.9 |
| 1999 | 60,935 | 5.5 | 180,400 | 11.4 | 9.5 | 4.1 |
| 2000 | 78,825 | 29.4 | 194,650 | 7.9 | 4.1 | 4.0 |
| 2001 | 74,230 | -5.8 | 211,773 | 8.8 | 6.6 | 5.1 |
| 2002 | 80,650 | 8.6 | 289,343 | 36.6 | 38.4 | 5.8 |
| 2003 | 74,817 | -7.2 | 287,445 | -0.7 | -3.7 | N.A. |
| 2004 | 91,325 | 22.1 | 320,486 | 11.5 | 7.6 | N.A. |

Source: Based on unpublished data from Expoflores. Columns 2 to 7 also use data from the Banco Central del Ecuador (BCE) 1991, 1999, and 2003. (Both the BCE and Expoflores report a figure for export volume in 1996 that is incorrect; their figure shows that export volume more than doubled in 1996 and then fell by 30 percent in 1997; that change in export volume implies impossible fluctuations in flower prices. The problem apparently arises from a transcription error in reporting export volume of Other Flowers in 1996. The figure shown in this table has been estimated using unpublished Expoflores data on boxes of flowers exported.) Rate of growth in real flower export earnings in column 5 adjusted for U.S. dollar inflation using U.S. Producer Price Index.

antiexport bias of the policy regime or whether external developments created an opening into which Ecuadorian entrepreneurs entered despite the economy's antiexport bias. Were policy makers in Quito responsible for the success of the flower industry, or was the flower boom the result of a positive external shock that just happened to occur on their watch? This paper is divided into four parts. The first section discusses Ecuador's economy during the pre-reform period. The second part examines policy changes that could have potentially affected flower exports and then examines the timing of changes in traditional and nontraditional exports for correlations with changes in key economic

policies. The third section analyzes the global flower market to see if external conditions could have created the comparative advantage sufficient to explain Ecuador's flower boom. The final section of the paper draws conclusions from this exercise.

## A TRADE REGIME IN NEED OF REFORM

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, 106–08). Disease had 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 the United Fruit Company—until then the world's largest banana producer—faltered. 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 to the world market was completed just as oil prices quadrupled. A few years later, Ecuador introduced newly developed mariculture techniques, turning thousands of hectares of mangrove swamp into shrimp ponds. By the end of the 1990s, Ecuador was the world's fourth-largest producer of shrimp, supplanting coffee as Ecuador's third-most-important export (EIU 2004, 42). The flower boom of the 1990s is merely the latest of these primary product export booms. By 2003, cut flowers had become Ecuador's third-largest export, surpassed only by petroleum and bananas (Banco Central del Ecuador 2003, table 3.2.4).

Until the 1980s, each of these export booms raised Ecuador's per capita income. After each boom, per capita income stagnated or declined. The oil bonanza of the 1970s had the most dramatic impact, doubling per capita income in a decade. The prosperity allowed an unprecedented and unsustainable twenty-five-fold increase in Ecuador's external debt, which reached $6 billion in 1981. The government showered benefits on many sectors of the economy, including a subsidy of domestic consumption of petroleum that amounted to 7.5 percent of gross domestic product (GDP) in 1981. Those 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 on a purchasing power parity basis has hardly changed since 1980. (See table 2.)

In the nineteenth century and first half of the twentieth, Ecuador's trade regime had an antiexport bias. Virtually the only sources of government finance were export and import duties, both of which

*Table 2 Macroeconomic Data for Ecuador, 1980–2003*

| Year | GDP annual growth rate (%) | GDP per capita, PPP ('95 US$) | External debt (billions of US$) | Foreign direct investment (% of GDP) | Gross capital formation annual growth (%) | Money and quasi-money annual growth (%) |
|---|---|---|---|---|---|---|
| 1980 | 4.4 | 3105 | 6.0 | 0.7 | 6.0 | 28.6 |
| 1981 | 3.4 | 3144 | 7.7 | 0.4 | -4.7 | 9.8 |
| 1982 | -0.6 | 3097 | 7.7 | 0.5 | -0.2 | -5.5 |
| 1983 | -2.5 | 2947 | 7.6 | 0.4 | -16.0 | -18.7 |
| 1984 | 3.8 | 3025 | 8.3 | 0.4 | -3.3 | 19.0 |
| 1985 | 2.9 | 3080 | 8.7 | 0.8 | 2.8 | -15.1 |
| 1986 | 4.1 | 3152 | 9.3 | 0.8 | 1.0 | -19.7 |
| 1987 | -2.1 | 3065 | 10.5 | 1.4 | 9.4 | -3.7 |
| 1988 | 8.4 | 3273 | 10.7 | 1.7 | -5.9 | -20.3 |
| 1989 | 1.0 | 3238 | 11.3 | 1.7 | 6.8 | -7.1 |
| 1990 | 2.7 | 3221 | 12.1 | 1.2 | -5.3 | 48.9 |
| 1991 | 5.2 | 3246 | 12.5 | 1.4 | -0.1 | 6.5 |
| 1992 | 1.5 | 3156 | 12.3 | 1.5 | -4.0 | 4.8 |
| 1993 | 0.3 | 3028 | 14.1 | 3.1 | 12.9 | 47.1 |
| 1994 | 4.7 | 3085 | 15.1 | 3.1 | 12.1 | 36.5 |
| 1995 | 1.8 | 3062 | 14.0 | 2.2 | -2.6 | 6.1 |
| 1996 | 2.4 | 3084 | 14.5 | 2.3 | -8.8 | 15.6 |
| 1997 | 4.1 | 3136 | 15.4 | 3.1 | 12.6 | 9.0 |
| 1998 | 2.1 | 3171 | 15.6 | 3.7 | 14.2 | -14.9 |
| 1999 | -6.3 | 3013 | 16.3 | 3.9 | -49.4 | -29.7 |
| 2000 | 2.8 | 3085 | 13.7 | 4.5 | 29.0 | 11.1 |
| 2001 | 5.1 | 3097 | 14.5 | 6.3 | 36.8 | 21.4 |
| 2002 | 3.4 | 3174 | 16.5 | 5.2 | 21.8 | |
| 2003 | 2.6 | 3203 | | | -19.9 | |

Source: World Bank 2005.

penalized agricultural production. The government borrowed from domestic banks to finance its perennial deficit; as much as 80 percent of the budget was financed through debt. The monetization of the debt resulted in inflation, which in turn produced a persistent overvaluation of the sucre, prejudicing agriculture specifically and exports in general.

In 1957, Ecuador launched a program of import-substitution industrialization (ISI) that 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 with tax breaks. The overvalued sucre and the system of multiple exchange rates subsidized the imports of capital and components required by import-substituting

| *Inflation, consumer prices (annual %)* | *Real effective exchange rate* | *Real interest rate (%)* | *Exports of goods and service (% of GDP)* | *Exports annual growth (%)* | *Current account balance (% of GDP)* | *Year* |
|---|---|---|---|---|---|---|
| 13.0 | 240.2 | -8.3 | 25.0 | 0.6 | -5.4 | 1980 |
| 16.4 | 267.9 | -4.1 | 22.0 | 1.9 | -7.1 | 1981 |
| 16.3 | 261.8 | 15.1 | 21.6 | -2.8 | -9.0 | 1982 |
| 48.4 | 249.9 | 29.1 | 23.8 | -2.5 | -1.0 | 1983 |
| 31.2 | 207.6 | 18.5 | 25.8 | 10.3 | -2.4 | 1984 |
| 28.0 | 214.7 | 16.8 | 28.5 | 13.0 | 0.6 | 1985 |
| 23.0 | 173.3 | 41.0 | 23.2 | 16.8 | -5.6 | 1986 |
| 29.5 | 132.9 | 31.3 | 23.4 | -13.4 | -13.0 | 1987 |
| 58.2 | 99.9 | 33.3 | 27.0 | 26.7 | -7.5 | 1988 |
| 75.6 | 115.9 | 25.4 | 29.0 | 0.5 | -7.5 | 1989 |
| 48.5 | 104.3 | 29.9 | 33.0 | 10.3 | -3.5 | 1990 |
| 48.8 | 110.5 | 40.8 | 35.4 | 26.4 | -6.2 | 1991 |
| 54.3 | 111.0 | 53.8 | 36.0 | 8.8 | -1.0 | 1992 |
| 45.0 | 129.9 | 18.1 | 25.1 | -6.7 | -5.6 | 1993 |
| 27.4 | 139.1 | 22.2 | 24.6 | 11.7 | -4.8 | 1994 |
| 22.9 | 136.9 | 45.7 | 25.7 | 11.3 | -4.9 | 1995 |
| 24.4 | 136.0 | 50.2 | 26.4 | 2.4 | -0.3 | 1996 |
| 30.6 | 145.9 | 33.9 | 25.6 | 7.8 | -1.9 | 1997 |
| 36.1 | 147.3 | 55.2 | 21.5 | -5.1 | -9.0 | 1998 |
| 52.2 | 109.9 | 52.3 | 31.5 | 7.8 | 5.5 | 1999 |
| 96.1 | 100.0 | 25.1 | 37.1 | -1.0 | 5.8 | 2000 |
| 37.7 | 139.9 | -8.0 | 26.7 | -1.3 | -3.8 | 2001 |
| 12.5 | 155.7 | 2.9 | 24.0 | 0.9 | -5.0 | 2002 |
| 7.9 | 153.4 | 4.8 | 24.3 | 1.8 | .. | 2003 |

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). The hothouse conditions of the petroleum boom masked the usual weaknesses of ISI. The net effect of all of the policies was to increase dramatically the antiexport bias of the country's trade regime, but the debt crisis forced the government to consider fundamental economic reform.

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## POLICY REFORM AND THE FLOWER BOOM

There were three categories of economic policy reforms that could have potentially affected the export of cut flowers from Ecuador. They were 1) policies that focused on the agricultural sector in general, 2) policies that affected nontraditional exports generally or cut flowers specifically, 3) macroeconomic and trade policies that affected all exports or all nontraditional exports. The survey that follows attempts to identify those policies that might have been important stimuli to the export boom.

### *Policy Reform in the Agricultural Sector*

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 the rich agricultural land in the Sierran valley bottoms into dairy pastures. A land reform law promulgated in 1963 (and rescinded in 1994) gave modest impetus to the process.[2] Subsidized loans, guaranteed minimum prices, and technical assistance, however, were more important for the growth of dairying than was land reform. 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 1990, 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 or subsidies 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 1990, 80). The rapid incorporation of idle or underutilized land into production because of the threat of expropriation also led to higher demand for rural labor. Farms of all sizes replaced subsistence production with cash crops as urban demand for agricultural products rose. Rural agricultural laborers thus became habituated to working for wages. The exodus from the farms to the cities was preponderantly masculine, so Sierran

2. Less than 15 percent of agricultural land was directly affected by the reform and fewer than 20 percent of peasants benefited (Anderson 1997, 244). The northern Sierra where the flower industry is concentrated was the region least affected by land reform (Schodt 1991, 222).

agriculture became the province of women, older adults, and children (Waters 1997, 55). Presently, other than a job in the floriculture industry, the only off-farm work open to the women left behind is poorly paid domestic service. Sixty percent of the 60,000 flower workers in Ecuador are female (unpublished data from Expoflores).[3]

The petroleum boom also allowed the government to invest heavily in the infrastructure that would later become important to flower cultivation. The government built or upgraded roads, airports, power generation facilities, flood control projects, schools, and universities. There were twenty-eight 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 1990, 186). Irrigation water was supplied to farmers at far below cost. Most of the money spent on irrigation facilities, however, benefited large farms in the coastal region, and little of the money aided agricultural regions where flowers would later be grown (Whitaker and Colyer 1990, 28, 182). The government offered some extension and research services and subsidized credit to farmers, but none to flower growers.

Policy makers paid little attention to the agricultural sector in recent decades. Agricultural price ceilings were dismantled in the 1980s, but the ongoing fiscal crisis prevented serious attempts to subsidize agriculture or make infrastructural investments that supported agricultural production or marketing. The Quito airport (from which almost all of the flowers are shipped) was not upgraded until 2004, and a new airport is not expected to open until 2007. Congestion on the roads used to bring the flowers to the airport has steadily increased. As a consequence of inadequate security procedures at the airport, the United States has for many years restricted the number of Quito-Miami flights. Until recently, the airport was operated by Ecuador's air force, which restricted the number of carriers allowed to use the airport.[4] This reduced

3. 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 and some have supervisory and technical positions not open to women in other industries (Faulkner and Lawson 1991). The rapid growth of employment in floriculture has reduced rural poverty in some of the poorest provinces of Ecuador, but has also had detrimental effects on health and the environment. See Sawers 2005 for a fuller discussion of these issues.

4. The motives of the air force were unclear. Respondents in the flower and the airline industries thought that the issue was either bribes paid by existing carriers to block entry of competitors or the failure to pay bribes by airlines seeking access to the airport. Other respondents claimed that the issue was simply one of bureaucratic imperative: the air

competition and led to higher freight rates, putting Ecuador's flower growers at an important competitive disadvantage.[5]

In sum, the economy of the flower-producing region of Ecuador was dramatically transformed since 1970—in ways that allowed flower cultivation to flourish in the 1980s and 1990s—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 agricultural sector have played only a minor and indirect role in laying the groundwork for the flower boom.

### *Government Policies toward Nontraditional Exports*

In the 1980s and 1990s, many developing countries 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 Rodrigo Borja administration, but the law was never implemented. In 1997, the government established an NGO charged with promoting exports. The Corporación de Promoción de Exportaciones e Inversiones (CORPEI) offered technical support to the flower industry by producing market studies, supporting trade shows and trade missions, and helping exporters establish commercial contacts in other countries.[6] The extent of the organization's support to specific industries is

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force could make more money from low-volume, high-cost carriers than from high-volume, low-cost ones. 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.

5. 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 air freight service is poor.

6. Valeria Escudero (Coordinadora Sectorial para Flores y Madera, CORPEI) private communication with author, June 23, 2000.

confidential, so its effect on floriculture cannot be established, but the NGO could not have played a role in the flower boom's origin since it was created a decade after the boom began.

Another NGO with a mission to promote nontraditional exports was 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.[7] 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.[8] USAID paid the salaries of the chief officers and donated automobiles, computers, and office equipment. Between 1984 and 1996, USAID gave PROEXANT about $20 million in credits for promotional activities. USAID and PROEXANT provided technical assistance and marketing advice to flower growers. Nevertheless, aside from its role in starting the floriculture industry in southern Ecuador in the environs of Cuenca (far south of the area around Quito where most of Ecuador's flowers are grown), USAID and PROEXANT had little to do with Ecuador's flower boom. PROEXANT devoted most of its resources to products other than flowers because the NGO was most active after the flower boom was already underway, and the flower industry had demonstrated its ability to produce spectacular growth rates without assistance. Moreover, the U.S. Congress prohibited USAID from giving any support to PROEXANT beginning in 1996 because of complaints from U.S. flower growers.

### *Trade and Macroeconomic Policy Reform*

The financial crisis of 1982 ended the petroleum boom and forced Ecuador to begin rethinking its trade and macroeconomic policy regime. The highly overvalued currency, high effective rates of protection on imports, substantial export duties, huge subsidies to import-substituting industries, 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.

7. Edgar Guillén (U.S. Agency for International Development), interview with author, Quito, June 12, 2000.

8. Marco Peñaherrera (General Manager of PROEXANT), interview with author, Quito, June 15, 2000.

The last quarter-century has produced continuous tinkering with Ecuador's economic policy regime.[9] Out of the jumble of policy changes, however, one can clearly discern an inflection point between 1989 and 1994, during which almost all of the country's trade liberalization occurred. Those years were also a period of comparative macroeconomic stability that reinforced the trade reforms. What follows is a discussion of the key changes in the trade regime and macroeconomic policy stance that most affected floriculture in Ecuador since the onset of the debt crisis.

Between 1982 and 1984, the government struggled merely to stabilize the economy since it never had the political power that would have allowed fundamental economic reforms.[10] Attempts to impose fiscal austerity were met with widespread protests, a general strike, and violent demonstrations. Inflation in 1984 was still double the precrisis level. (See table 2.) Nominal tariffs were also higher, and the real exchange rate was wildly overvalued. In 1984, the new president, León Febres Cordero, initiated a series of market-oriented reforms. He devalued the sucre, unified and floated the exchange rate (producing a rapid real depreciation), reduced tariffs (including most tariffs on agricultural products), eliminated most agricultural price ceilings, and balanced the fiscal budget. Persistent and often violent opposition to these policies, a halving of petroleum prices, an earthquake that ruptured the pipeline, halting petroleum exports for six months, severe drought, and generalized economic chaos pushed the government to reverse its course and implement a populist agenda. The budget deficit reached 14 percent of GDP and inflation mushroomed. In 1987, exports fell by 13 percent, the current account deficit reached 13 percent of GDP, and GDP shrank by 2 percent.

9. See Thoumi and Grindle 1992; Grindle and Thoumi 1993; Whitaker and Colyer 1990; Viteri Díaz 1998; Hofman and Buitelaar 1994; Janvry, Sadoulet, and Fargeix 1991; Santamaría 1995; Acosta 1999; Salgado 1987; Mosley 1991; Freire et al. 1997; Albornoz 1999; Hey 1996; Anderson 1997; Creamer 1992; Larrea 1998; Beckerman 2001; Locay 1994; International Trade Commission 1995; North 2004; Banco Central 1999; SAPRIN 2002; Economist Intelligence Unit 2004; Melo 2003, and IDB 2004.

10. Ecuador's political economy and economic history help explain the seemingly permanent political gridlock that economic policy makers have faced (Grindle and Thoumi 1993, 123–30). The country is profoundly divided along racial, class, and regional lines. There are intense 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 of (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 as 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.

Between 1988 and 1992, President Borja returned the country to the path of market-oriented reform, substantially liberalized the country's trade regime, and opened the economy to foreign direct investment. Before 1990, average tariffs exceeded 40 percent (SAPRIN 2002, 35) and the maximum tariff was 290 percent (EIU 2004, 46). Borja reduced tariffs in stages so that by 1992, the maximum tariff (except for automobiles) was 20 percent. Average tariffs fell to 11–12 percent.[11] There have been no further tariff reductions since then. More importantly, the government reduced substantially the red tape required of exporters, simplifying documents and administrative procedures, eliminated other non-tariff barriers to trade, and opened maritime transport to competition. Borja pushed down the real value of the sucre to historic lows and kept it there until the end of his term in 1992. The Borja administration also lobbied the Andean Pact, the free trade zone with Venezuela, Bolivia, and Colombia, to liberalize trade and foreign investment among signatory countries and adopted a new investment code giving equal treatment to national and foreign capital, allowing unrestricted repatriation of profits, and dropping prohibitions on investment in certain sectors. All of those reforms gave Ecuador one of the most open economies in Latin America and prepared the way for Borja's successor, Sixto Durán Ballén, to take Ecuador into the Andean Pact and the World Trade Organization.[12]

Borja initially pursued 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 its majority in 1990. The Central Bank's efforts to dampen the resulting inflation (averaging over 50 percent annually in 1991 and 1992) produced high real interest rates (over 40 percent in those two years) that choked off the recovery. The high interest rates, however, apparently left no mark on the flower boom that began in 1988 and continued until the mid 1990s.

By 1993, the era of trade reform was over. The country even took a step backward between 1998 and 2001 when surcharges were imposed on

11. Most sources place the average tariff at about 11 percent, 11.6 percent, or 11 to 12 percent (U.S. State Department 2003, Chapt. 6; SAPRIN 2002, 35; Melo 2003, 36; EIU 2005, 45; IDB 2004, 36). In addition to the tariff, importers must pay other fees that total nearly 2 percent of the value of the imports and must pay the value added tax, now 12 percent (U.S. State Department 2003).

12. Even though Ecuador's trade regime is far more liberal than it was in the 1980s, there are still many serious obstructions to trade that directly and indirectly impose costs on exporters: licenses for all exports, licenses for a long list of imports (including fertilizers and pesticides used in floriculture), formal and informal quotas on certain imports, nontransparent regulatory and judicial procedures, inefficiency in the customs service, and arbitrary administration of sanitary registration procedures (including the registration of pesticides used in floriculture) (U.S. State Department 2003, Chapter 6). Exporters face a hostile public, which sees exporting as a form of theft of the nation's wealth.

imports. Reunification of exchange rates and liberalization of the exchange market were offset by a steady appreciation in the real exchange rate after 1992. By 1998, the real exchange rate was nearly 50 percent higher than it had been ten years earlier when Borja began his aggressive devaluations. Even more important in strengthening the antiexport bias of the country's economy was the growing macroeconomic and political instability that made exporting goods ever more difficult.

The first blow to the economy was the war with Peru in 1995. The conflict forced a massive increase in government spending, triggering an inflationary spiral and high real interest rates. Then, allegations of corruption forced the resignations of the vice president and finance minister in 1995 and the new president in 1997 (after only seven months in office), adding to the political and economic crisis. The interim president in 1997–1998 had no mandate to continue the reform process. At any rate, the collapse in petroleum prices, the Asian financial crisis that spread to Russia and Brazil, and the devastating El Niño floods after years of drought forced the government into a crisis-management mode that ruled out any reform.

The downward spiral of the economy continued even after the 1998 election put Jamil Mahuad in the president's office. He responded to a banking crisis (created by deregulation of the banking system without sufficient prudential regulation in 1994) by freezing most of the country's bank accounts for more than a year and imposing a tax on checks (North 2004, 201–02). Public confidence in the banking system collapsed, allegations of presidential corruption flourished, massive capital flight sucked away the banking system's liquidity, and several important financial institutions closed their doors. Expansion of the money supply to bail out failing banks produced a run on the sucre. The GDP fell by over 6 percent and gross capital formation by half. Inflation soared and the real interest rate hit historic highs. 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. Massive demonstrations and a quasi-coup forced Mahuad's resignation. The demonstrations blocked the roads that flower growers used to take their goods to the airport just at the height of the make-or-break Valentine's Day rush. Unusually bad weather and volcanic eruptions added to the industry's woes. All of these difficulties produced Ecuador's first and only decline in flower export volume.[13]

13. Dollarization brought greater macroeconomic stability, but Ecuador's political system remains fragile. 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 uncooperative as public discontent grew.

*The Link between Policy Reform and Flower Exports*

The foregoing discussion argues that policies targeting agriculture as a whole, flower cultivation specifically, or nontraditional exports in general, did not have much impact on the flower industry. If government policy played an important role in Ecuador's flower boom, it was the liberalization of trade and macroeconomic reforms that made the difference. At the same time that trade was liberalized between 1989 and 1994, the macroeconomy and political climate were comparatively stable, and in those years the flower boom reached its most frenetic pace. The close fit between the tempo of policy reform and the expansion of the flower industry points to a causal connection. An econometric analysis could corroborate this link if one had a convincing measure of the antiexport bias of Ecuador's trade regime from the early 1980s to the present.[14] Unfortunately, trade openness is extraordinary difficult to measure (Edwards 1993, 1365–1373). Given the absence of data series that measure the effective rates of protection (or even average nominal rates of protection) in Ecuador in the last twenty or twenty-five years, one is forced to seek other, more subtle ways to establish a connection between policy reform and the flower boom.[15] One must look instead at changes

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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. Gutiérrez's approval ratings are now in single digits. Public support for the government's economic policy remains conditional and unenthusiastic. Demonstrations and organized dissent continue. None of this bodes well for Ecuador's future.

14. Statistics, of course, cannot prove causation. The effective rate of protection is the single best measure of trade openness, but its computation requires a substantial amount of data. One must know—among other things—nominal import tariffs (and the tariff equivalence of all nontariff protection) on all imported or importable inputs; the cost structure of the industry in question (to determine value added); nominal export taxes (and the tax equivalent of all nontax barriers to exports such as permit fees, bribes, budgetary and time costs of filling out the numerous forms required to export one's product, and so on); an a priori understanding of the leads and/or lags involved in the relationships; and the real exchange rate. The effective rate of protection should also account for macroeconomic and political instability since they also have profound effects on the ability to export.

15. I have been able to find only one published estimate of Ecuador's effective rates of protection and that was only for 1990–1991 (Creamer 1992). Lacking better measures of trade openness, I estimated a regression using flower export earnings and real exchange rates between 1998 and 2002, finding no significant correlation, regardless of how the variables are measured. There is a single published econometric analysis of trade liberalization and nontraditional export growth in Ecuador, and it aptly illustrates the problems of trying to model Ecuador's trade regime without a measure of effective rates of protection (Freire et al. 1997, 29–36). That study uses dummies representing each of the years in which reforms were implemented instead of changes in effective rates of protection. The regression coefficient on the dummy for 1990 is positive and significant as

*Table 3 Average Annual Growth Rates of Real Export Earnings and Export Volumes of Traditional Exports, 1972–2001*

| | *Total* | *Bananas* | | *Shrimp* | |
|---|---|---|---|---|---|
| *Year* | *Earnings* | *Earnings* | *Tons* | *Earnings* | *Tons* |
| 1972–1980 | 11.3 | 7.8 | 6.7 | 32.5 | 32.9 |
| 1981–1983 | -15.4 | -14.3 | -7.6 | 31.3 | 23.3 |
| 1984–1988 | 16.6 | 16.3 | 12.8 | 23.9 | 28.0 |
| 1989–1994 | 8.9 | 14.8 | 13.4 | 5.3 | 7.0 |
| 1995–1998 | 5.4 | 11.6 | 6.5 | 12.6 | 12.6 |
| 1999–2001 | -13.4 | -8.7 | -2.3 | -29.9 | -19.4 |

Source: Banco Central del Ecuador, 1984, 1988, 1991, 1999, 2003. Export earnings adjusted for US dollar inflation using US Producer Price Index.

in patterns of export diversification to tease out any empirical support for the link.

Policy reform could not have 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 on earthquakes, landslides, sabotage, and the like. Therefore, the following discussion focuses exclusively on nonpetroleum exports.

The argument made in the introduction to this paper is that policy reform should have little effect on traditional exports that have already established their niche in world markets. If policy reform provided any important stimulus to exports, it would affect only nontraditional exports. If policy changes contributed to the boom in flower exports in the 1990s, we should expect that the reforms would not only stimulate the growth of flower exports, but the growth of other nontraditional exports as well. What follows will show that during the period of trade policy reform and macroeconomic stability in 1989–1994, the pace of growth in traditional (nonpetroleum) exports did not accelerate. In sharp contrast, the first half of the 1990s was a period of explosive growth in many nontraditional exports. In short, the observed pattern of export diversification in the 1990s is consistent with the hypothesis that changes in the policy regime did affect exports, but only nontraditional exports such as flowers.

As the first column of table 3 shows, real export earnings from all traditional exports (bananas, shrimp, coffee, cacao, fish, and processed

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.

| *Coffee* | | *Cacao* | | *Fish* | | *Processed Seafood* | |
|---|---|---|---|---|---|---|---|
| *Earnings* | *Tons* | *Earnings* | *Tons* | *Earnings* | *Tons* | *Earnings* | *Tons* |
| 19.6 | 8.2 | 59.6 | 8.5 | 7.8 | 63.2 | 43.1 | 33.7 |
| 2.3 | 13.7 | -46.7 | -17.3 | 10.9 | -15.1 | -27.5 | 59.9 |
| 4.0 | 1.6 | 81.4 | 37.9 | 50.6 | 46.2 | 105.9 | 98.3 |
| 36.0 | 10.5 | -3.6 | 1.2 | 11.6 | -0.6 | 8.7 | -2.1 |
| -28.8 | -19.2 | -8.9 | -15.4 | 3.3 | 4.3 | 23.8 | 21.5 |
| -25.3 | -11.5 | 33.9 | 82.2 | 3.7 | 22.0 | 0.6 | 19.0 |

seafood[16]) taken together grew steadily during the boom of the 1970s, fell during the debt crisis in the early 1980s, and resumed growing in 1984. During 1989–1994, growth in real export earnings for all traditional exports averaged only about half the figure during 1984–1988, and growth rates for each traditional export except coffee were also lower. Coffee export earnings would also have been lower in 1989–1994 without the spike in coffee prices in 1994 after a frost in Brazil, an event that was not related to policy reform in Ecuador.[17]

The slowing in export earnings growth in 1989–1994 was not primarily due to falling export prices. Average annual growth rates in export volumes of shrimp, cocoa, fish, and processed fish were all sharply lower in 1989–1994 than in 1984–1989, and average growth rates in the export volume of bananas was only slightly higher (13.4 compared with 12.8 percent). Coffee export volumes grew faster on average in the first half of the 1990s than in the 1980s, in large part because the high price of coffee in 1994 induced a 40 percent increase in export volume that year. It was hypothesized that the reduction in the antiexport bias of the country's policy regime between 1989 and 1994 would not stimulate traditional exports, and the data show that, as expected, the growth in export earnings and volumes of traditional exports did not accelerate in that period.

In contrast, many of Ecuador's nontraditional exports grew rapidly in the 1990s. As table 4 shows, the five most important nontraditional ex-

16. The Banco Central del Ecuador (1997, 91) designates fish but not processed seafood as a traditional export, but I have grouped processed seafood exports with traditional exports since their value has exceeded that of fish exports almost every year since the early 1970s. The industry merely includes an added layer of processing to an already well established industry and should be considered a traditional export.

17. If coffee export earnings in 1994 had equaled average export earnings in 1992–1993 and 1995–1996, then average annual growth rates in real export earnings for 1989–1994 would have been 5.5 percent, not the 8.9 percent given in table 3.

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

| | *Years* | *Cut Flowers* | *Meta l Products* | *Fruit Juice and Preserves* |
|---|---|---|---|---|
| Average Annual Growth Rate | 1984–1988 | N.A.* | 64.1 | N.A.** |
| | 1989–1994 | 54.3 | 55.9 | 59.0 |
| | 1995–1998 | 27.5 | 2.3 | 41.5 |
| | 1999–2001 | 9.4 | 16.5 | -1.2 |
| Percent of Total Non-oil Exports | 1989 | 0.8 | 1.4 | 0.1 |
| | 2001 | 7.7 | 6.8 | 2.1 |

Source: Banco Central del Ecuador, 1988, 1991, 1999, and 2003. Real rates of growth in export earnings computed using US Producer Price Index.

* The first flower exports were in 1983, but there is no data available before 1985.
** No data before 1988.

ports grew from less than 3 percent of total nonpetroleum exports in 1989 to 21.5 percent in 2001. All nontraditional exports grew from 11 to 40 percent of nonpetroleum exports. The average annual growth in real export earnings of all nontraditional exports was about 12 percent in 1984–1988 and jumped to 29 percent in 1989–1994. In 1989–1994, average annual export growth rates for the five most successful nontraditional exports were between 49 and 59 percent, and three of those continued rapid growth in the late 1990s. The export of flowers, fruit juice, and preserves grew from almost nothing in the late 1980s while metal product exports recovered from near extinction during the debt crisis era; the growth rates of garment exports were substantially higher during 1989–1994 than earlier.

This pattern of export growth and diversification is exactly what one should expect from a successful liberalization of the trade regime when macroeconomic fundamentals improve: continuing but modest growth in traditional exports not plagued by industry-specific problems and extremely rapid growth in nontraditional exports.[18] Flower exports experienced spectacular growth in the 1990s, but four other nontraditional exports had even higher average annual growth rates in the early 1990s, as did two others between 1995 and 1998.[19]

18. The white spot virus caused a catastrophic collapse of shrimp exports in 1999–2000. Rapid growth in the number of coffee and cacao producers in other countries weakened the global markets for those crops since 1990.

19. Even though some nontraditional exports grew even faster than cut flowers in the 1990s, the attention this article pays to the flower industry is warranted because it has been the largest nontraditional export since 1991. Also, among all nontraditional exports, the flower industry's comparative advantage is the most firmly rooted in the country's geography. Flowers are the only nontraditional export that has graduated (or is likely to graduate soon) into the ranks of traditional exports.

| *Garments and Cloth Products* | *Leather and Plastics* | *Total Nontraditional Exports* | *Traditional Non-oil Exports* |
|---|---|---|---|
| 35.2 | 60.8 | 11.8 | 16.6 |
| 58.2 | 48.7 | 29.0 | 8.9 |
| 6.0 | 42.5 | 9.5 | 5.4 |
| 5.4 | 6.3 | 7.9 | -13.4 |
| 0.4 | 0.2 | 11.0 | 89.0 |
| 2.4 | 2.5 | 40.1 | 59.9 |

Most of Ecuador's export industries slowed or faltered in the second half of the 1990s. All industries listed in tables 3 and 4, with the exception of shrimp, fish, and processed seafood, experienced slower growth rates in the late 1990s than in the first half of the decade, and most industries did worse still between 1999 and 2001. After 1994, no important changes were made in the country's trade regime, but the late 1990s were characterized by a steady crescendo in the economic and political crisis. The slowing in the growth rate of most exports in the second half of the 1990s supports the hypothesis that macroeconomic and political stability—not just a liberal trade regime—is important for 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 or before—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

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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, 118–24). 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 in the early 1990s stimulated the growth of nontraditional exports.

## THE GLOBAL FLOWER MARKET

The fact that some nontraditional exports attained spectacular growth rates just as the government initiated a major reform of the trade regime clearly suggests—though, of course, it 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 those 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 its human and physical geography. Labor, land, and water cost even less than in Colombia, Ecuador's most important competitor. Ecuador's location straddling the equator produces not just good, but 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).[20]

20. Ecuador's geography also poses problems for flower growers. The greater distance to the market (and breaks in the cold chain) means that Ecuadorian flowers have a shorter vase life than U.S. or Colombian flowers. Distance is not the only problem. In

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 timing 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.[21] 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, 110–11; 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 cost rather than transportation costs. Flower production fled the cold, dark northeastern United States with its high labor and energy costs to Florida, Colorado, and California in the 1950s and to Colombia in the late 1960s.

The year-round 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-markup, 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.

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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, as often happens, by unusually rainy weather. The rain spawned landslides 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, a bumper crop from Colombia's 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 also some geographical bad luck.

21. 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 by author, September 23, 1999).

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Flowers are also sold through roadside 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.[22]

In response to the avalanche of Colombian flowers, Miami became the center of the U.S. flower distribution system. That process was abetted by the astute efforts of Colombian business firms and the Colombian flower growers' association.[23] An even larger distribution center was built at Alsmeer near the Schipol Airport in Amsterdam. The Miami and Alsmeer facilities can clear through customs, auction, repack, and ship millions of stems per day. Eighty percent of Ecuador's flowers are shipped to those 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 whose product was the development of floriculture in developed and developing countries coalesced. 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 the first targets of this new global industry. In 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 and Ecuador gained a special advantage between 1992 and 2001 when the Andean Trade Preference Act eliminated the 7.8 percent duty on flower imports into the United States.

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 that the country's flower boom was getting underway.

22. After 1992, Ecuador's flower boom was also stimulated by the rapid growth in flower demand 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).

23. 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. That 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 import/distributor companies, sidestepping the brokerage houses and shipping directly to wholesalers.

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 sixfold. Colombia's population was triple Ecuador's and it had a higher per capita income as well, so the critical mass of entrepreneurs was in Bogotá and not in Quito. In contrast, the antiexport bias of Ecuador's trade regime was at an all-time high during the 1970s. Although the decade's petroleum boom produced some of the classic symptoms of the Dutch disease that discouraged exports, 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 were 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 develop a flower industry.

In 1973, the Colombian 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 guerrilla forces were left without their traditional sources of finance. Right-wing militias formed to combat the guerrillas. They both turned to kidnapping, 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 the violence for their businesses and families. As Colombia became a progressively hostile location for flower cultivation, 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 among member countries, making it easier for Colombians to bring their investment funds to Ecuador.[24]

24. 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.

## 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 comprehensive way to measure it, the narrative evidence presented in this paper strongly suggests that the government reduced the antiexport bias of its policy regime, permitting nontraditional exports to exploit their comparative advantage. At the same time, the success of Ecuador's floriculture industry indicates that flowers are the country's newest traditional export with a comparative advantage so pronounced that it would have permitted significant exports even without policy reforms. The country's physical geography gives the flower industry an extraordinary edge in the global flower market. That geographic advantage, however, could not find expression in the market until the appropriate land, labor, entrepreneurship, and infrastructure were in place, and that 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. flower markets between 1950 and 1990, the deterioration of Colombia's economy in the 1980s, the growth of East European demand for roses in the 1990s, and the elimination of the U.S. tariff on flower imports in 1992 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 thus 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. India's software exports, the Bahamas' success in offshore banking, and Kenya's call centers serving the North American market 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.[25]

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 and corruption in the administration of air transport that raises freight rates. More importantly, a government can affect foreign trade in ways that go far beyond trade policy, even 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.[26] 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 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.

25. 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.

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

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