
macroeconomía del desarrollo

Andean exchange-rate regimes, 1994-2003: a brief for “stable but flexible” regimes

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Contents

Abstract	7
I. Introduction	9
II. Exchange rates and exchange-rate regimes: general considerations	13
III. A classification of exchange-rate regimes	19
IV. Andean exchange-rate policy issues	21
V. Exchange-rate policy in Bolivia, 1994-2003	29
VI. Exchange-rate policy in Colombia, 1994-2003	39
VII. Exchange-rate policy in Ecuador, 1994-2003	45
VIII. Exchange-rate policy in Peru, 1994-2003	53
IX. Exchange-rate policy in Venezuela, 1994-2003	61
X. Intra-Andean bilateral exchange-rate and trade relationships	67
XI. Conclusions	69
Bibliography	73
Annex	75
Serie macroeconomía del desarrollo: issues published	101

Tables

Table 1	Classification of exchange-rate regimes	20
Table 2	Bolivia, Colombia, Ecuador, Peru and Venezuela: selected macroeconomic indicators	23
Table 3	Andean economies: exchange-rate regimes, 1994-2003	26

Table 4	Bolivia, Colombia, Ecuador, Peru and Venezuela: indicators of exchange-rate variability	28
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Figures

Figure 1	Andean economies: 1989-2002 (1989 regional average=100).....	22
Figure 2	Bolivia: monthly inflation, december 1985-december 2003 rates	31
Figure 3	Bolivia: year-end foreign-exchange reserves 1980-2003.....	33
Figure 4	Bolivia: current account of the balance of payments, 1989-2001	34
Figure 5	Bolivia: real GDP growth, capital formation, and net imports of goods and non-factor services, 1980-2002	35
Figure 6	Bolivia: nominal -and real- effective exchange rates, 1980-2003.....	36
Figure 7	Bolivia: key monetary aggregates, 1991-2002 (including both boliviano and U.S.-dollar balances.....	37
Figure 8	Colombia: monthly inflation rates, december 1985-december 2003	40
Figure 9	Colombia: nominal and real-effective exchange rates, 1980-2003	41
Figure 10	Colombia: current account of the balance of payments, 1989-2001	42
Figure 11	Colombia: real GDP growth, capital formation, and net imports of goods and non-factor services, 1970-2000	42
Figure 12	Colombia: key monetary aggregates 1991-2002	43
Figure 13	Ecuador: nominal and real-effective exchange rates, 1980-2003	47
Figure 14	Ecuador: real GDP growth, capital formation and net imports of goods and non-factor services, 1976-2002	47
Figure 15	Ecuador: month-end exchange rate and “flotation band” (January 1996-March 1999)	49
Figure 16	Peru: current account of the balance of payments, 1985-2002	55
Figure 17	Peru: year-end foreign-exchange reserves, 1980-2003	56
Figure 18	Peru: monthly inflation rates, December 1989-December 2003.....	57
Figure 19	Peru: nominal and real-effective exchange rates, 1980-2003	58
Figure 20	Peru: real GDP growth, capital formation and net imports of goods and non-factor services, 1976-2002	60
Figure 21	Venezuela: nominal and real-effective exchange rates, 1980-2003.....	64
Figure 22	Venezuela: real GDP growth, capital formation and net imports of goods and non-factor services, 1970-2001	64
Figure 23	Bolivia: merchandise exports plus imports, 1990-2002.....	78
Figure 24	Bolivia with Brazil: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	79
Figure 25	Bolivia with Argentina: bilateral trade and real-effective exchange rate 1990-2002 (December 1989=100)	79
Figure 26	Bolivia: merchandise exports to plus imports from andean economies, 1990-2002.....	80
Figure 27	Bolivia with Colombia: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	81
Figure 28	Bolivia with Peru: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	82
Figure 29	Bolivia with Venezuela: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	83
Figure 30	Bolivia’s competitiveness relative to selected East-Asian economies, 1990-2003 (China, Republic of Korea, Malaysia, Thailand) (December 1989=100) 83	
Figure 31	Colombia: merchandise exports plus imports, 1990-2002	84

Figure 32	Colombia: merchandise exports to plus imports from andean economies, 1990-2002.....	85
Figure 33	Colombia with Venezuela: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	86
Figure 34	Colombia with Ecuador: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	87
Figure 35	Colombia with Peru: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	88
Figure 36	Colombia's competitiveness relative to selected East-Asian economies, 1990-2003 (China, South Korea, Malaysia, Thailand) (December 1989=100).....	88
Figure 37	Ecuador: merchandise exports plus imports, 1990-2002	89
Figure 38	Ecuador: merchandise exports to plus imports from andean economies, 1990-2002.....	90
Figure 39	Ecuador with Colombia: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	91
Figure 40	Ecuador with Peru: bilateral trade and real-effective exchange rate, 1990-2002.....	92
Figure 41	Ecuador's competitiveness relative to selected East-Asian economies, 1990-2003 (China, Republic of Korea, Malaysia, Thailand) (December 1989=100)	92
Figure 42	Peru: merchandise exports plus imports, 1990-2002	93
Figure 43	Peru: merchandise exports to plus imports from andean economies, 1990-2002.....	94
Figure 44	Peru with Colombia: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	95
Figure 45	Peru with Ecuador: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	96
Figure 46	Peru's competitiveness relative to selected East-Asian economies, 1990-2003 (China, Republic of Korea, Malaysia, Thailand) (December 1989=100)	96
Figure 47	Venezuela: merchandise exports plus imports, 1990-200.....	97
Figure 48	Venezuela: merchandise exports to plus imports from andean economies 1990-2002.....	98
Figure 49	Venezuela with Colombia: bilateral trade and real-effective exchange rate, 1990-2002 (December 1989=100)	99

Abstract

Recent analytical work has focused on exchange-rate “regimes” and their general and specific consequences for growth and stability. Although significant progress has been made in formulating taxonomies of regimes, general consensus on which regimes are likely to prove optimal for given economies has proven elusive. In recent years, the five Andean economies have adapted a variety of exchange-rate regimes. Their experience appears to support the view that the most convenient exchange-rate regimes are those that afford policy-makers sufficient freedom of maneuver to adjust their policies in response to evolving emphases on stability and growth objectives. That is, “intermediate”, relatively flexible, regimes seem generally preferable to “polar” regimes that leave no scope for policy intervention. Bolivia and Peru, and more recently Colombia, have been able to secure a high degree of price-level and exchange-rate stability through disciplined monetary policy and exchange-rate management under flexible regimes. In Ecuador, dollarization has brought about price stability but aggravated competitiveness problems. Venezuela has had to adjust its fixed exchange rate repeatedly, although clearly this economy’s difficulties go far beyond its exchange-rate regime. The different economies’ different exchange-rate regimes have led to haphazard consequences for their bilateral trade relationships, and this appears to have significantly affected intraregional trade.

I. Introduction

In recent years there has been a resurgence of interest in exchange-rate “regimes.” Several significant analytical books and papers have appeared, accompanied by intensified discussion and debate. This paper discusses the exchange-rate regimes and policies that the five Andean economies have set in place over the past decade, in the context of the broader discussion. For each economy, this paper reviews and classifies the exchange-rate regimes set over the past decade, the combinations of objectives the authorities aimed to achieve, and the consequences of their choices. The broad aim is to draw lessons about the consequences of exchange-rate policies and regimes for the various aspects of macroeconomic performance. It also considers the effects of macroeconomic performance on exchange rates and exchange-rate policy, given the exchange-rate regimes in place. In addition, the paper discusses an important regional issue, the consequences that the five nations’ different choices of regime have had for intraregional trade.

The most important conclusions this paper draws from the Andean economies’ experience concern the broad issue of whether “polar” regime types -“hard” fixed rates (including dollarization and currency boards) or freely-floating rates- work better than “intermediate” regimes. In conventional terms, when viewed in economists’ familiar perspective of policy instruments and objectives, the exchange-rate instrument affects two broad macroeconomic objectives, stability and real growth. Broadly speaking, the regimes and policies that favor stability are those that steady the exchange rate at relatively appreciated values. The regimes and policies that favor

growth are those that allow the exchange rate to stay flexible and take on relatively depreciated values. In these terms, all other things being equal, policy-makers who emphasize stability objectives will prefer “harder” regimes and exchange-rate appreciation, while policy-makers more focused on growth will prefer flexible regimes and more depreciation. In these terms, the basic lesson this paper draws from the Andean experience is that policy-makers’ relative emphases on stability and growth cannot remain unchanged over time. As circumstances and people’s views on their circumstances evolve and change, societies and policy-makers inevitably shift the relative emphases of their preferences between stability and growth. *This fact of life implies that the most convenient exchange-rate regimes are those that afford policy-makers sufficient freedom of maneuver to adjust their policies in response to evolving objectives.*

That is, this paper argues that the Andean economies’ experience is best read as supportive of “intermediate” rather than “polar” regime choices. Peru’s exchange-rate experience since the early 1990s is a positive case. Although its exchange rate has been floating, the monetary authorities have generally used their monetary policy to hold it fixed, enabling them to reduce inflation and then to hold it low. The one large exception was in 1998 and 1999, when the authorities allowed a significant depreciation in response to deteriorating external circumstances. This exception demonstrated the value of retaining exchange-rate flexibility. That is, Peru’s regime and policy management have struck a compromise between having the benefits of a fixed rate for macroeconomic stability and adjustment when that proved necessary.

Ecuador’s exchange-rate experience since the early 1990’s is a contrasting negative case. Roughly the same external shock that struck Peru in 1998 also affected Ecuador. Prior to that year, Ecuador’s exchange-rate regime was a “peg within a preannounced band.” When the shock occurred, the authorities delayed the necessary exchange-rate adjustment. The delay was sufficiently long so that by 1999 Ecuador had essentially run down its international reserves and gone into recession. It then introduced a floating exchange rate, but in these circumstances the monetary authorities found themselves unable to manage exchange-rate adjustment like Peru. The consequence was incipient hyperinflation, which forced the authorities to move to full dollarization. Given the bitter experience of recession and severe instability in 1999, most Ecuadorians found themselves favoring their “hard” exchange-rate regime in 2000. Two or three years later, however, as the relative importance to Ecuadorians of stability and growth shifted toward growth, Ecuador found itself in a highly inflexible regime.

The lesson this paper draws from this experience is that the “better” exchange-rate regimes are those that permit the authorities sufficient “margin of maneuver” to emphasize stability and growth as circumstances require. While Peru’s regime is an example of what is sometimes described as “fear of floating,” it is probably the “least bad” regime in terms of generally permitting the exchange rate to anchor stability, except for moments when exogenous circumstances change drastically and change the equilibrium exchange rate.

The Andean experience also offers a second lesson. The fact that the Andean economies have had different exchange-rate regimes has implied that their bilateral exchange rates have evolved in haphazard ways. This evolution has had disruptive consequences for bilateral trade relations, haphazardly encouraging and discouraging trade flows. This haphazard experience is similar to the serious difficulties Argentina and Brazil have had in their bilateral trade relationships as their exchange-rate regimes evolved.

This paper is more concerned with drawing lessons than with providing policy advice to specific economies, in part because its discussion is limited to developments through 2003. Its advice for Bolivia, Colombia, and Peru is that their exchange-rate regimes balance the stability and growth imperatives in the best, or least bad, possible way. Venezuela’s exchange-rate regime has several highly specific characteristics, but in any case is part of a much broader macroeconomic

problem. Ecuador's exchange-rate regime presents the most problematic issues. This paper recommends generally that Ecuador maintain its dollarization regime for now, despite this paper's more general argument favoring intermediate regimes, because specific characteristics of its *present* situation will make it difficult for Ecuador to move to an intermediate regime. Again, Ecuador's exchange-rate regime is probably, for now, its least bad option.

Section 2 summarizes the general issues this paper covers. Section 3 reviews the classification of exchange-rate regimes set out by Ghosh, Gulde and Wolf 2002, which is likely to become standard. Section 4 introduces some of the more specific exchange-rate issues on which this paper focuses for the Andean economies. Sections 5 through 9 discuss the evolution of exchange-rate policies and regimes in Bolivia, Colombia, Ecuador, Peru, and Venezuela respectively. Section 10 discusses the five economies' bilateral exchange-rate and trade relationships in closer detail. Section 11 presents a summary and conclusions.

II. Exchange rates and exchange-rate regimes: general considerations

The literature on exchange rates and exchange-rate regimes is vast, virtually a field of economics in itself, and impossible to summarize here.¹ This section aims only to summarize the most basic issues concerning the roles exchange rates, exchange-rate policy and exchange-rate regimes play in developing economies like those of the Andean economies.

Simply defined, a nation's "exchange rates" are the selling and purchase prices, in national currency, of the various foreign currencies. In principle, each exchange rate is a local-currency market price, mediating supply of and demand for each kind of foreign currency. At any given moment, "the" exchange rate is usually understood as the price in national currency of the U.S. dollar.² It is important to remember, of course, that a nation's exchange-rate relationships encompass exchange rates with all economies, not just the U.S. dollar. For this reason, it is helpful for many purposes to focus not just on each economy's U.S.-dollar exchange rate, but also on the nominal-effective exchange rate, that is, the (trade-) weighted average of all the economy's exchange rates.

¹ Ghosh, Gulde and Wolf 2002 provide a thorough discussion of exchange-rate regimes, and provide what is probably at this moment the most useful bibliography for the general world exchange-rate literature.

² As a practical matter, in a small economy arbitrage forces the relationships among the various exchange rates into consistency through their relationships with the main "world" exchange rates, and the U.S. dollar in particular. That is, any nation's peso price of the euro will be equal to the peso price of the dollar divided by the euro price of the dollar.

Exchange rates figure among all the other prices and asset valuations in the price array of each economy’s general-equilibrium economic system. They contribute, through various channels, to the determination of other prices and to the flows and stocks of supply and demand for goods, services, and assets. They figure in the full range of an economy’s incentives, and contribute to the determination of saving flows, money creation, capacity utilization, and other aspects of macro and microeconomic performance. In turn, to the extent exchange rates are flexible, it is the full general-equilibrium system, not just the exchange markets, that determines them. The various exchange rates also determine the values of those parts of the nation’s assets and liabilities that are denominated in foreign currency. This in turn affects and is affected by other asset valuations.

Notwithstanding their role in economies’ general-equilibrium systems, as a practical matter, exchange rates tend to be analyzed mainly in terms of their role as mediating prices of the supply of and demand for foreign currencies. That is, exchange rates tend to be understood as basically determining and determined by the balance of payments. Exchange rates’ other general-equilibrium consequences tend to be understood analytically as deriving from or affecting the balance of payments -- more specifically, through the export-supply and import-demand functions. Thus, for example, a more depreciated exchange rate is generally understood to lead to higher money-supply growth, essentially by increasing the incentive to export and reducing the incentive to import, and so generating an inflow or outflow of foreign exchange that is converted to domestic currency.

Partly for this reason, in the conventional wisdom, for relatively small economies that are price-takers in world markets, and all other things being equal, exchange-rate depreciation is generally understood to be inflationary, since it encourages exports and so leads to foreign-exchange inflows and money creation. Symmetrically, exchange-rate appreciation is generally understood to be deflationary, since it encourages imports and so leads to foreign-exchange outflows and monetary contraction. At the same time, anything *other than* exchange-rate depreciation itself that encourages exports generates market pressure on the exchange rate to appreciate, since increased exports produce increased supply of foreign exchange. Symmetrically, anything other than exchange-rate appreciation that leads to imports is likely to generate market pressure on the exchange rate to depreciate. That is, *causality runs simultaneously from the exchange rate to the balance of payments and from the balance of payments to the exchange rate*. To be sure, as in any Walrasian general-equilibrium system, the exchange-rate array, the balance of payments, and all other markets in the economic structure must be understood as adjusting simultaneously and mutually toward equilibrium.

In this connection, one important practical issue in the analysis of any economy’s exchange-rate policy is the degree to and speed with which any given exchange-rate depreciation can be expected to be diluted by partial, complete, or more-than-complete “pass-through” to a price-level increase. Conceptually, such a pass-through may be decomposed into “direct” and “indirect” components. The first would be the direct influence of depreciation on the prices of imported and exportable (i.e., tradable) goods that figure in the relevant price indices, while the second would be the indirect influence on the price level resulting from changes in the supply of and demand for money. (Cupé 2002 sets out and discusses analytical methodology and applies it to the Bolivian case.) Unfortunately, the speed and structure of the pass-through in any economy probably changes over time, and this makes it difficult to apply empirical research in this area to project the effectiveness of any proposed or actual exchange-rate depreciation. (In Ecuador, the pass-through of the massive exchange-rate depreciation that took place in Ecuador just before its January 2000 dollarization announcement took place over a period of years. (See Section 7 below)

The effect of exchange-rate depreciation on real GDP growth is generally understood to be ambiguous. On the one hand, to the extent depreciation encourages exports and so increases economic growth through the multiplier effect of exports, exchange-rate depreciation favors

growth. On the other hand, to the extent exchange-rate depreciation discourages intermediate and capital-goods imports, it discourages production and reduces capital formation, and to this extent reduces real growth. The positive effect of exchange-rate depreciation on growth through exports - what is often called “export-led” growth- is presumably shorter-term in character, while the negative effect of exchange-rate depreciation through imports is presumably longer-term in character.

Discussion of exchange rates and exchange-rate policy has often focused on exchange-rate “regimes” -that is, on whether and under what circumstances “fixed,” “floating,” and intermediate rules for setting exchange rates would be most favorable for growth and stability. A nation’s exchange-rate “regime” may be defined as the set of rules in place that govern the way foreign-exchange markets and their prices -i.e., exchange rates- are permitted to move toward equilibrium. In a fixed-rate regime, one exchange rate (or a basket of exchange rates) is held unchanged *under official commitment*,³ and the balance of payments adjusts along with the remainder of the economy’s general-equilibrium system of prices and quantities. In a flexible or floating exchange-rate regime, the balance of payments together with the rest of the general-equilibrium system determines the exchange-rate array.

External financing flows play a crucial role in exchange-rate determination. In a simplified, practical view, over any time interval, given all the economy’s other circumstances, a fixed exchange rate will tend to bring about some current-account surplus or deficit. A current-account deficit is financed through direct-foreign investment flows, external debt, and other financial flows, as well as net drawings from the central bank’s foreign exchange holdings (i.e., reserve loss). In this sense, any exchange rate currently prevailing implies some external-financing inflow. (If the current account is in surplus, of course, the financing flow will be negative – i.e., an outflow). To the extent this financing flow is feasible and forthcoming, the fixed exchange rate will presumably be feasible, and to this extent sustainable. To the extent the required external-financing flow is not feasible, the exchange rate would be unsustainable, and the presumably fixed rate would then come under pressure to change. In contrast, where the exchange rate is floating, the financing flows would tend to determine the current account. That is, as the foreign-exchange supply these financing flows imply interacts with the foreign-exchange demand, the exchange rate would adjust to bring about the current account the financing flows imply.

In a much-cited January 2001 lecture at the American Economic Association convention in 2001, Stanley Fischer observed that an increasing number of economies have shifted toward exchange-rate regimes at the “polar” ends of a spectrum ranging between solidly fixed and freely floating exchange rates. Although Fischer’s main purpose was to draw attention to this evolving “bipolarity” -a “positive” argument- he was interpreted as implying that this evolving bipolarity is a fundamentally good thing – a “normative” argument to the effect that these polar choices were the most favorable for most nations’ longer-term growth and stability. Developing economies, in particular, would presumably benefit from the discipline imposed either way: they would need to ensure either that the hard exchange rates to which they had committed themselves remained sustainable or that the floating exchange rate remained acceptably stable.

One reason policy-makers have presumably found it desirable to set either hard-fixed or floating exchange-rate “regimes” is that, by doing so, they have been able to relieve the burden of having repeatedly to exercise policy discretion. Policy-makers in many nations have concluded that, while they might in principle have been able to improve macroeconomic conditions by tinkering repeatedly with the exchange rate, they are just likely -arguably more likely- to make matters worse. They have therefore drawn the lesson that it is often best simply to subject the

³ The official commitment is very much to the point in this definition. The *force* of the commitment can be anything from a “hard” constitutional commitment to an implicit promise by the current authorities, as discussed below.

exchange rate to a regime of rules. The polar regimes are precisely those in which the authorities never again decide anything about exchange rates.

Fischer’s discussion focused renewed attention on the “choices and consequences” implied by nations’ exchange-rate regimes. Both his positive and presumed normative arguments have stimulated intense debate, and considerable dissent. Williamson has argued on several occasions that for most governments exchange-rate regimes intermediate between the polar regimes are more likely to prove durable (see, for example, Williamson 2003). Rogoff et al 2003, for example, argues that the “bipolar view of exchange rates is neither an accurate description of the past nor a likely scenario for the next decade.”

As noted above, when a government sets its exchange-rate regime, it faces a basic trade-off with respect to its stability and growth objectives. In a simplified view, “hard” fixed exchange rates favor stability, while looser, more flexible arrangements tend to be better for growth. As noted, however, there is a “deeper argument: “hard” fixed exchange rates favor not only stability, but also longer-term real growth; and, in addition, stability *per se* is generally favorable to longer-term growth. This is the fundamental argument for hard fixed exchange rates. The counterargument for more flexible regimes is that nations’ circumstances evolve. A hard fixed exchange rate that may be appropriate in one set of circumstances may become inappropriate as circumstances evolve. This paper’s basic point is that the Andean economies’ experience more strongly supports this argument for flexibility.

Berg, Borensztein and Mauro 2003 (p. 26) make what amounts to a similar point when comparing Mexico’s and Argentina’s responses to the 1998 world financial turmoil that resulted from the crises that year in East Asian economies, Russia, and Brazil, as well as the collapse of Long-Term Capital Management in the United States. (This turmoil figured in the shock affecting the Andean economies at the same time.) Mexico, whose exchange rate was floating, experienced sharp depreciation and an interest-rate spike, but only a moderate reduction in real GDP growth. Argentina, with a convertibility regime, underwent severe, persisting recession that ultimately rendered its convertibility regime unsustainable. The same article cites a study of three decades’ experience for developing economies that supports the view that economies with fixed exchange-rate regimes that undergo external shocks achieve the necessary depreciation on average only after two years after the event, experiencing substantial recession in the process, whereas economies with floating rates undergo more rapid exchange-rate adjustment but with more moderate effects on real growth.

The basic case for flexibility as opposed to hard fixing may be stated as follows. Suppose a nation’s policymakers take the view that they must focus on reducing inflation, and fix the exchange rate to do so. If the economy is fortunate not to undergo negative external shocks, the fixed-rate regime is likely to turn out to have been a good choice. If the economy does undergo a negative external shock, however, the fixed-rate regime will prevent adjustment, and so lead to recession. In a severe recession the authorities may adjust the emphases of their objectives, give more weight to short-term growth and less to price stability. It is tempting to take the view in that policy-makers should abandon a fixed-rate regime in such circumstances. The obvious problem, however, is that once people observe the authorities abandon a fixed-rate regime, fixed-rate regimes lose their credibility, leaving them more open to speculative attacks that hasten their abandonment. Indeed, it is probable that after Brazil and Argentina abandoned their fixed rates in 1991 and 2002 respectively, they made fixed rates less credible not only for themselves but for other economies as well.

It is difficult to avoid the conclusion that the success of any particular exchange-rate regime is likely to depend as much, if not more, on the real-effective exchange rate than on the regime *per se*. Moreover, a successful choice of a real-effective exchange rate may depend as much on good

luck rather than on policy-makers' good choices. Consider the specific example of a crawling-peg exchange-rate regime, in which the nominal exchange rate is frequently adjusted at a percentage rate equal to the differential between internal and external inflation rates. By definition, the real-effective exchange rate would remain (roughly) fixed. It can never be certain, however, that the specific real-effective exchange rate so set will be permanently appropriate for the economy's circumstances as they evolve. To the extent it is too depreciated, one likely consequence would be a higher inflation rate than would otherwise prevail (Brazil's experience over most of the 1980s); to the extent it is too appreciated, likely consequences might include slower growth, higher unemployment, and more external borrowing than would otherwise prevail (Argentina's experience in the latter part of the 1990s). Such outcomes may be inconvenient from the perspectives of the economy's various "stakeholders."

One reason it is important to keep the general-equilibrium view discussed above in mind is that there is "an abundance of possible linkages between the nominal exchange-rate regime and various macroeconomic variables." As Ghosh, Gulde and Wolf 2002 put it, "at a theoretical level, this multitude of potential linkages -some offsetting, some reinforcing -makes it difficult to establish unambiguous relationships."

III. A classification of exchange-rate regimes

A substantial analytical effort has gone into classifying nations' past and current exchange-rate regimes, ranging from "hard pegs" to completely free "floats" with various degrees of flexibility in between, and into determining how regime choices affect macroeconomic performance. Ghosh, Gulde and Wolf 2002 set out a classification with ten categories (summarized on pages 40-41), and use these to classify different nations' exchange-rate regimes and their consequences for national economic performance. This Ghosh-Gulde-Wolf classification seems likely to become a standard, and this paper applies this classification to discuss the Andean economies. The remainder of this section presents an overview summary of that regime classification (see Ghosh, Gulde and Wolf 2002 for a more precise description of the characteristics of each kind of regime). For reference, Table 1 below sets out the regime classification:

Table 1

CLASSIFICATION OF EXCHANGE-RATE REGIMES

Broad classification	Sub-classification	Regime
Pegged exchange-rate regimes	Hard pegs	(i) Dollarization
		(ii) Currency board
		(iii) Currency union
	Traditional pegs	(iv) Single-currency pegs
		(v) Basket-currency pegs
Intermediate, or flexible, regimes	Rule-based intervention	(vi) Cooperative intervention
	Discretionary intervention	(vii) Crawling peg
		(viii) Target zones
		(ix) Managed floats
Floating regimes	Float	(x) Free float

Source: drawn from Ghosh, Gulde and Wolf 2002.

There are three broad categories, (1) “pegged” exchange-rate regimes, (2) intermediate regimes, and (3) “floating” regimes. Pegged regimes are sub-classified into (A) “hard” and (B) “traditional” pegs. Hard pegs are classified into three categories: (i) “dollarization,” in which a foreign currency (not necessarily the dollar) is used as legal tender; (ii) “currency boards,” in which the domestic currency is not only convertible at a specified exchange rate with foreign currency, but the domestic currency is fully backed by currency-board holdings of foreign-exchange holdings; and (iii) monetary union, in which a group of countries maintain a common currency. Traditional pegs are classified into (iv) “single-currency” pegs, in which the exchange rate is pegged to a single foreign currency, which the central bank is expected to maintain but which it may adjust; and (v) basket pegs, in which the exchange rate is pegged to a weighted “basket” of foreign currency, which the central bank is expected to maintain but which it may adjust.

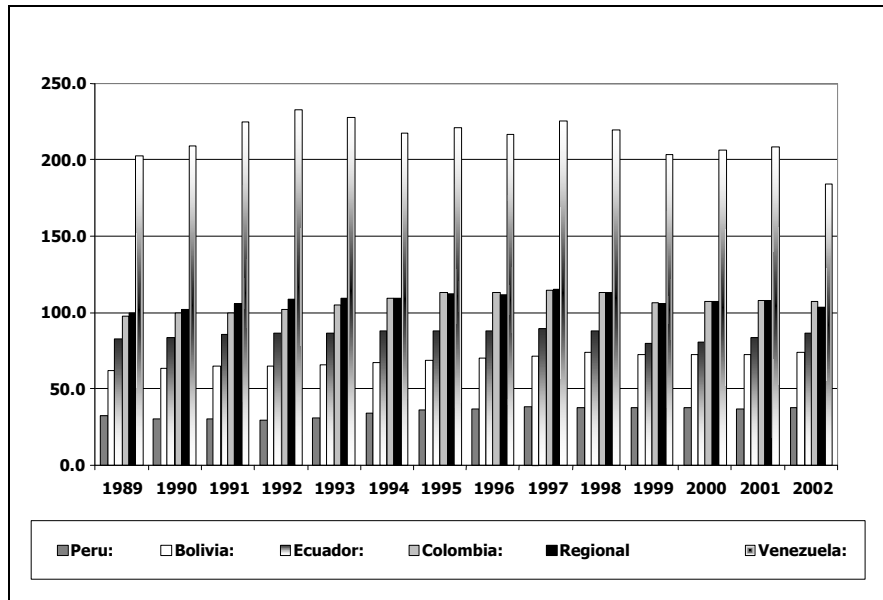
Intermediate regimes are sub-classified into flexible regimes with (C) rule-based intervention and (D) discretionary intervention. Flexible regimes with rule-based intervention include (vi) cooperative regimes, in which groups of central banks agree to intervene cooperatively to maintain their respective bilateral exchange rates; (vii) “crawling pegs,” in which the central bank intervenes to make the exchange rate evolve according to an explicit rule; and (viii) “target zones or bands,” in which the exchange rate is allowed to float within stated limits, so that in principle the central bank would intervene only if the exchange rate breached the limits. Flexible regimes with discretionary intervention are described as (ix) “managed floats,” in which the exchange rate is permitted to move according to market forces, but with the central bank intervening to move the exchange rate as its authorities would like at any given moment.

Finally, floating regimes have just one category, (x) “free floats,” in which the central bank allows the exchange rate to take on whatever value the markets determine.

IV. Andean exchange-rate policy issues

The five Andean economies' economic performance over the past three decades has been unsatisfactory (see Table 2). Particularly since the end of the 1980s, per-capita real GDP (and private consumption) have essentially stagnated (see Figure 1). Macroeconomic instability has been a recent memory and a standing fear for all five economies, with three of the five economies having recently experienced hyperinflation (Bolivia in the mid-1980s, Peru in the late 1980s, and Ecuador toward the end of the 1990s). Capital formation has declined since the 1970s as a percentage of GDP. All five nations have been struggling with external-debt burdens, and this has been a significant part of the reason why growth and stability have proven unsatisfactory. Ecuador, Peru and Bolivia all resumed constitutional government in the early 1980s following military government during the 1970s, while Colombia and Venezuela maintained constitutional systems over the entire period. But Peru and Colombia experienced violent internal conflict -Colombia's continues to this day, while Peru's concluded as recently as 1994. Four of the five nations -Colombia is the exception- have experienced coup attempts and forced changes of government just barely within constitutional normality.

Figure 1
ANDEAN ECONOMIES: 1989-2002 (1989 REGIONAL AVERAGE=100)
(Per-capita real GDP)



Source: International Monetary Fund.

Table 2

BOLIVIA, COLOMBIA, ECUADOR, PERU AND VENEZUELA: SELECTED MACROECONOMIC INDICATORS

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Bolivia:									
Gross domestic product (US\$)	\$6.0	\$6.7	\$7.4	\$7.9	\$8.5	\$8.3	\$8.4	\$8.0	\$7.8
Growth									
Real GDP	4.7	4.7	4.4	5.0	5.0	0.4	2.3	1.5	2.8
Consumer prices, December-	8.5	12.6	8.0	6.7	4.4	3.1	3.5	0.9	2.5
Exchange rate (December; bolivianos/U.S.	5.7	4.6	5.3	3.5	5.3	5.9	6.8	7.1	9.4
Average real-effective exchange	105.8	107.5	101.6	100.4	95.8	93.8	97.0	98.8	95.6
Per cent of									
Gross fixed capital	14.9	15.5	16.2	19.0	23.2	19.1	17.9	14.5	15.9
Current-account	-1.5	-4.5	-5.5	-7.0	-7.8	-5.9	-5.3	-3.6	-4.4
Public and publicly-guaranteed external			57.6	52.1	50.5	51.2	49.3	38.8	43.3
For.-exch. reserves (mos. ofimps. of goods, non-factor	3.7	4.6	6.3	6.0	4.9	5.6	5.1	5.1	3.1
Colombia:									
Gross domestic product (US\$)	\$80.0	\$92.7	\$97.2	\$107.0	\$98.7	\$86.7	\$83.9	\$81.7	\$81.1
Growth									
Real GDP	5.8	5.2	2.1	3.4	0.6	-4.2	2.9	1.4	1.5
Consumer prices, December-	23.4	19.0	21.5	17.7	16.7	9.2	8.7	7.6	7.0
Exchange rate (December; pesos/U.S.	-9.2	19.1	1.4	29.6	17.3	24.1	15.7	5.7	21.9
Average real-effective exchange	82.8	80.5	77.0	72.5	77.1	85.3	92.3	94.7	95.0
Per cent of									
Gross fixed capital	23.3	22.4	21.6	20.2	18.9	13.2	12.6	14.1	14.8
Current-account	-4.6	-4.9	-4.8	-5.4	-4.9	0.8	0.8	-1.5	-1.9
Public and publicly-guaranteed external			15.3	14.4	17.0	23.3	24.8	26.6	26.1
For.-exch. reserves (mos. ofimps. of goods, non-factor	6.6	6.0	6.9	6.1	5.5	6.7	7.0	7.3	8.0
Ecuador:									
Gross domestic product (US\$)	\$189.1	\$175.3	\$149.5	\$123.8	\$91.4	\$30.2	\$13.9	\$17.1	\$19.8
Growth									
Real GDP	4.3	2.3	2.0	3.4	0.4	-7.3	2.3	5.6	3.4
Consumer prices, December-	25.5	22.8	25.5	30.7	43.4	60.7	91.0	22.5	9.4
Exchange rate (December; 25,000 sucres/U.S.	14.1	26.8	23.4	22.2	50.1	176.0	37.3	0.0	0.0
Average real-effective exchange	80.2	80.6	81.2	77.7	76.3	104.2	118.4	84.3	74.8
Per cent of									
Gross fixed capital	18.8	18.6	17.8	19.0	21.0	14.8	15.8	17.2	22.8
Current-account	-0.5	-0.6	0.0	-0.4	-2.3	3.0	6.6	-4.7	-6.2
Public and publicly-guaranteed external			8.3	10.4	14.3	44.8	81.3	65.7	56.8
For.-exch. reserves (mos. ofimps. of goods, non-factor	4.4	3.4	4.3	4.1	2.9	4.6	2.2	1.4	1.1
Peru:									
Gross domestic product (US\$)	\$44.9	\$53.6	\$55.8	\$59.0	\$56.9	\$51.7	\$53.5	\$54.2	\$56.9
Growth									
Real GDP	12.8	8.6	2.5	6.8	-0.5	0.9	3.1	0.6	5.2
Consumer prices, December-	15.4	10.3	11.8	6.5	6.0	3.7	3.7	-0.1	1.5
Exchange rate (December; new soles/U.S.	-1.4	9.4	10.7	5.4	15.4	11.1	0.9	-2.3	2.0
Average real-effective exchange	119.6	118.4	116.8	116.3	117.9	129.3	128.1	125.0	125.7
Per cent of									
Gross fixed capital	21.2	24.1	22.5	23.8	23.5	21.7	20.1	18.2	17.2
Current-account	-5.3	-5.1	-8.3	-6.2	-6.0	-6.5	-2.8	-2.9	-1.9
Public and publicly-guaranteed external			36.2	32.6	34.0	37.8	36.0	35.0	36.0
For.-exch. reserves (mos. ofimps. of goods, non-factor	7.4	11.7	10.2	12.7	12.1	10.8	11.6	10.3	11.0
Venezuela:									
Gross domestic product (US\$)	\$59.6	\$77.9	\$72.0	\$88.7	\$95.9	\$103.4	\$121.3	\$126.2	\$97.7
Growth									
Real GDP	-2.3	4.0	-0.2	6.4	0.2	-6.1	3.2	2.8	-8.9
Consumer prices, December-	70.7	56.6	103.2	37.6	29.9	20.0	13.4	12.3	31.2
Exchange rate (December; bolivars/U.S.	63.1	48.3	88.3	5.9	12.6	13.6	8.5	7.7	75.6
Average real-effective exchange	92.4	72.7	86.5	72.9	62.4	56.6	55.9	52.7	63.5
Per cent of									
Gross fixed capital	17.6	16.5	15.8	18.7	19.0	15.7	14.2	16.4	14.4
Current-account	4.3	2.6	12.4	3.9	-3.4	3.4	10.7	3.1	7.6
Public and publicly-guaranteed external			38.5	30.8	29.5	27.1	22.9	20.0	23.8
For.-exch. reserves (mos. ofimps. of goods, non-factor	6.7	4.0	9.0	8.8	6.9	8.3	7.7	4.8	5.5

Source: International Monetary Fund, World Bank.

In all five economies, the exchange rate has come to play a focal role in economic policy-making. Macroeconomic policy generally and exchange-rate policy in particular has aimed simultaneously to address several different objectives: maintenance of adequate (i) short- and (ii) longer-term real-growth rates, (iii) ensuring price stability; helping to limit the (iv) public and (v) overall external borrowing requirements; and (vi) maintaining disciplined growth of monetary and credit aggregates. These objectives are, of course, in some measure contradictory, so

macroeconomic policy-making is very much a question of continually seeking compromise and balance. The exchange rate has come to play a focal role in policy-making in the Andean economies because the exchange rate is a highly effective instrument, an easy policy instrument to adjust rapidly. Andean policy-makers often find it necessary either to carry out rapid adjustments - or, having done so, to promise firmly that they will avoid doing so. This is because the Andean economies have proven vulnerable to exogenous external shocks, unforeseen internal shocks (e.g., financial-system problems), and policy errors.

As noted in Section 2 above, exchange-rate policy has been a problem, first, because the relationships between their growth, stability, and debt-management objectives are so complicated, and, second, because the relative importance of the objectives shifts over time. Policy-makers in an economy that has recently experienced hyperinflation can be expected to emphasize price stability; policy-makers in an economy that has just undergone a sharp terms-of-trade loss are likely to be more willing to risk exchange-rate depreciation.

The problem the Andean economies face to get the exchange rate “right” may be understood in a systematic way, as follows. Imagine a relatively simple economic system with significant export and import flows, but in which (a) the private and public external-debt level is insignificant; (b) the exchange rate has little direct effect on government revenue and expenditure flows; and (c) the banking system operates entirely in national-currency units. Even in such a simple economy, the authorities are likely to find exchange-rate setting something of a dilemma. A more depreciated exchange rate would encourage exports and shorter-term export-led growth, but might generate inflationary pressure; a more appreciated exchange rate would encourage imports, in particular capital-goods imports, and perhaps longer-term growth. This tradeoff is accompanied by a similar tradeoff involving the banking system: the increased foreign-exchange inflow resulting from a more depreciated exchange rate would lead to monetary expansion, which favors credit expansion and growth in the short term, but also price-level instability; a more appreciated exchange rate would favor price-level stability, and to this extent favor longer-term growth.

If the private sector has substantial external debt, however, these exchange-rate management tradeoffs become more complex. While exchange-rate depreciation increases the domestic-currency value of external debt, damaging the financial viability of private firms, it helps bring about the export surplus needed to limit the further growth of the external debt. This is favorable for capital formation, and to this extent favorable for longer-term growth. Moreover, where the government finances depend heavily on the exchange rate, the exchange-rate dilemma takes on yet another dimension of complexity. To the extent the government itself has a heavy external-debt burden, exchange-rate depreciation widens the public deficit -and so, *inter alia*, attempts to limit the growth of the external debt by using exchange-rate depreciation run the risk of increasing the government’s borrowing need.

One effect of exchange-rate depreciation that has bedeviled Andean exchange-rate policy has been dollarization. Experience of repeated exchange-rate depreciation has encouraged people to protect their wealth by moving it into dollars. To prevent wealth from leaving the economy, some countries allowed their financial systems to operate in dollars as well as their national currency. Once a financial system begins to operate in a mix of dollars and national currency, however, the economic and financial systems in particular become far more difficult to manage. With a “semi-dollarized” financial system, exchange-rate depreciation directly increases the money supply and increases the national-currency equivalent of debt to the banking system, which is likely to prove damaging to business enterprises that lack dollar income. Indeed, once an economic system becomes semi-dollarized, it can come to operate through economic mechanisms with highly intricate knock-on and feedback effects. Such an economy can turn difficult or impossible to control. Dollarization can turn the exchange rate into a hostage as a policy instrument, since

policy-makers may be unwilling to allow depreciation for fear of its consequences for the viability of bank loans. On the other hand, dollarization can blunt the effectiveness of any depreciation, and indeed turn any depreciation into an inflationary spiral. *Full* dollarization became necessary in Ecuador for essentially this reason (see Section 7). Indeed, once spontaneous dollarization had advanced to the point it did in Ecuador, the exchange rate became virtually ineffective as a policy instrument. In effect, since few people were willing any longer to hold sucres, exchange-rate policy simply lost its basis.

At this writing, Ecuador remains fully dollarized while Bolivia and Peru are semi-dollarized. Bolivia's financial system operates preponderantly, and Peru's largely, in dollars. Both economies' financial systems commenced dollarization processes in the 1970s. Indeed, in both economies, ill-considered attempts to prohibit dollarization – in 1982 in Bolivia and 1986 in Peru – helped set off their respectively hyperinflationary processes. Dollarization and semi-dollarization raise a large number of day-to-day and structural policy questions. For Ecuador, there is the question of whether it should revert to having its own currency, particularly as its currency continues to appreciate in real-effective terms with high world oil prices. For Bolivia and Peru there is the question of how hard policy-makers should strive to reverse dollarization, or, alternatively, to move forward to full dollarization.

It may be helpful to state an important point early on. While the Andean economies' exchange-rate policies and regimes were crucially important aspects of their overall macroeconomic policy, it is doubtful that different exchange-rate regimes than the ones they had would significantly have affected the growth performance described by Figure 1. True, for particular countries at particular times, different policies or more rapid shifts in regime might have prevented a slowdown or allowed a slightly higher growth rate at the time in question. Colombia, for example, might have grown faster in the early 1990s than it did had it not allowed its exchange rate to lag (see Section 6); Ecuador might not have suffered so sharp a downturn in 1999 had it floated its exchange rate sooner (see Section 7). It is doubtful, however, that any nation's specific exchange-rate regime choice was a *fundamental* reason for lagging growth. The causes of the Andean region's poor growth performance are more profound than the choice of exchange-rate regime. They include such things as high external debt, political instability, and excessive exposure to volatile world commodity markets. In particular, it is very doubtful that one exchange-rate regime can permanently genuinely improve a nation's competitiveness more than another. The ultimate bases of competitiveness, apart from natural advantages, are accumulated capital formation, fiscal efficiency, and reasonable levels of external indebtedness.

In one sense, however, exchange-rate regime choice matters a great deal for longer-term growth in the Andean economies in particular. One of the region's standing problems has been policy credibility, particularly in view of the macroeconomic turmoil to which the region has been prone. This suggests that a key criterion for regime choice within the Andean region must be that whatever commitments the regime chosen incorporates, they must be credible and feasible. In the discussion following, one of the key themes is that Peru's exchange-rate regime has proven successful in large degree because the commitments it has incorporated have been credible and feasible, whereas, by contrast, Ecuador's regimes have always raised issues of credibility and feasibility.

This apart, the lessons from the Andean region regarding regime choice are inevitably complex, and do not always conform to conventional wisdom. As Figure 1 above implies, none of the region's regimes appear to have been very helpful for longer-term growth. While some people regard it as a truism that fixed exchange-rate regimes are more likely to ensure exchange-rate and price-level stability, this is by no means clear: Peru, for example, has secured a remarkable degree

of stability with a managed float and disciplined fiscal and monetary policy (see Section 8).⁴ In any case, the obvious lesson from many countries over the years -most recently, Brazil and Argentina- has been that an unsustainable fixed exchange-rate regime can be at least as destabilizing as a more explicitly flexible regime.

Table 3

ANDEAN ECONOMIES: EXCHANGE-RATE REGIMES, 1994-2003

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Bolivia	"Crawling-peg" -- -----										
Colombia	"Crawling peg" -----							managed float -----			
Ecuador	Pre-announced "crawling band" -----					float ----		full dollarization -----			
Peru	managed float -----										
Venezuela	Adjustable peg		"Crawling band"				Crawling peg/managed float				

Source: author's elaboration.

Table 3 summarizes the Andean region's recent exchange-rate regimes. Bolivia has maintained a "crawling-peg" exchange rate, intended to move the exchange rate in accord with internal and external inflation. Colombia, which was one of the first economies in the world to apply a crawling-peg exchange rate (in the late 1960s), maintained this kind of flexible exchange rate through the 1990s. In 2000, however, the Colombian authorities shifted to a managed float. Ecuador has had a complex history. It started out the 1990s with a conventional, but frequently adjusted, fixed rate. In 1994 it introduced a pre-announced "crawling band." Floating ensued for several months when this turned unsustainable in early 1999. When depreciation accelerated, the economy slid into hyperinflation, which was halted by a move to full dollarization. Peru has maintained a managed float throughout the period. Finally, Venezuela has maintained a fixed exchange rate, but has adjusted it frequently, under the pressure of what has been highly unstable fiscal and monetary policy.

Although the Andean economies have had a wide diversity of macroeconomic experience, several developments have affected them in common. Perhaps the most important recent shared experience has been the exogenous shocks that took place in 1997-8. These had three main aspects: (i) a sharp drop in oil and other hydrocarbons prices; (ii) an episode of El Niño weather patterns in late 1997 and 1998; and (iii) the string of world financial crises involving east Asia (beginning September 1997), the U.S. capital markets crisis associated with the collapse of Long Term Capital Management (mid-1998); Russia (August 1998); and Brazil (late 1998). These events all affected the five economies, widening current-account deficits (the Andean economies are generally hydrocarbons exporters), diminishing the availability of external financing, and reducing real growth. Although world oil prices have recovered since then, and no new episodes of El Niño have occurred, the five economies have recovered slowly.

Some observers have suggested that Latin America's increasing financial openness and liberalized financial markets constrain exchange-rate policies and even regime choice. The argument has many dimensions, but the basic point is that any anticipated exchange-rate depreciation is likely to be incorporated into domestic interest rates, since the practical meaning of capital openness is that in setting interest rates domestic financial institutions would compete with foreign interest rates adjusted for anticipated depreciation. The possibility of -indeed, the uncertainty about whether there might be- exchange-rate depreciation would presumably make domestic interest rates higher than they would otherwise be. A point much discussed in recent literature concerns the spreads on countries' sovereign-bond issues: since wealth-holders in Latin

⁴ The practice of carrying out monetary policy and exchange-market intervention so as to hold a supposedly floating exchange rate fixed has sometimes been characterized as "fear of floating." See Calvo and Reinhart 2000.

American economies have come to include their countries' issues in their overall portfolios, movements in these instruments' yields can be expected to be transmitted in some degree to domestic interest rates (see Rojas-Suárez 2003).

In practical terms, however, this and similar arguments are less straightforward than they may seem. On the one hand, if circumstances come to be such that a fixed exchange rate loses its credibility, expectations of and uncertainty regarding future depreciation can become quite significant, particularly where an attempt has been made to maintain the fixed-rate commitment too long. Argentina's recent example makes it clear that even very "hardened" fixed rates can be forced to move. On the other hand, a floating exchange rate, managed or otherwise, can maintain a fixed parity with the U.S. dollar for lengthy periods of time, and expectations of and uncertainty regarding future depreciation can become insignificant. This may be the case for Peru at present (see Section 8). A related argument sets out from the view that the rates of return on sovereign bonds are determined in large measure by perceptions of country risk, and that these are in turn related to the likelihood of exchange-rate depreciation. Again, while this has been taken as an argument for "hard" fixed exchange rates, the force of such arguments is doubtful. A general claim cannot be made that at any given moment a fixed exchange rate will always be less likely than a floating exchange rate to undergo depreciation.

Before proceeding to discuss each country's experience, it is useful to examine the comparative indicators of nominal- and real-effective exchange rate variability given in Table 4. These are the ratios of the standard deviations to the means of the monthly trade-weighted nominal- and real-effective exchange rates, the exchange rate with the U.S., and the real-effective exchange rate with the U.S., given for the ten years 1994-2003 and the three sub-periods 1994-1997, the crisis years 1998-9, and the recent years 2000-3. Several points emerge clearly from these figures. The countries whose exchange rates varied the most in *nominal* terms over the period were Ecuador and Venezuela, followed by Colombia and Peru; the country with the smallest variation was Bolivia. With the exception of Venezuela, of the three sub-periods, the period of highest variability was the "crisis" period, 1998-9. For most of the economies and most time periods, the variabilities of the nominal-effective and the U.S.-dollar exchange rates are generally similar in magnitude, but for the crisis period the variability of the nominal-effective rate substantially exceeds that of the variability of the U.S.-dollar rate. This reflects the variability in that period of trading partners' exchange rates generally. The countries whose exchange rates varied the most in *real-effective* terms over the period were Venezuela and Ecuador, followed by Colombia; the countries with the smallest variation were Peru and Bolivia. The ranking was nearly the same as that of the nominal exchange rates, but it is noteworthy that Peru and Bolivia had very nearly the same real-effective exchange-rate variabilities.

The reality that policy-makers in all five economies tend to focus on the U.S. dollar exchange rates has meant that all the Andean economies' nominal exchange rates have tended to move with the dollar *vis-à-vis* the European and Asian currencies. Through much of the 1990s the dollar's relative strength tended to limit the Andean economies' non-dollar competitiveness. In more recent years, however, the dollar's depreciation has been a significant factor contributing to the Andean economies' competitiveness.

The bilateral U.S. real-effective exchange rates are always more variable than the trade-weighted exchange rates, and the differences are markedly larger than those between the corresponding nominal-rate variabilities. Peru and Bolivia have been markedly more successful than the other three economies in holding their real-effective exchange rates steady over all the time intervals in question. As discussed in Sections 5 and 8 below, this outcome is more likely given their respective crawling-peg and managed-float regimes. Over 1994-7, when Ecuador held to a pre-announced crawling peg in a band, it limited its real-effective variability more than Bolivia

and nearly as much as Peru. Its variability intensified, however, during the pre-dollarization crisis and under dollarization. Colombia's real-effective variability has been higher than Peru's and Bolivia's, but not as high as Ecuador's during its pre-dollarization crisis and under dollarization, nor as high as Venezuela's throughout the period. It is important to bear in mind in this kind of discussion that while low variability is a good thing *per se*, it is a good thing for exchange rates to adjust flexibly when circumstances require.

Table 4
BOLIVIA, COLOMBIA, ECUADOR, PERU, AND VENEZUELA: INDICATORS OF EXCHANGE-RATE VARIABILITY

(standard deviation of monthly values as a percentage of average of monthly values)

Period	Variability of: Trade-weighted nominal effective exchange rate:	U.S. nominal exchange rate:	Trade- weighted real effective exchange rate:	U.S. real effective exchange rate:
BOLIVIA				
1994-2003	14.6	16.7	5.2	16.0
1994-1997	3.6	5.2	3.4	11.0
1998-1999	15.2	3.2	1.5	8.1
2000-2003	4.7	8.4	5.3	9.5
COLOMBIA				
1994-2003	47.8	41.4	13.1	13.3
1994-1997	6.8	13.2	7.5	12.6
1998-1999	32.8	13.6	8.6	11.9
2000-2003	9.6	13.1	7.7	8.6
ECUADOR				
1994-2003	86.9	79.6	19.6	21.3
1998-1999	68.1	47.8	22.4	25.0
2000-2003	3.8	0.1	23.8	26.5
PERU				
1994-2003	39.4	17.8	5.0	12.6
1994-1997	3.5	8.1	2.0	10.0
1998-1999	38.3	8.0	5.6	10.8
2000-2003	2.8	1.2	3.0	5.1
VENEZUELA				
1994-2003	70.9	65.4	19.9	33.8
1994-1997	48.0	50.6	13.6	18.2
1998-1999	22.4	6.7	5.5	6.6
2000-2003	37.1	38.4	12.8	14.5

Source: Calculations by the writer based on data from the International Monetary Fund and the U.N. Commission for Latin America and the Caribbean.

The five sections following discuss exchange-rate policy in the five Andean economies during the period 1994-2003, with one section given over to each economy.

V. Exchange-rate policy in Bolivia, 1994-2003

Bolivia is the smallest of the five Andean economies, accounting for just 7 per cent of the region's total population and 3 per cent of its aggregate GDP. It is one of Latin America's poorest nations, one of only four in the Western Hemisphere to qualify for official debt reduction under the Highly Indebted Poor Countries (HIPC) Initiative.⁵ Multifaceted social conflict and political instability has marked Bolivia's history throughout the Twentieth Century. A large proportion of its population identifies itself as indigenous, and although the use of Spanish is growing, Aymara and Quechua are the primary languages of significant proportions of the population, and political movements based on ethnic representation have become increasingly active in recent years. A relatively large proportion of the population remains rural, and 80-90 per cent of the rural population is impoverished. Regional divergences, mainly between the relatively more prosperous and progressive eastern, tropical areas and the slower-growing high plateau ("*altiplano*") and mountain valley areas are significant. Bolivia is the world's most important coca producer, and as such has been the object of intense international and government efforts, partially successful at best, to combat production and trade. Several confrontations have taken place between the security forces and coca growers, mostly Indian peasants who often feel they have no profitable alternatives to coca cultivation. In recent years, coca growers have organized politically, and have drawn increasing electoral support.

⁵ The others are Haiti, Honduras and Nicaragua.

In 1982, after a decade in which they dominated the government, the military acceded to popular pressure to restore constitutional government. The first post-military government, headed by President Hernán Siles Zuazo, struggled to reconcile its supporters’ competing interests, and this led to hyperinflation. The subsequent government, under the veteran politician and several times former President Victor Paz Estenssoro, carried out the successful stabilization program beginning in late 1985.⁶ Many Bolivians experienced severe hardship, however, as living standards fell precipitously. Four years later, the government of Jaime Paz Zamora, heading an ideologically disparate coalition of right- and left-wing parties excluding the centrist party that had supported Victor Paz, led Bolivia into a period of modest growth of around 4 and 5 per cent per year. No candidate had secured a majority in the 1989 election, and the Congress had to choose the new president. Paz Zamora’s coalition was formed to secure sufficient support to be chosen by the Congress. All subsequent elections were similar in this way: no candidate secured a popular majority, and the governments formed were those that could gather sufficient support in the Congress.

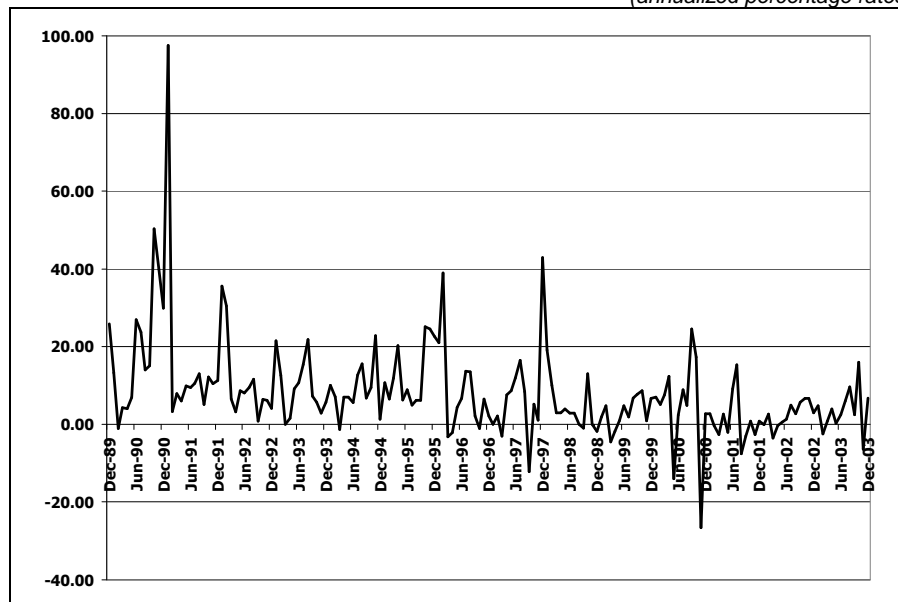
In 1993 Gonzalo Sánchez de Lozada, who as Victor Paz’ Finance Minister had led the post-1985 stabilization effort, became President at the head of Bolivia’s main centrist party. His government aimed to foster free-market reform and improved governmental efficiency. It set in place a program under which public enterprises, rather than being privatized, were “capitalized” – allocated under management contracts to foreign companies, who, in return for shares of profit, were required to carry out specified programs of capital formation. Opposition to Sanchez de Lozada’s reforms brought about waves of protest, including a large general strike organized by the Central Obrera Boliviana, Bolivia’s traditional labor confederation, and several violent confrontations took place between demonstrators and security forces. In 1997 a former military dictator, Hugo Bánzer, became president, in another cross-ideological coalition of right- and left-wing parties – once again through a negotiated agreement among parties in the Congress following an election in which no candidate secured an outright majority. His government attempted to continue pro-market reforms and privatization, but soon slid into new confrontations with various groups of protestors, including not only opponents of pro-market reforms but organizations favoring free planting and trafficking of coca. In 2001 President Sánchez de Lozada returned to the presidency, once again through a negotiated agreement among parties in the Congress, since Sánchez de Lozada had received less than one fourth of the votes in the general election. Over 2002 and 2003, intense protests against his policies degenerated into increasingly violent confrontations between protestors and security forces. Finally, toward the end of 2003 he was forced to resign.

As in Peru, the hyperinflation is a crucial part of the reason why Bolivia has focused so heavily on macroeconomic stability. It took place between late 1983 and August 1985, concluding about three years before Peru’s commenced. Annualized inflation averaged 13.2 per cent over 1983, 31.4 per cent over 1984, and 67 per cent over the first eight months of 1985. As the price level rose, the authorities were forced to devalue Bolivia’s official peso rate, from 25 pesos per U.S. dollar in 1980-81 to 64 in 1982, 230 in 1983, 2,178 in 1984, and 75,000.00 by mid-1985. Even this last rate was severely overvalued, for by August 1985 the parallel-market rate had reached 1 million pesos per dollar. Like Peruvians four years later, Bolivians found this experience deeply traumatizing. This made it politically possible -indeed, imperative- for the authorities to reform their institutions, in particular those of monetary and banking regulation, to prioritize price stability. Since the late 1980’s, Bolivia has generally held inflation within tolerable bounds (see Figure 2), although not so low as Peru has managed (see Section 8 below). Like Peruvians, and like Ecuadorians after their 1999 bout of hyperinflation (see Section 7), Bolivians hoped that hard-won price-level and exchange-rate stability would bring about higher real growth. As in Ecuador and

⁶ Ironically, in the 1950s Bolivia slid into hyperinflation under a government headed by Víctor Paz, and a government that took office in 1956 under Hernán Siles Zuazo carried out the adjustment program that halted that hyperinflation.

Peru after their hyperinflations, Bolivia's growths revived, but at modest rates (see Figure 5). After 1997, Bolivia's real growth rates declined sharply, barely exceeding population growth.

Figure 2
BOLIVIA: MONTHLY INFLATION, DECEMBER 1985- DECEMBER 2003
RATES
(annualized percentage rates)



Source: International Monetary Fund.

Exchange-rate management has been an essential element of Bolivian policy-makers' efforts to maintain stability since August 1985. Although rigorous fiscal control was the core of the "New Economic Program" undertaken to control hyperinflation, exchange-rate management was a fundamental element of the program as well. The new government had little choice but to allow the peso to float to an equilibrium level, and it dropped rapidly to 1.5 million pesos per U.S. dollar. All foreign-exchange transactions were fully legalized – up to that point the transactions outside the banking system were considered "black" – and taxes and commissions on foreign-exchange transactions were removed. In January 1987 the authorities introduced a new currency, the "boliviano," replacing the peso at a rate of one per million. By early 1988 the new currency stabilized at about 2.3 bolivianos per dollar. Apart from a brief burst of high inflation between December 1985 and February 1986, the government's policy approach halted the hyperinflation, and the price level and exchange rate have remained essentially stable since then. It was by any standard an austerity program, however, and over the course of the adjustment process in the late 1980s many Bolivians underwent extreme hardship. In a country characterized by some of Latin America's deepest poverty, this hardship was also a traumatic memory.

In 1982, just before the hyperinflation got under way, Bolivia's government carried out a forced conversion of existing dollar accounts into Bolivian pesos. As the currency's purchasing power shrank, a large amount of informal dollarization inevitably took place. However well-intentioned, Bolivians resented the forced conversion, and many remember it along with the hyperinflation. Since 1985, despite the relative stability of the exchange rate and price level, dollar-denominated deposits and loans have continued to amount to as much as 80-90 per cent of total deposits and loans. Policy-makers have been unable to reduce this percentage. Part of the reason is that Bolivia's illicit coca trade has continued to bring a relatively large inflow of dollars to the economy. The government that took office in August 1985 found it unavoidable to permit the financial system to operate in dollars as well as in the newly created bolivianos. (Peru also

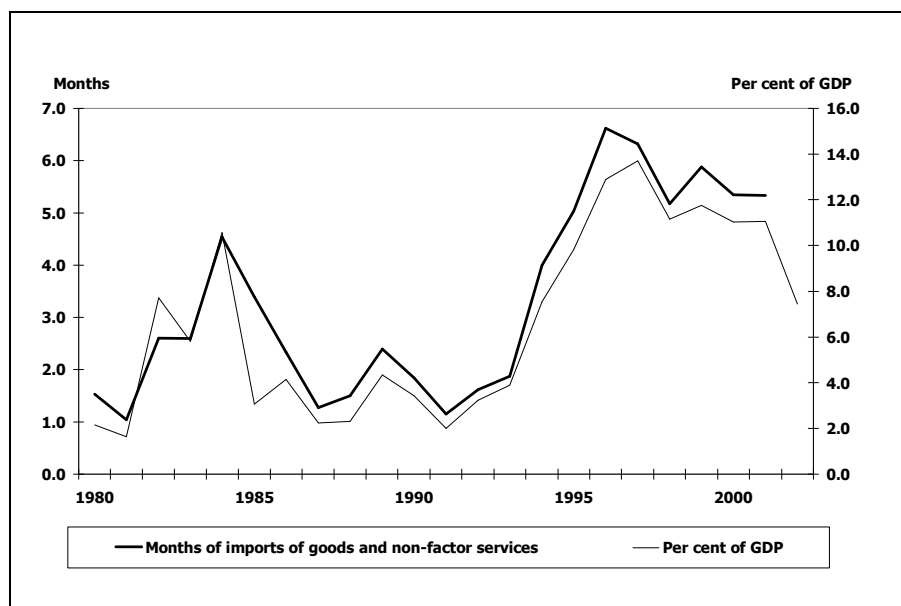
carried out a forced conversion of dollar accounts in 1986, just before its hyperinflation commenced, with remarkably similar consequences: Peru has also remained heavily dollarized, as discussed in Section 8 below.)

As Bolivia’s governments secured macroeconomic stabilization over the decade following the hyperinflation, they maintained a close focus on fiscal management, because it was an article of faith that the public deficit had been the principal source of the imbalance that had produced the hyperinflation. It has also been an article of faith that central-bank independence is crucial to price-level stability. Legislation approved in 1986 ensured that the Central Bank’s directors would be fully independent of ministerial direction, and that they would operate with a mandate that the institution’s top priority would henceforth be price stability. In particular, the Central Bank would never again be permitted to provide financing directly to the government. In keeping with this general approach, the Central Bank was given the task of managing the exchange rate. During 1986 the Central Bank’s Committee for Exchange and Reserves began holding daily foreign-exchange auctions (which came to be known as the “*bolsín*”). By determining the amounts to be made available for each auction, the Central Bank could manage its international-reserve holdings and the exchange rate together. Through this mechanism, Bolivia has continued to manage its exchange rate as a crawling peg, aiming generally to move it so as to hold to the inflation differential.

The difference between a crawling-peg exchange rate set through auctions and a managed float like Peru’s is subtle. The distinction has to do with the authorities’ explicit and implicit standing commitments. Under its crawling-peg policy, Bolivia’s authorities commit themselves to manage the exchange rate smoothly so as to compensate generally for the internal-external inflation differential. They have left themselves room to adjust the rate in response to exogenous shocks, such as those of 1998 and the subsequent depreciations by Argentina and Brazil, which affected Bolivia heavily because of its trade relations with those economies. (By comparison, Peru’s authorities have sought to maintain a fairly stable rate, but without committing themselves always to do so. They allowed the nominal rate to adjust during 1998 and 1999 to take account of changed circumstances. They have held the exchange rate almost constant since then, however, as discussed in Section 8.

Like Peru, Bolivia’s Central Bank has had to maintain a relatively high foreign-exchange reserve stock to buttress the stability of its exchange rate (see Figure), although only about half as high a level as Peru in months of imports of goods and non-factor services and two-thirds as high as a percentage of GDP (see Figure 17). As in the case of Peru, the high required reserve holding is the principal cost of the policy approach: central-bank reserve holdings have a high opportunity cost (in the sense that their yield is generally lower than alternative uses of the financial resources could earn for the country).

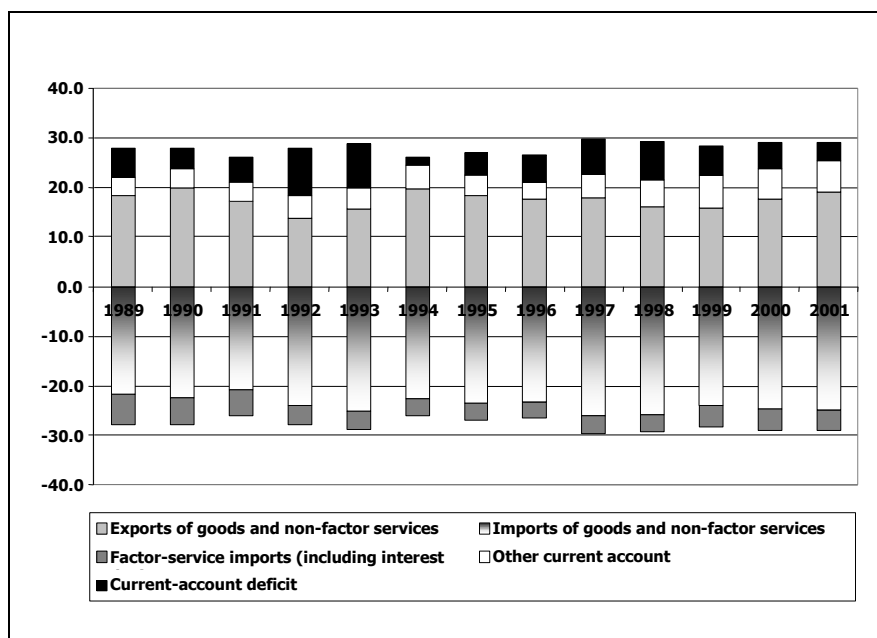
Figure 3
BOLIVIA: YEAR-END FOREIGN-EXCHANGE RESERVES, 1980-2003
(months of imports of goods and non-factor services; per cent of GDP)



Source: International Monetary Fund.

Over the 1990s, Bolivia's macroeconomic performance was driven, first, by its recovery from the recession of the 1980s, and then by the foreign-exchange inflows associated with the "capitalization" process. Under "capitalization," intended to achieve the same objectives as privatization in other economies, Bolivia opened its public-sector enterprises to foreign capital-formation and management, without going so far as to sell the assets. Gross fixed capital formation rose steadily over the decade, from an average of 12.5 per cent of GDP in 1986-1990 to 15.6 per cent in 1991-95 and 19.1 per cent in 1996-2000. Average real GDP growth rose accordingly, from 2.2 per cent in 1986-1990 to 4.3 per cent in 1991-1998. The higher investment flows were largely the consequence of the capitalization process, and, later in the 1990s, the construction of a natural-gas pipeline from producing fields in eastern Bolivia to markets in Brazil. Although the current-account deficit remained strikingly high, averaging 6.2 per cent of GDP over the years 1991-1998, a relatively large proportion was financed by the capital flows associated directly and indirectly with capitalization and the construction projects.

Figure 4
**BOLIVIA: CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS,
 1989-2001**
(per cent of GDP)

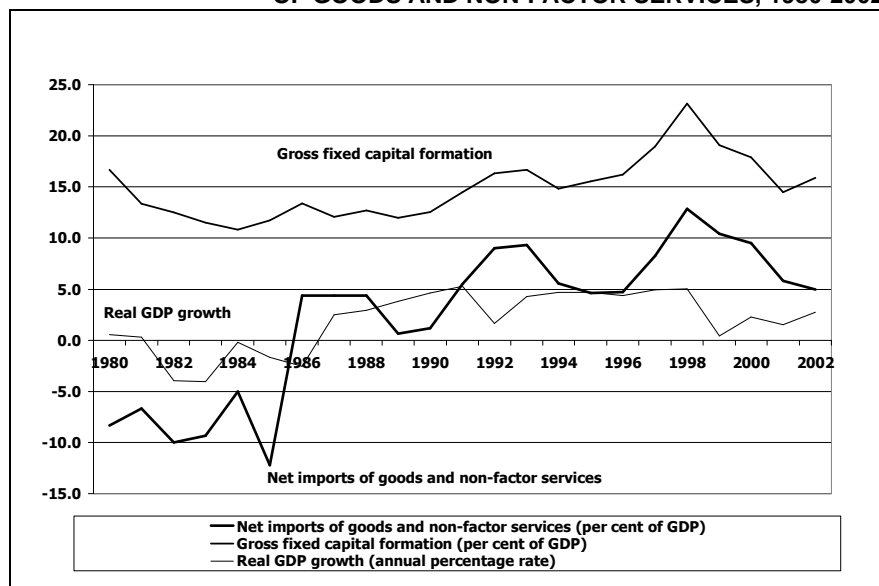


Source: International Monetary Fund.

In 1999, capital formation began to decline sharply as a percentage of GDP (see Figure 5), and real GDP growth fell below the population growth rate. Capital formation averaged 16.8 per cent in 1999-2002 and real GDP growth just 1.7 per cent over the same years. This slowing of the capital-formation and growth rates had several different causes. One was that the direct-foreign investment flows associated with the privatization process were largely completed. Another was that Bolivia was subjected to the various world shocks that affected all the Andean economies in 1998, including El Niño, lower hydrocarbons prices (Bolivia is a net exporter), and the world financial crises of the time. Still another was that Bolivia’s internal political conflicts intensified under the Bánzer government, and then worsened under Sánchez de Lozada, making the nation’s future increasingly uncertain and so discouraging capital formation.

Figure 5

BOLIVIA: REAL GDP GROWTH, CAPITAL FORMATION, AND NET IMPORTS OF GOODS AND NON-FACTOR SERVICES, 1980-2002*

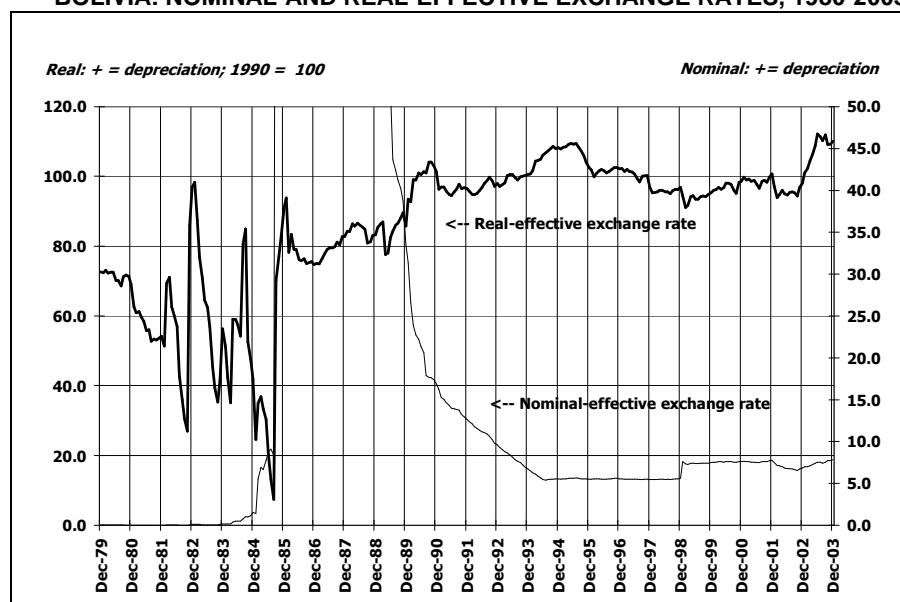


Source: International Monetary Fund.

Note: *Correlation coefficient of "net imports" with "capital formation: 0.679 (23 observations, $t = 5.782$).

Bolivia's exchange rate was relatively stable in both nominal- and real-effective terms over the 1990s (see Table 4 and Figure 6). After 1991 the real-effective exchange rate appreciated somewhat in real-effective terms. (The nominal-effective exchange rate was driven in the late 1980s and early 1990s by the sharp movements of the bilateral exchange rates with Argentina and then Brazil, among Bolivia's major trading partners, since they were then undergoing troubled inflationary processes and these were accompanied by abrupt exchange-rate adjustments.) Beginning in 1999, however, the real-effective exchange rate underwent a measure of depreciation, as the Central Bank sought to cope with the effects of the 1998 world financial crisis and, in particular, Brazil's exchange-rate depreciation. Over the years 1999-2003, Bolivia's real-effective exchange rate varied somewhat more, basically on account of the large depreciations by Brazil and Argentina (discussed in greater detail in Section 10).

Figure 6

BOLIVIA: NOMINAL-AND REAL-EFFECTIVE EXCHANGE RATES, 1980-2003*

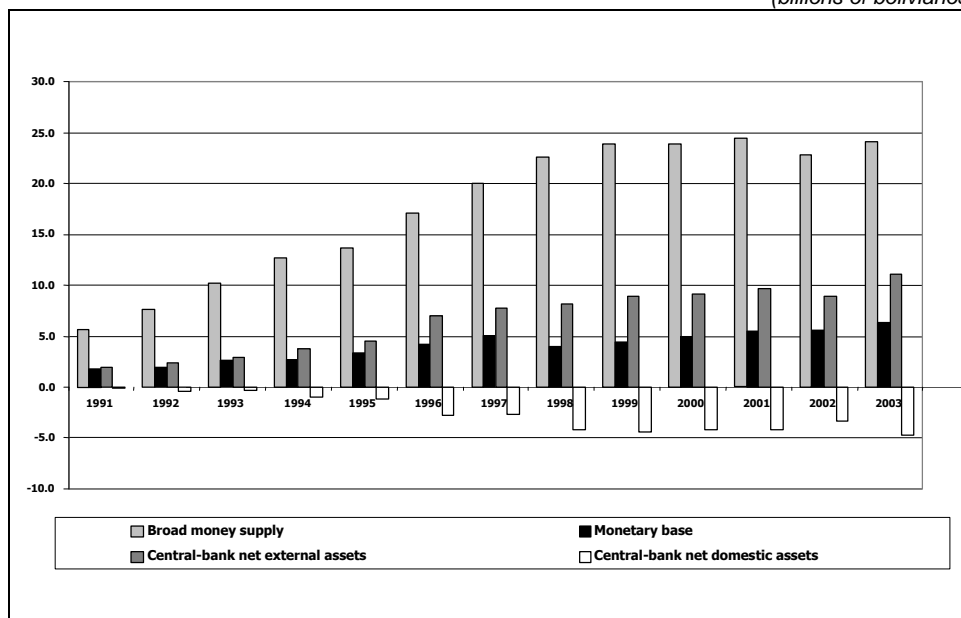
Source: International Monetary Fund, United Nations Economic Commission for Latin America and the Caribbean.

Note: *The nominal effective exchange-rate series is rebased so its December 2003 value equals that month's average U.S.-dollar exchange rate. The base of the real-effective exchange rate series is 1990 = 100.

Tight monetary control has been fundamental to Bolivia's maintenance of stability. Figure 7 shows the evolution of the key monetary aggregates since 1991. Although significant overall monetization took place over much of the decade, by the late 1990s the monetary authority had to carry out vigorous policy to limit overall money-supply growth. The near constancy of the aggregates after 1999 is a striking indicator of the discipline exerted by the monetary authority. It is important to bear in mind in this connection that Bolivia's financial system functions preponderantly in dollars. For the broadest measure of liquidity, on average 85 per cent of the year-end stocks over the years 1991-2002 have been in U.S. dollars. This figure has remained fairly persistently at this level over the period.

The dollarization of the banking system has effectively imposed substantial constraints on monetary and exchange-rate policy. Any exchange-rate depreciation carried out directly increases the boliviano equivalent of the part of the money supply that is dollar-denominated. In addition, at any moment that higher inflation or exchange-rate depreciation is anticipated, deposit-holders can be expected to react by shifting their deposits from boliviano- into dollar-denominated holdings. Any such movement would itself pressure the exchange rate to depreciate. The fact that banks have a mix of boliviano and dollar deposits has meant that banks have had to manage their asset bases carefully to ensure that they are roughly matched, and so not exposed to adverse exchange-rate movements. In addition, they have had to be careful to ensure that their dollar borrowers are not exposed. (Problems of this kind drove Ecuador into the crisis that forced it to dollarize as discussed in Section 7).

Figure 7
BOLIVIA: KEY MONETARY AGGREGATES, 1991-2002 (INCLUDING BOTH BOLIVIANO AND U.S.-DOLLAR BALANCES)
(billions of bolivianos)



Source: International Monetary Fund.

Despite the turmoil of the second Sánchez de Lozada government and its replacement by a new government at the end of 2003, the authorities have thus far succeeded in maintaining Bolivia's hard-won price and exchange-rate stability. In the present circumstances, macroeconomic stability is of incalculable value: instability would make the present conflict seriously worse.

On the whole, Bolivia's exchange-rate policy has served generally to accompany and support the authorities' stabilization efforts in the wake of the hyperinflation of the mid-1980s. Bolivia's crawling-peg exchange rate appears to have afforded the authorities an essential measure of flexibility. On the one hand, it permitted the authorities some scope for adjustment to cope with short-term shocks. On the other hand, they could use the exchange rate much as if it were a fixed exchange rate, and to this extent to buttress the price level. Paradoxically -as in the case of Peru- by allowing themselves the flexibility afforded by a crawling-peg exchange rate, the Bolivian authorities appear to have enhanced, rather than diminished, the credibility of their exchange rate.

VI. Exchange-rate policy in Colombia, 1994-2003

Colombia has the largest population of the five Andean economies, accounting for about three eighths of the region's total. It accounts for about a third of its aggregate GDP. Throughout the 1980s and 1990s, Colombia has suffered intense internal conflict, involving two highly organized groups of leftist rebels, right-wing vigilante forces, violent drug traffickers, and government forces. Apart from the high cost in casualties, the continual conflict has burdened the public finances and inevitably discouraged capital formation.

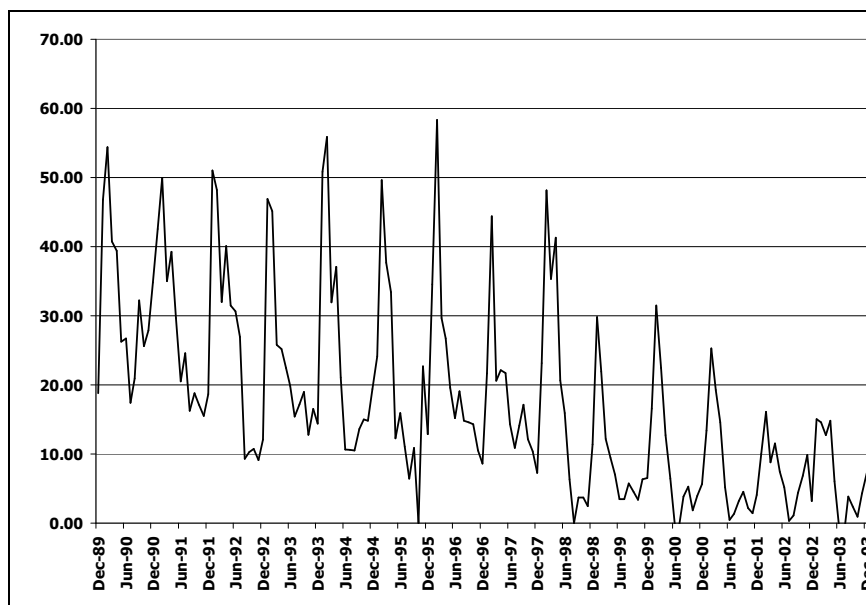
Despite the continuing violence, Colombia has maintained its constitutional system, with regular elections taking place on a four-year cycle. Two main political parties, bitter and violent rivals until the 1950s, have formed a stable political core. Through most of the 1990s the Liberal party held sway, under Presidents Cesar Gaviria (1990-94) and Ernesto Samper (1994-1998). Samper's term was difficult because the United States, persuaded that Samper had knowingly accepted financial support from traffickers during his presidential campaign, reduced its aid and tried unsuccessfully to pressure Samper to resign. The Conservative Party won the presidency in the 1998 elections. President Andrés Pastrana made determined efforts to negotiate peace agreements with the main insurgent groups, but, after several truces, these ultimately failed, and the conflict revived. Over the 1990s, government efforts to suppress the drug trade achieved no more than partial success in certain areas.

Beginning in 2000, the United States began providing large amounts of aid under its “Plan Colombia” to help the security forces pursue traffickers more effectively. In May 2002 the voters elected an independent ex-Liberal candidate named Alvaro Uribe to the presidency. As he pledged in his electoral campaign, his government has pursued a vigorous campaign against the insurgents.

Colombia was one of the first nations in the world to use a “crawling-peg” exchange rate, beginning in 1967. As a consequence, during the 1970s its industrial exports, particularly textiles, grew relatively rapidly. It was clear by the end of the 1970s, however, that its export growth was constrained by its restrictive trade regime, and by the 1980s its export growth slowed in the face of competition from more liberalized economies. By making good use of its flexible exchange rate, it managed both to limit its external-debt accumulation and to avoid slipping into severe inflation. Inflation continued at double-digit rates, however, well into the 1990s (see Figure 8, which also shows the striking seasonality of Colombia’s inflation). Over the course of the 1990s, however, the authorities succeeded in bringing the inflation rate down gradually, from an average monthly rate of 32.8 per cent in 1990 to 6.6 per cent in 2003.

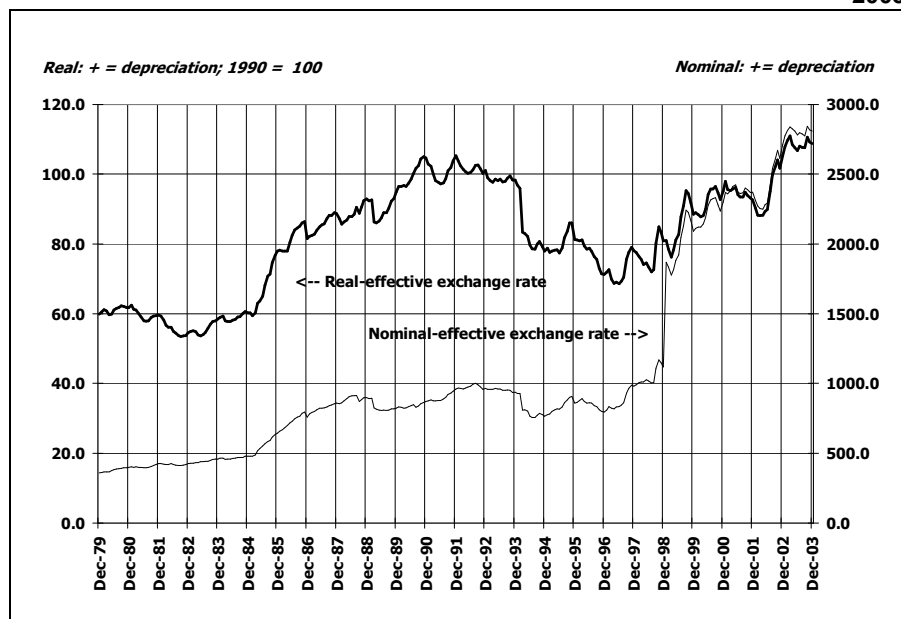
Colombia maintained its crawling-peg exchange rate well into the 1990s. Over the first half of the 1990s the authorities used the crawling-peg exchange rate to help gradually to work the inflation rate down. The average difference between the annualized monthly inflation rate and the average monthly depreciation rate widened, from 1.5 and 2.8 percentage points in 1990 and 1991 to 10.8, 10.3, and 26.9 percentage points in 1992, 1993 and 1994 respectively. While this policy approach helped reduce inflationary pressure, it also brought about a substantial degree of real-effective – indeed, a measure of nominal-effective -- appreciation (see Figure 9). This partly explains why the current account moved into deficit after 1992 (see Figure 10). In addition, real GDP growth was relatively stronger in 1993-1995 than in preceding years. The appreciated real-effective exchange rates and the higher growth were accompanied by an increase in the external-saving flow (see Figure 11), although both exports and imports were significantly lower beginning in 1994 as percentages of GDP than they had been in earlier years (see Figure 10).

Figure 8
COLOMBIA: MONTHLY INFLATION RATES, DECEMBER 1989- DECEMBER 2003
(annualized percentage rates)



Source: International Monetary Fund.

Figure 9
COLOMBIA: NOMINAL AND REAL-EFFECTIVE EXCHANGE RATES, 1980-2003*

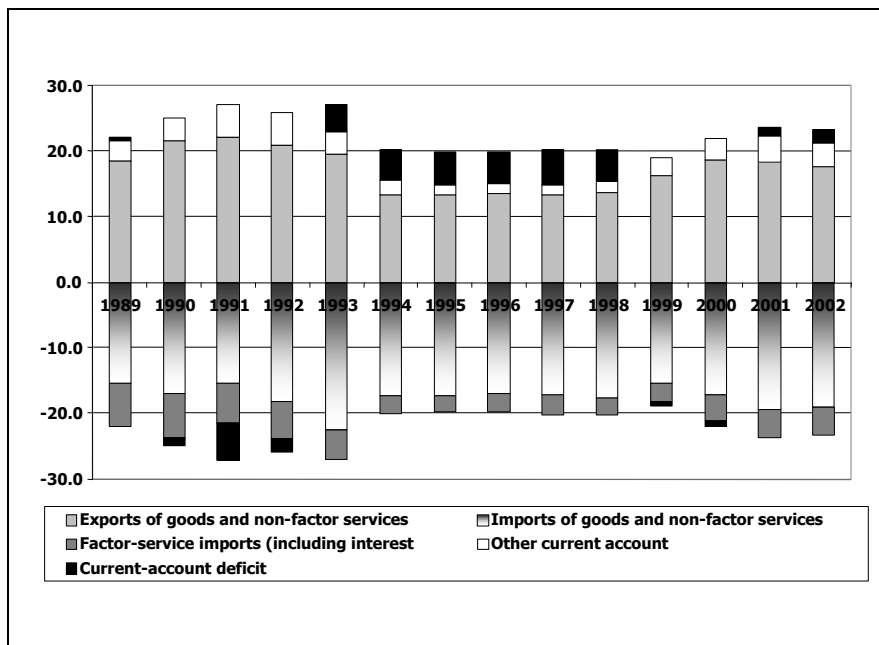


Source: International Monetary Fund, United Nations Commission for Latin America and the Caribbean. LAXR.xls].

Note: *The nominal effective exchange-rate series is rebased so its December 2003 value equals that month's average U.S.-dollar exchange rate. The base of the real-effective exchange rate series is 1990 = 100.

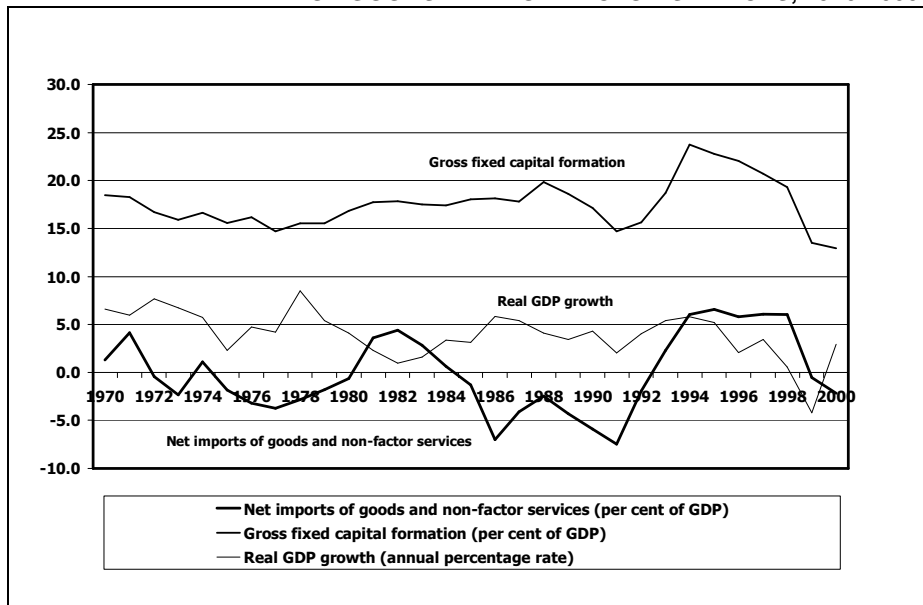
During 1995, partly in response to Mexico's "Tequila" crisis, the authorities increased the exchange-rate depreciation rate. Real GDP growth slowed in the latter part of that year, and for 1996 it slowed to just 2.1 per cent compared with a 5.5-per-cent average for 1993-1995. During 1996 the monthly annualized depreciation rate averaged only 3 per cent, compared with inflation of 22.2 per cent, and the economy's competitiveness reached its minimum for the decade. Beginning in mid-1997, the authorities gradually increased the rate of exchange-rate depreciation so as to restore Colombia's competitiveness (see Figure 9). Over the course of 1998, Colombia experienced the same set of external shocks that other Andean economies were then experiencing, including damaging El Niño rains, plunging hydrocarbons export prices, and the string of world financial crises. Colombia's real GDP diminished 4.2 per cent in 1999, and the recovery since then has been sluggish, with real GDP growth averaging just 1.9 per cent in 2000-2002. At the end of 1998 and the beginning of 1999 the authorities carried out what amounted to a maxi devaluation, in response to Brazil's exchange-rate depreciation. Thereafter, Colombia allowed its exchange rate to float, and since late 1999 it has depreciated significantly in both nominal -and real- effective terms (see Figure 9).

Figure 10
COLOMBIA: CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS, 1989-2001
 (per cent of GDP)



Source: International Monetary Fund.

Figure 11
COLOMBIA: REAL GDP GROWTH, CAPITAL FORMATION, AND NET IMPORTS OF GOODS AND NON-FACTOR SERVICES, 1970-2000

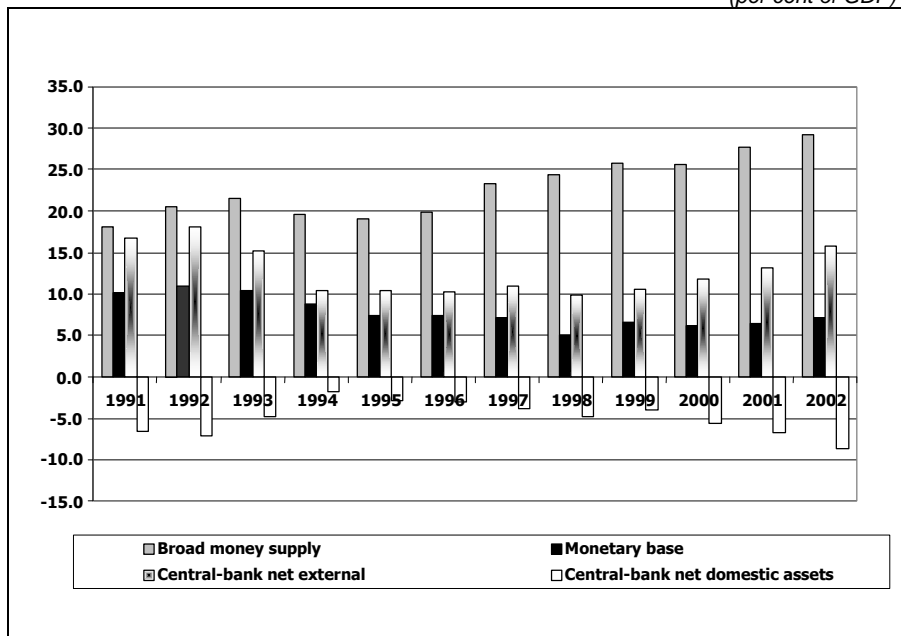


Source: International Monetary Fund.

Note: Correlation coefficient of “net imports” with “capital formation: 0.636 (31 observations, t = 5.754).

This depreciation notwithstanding, Colombia’s inflation has actually diminished (see Figure 8). This experience is consistent with the view that a depreciating exchange rate need not always generate higher inflation, particularly with the economy in recession (see Figure 11). Colombia’s demand for money has risen since the exchange-rate float began (see Figure 12). The central bank’s net foreign assets have grown as foreign-exchange reserves increased as a consequence of the exchange-rate depreciation, but the monetary authority has been able to offset some of the growth of the monetary base through tighter control of net domestic assets.

Figure 12
COLOMBIA: KEY MONETARY AGGREGATES 1991-2002
(per cent of GDP)



Source: International Monetary Fund.

VII. Exchange-rate policy in Ecuador, 1994-2003

At this writing, Ecuador is the only Andean economy that has fully dollarized. Its government took the decision to do so in January 2000, and essentially completed the process of repurchasing its outstanding sucre currency and fully converting all financial instruments well before the end of that year. The government took this drastic step essentially because it had no choice. Over the two preceding years an unfortunate combination of exogenous external shocks -- including a sharp drop in oil-export prices, heavy damage from rains associated with the 1997-98 El Niño episode, and the effects of financial crises in East Asia, Russia and Brazil -- together with misjudged policy responses led to one of the worst macroeconomic and banking crises in Ecuador's history. In 1999, real GDP declined by about 7.5 per cent and the banking system went into severe crisis. Over 1999 exchange-rate depreciation and inflation became increasingly severe, and by the end of the year it was clear that the economy had slid into a full-fledged hyperinflation. If the government had not dollarized when it did, hyperinflation would assuredly have continued, and would have ended sooner or later in dollarization in any case.

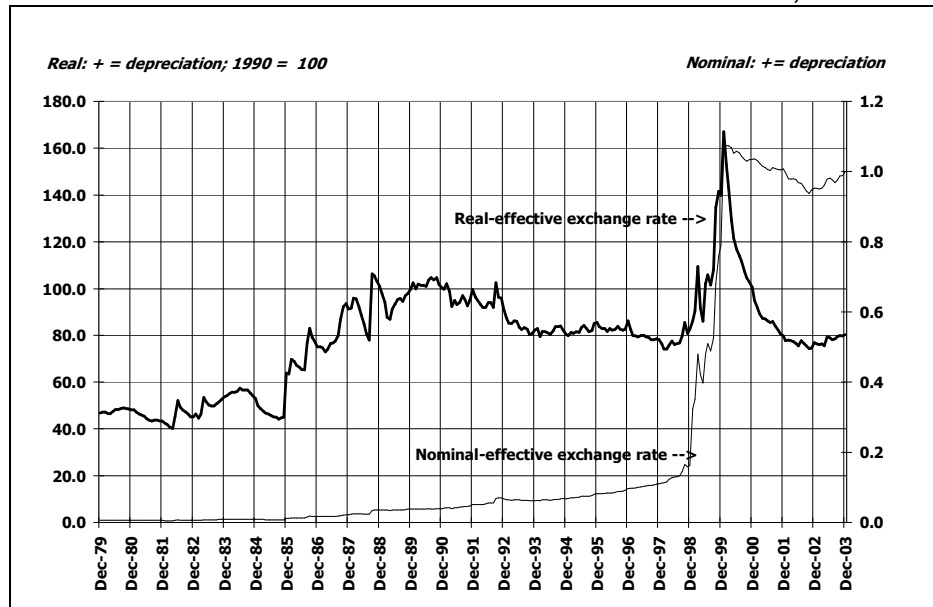
Over the two decades preceding its move to dollarization, Ecuadorian macroeconomic policy in general and exchange-rate policy in particular were strongly conditioned by external-debt pressures. The debt crisis of the early 1980s left Ecuador with one of Latin America's highest debt-GDP ratios. Ecuador's public and publicly guaranteed

debt stock had nearly doubled in U.S.-dollar terms and tripled as a percentage of GDP between 1980 and 1984, leaving Ecuador with a ratio of public debt to GDP exceeding 50 per cent at the end of 1984. As in most Latin American economies, this “debt inflation” was the consequence of surging interest rates on variable-rate debt and worsening terms of trade, which increased the economy’s overall borrowing requirement. In addition, exchange-rate depreciation reduced the measured U.S.-dollar value of GDP. To make matters worse, the government was compelled to absorb a substantial proportion of the private sector’s external debt.

Given the high external-debt burden, the authorities felt they had to use all policy instruments at their disposal, including exchange-rate depreciation, to limit the external borrowing requirement. Ecuador suspended most service to foreign commercial banks in 1986, but since this effectively meant that it could seek no new financing from foreign commercial banks, the need to limit the external borrowing requirement remained the primary policy imperative. Beginning in 1982, exchange-rate depreciation became the authorities’ key adjustment instrument, because it was fast-acting and effective. Since August 1970, when the authorities devalued the sucre to S./25 per dollar from S./18, the sucre had been fixed. In May 1982, in an effort to deal with the worsening external accounts, the authorities devalued to S./33.15, and then, in subsequent months, carried out further adjustments. In 1986 they even attempted a free float, although they were forced to intervene to prevent unmanageable depreciation in mid-1987 when an earthquake forced a five-month interruption in oil exports. By August 1993, following repeated adjustments, the exchange rate had slid to around S./1,450 per dollar.

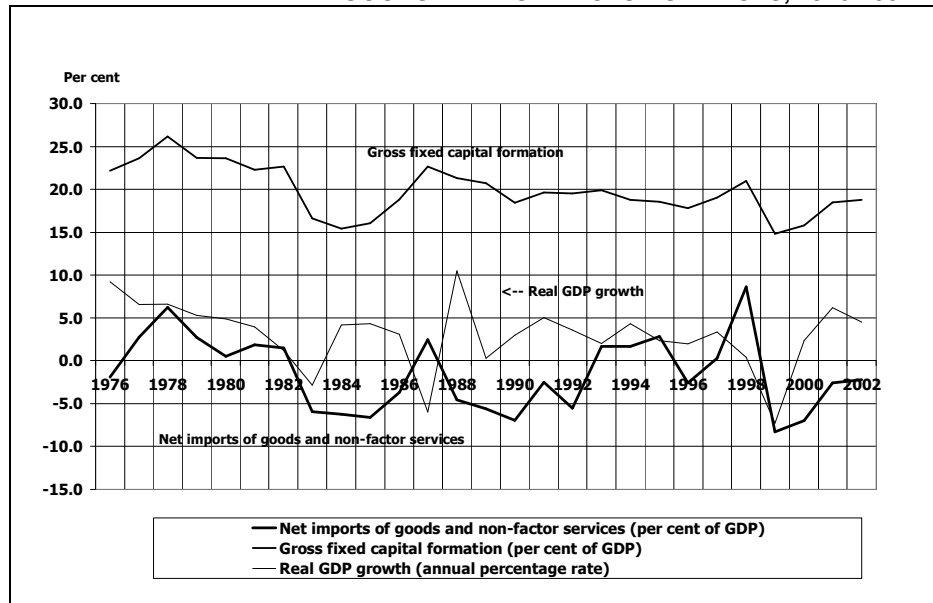
Key consequences of this policy approach can be seen in Figure 13 and Figure 14. Over the years 1981 through 1984, the devaluations affected the real-effective exchange rate relatively little. After 1984, however, the float and the depreciation that followed the March 1987 earthquake, which damaged oil-transport facilities and so forced a five-month suspension of oil exports, succeeded in bringing about substantial exchange-rate depreciation. The real-effective exchange rate was 90-per-cent more depreciated on average over 1986-1991 than over the years 1980-1985. Partly as a consequence, however, net imports of goods and non-factor services turned from generally positive to generally negative. (Net imports were positive in 1987 only on account of the reduced oil exports resulting from the earthquake.) Another consequence was that the inflation rate was significantly higher than Ecuador had previously experienced: consumer prices rose at an annual average rate of 48.5 per cent between 1986 and 1990, compared with 28.1 per cent between 1981 and 1985 and 12.5 per cent between 1971 and 1980.

Figure 13
ECUADOR: NOMINAL AND REAL-EFFECTIVE EXCHANGE RATES, 1980-2003



Source: International Monetary Fund, United Nations Commission for Latin America and the Caribbean.

Figure 14
ECUADOR: REAL GDP GROWTH, CAPITAL FORMATION AND NET IMPORTS OF GOODS AND NON-FACTOR SERVICES, 1976-2002*



Source: International Monetary Fund.

Note: *Correlation coefficient of "net imports" with "capital formation: 0.554 (32 observations, t = 4.375).

Simply put, the exchange-rate depreciation was necessary to accommodate net imports to the external financing restriction. Although Ecuador secured some credit from multilateral and bilateral sources, since it could not finance any significant net-export deficit, it had little choice but to hold the exchange rate at a depreciated level. The most significant consequence, of course, was

that Ecuador’s growth rate was constrained: per-capita real GDP was almost precisely the same in 1992 as in 1981.

Ecuador had several identifiable exchange-rate regimes over the course of the 1990s. It began the decade with a regime best classified as a traditional single-currency peg. In mid-1992, Sixto Durán Ballén was elected President on a traditionally conservative platform of stabilization, liberalization and structural reform. Soon after taking office, his Government announced a large policy package, encompassing yet another devaluation of 20 per cent against the dollar and various fiscal measures, including increases in motor-fuel prices and electricity rates, a company-assets tax, expenditure cuts, and a public-employment freeze. As intended, these measures cut the 1993 public deficit nearly to zero. In August 1993 the authorities unified the foreign-exchange market and began a new policy of floating within a pre-announced crawling band. The idea was to set a nominal anchor that would help gradually to reduce the inflation rate. This policy would remain in place until February 1999.

In late 1993 and 1994, just after the introduction of the float-within-a-crawling-band policy, Ecuador experienced a short-term financial-capital inflow (see Jaramillo 1994). Unlike other developing economies, these inflows went mostly to short-term fixed-income applications rather than to equity markets. This was because high short-term interest rates were now available on sucre deposits. The placements were made mostly by Ecuadorian nationals, repatriating holdings taken abroad in the 1980s. The inflows themselves increased foreign-exchange reserves and so seemed to reduce exchange-rate risk, encouraging further inflows and so strengthening the sucre. The high interest rates on short-term sucre deposits were a standing source of instability, however: capitalization of rates on the order of 30 per cent into deposit stocks meant that this became a basic growth rate for these stocks, helping to sustain this rate as the economy’s “inertial” inflation rate during the 1990s.

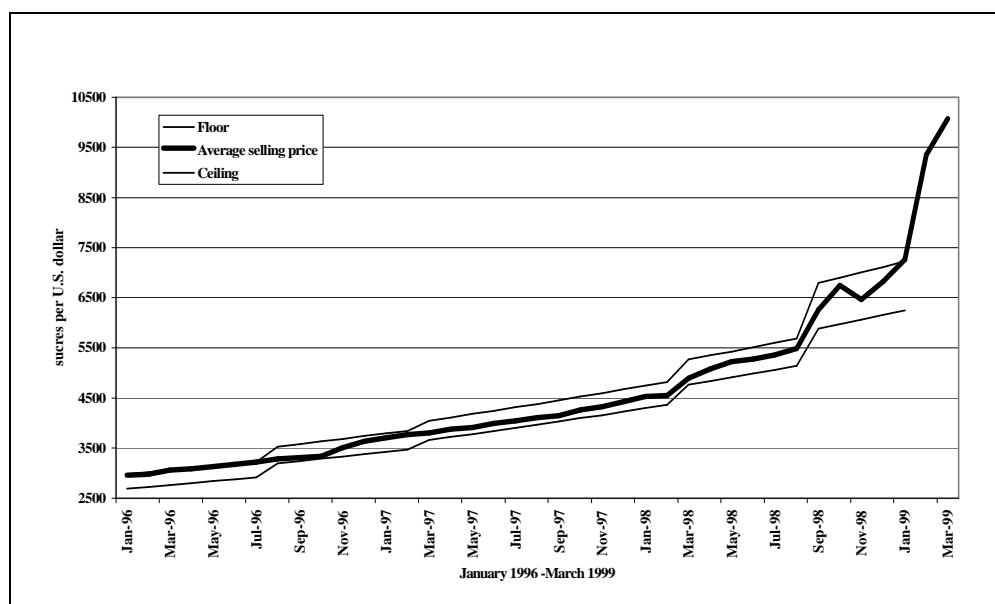
As a consequence, the real-effective exchange rate appreciated significantly in 1993 and 1994. Several favorable developments during 1994 tended to strengthen this tendency. In August 1994, on the basis of an ambitious structural-reform program, Ecuador secured the support of the IMF and the World Bank for a “Brady” deal with commercial-bank creditors and a Paris Club rescheduling. These agreements significantly reduced the debt stock, ended the arrears accumulation, and brought about normalization of relations with external sources of finance. With these changes in place, and a program of significant public-sector restructuring and financial-sector reform either promised or under way, there was widespread optimism that Ecuador would grow solidly over the remainder of the 1990s.

Unfortunately, these hopes were disappointed over the course of 1995, when several things went wrong at once. In January 1995 Ecuador fought a brief border war with Peru, and although Ecuador was relatively successful and casualties were relatively limited, the financial cost of the conflict was high. (Ecuador’s relative success placed it in a position to negotiate a permanent agreement, signed in October 1998, and so close a half a century of dispute.) In the middle part of 1995, an extended drought took hold in the country’s “Sierra” region, with devastating consequences for economic growth. Over the course of the year an important commercial bank went into crisis, and had to be taken over by the state (the Central Bank took ownership). In October 1995 the vice president, who had been managing economic policy, was forced to resign on account of a scandal, and this had a notable effect on the quality of economic policy-making. Meanwhile, the structural-reform program failed to progress, partly because the program was highly ambitious: the structural reforms generated political opposition, and the drought and the political scandal made it difficult for the government to press on.

Through 1994, 1995 and 1996, however, the pre-announced crawling-peg policy enabled the monetary authority to hold the real-effective exchange rate much more stable than in previous

years. At its most depreciated, the real-effective exchange rate in those years was just 3.2 per cent above its average, and at its most appreciated the real-effective exchange rate was just 3.8 per cent below its average. The corresponding figures were 16 and 17 per cent for the years 1991-93 and 28 and 27 per cent for the years 1988-90. The inflation rate remained high, however, and the authorities were unable to develop policies to reduce it permanently. Under the pre-announcement policy, the floating exchange rate tended to reflect persisting expectations of inflation. As a consequence, the policy tended to contribute to inflation inertia.

Figure 15
ECUADOR: MONTH-END EXCHANGE RATE AND "FLOTATION BAND"
(JANUARY 1996-MARCH 1999)
(sucres per U.S. dollar)



Source: Central Bank of Ecuador.

As in other economies that had experienced high inflation and frequent exchange-rate depreciation, Ecuadorians increasingly dollarized their wealth holdings to protect them. Economists argued that higher interest rates on sucre deposits could in some measure discourage what was then understood as “capital flight.” It soon became clear, however, that the interest rates necessary to persuade people to deposit funds in sucres were higher than the levels at which banks could safely and profitably carry out lending operations. Moreover, people often found that exchange-rate depreciation turned out higher than the expectations implicit in sucre interest rates. Many concluded that it was simply safest to place their wealth in dollars.

Steps toward financial liberalization in the early 1990s enabled banks to carry out domestic operations in both sucres and dollars, and they were happy to do so, bringing flight capital from sucres into dollars on-shore. (In fact, banks continued to carry out deposit and lending operations in off-shore branches, now fully legalized by the financial liberalization that took place. This suggests that exchange-rate depreciation was not the only motive for capital flight. Some Ecuadorians wished to avoid taxation or to place funds outside the reach of courts. It was never possible to prevent offshore activities, and the government hoped that by legalizing them they could ensure that at least some of the funds could be lent back into Ecuador.) Having banking operations in two units of account brought about a new set of problems, however. Commercial banks now had to be careful to match the currencies of their operations on the asset and liability sides. They did so by instituting asset-liability committees, which carefully worked out placement, maturity and interest-rate policies to ensure such matching. Even so, the deeper complication

was that, as the dollar proportion of their deposit bases grew, the banks had to lend to borrowers less and less able to confront exchange-rate risk.

In 1996 an opposition political figure with populist political roots in the coastal region was elected President, and took office in August 1996. This government sought, among other things, to attack the inertial-inflation problem. In December 1996 the President announced the government’s intention to institute convertibility, more or less on the Argentine model, and proposed a timetable that would have it commence in July 1997. This opened a wide-ranging debate on whether convertibility would indeed be possible before the government carried out the ambitious structural reforms the previous government had promised in 1994 but had failed to carry. In any case, the government’s announcements unsettled financial and exchange markets, and in December 1996 the exchange rate underwent a significant depreciation. One consequence was that this led to significant increases in motor-fuel prices, since these were linked, under the conditionality of the 1994 IMF and World Bank agreements, to the domestic-currency equivalents of the oil-export price. Nation-wide protests ensued, and turned so serious that in early February the Congress removed the President from office, appointed an interim administration to manage the country, and convened a constitutional convention, charged with formulating a new constitution and setting up new elections for 1998.

It was during this interim administration that Ecuador underwent the exogenous shocks that set off what turned out to be its “pre-dollarization” crisis (see Beckerman and Solimano 2001). These were broadly similar to those that affected the other Andean economies. The first shock was a sharp reduction in crude-oil export prices. The second was the 1997-98 El Niño weather phenomenon, which brought massive damage to Ecuador’s coastal regions in the form of unusually lengthy and heavy rain. The combination of shocks sharply increased both Ecuador’s current-account deficit and its fiscal deficit. The widened current-account deficit meant that, unless external credit could be obtained to cover it, the real-effective exchange rate would have to depreciate to prevent reserve loss. With financial markets in turmoil on account of crises in east Asia, Russia and Brazil, however, Ecuador had little hope of securing significant credit flows.

Accordingly, in March 1998 the Central Bank carried out an exchange-rate devaluation outside the pre-announced band. This devaluation had an unaccustomed effect on the fiscal accounts. Normally, because Ecuador is an oil exporter and the government derives significant revenue from oil exports, exchange-rate depreciation is favorable for the fiscal balance. This time, however, oil-export prices were so low that the dollar outflows for debt service actually exceeded the inflows through oil proceeds. Exchange-rate devaluation therefore brought about a cash-flow crunch for the fiscal accounts. Bad as the devaluation’s fiscal effects were, its effects on the banking system proved the most damaging. The shocks themselves affected many borrowers’ capacity to pay, and so significantly damaged bank portfolios. Since the devaluation encouraged depositors all the more to move out of sucres and into dollars, the pressure on banks became increasingly intense throughout 1998.

A new elected government under President Jamil Mahuad took office in August 1998, and the fiscal and banking crises soon forced themselves to its highest priority. In September 1998, continuing reserve loss forced the Central Bank to devalue once again outside the pre-announced band, intensifying the pressure on the fiscal accounts and the banking system. In November 1998 the government obtained legislative approval of legislation to establish a system of deposit insurance, intended both to encourage depositors not to withdraw and to set up an institution capable of taking over and dealing with failing banks; and to replace the poorly performing income tax with a one-per-cent tax on financial transactions, including checks. The new deposit-insurance entity began taking over failing banks in mid-December.

The crisis worsened in 1999. In February 1999, with international-reserve holdings down virtually to zero, the monetary authorities finally abandoned the pre-announced exchange-rate system, and allowed the currency simply to float. To make matters worse, the authorities delayed this move until the Congress could approve the 1999 budget. The float rendered the budget assumption untenable: had it been carried out before the budget was approved, it would have made passage of the budget simply impossible. Under the

circumstances, the float produced a 30-per-cent exchange-rate depreciation. This was accompanied by a corresponding price-level increase. By mid-March, additional banks were clearly in crisis, and hyperinflation was a looming possibility. In mid-March, to cope with the crisis, the government first declared a bank holiday, and then announced a deposit freeze: demand and ordinary saving deposits could not be withdrawn for a one-year period, while the maturity dates of all term deposits were postponed one year. By this means the government headed off immediate hyperinflation: the exchange rate receded by almost as much as it had depreciated from the date of the float. At the same time, however, it thrust the productive economy into disarray. From the start of the year, it was clear that the economy would undergo some recession, but the banking freeze made the recession far deeper than it would otherwise have been: real GDP tumbled roughly 7 per cent during 1999, reducing per-capita real GDP to its lowest level since 1987.

As the year went on, it became clear that the government would have to allow deposits to be unfrozen on a faster schedule, to restore the payments system. The authorities gradually released most demand deposits and saving deposits over the course of the year, leaving only the voluminous term deposits to be unfrozen. Inevitably, however, unfreezing revived the pressure on the exchange rate and the price level – and also the base-money stock, because, under the circumstances, release of deposits led inevitably to withdrawals, which meant that the Central Bank had little choice but to provide liquidity credit to affected banks. The monetary base grew at annualized rates of 101 and 522 per cent respectively over the third and fourth quarters. At the end of the year the pressure on the exchange rate simply proved too overwhelming. In December it went into virtual free fall, depreciating massively on a daily basis. Hyperinflation now appeared to be inevitable.

On January 9, 2000 the government announced that it would fix the exchange rate at 25,000 sucres to the dollar and submit legislation to the Congress to make the dollar the nation's official currency, at this exchange rate. This action directly halted the exchange-rate slide, and prevented what would otherwise have been hyperinflation. Although this view was widely shared at the time, there was substantial political opposition to dollarization. Two weeks after the dollarization announcement, this opposition figured heavily in a coup attempt by units of the armed forces and organizations representing indigenous people, which forced President Mahuad to resign. It was only with some difficulty, and a measure of foreign pressure, that the constitutional system was maintained, with power passing to Vice President Gustavo Noboa. Political parties opposed to dollarization refused to participate in the legislative debate on the dollarizing legislation, which took place in February 2000. The legislation was passed, however, and signed by the new President in March. Under this legislation, the Central Bank used its stock of foreign exchange to purchase the outstanding sucre stock, essentially completing this task within the stipulated six-month period. In September 2000 the U.S. dollar became Ecuador's unit of account and medium of exchange.⁷

While the legal transition to dollarization took place rapidly, the economic transition took rather longer. At the moment dollarization was announced, following rapid exchange-rate depreciation, Ecuador's domestic price level was far below its external parity value: the January 2000 real-effective exchange rate was about 90 per cent more depreciated than its 1990-1999 average. Consumer prices rose 91 per cent over 2000 and another 22.4 per cent over 2001. While this was a "once-and-for-all" price-level adjustment rather than an inflation, the distinction was academic for most Ecuadorians, many of whom found their (now dollar-denominated) wealth devastated by the purchasing-power loss. The adjustment to parity took place more slowly than many observers anticipated (or feared), but by the time it was complete the real-effective exchange rate turned from being deeply depreciated to troublingly appreciated. In retrospect, the slowness of the adjustment appears to have resulted from the reality that the bulk of the consumer-price index is non-tradable, so that bringing the price level to parity came about less through direct parity and more through the slower operation of the "Hume" mechanism.

⁷ As many observers have noted, by dollarizing, Ecuador has effectively ceded seigniorage earnings to the United States Federal Reserve System, in the sense that by holding U.S. currency Ecuadorian residents provide it a standing interest-free loan. Some observers suggest that the United States should compensate Ecuador for this.

The economic adjustment process over 2000 and 2001 was complex and difficult. One problem the authorities had to face in the early stages was the unfreezing of bank deposits. Time deposits had been frozen in March 1999 until their maturity dates, and this meant that a large volume of deposits would be unfrozen and become available for withdrawal in March, April and May 2000. To cope with this problem, the authorities announced that deposit balances above US\$4,000 would be rolled into bank certificates of deposit. The fact of dollarization, some helpful announcements of support by multilateral lending agencies, and skillful marketing by the banks enabled them to establish sufficient deposit confidence, and as a result the bulk of the deposits remained within the system.

Another difficult problem arose from the reality that energy prices, including motor and household fuel and electricity rates, had to be adjusted upward several times. These were politically important prices, but all the same adjustment was unavoidable. Each time they were adjusted, usually within a wave of protest, they pressured other prices upward, and soon lagged behind.

The economy progressed haltingly under dollarization. Although the price level adjusted slowly, by 2002 it brought about sufficient appreciation of the real-effective exchange rate to bring it above its average over the 1990s. With this change, the non-oil trade surplus began to decline. At the same time, after recovering somewhat over 2000 and 2001, real economic activity began to stagnate over 2002 and 2003.

To many observers, and especially to many Ecuadorians, this experience seemed to imply that, whatever dollarization's benefits for price stability, it was inimical for the economy's international competitiveness. Many Ecuadorians feared that sooner or later the economy would evolve as Argentina had, into a crisis of competitiveness that could only be resolved through “de-dollarization.” An increasingly vocal current of public opinion began to argue that Ecuador needed to reintroduce a national currency by means of a careful plan, before an Argentine-style crisis forced it to do so.

At a minimum, however, it is doubtful that Ecuador could successfully reintroduce a national currency, particularly if it were introduced with an explicitly stated view that the point would be to help restore and preserve the economy's competitiveness. The principal immediate means of introduction would presumably be in payment of domestic government expenditure. As this took place, it is highly probable that many, perhaps most, recipients would quickly shift to dollars. While the resulting exchange-rate depreciation would presumably be consistent with the objective of making the economy more competitive, the authorities would be likely to find it at least challenging to maintain price-level and exchange-rate stability. Worse, the economy and the financial system might then return to the “bimonetarism” that characterized them before the advent of dollarization. As long as Ecuador's economy remains highly vulnerable to exogenous shocks, a bimonetary system is likely to remain a source of instability.

To summarize, Ecuador now finds itself locked into a rigid “hard-fixed” exchange rate. This has come about because the country relied so long on exchange-rate depreciation to help it cope with its overwhelming external debt. The lesson of that experience is that, while exchange-rate flexibility is a good thing if used moderately and with discretion, it can be lost if used excessively to cope with an overwhelming structural problem. It is appropriate to use a flexible exchange rate to help cope with a business cycle, or with evolving balance-of-payments fluctuations, but not for a continuing effort to postpone reckoning with a condition of national insolvency. Ecuador would probably be better off with a measure of exchange-rate flexibility. The evident reality, however, is that, at least for the time being, it lost the capacity to have such flexibility.

VIII. Exchange-rate policy in Peru, 1994-2003

Like Bolivia and Ecuador, the history of Peru's exchange-rate policy over the past ten years has been conditioned by a history of inadequate growth, excessive external debt and a traumatic lapse into hyperinflation. While Bolivia emerged from its hyperinflation with a crawling-peg exchange rate, and Ecuador emerged from its brush with hyperinflation into full dollarization, Peru chose a floating exchange-rate regime.

Peru's external debt began growing at more or less the same time as Ecuador's, in the early 1970s, and for broadly similar reasons. During the 1970s Peru had begun substantial oil exports from its own Amazon region. At the same time, it maintained a large and growing flow of exports from mining, mainly copper. These exports helped provide a basis for the country's borrowing. From the start, the government figured much more heavily than the private sector in the debt. This was basically because a nationalist military government took power in October 1968, and, beginning with the nationalization of the bulk of the oil sector, brought an increasing share of the productive economy under direct public-sector control. Through the first half of the 1970s it borrowed relatively heavily to finance an expanded public sector.

Peru slid into acute debt crisis in 1976, earlier than most other Latin American economies. The 1974-75 world recession affected virtually all of Peru’s exports, particularly its mining products. Fish exports were affected not only by plunging prices but also by a particularly devastating El Niño episode, one consequence of which was a sharp reduction in fish stocks. Over the second half of the 1970s Peru simultaneously carried out a difficult stabilization program, a tortuous process of negotiation with external creditors, and –because the military government had lost its credibility as an agent of structural change and its political base- a complicated transition back to constitutional government, under a newly drafted constitution.

The public-sector debt problem turned out to be long-lasting, and it turned worse as Peru was caught up in the more widespread debt crisis of the early 1980s. Although it made an effort to carry out liberalizing reforms, the government elected in 1980 for a five-year term could not cope with the deepening economic crisis, particularly after 1983 when another severe El Niño episode devastated the economy. To make matters worse, during the early 1980s a Maoist guerrilla movement took hold in parts of the country, and over the 1980s and early 1990s the conflict intensified. A second, more conventionally Marxist guerrilla movement began terrorist activities soon after. Apart from the cost in casualties, the disincentive to investment and the cost of security for both the public and private sectors was a further drag on efforts to revive economic growth. In 1985, Peru’s electorate turned to a government that favored a broader role for the state. This government attempted to revive economic growth and increase capacity utilization by means of demand expansion, and reversed the previous government’s liberalizing efforts. It also took a confrontational approach to Peru’s dealings with external creditors, even suspending payments to the International Monetary Fund and the World Bank. Although at first it succeeded in increasing growth, by the end of the 1980s the economy collapsed into depression and hyperinflation. Real GDP fell 11.7 and 3.7 per cent in 1988 and 1989 respectively, and grew just 2.2 per cent in 1990. Meanwhile, in these same three years, consumer prices rose 1,722, 2,775, and 7,650 per cent. Peru found itself virtually cut off from official and private international finance.

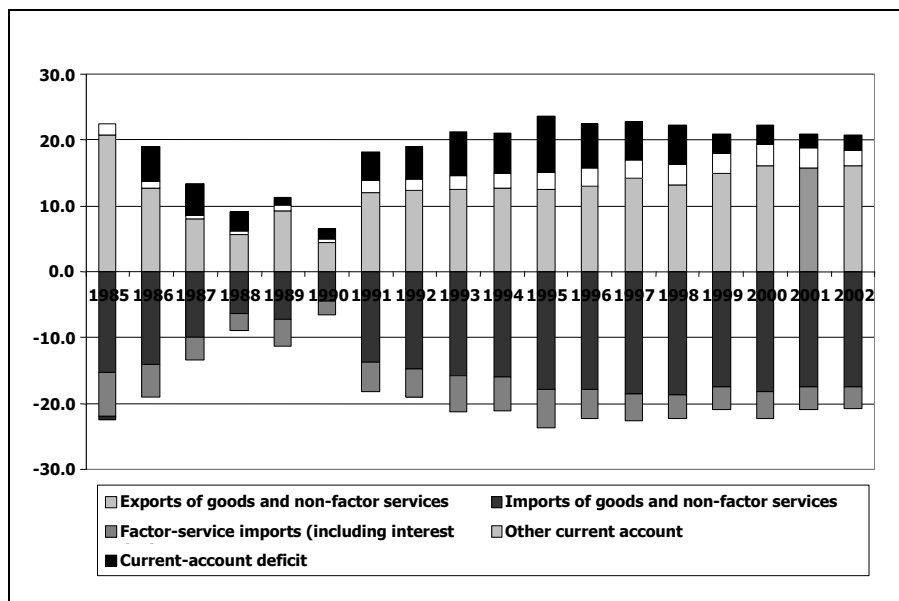
A small but relevant point is that in 1986, soon after coming to power, of the American Popular Reductionary Alliance (APRA) government ordered the conversion of all financial-system dollar accounts into Peruvian currency. As part of its policy of financial liberalization, the previous government had legalized dollar accounts. As in Bolivia (see Section 5 above) this forced conversion appears to have induced people to reduce their money holdings generally, and this reduction in money demand contributed to the inflationary pressure.

In 1990 Alberto Fujimori, a political outsider heading an entirely new political movement, was elected President. His government undertook a vigorous effort to bring about stabilization. The macroeconomic events of the late 1980s had been traumatic for most Peruvians. The inflation -- monthly inflation averaged 43 per cent between July 1988 and August 1990 --was especially shocking. This explains why the Fujimori government’s efforts to secure price stability during the 1990s were broadly popular. Apart from its efforts to defeat political violence, the government’s disciplined approach to economic policy-making largely explains the widespread support it enjoyed.

Upon taking office, the new government’s immediate priority was to repair relations with international financial institutions, particularly the IMF and the World Bank. Peru was at that point one of the few nations in the world to have fallen into default with the IMF. The new authorities carried out a series of negotiations with the IMF, other multilateral lending agencies, bilateral agencies under the aegis of the Paris Club, and private creditors. Renegotiation of Peru’s high debt to Russia proved especially problematic. Eventually – in 1994 – private creditors agreed to a Brady deal, which brought about substantial debt reduction. Renewed access to normal international financial flows enabled Peru to run relatively high current-account deficits until 1998 (see Figure

16), which were crucially important to enable it to recover from the macroeconomic catastrophe of the late 1980s.⁸

Figure 16
PERU: CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS, 1985-2002
(per cent of GDP)



Source: International Monetary Fund.

Peru's macroeconomic history since August 1990 may conveniently be viewed as having four phases.⁹ The first began in August 1990, when the Fujimori government took office and began setting out a round of reforms to reverse the economic crisis. The second began around 1993, after the liberalizing reforms were set and a period of moderate growth commenced.¹⁰ The third began in 1998, with a series of exogenous shocks, and lasted until mid-2000, when a new government was elected. This period coincided with a political upheaval, when a series of political scandals fatally weakened the Fujimori government. This period – a “Carnival of calamities,” as Hnyilicza (2002) describes it – set a rigorous test for the policy regime set in place in the previous two periods. The fourth phase began with the accession of the present government under President Alejandro Toledo in mid-2000.

Since 1990, however, Peru has maintained a floating exchange rate. The Fujimori government decided on this policy in August 1990, when it took office, partly for political and partly as technical reasons. The previous government had made a point of trying to maintain a fixed exchange rate, but had repeatedly failed, and the new government's policy-makers were

⁸ For an account of Peru's restoration of relations with external creditors, see Roberto Abusada's chapter, “La reincorporación del Peru a la comunidad financiera internacional,” in Abusada, Fritz, Macón and Valderrama 2000 (pp. 121-162).

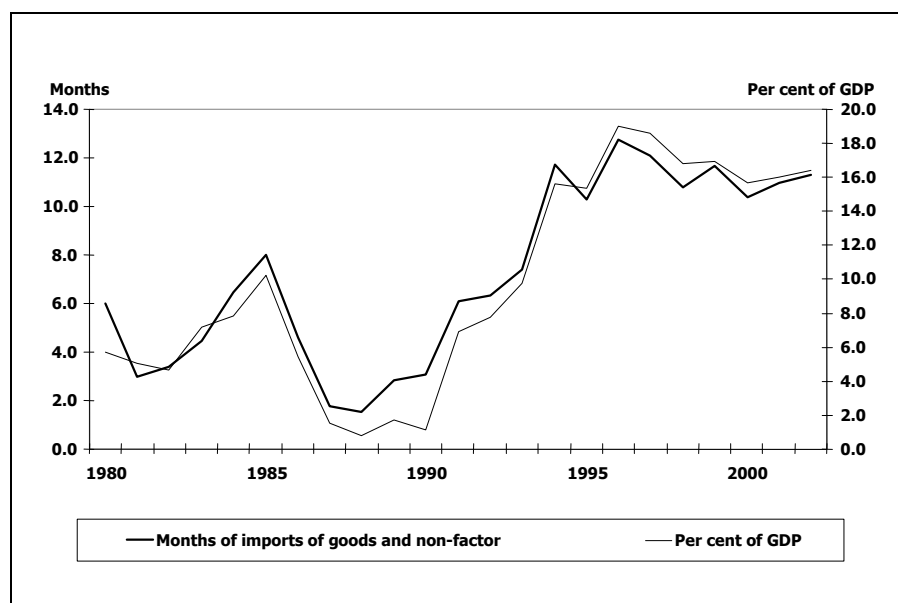
⁹ For an account of Peru's stabilization efforts over the 1990s, see the chapter by Rodríguez, Valderrama and Velarde, “El programa de estabilización,” in Abusada, Fritz, Macón and Valderrama 2000 (pp. 91-120).

¹⁰ One important change that the new authorities made beginning in the early 1990s was a thoroughgoing liberalization of Peru's regime. As of 1990, Peru had one of Latin America's most restrictive trade regimes. The average nominal tariff rate was 46.5 per cent, with some 39 different categories, and non-tariff restrictions covered 93 per cent of all tariff line items. Since then, the average nominal tariff rate has diminished to just over 10 per cent and the non-tariff restrictions have been simplified and now affect only about 10 per cent of tariff line items. (See Roberto Abusada's “La reincorporación del Peru a la comunidad financiera internacional” in Abusada et al, 2000, pp. 121-162.) This reform process has increased the incentive generally to engage in tradable activities and exposed the economy to external competitive pressure. It is difficult to say what relevance this change has had for exchange-rate issues, however. Among other points, trade liberalization has presumably increased incentives both to export and to import. In general, at least in a medium-term perspective, the exchange rate is best viewed as a macroeconomic variable that helps determine external saving, whereas trade liberalization is best viewed as affecting overall openness and (hence) economic efficiency.

persuaded that a fixed exchange rate could never be credible. They introduced a new currency – the “nuevo sol,” reducing zeroes for convenience and in this way making a new start. Since then, although Peru’s inflation rate has fallen to world levels and public confidence in macroeconomic policy has improved accordingly, the authorities have taken the view that their approach to exchange-rate management is the best possible. In general, except for a few special periods most notably at the end of 1998 and the beginning of 1999 -- the monetary authority has managed the float and held the exchange rate virtually fixed. This has enabled them, in their view, to have the best of both worlds: the benefits of a stable exchange rate, combined with the flexibility to allow it to change whenever that becomes imperative.

To buttress exchange-rate credibility and stability, the Central Bank has maintained a relatively high foreign-exchange stock, on the order of a year or more of imports of goods and non-factor services (see Figure 2). While the amount of the reserve stock Peru requires (in terms of months of imports of goods and non-factor services) is a matter of experience and judgment, it is difficult to doubt that it is relatively high for Peru. This must be considered the basic cost of the policy approach: the reserve stock since the early 1990s has been on the order of magnitude as one year’s capital formation. The earnings flow Peru has forgone by holding such high reserves, particularly more recently when world interest rates have been relatively low, has been substantial.

Figure 17
PERU: YEAR-END FOREIGN-EXCHANGE RESERVES, 1980-2003
(months of imports of goods and non-factor services; per cent of GDP)



Source: International Monetary Fund.

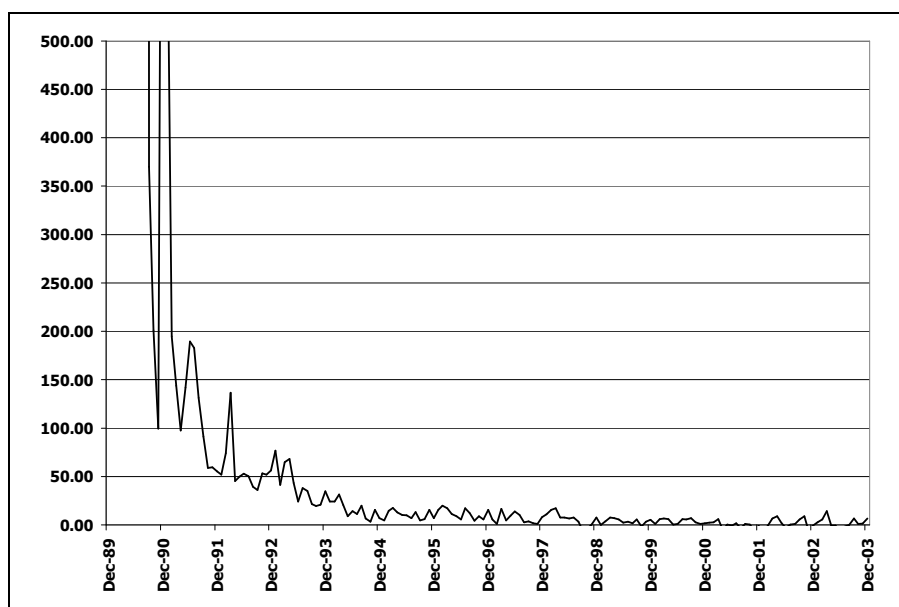
In addition to the high reserve stock, the other factor that has enabled the authorities to maintain exchange-rate stability has been tight management of the central bank’s net domestic asset position. This was partly accomplished through the Central Bank’s policy of “inflation targeting.” Once the authorities brought the inflation rate down to an acceptable level in the mid-1990s, the Central Bank (BCRP) began informally to indicate its annual inflation objective. In 2001 it began to set its inflation objective formally, as an institutional commitment. Peru’s policy of inflation targeting became possible through a series of substantial reforms of the BCRP. These reforms were carried out after April 1992, when the President closed the Congress, assumed dictatorial powers, and called a constitutional convention to write a new constitution, which was completed and approved by voters in 1993. Although the President acted mainly to take on the executive powers

he felt he needed to deal effectively with the guerrilla movements, he also used his enhanced powers to deal more forcefully in several other areas, including monetary reform.

In 1992 the government approved a new Central Bank organic law, which established the Board of Directors' basic independence and committed the institution more firmly to the specific objective of price stability. The BCRP's independence was incorporated in the 1993 Constitution. The BCRP reforms went well beyond establishing its independence, however. They included steps to strengthen the BCRP's operating capacity. In Hnyilicza's summary, these were "as much in the advancement and broadening of the range of instruments available for intervention in the monetary and exchange markets as in the perfection of the procedures and mechanisms of monetary programming" (Hnyilicza 2003, p. 305). One of the more important of these measures was the introduction of BCRP Certificates of Deposit, which BCRP used as its basic open-market instrument. Over the 1990s, the authorities developed a secondary market for these instruments, even creating a repurchase market for them. In addition, a series of steps were taken to coordinate BCRP operations more closely with the Treasury and the government's commercial bank (the Banco de la Nación). Meanwhile, the BCRP's own operating procedures evolved toward enhanced transparency and forcefulness in terms of the basic stability objective. The BCRP began to emphasize its "primary-emission" monetary aggregate as its principal intermediate objective, focusing closely on management of this variable as its basic means of managing overall liquidity and hence inflation. The basic management approach, as it evolved over the 1990s, has been to keep a close watch on the stock of bank demand deposits at the BCRP, and to issue and purchase intervention instruments as necessary to guide the primary-emission aggregate to the level the BCRP judges appropriate, given its estimate of overall money demand.

Largely through the BCRP's improved operations, Peru's economic policy-makers successfully, if gradually, reduced the inflation rate: annualized monthly inflation rates averaged 163.3, 58.3, 40.7, 15.7, and 11.9 per cent in 1991 through 1995 respectively (see Figure 18). At the same time, they succeeded in stabilizing the exchange rate in real-effective terms: after a gradual depreciation over 1991, the exchange rate held at a stable level, particularly in comparison with the broad swings that took place over the late 1980s (see Figure 19).

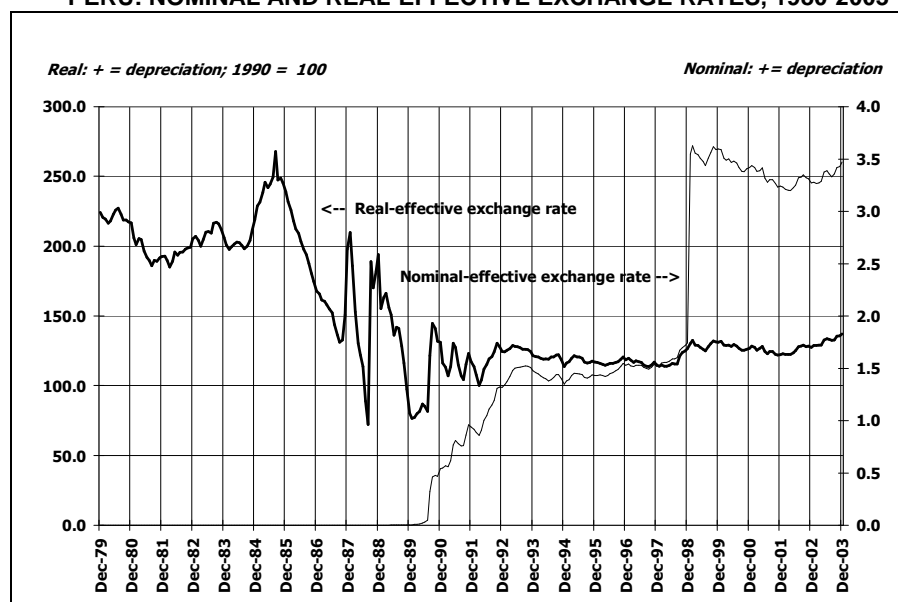
Figure 18
PERU: MONTHLY INFLATION RATES, DECEMBER 1989- DECEMBER 2003
(annualized percentage rates)



Source: International Monetary Fund.

Figure 19

PERU: NOMINAL AND REAL-EFFECTIVE EXCHANGE RATES, 1980-2003*



Source: International Monetary Fund, United Nations Commission for Latin America and the Caribbean.

Note: *The nominal effective exchange-rate series is rebased so its December 2003 value equals that month's average U.S.-dollar exchange rate. The base of the real-effective exchange rate series is 1990 = 100.

Meanwhile, the real economy began to pull itself into recovery from the catastrophic collapse of the late 1980s. The recovery of access to international finance enabled Peru to increase imports, and with the exchange rate now stabilized in real-effective terms net imports of goods and services rose gradually, reaching 5 per cent of GDP in the years 1995-1999 (see Figure 20). With this increased external-saving flow, Peru's capital-formation ratio rose above 20 per cent after 1994. Annual real GDP growth remained relatively low in the three years following the change of government, but then surged to higher levels in the mid-1990s.

Beginning in late 1997, however, the same set of external shocks that devastated the other economies in the region also struck Peru. The prices of oil and other hydrocarbons declined sharply toward the end of 1997; torrential rains associated with El Niño caused heavy damage in various parts of the country (the El Niño disaster is estimated to have reduced 1998 real GDP growth by as much as three percentage points); and the series of world financial crises over 1998 led to the withdrawal of finance capital from Peru, in particular, retraction of trade lines provided to commercial banks. Over the second half of 1998, the authorities acted to reduce the pressure on the financial sector, injecting liquidity by reducing required reserve ratios and systematically purchasing outstanding open-market instruments. As the crisis developed, the BCRP also undertook several interventions in the foreign-exchange market, particularly at moments when rumors and misunderstandings of government intentions seemed to overtake the market. Even so, several banks succumbed to the pressures of recession and exchange-rate depreciation, and underwent “intervention” and change of management.

Over the course of 1998, Peruvian policy-makers decided that it was no longer feasible or advisable to stand in the way of depreciation, notwithstanding their concern that a depreciation-inflation spiral could develop (as in Ecuador). The exchange-rate depreciation for the year was 13.4 per cent (from an average of NS./2.72 per U.S. dollar in December 1997 to NS./3.14 per U.S. dollar in December 1998), compared with domestic and world inflation of 6 and 2.5 per cent,

respectively. In early 1999, as Brazilian authorities succumbed to intense pressure to allow that economy's exchange rate to depreciate, the Peruvian authorities concluded that they would have to permit further depreciation: in the event, the exchange rate drifted to an average NS./3.49 per dollar by December 1999 (about 10 per cent).

With the crisis, real GDP declined in 1998 by 0.5 per cent, and then grew only about 1 per cent in 1999 (compared with rates of 8.5, 2.6, and 6.8 per cent in 1995, 1996 and 1997 respectively). But this was relatively strong performance by comparison with the experiences of other economies affected by the same exogenous shocks. Moreover, inflation remained firmly under control. Over 1999 consumer prices rose just 3.7 per cent, Peru's best inflation performance since 1960, as the BCRP maintained disciplined monetary policy. The combination of the relatively high exchange-rate depreciation and the relatively low inflation rate meant that Peru succeeded in bringing about substantial real-effective exchange-rate depreciation: the 1999-2000 average real-effective exchange rate was 7.2 per cent more depreciated than the average 1993-1997 exchange rate. The combined consequence of the slower real growth and the real-effective exchange-rate depreciation was that the current-account deficit averaged 2.9 per cent in 1999 and 2000, compared with 6.8 per cent of GDP over the years 1993-1997.

During 1999 Peru entered a period of extended political crisis, as a series of scandals erupted involving the President and the national security services. The President secured reelection in May 2000, but the elections were widely believed to have been fraudulent, and widespread political demonstrations ensued after his July 2000 inauguration. The President resigned, and, following a brief interlude of caretaker government, another political outsider, Alejandro Toledo, a leader of the anti-Fujimori movement, was elected President and took office in August 2001. His political support within the legislature was relatively narrow, however, and he found it difficult to advance the public-sector reform process Peru deeply needs. Moreover, the Toledo government itself has undergone a series of political crises involving scandals of different kinds, and the government's political support has weakened considerably.

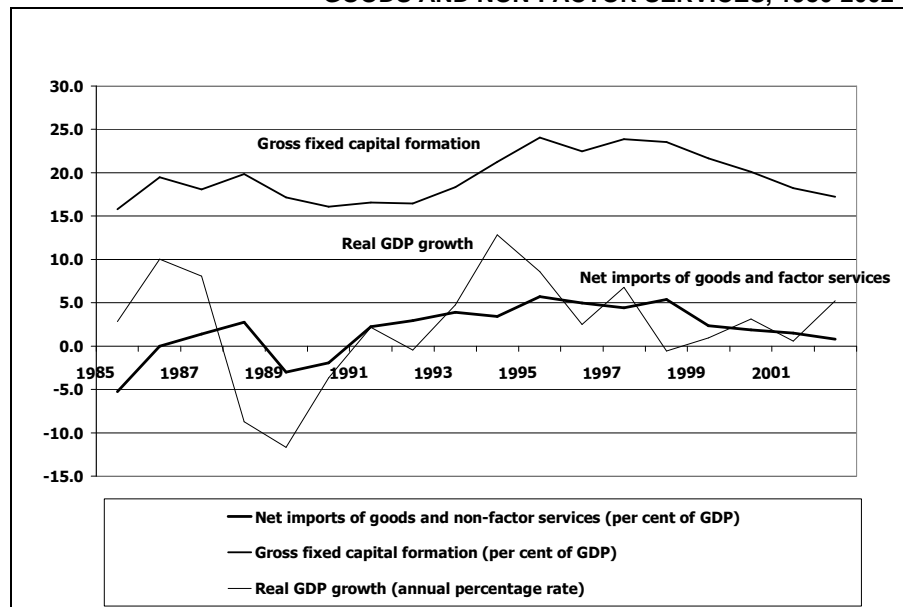
Nevertheless, the reforms set in place in the early 1990s appear to have made it possible to maintain the stability of the monetary and banking system, and the inflation rate and the exchange rate clearly reflect this. Since December 1999, the exchange rate, although still "floating," has remained almost unchanged at around NS./3.40-3.50 per U.S. dollar, apart from a brief increase to the 3.55-3.60 range between July and November 2002, when political pressures intensified. Since Peru's own inflation has held at levels below international rates -- consumer prices fell 0.1 per cent in 2001 and rose just 1.5 and 2.5 per cent in 2002 and 2003 -- the real-effective exchange rate also remained comparatively stable: between January 2001 and December 2003 its standard deviation was just 2.8 per cent of its mean. Indeed, the real-effective exchange rate has tended to appreciate over the period, in part because the BCRP's international-reserve holdings have remained on the order of one year's worth of imports of goods and non-factor services.

The exchange-rate and price-level stability is crucially important, and even to this day is much appreciated by people who lived through the macroeconomic chaos of the late 1980s. All the same, Peru's overall macroeconomic performance remains disappointing. Over the years 2000-2003 capital formation averaged 18.5 per cent of GDP, compared with 22.8 per cent over 1994-1999. Real growth has been sufficient only to bring per-capita real GDP to just above the 1997 level, and there is a generalized sense that low capital formation will continue to hold real GDP growth to disappointing levels. There are several plausible explanations for Peru's disappointing capital-formation performance. One is that the government's own investment expenditure has been constrained by the government's having made a rigorous effort to stick to a public-deficit target of 1.5 per cent of GDP while current expenditure has been driven by a high public payroll and tax revenue has been limited by sluggish growth. In 2003 overall public-sector capital formation is

estimated at only about 2 per cent of GDP. Meanwhile, private-sector capital formation has been limited, first, by the conclusion of investment flows associated with significant privatizations, and, second, by political uncertainty.¹¹ Peruvian and foreign business leaders are fearful that the government following the present administration could reverse the reforms of the 1990s and mismanage the economy. The real-effective exchange-rate depreciation of 1999 has set an incentive for reduced net imports of goods and non-factor services (see Figure 20). It is unclear whether this should be regarded as a policy effectively *accommodating* reduced capital formation or a policy *bringing about* reduced external saving and so *forcing* reduced capital formation.

Figure 20

PERU: REAL GDP GROWTH, CAPITAL FORMATION AND NET IMPORTS OF GOODS AND NON-FACTOR SERVICES, 1986-2002*



Source: International Monetary Fund.

Note: * The correlation coefficient of “net imports” with “capital formation is 0.748 (16 observations, $t = 6.368$).

To summarize, however, achievement of exchange-rate and price-level stability was profoundly important for Peru. On balance, it seems reasonable to believe that Peru’s choice of exchange-rate regime has been fortunate, and has been helpful for securing stability. In particular, it seems reasonable to believe that in 1998 the floating exchange-rate regime enabled Peru to adjust rapidly, and so to avoid a sharp and disastrous adjustment like Ecuador’s at the same time. On the whole, the fact that Peru has been unable to return to high growth rates should not be blamed either on the exchange-rate regime or on the authorities’ prioritization of stability.

¹¹ Investment has continued to flow to mining projects, but manufacturing remains severely depressed. Asian economies appear to compete all too effectively with Peru and other Latin American economies, not only for investment capital but also for manufacturing markets, in which they maintain powerful and deepening cost advantages.

IX. Exchange-rate policy in Venezuela, 1994-2003

Although it has only about one fifth of the five Andean economies' total population, Venezuela accounts for about 37 per cent of the region's aggregate GDP, largely through its voluminous oil production. Venezuela has undergone continuing political turbulence since the early 1990s. In some measure, the turbulence derives from a confrontation of political movements that speak for relatively poorer and relatively wealthier parts of Venezuelan society, which has a highly unequal income distribution. The current political issues have their origins in decisions taken by governments during the 1980s, when overwhelming external debt forced Venezuelan governments to tighten macroeconomic policies and to reduce social expenditure.

In 1988 the veteran political leader and former president Carlos Andrés Pérez was elected President for the third time. Under his leadership the country began enacting long-overdue liberalizing reforms – reforms that in some measure reversed policies of his own previous governments. These measures generated vigorous opposition. In addition, several political scandals sinned the government's reputation. During 1992 the government suppressed two coup attempts, with considerable violence. The following year, however, President Pérez was impeached on embezzlement charges and suspended. In 1994 Venezuela elected another veteran political leader and former President, Rafael Caldera. That year, as the economy underwent a bout of severe crisis, including massive exchange-rate depreciation, Caldera imposed price and currency controls and

suspended basic constitutional guarantees to control opposition to government policy. These actions provoked renewed widespread protests. In 1995 President Caldera restored constitutional guarantees, but maintained the austerity programs. Protests continued into 1996 as the government undertook an IMF program. By 1997 the austerity programs appeared to be taking, as inflation diminished and the exchange rate stabilized. In 1998, however, Venezuela found itself caught up in the same international crisis that so affected the Andean economies generally: in particular, plunging oil-export prices caused oil revenues to fall sharply as world financial markets essentially closed to Venezuela.

The December 1998 elections brought Hugo Chávez, the air-force officer who had led the 1992 coup attempts, to the presidency at the head of a new political movement advocating redistribution of wealth and abolition of the Congress. Upon entering office, Chávez enjoyed broad popularity. He called a constitutional convention, which produced a new constitution providing for a unicameral Assembly and a six-year renewable presidential term. This new constitution was approved in an April 1999 referendum with 88 per cent vote. Elections in 2000 confirmed Chávez for a new term and provided him a large majority in the new Assembly. The Assembly authorized the President to rule by decree on various topics ordinarily requiring legislation. At this point, however, with economic performance still sluggish despite revived oil prices and fear that the government was becoming dictatorial, business groups, organized labor and elements of the armed forces coalesced into an opposition movement. In April 2002 a serious opposition coup attempt failed after seeming for a day or two to have succeeded. Since then, however, opposition groups organized strikes and mass demonstrations to force Chávez to step down. (In 2004, they succeeded in gathering sufficient signatures to force a recall vote, but the President managed to win this vote.)

Oil earnings have long accounted for an unusually high proportion of Venezuela’s gross domestic product. In 2001, they accounted for 18 per cent of GDP, making it one of Latin America’s most oil-dependent economies. Oil dependence is the central reality in Venezuela’s macroeconomic performance generally and for its exchange-rate policy in particular. Until 2000, Venezuela maintained a fixed exchange rate, but adjusted it frequently, characteristically in response to fluctuations in oil prices. As Gattelet and Rivas 2002 show, data for the years 1985-2002 indicate a strong correlation between (i) the ratio of Venezuela’s oil GDP to total GDP and (ii) the real-effective value of its currency.

Like the other Andean economies, Venezuela’s macroeconomic performance has been poor in recent years. Real GDP growth has averaged just 1.7 per cent over the years 1990-2002. Perhaps more striking than this low rate has been its variability: over these thirteen years, the standard deviation of the growth rate has been 5.3 percentage points, with a maximum of 9.7 per cent in 1991 and a minimum of -8.9 per cent for 2002, when oil exports largely ceased over several months on account of a strike by oil workers. Over the same years, consumer prices have risen an average of 40 per cent per annum, and while Venezuela has never slipped into hyperinflation, it has undergone periods of high inflation: consumer prices more than doubled over 1996, in the wake of the massive December 1995 devaluation. Venezuela’s heavy dependence on volatile oil earnings is a large part of the explanation of the variability of its real GDP growth, but continual policy shifts and chronic political turmoil have also figured heavily.

One striking characteristic of Venezuela’s exchange rate and exchange-rate regime has been its extraordinarily large fiscal role. Venezuela’s oil production is so large that the bulk is exported, and these exports have accounted for roughly 90 per cent of total exports for decades. The entity that produces and exports the oil, *Petroleos de Venezuela S.A. (PDVSA)*, is a public enterprise. This essentially implies that the exchange rate has no significant role in setting the economy’s export incentives. In contrast, its role in determining imports is relatively large: while Venezuela depends on imports for a wide range of consumption and intermediate goods, and demand for these is relatively price inelastic, demand for

imports at the margin is quite elastic to price incentives. At the same time, because oil plays so preponderant a role in the public sector, the exchange rate plays a significant role in determining the bolivar values of the largest government accounts. These include, most obviously, the flows of revenue from PDVSA to the central government, in the form of taxes, royalties and dividends; revenue flows deriving from tariffs on Venezuela's voluminous imports; and expenditure on Venezuela's heavy public external-debt service.

Revenue from PDVSA is so large a share of the central government's overall revenue that it has tended to be regarded as the fundamental determinant of the central government's deficit. Current government expenditure has tended to remain relatively constant as a share of GDP over time, while government capital expenditure has served – as in many economies – as a fiscal-adjustment instrument. By comparison, PDVSA's contributions to government revenue have varied considerably. Under the rules governing central-government revenue deriving from PDVSA, the dollar value has varied with dollar earnings. These have varied, in turn, with export volumes and prices. Because the exchange rate has tended to vary inversely with dollar earnings, Gattelet and Rivas 2002 argue, it has tended to be destabilizing, intensifying the degree to which higher and lower dollar oil earnings respectively increase and reduce government revenue.

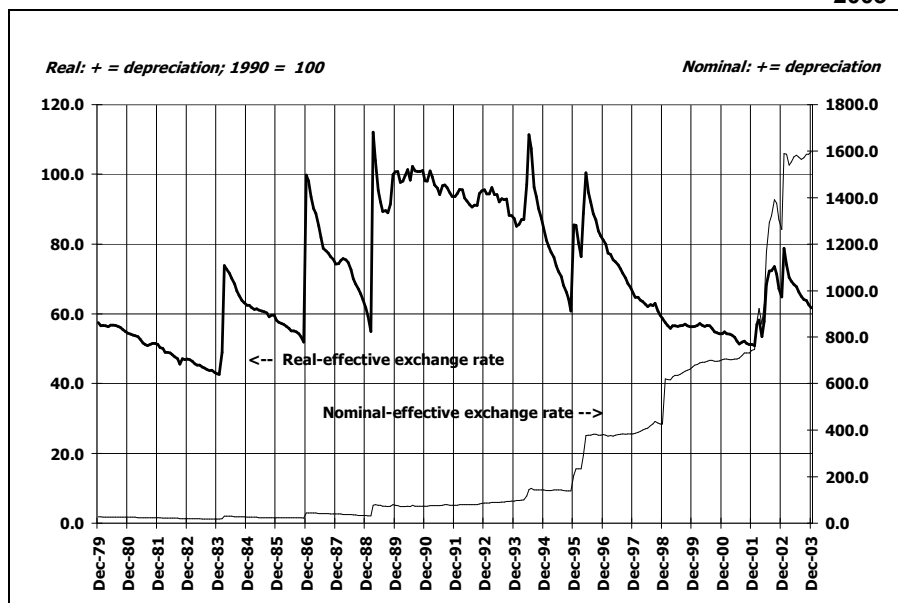
The exchange rate figures heavily in several other aspects of Venezuela's economy. It affects aspects of the balance of payments indirectly through a variety of mechanisms. First, because imports are so important, the exchange rate figures especially heavily in the price level. Second, price-level and exchange-rate expectations have powerful effects on the capital accounts of the balance of payments. At the same time, price-level and exchange-rate expectations are especially important for the demand for money. The role of the exchange rate in the economy's fiscal mechanisms is unusually powerful, however. The principal means by which the central government has covered its deficit has been to borrow reserves from the Central Bank of Venezuela (BCV). Exchange-rate devaluation has proven necessary whenever the BCV's reserve position declines excessively, reducing the reserve coverage of the money supply, or when the demand for money declines. These have figured heavily among the basic sources of the pressure to devalue in recent years.

While Venezuela's exchange-rate regime has evolved over the 1990s from a traditional fixed rate to a pre-announced band and then, in 2000, to what policy-makers said would be a managed float, it retains the essential characteristics of a fixed-rate regime. Over the first half of the 1990s, while the exchange rate was formally "fixed," it was so frequently adjusted that from many perspectives it was more like a managed float. Over 1995 the authorities attempted to hold the rate fixed, but finally had to give in and devalue sharply in December 1995, after high inflation had eroded its competitiveness severely. After this policy reversal, the BCV began pre-announcing a band for the exchange rate, hoping in this way to work down the high inflation rate. This policy approach characteristically runs a risk of lagging competitiveness, because the inflation rate tends to remain above the rate of exchange-rate growth, and Venezuela tended to follow this pattern. By the end of 2000, the real-effective exchange rate had appreciated heavily, and this time the authorities decided to change their regime once again to a managed float, essentially so they could adjust the exchange rate to restore competitiveness. Nevertheless, the authorities have managed the exchange rate in large measure as if it were fixed, but adjusted it frequently. As in Peru, the distinction between a managed float and a fixed exchange rate with frequent adjustment is in some degree academic.

The volatility of both exchange rates and inflation have made Venezuela's real-effective exchange rate highly volatile (see Figure 21). Apart from the overall volatility, several aspects of the evolution of the real-effective exchange rate are especially striking. In the years leading up to the December 1995 devaluation, the real-effective exchange rate underwent a sharp appreciation, especially over the months in late 1994 and all of 1995 when the nominal rate was fixed at Bs. 170 per dollar. The sharp devaluation restored competitiveness, but the subsequent "pass-through" to inflation and the authorities' efforts to

use the exchange rate to limit inflation after 1997 brought the real-effective exchange rate to an even more appreciated level than what had prevailed in 1995, just before the devaluation .

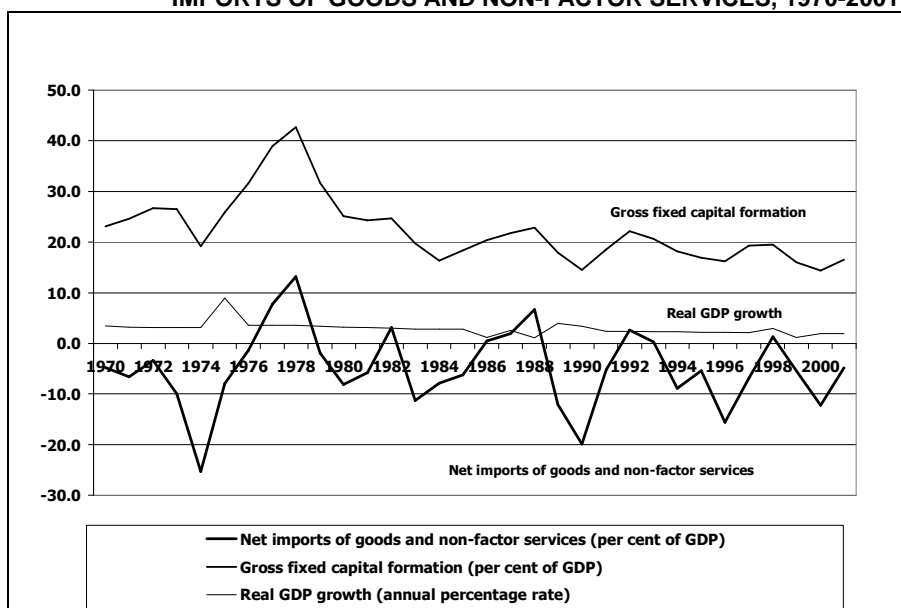
Figure 21
VENEZUELA: NOMINAL AND REAL-EFFECTIVE EXCHANGE RATES, 1980-2003*



Source: International Monetary Fund, United Nations Commission for Latin America and the Caribbean.

Note: * The nominal effective exchange-rate series is rebased so its December 2003 value equals that month's average U.S.-dollar exchange rate. The base of the real-effective exchange rate series is 1990 = 100.

Figure 22
VENEZUELA: REAL GDP GROWTH, CAPITAL FORMATION AND NET IMPORTS OF GOODS AND NON-FACTOR SERVICES, 1970-2001



Source: International Monetary Fund.

Note: Correlation coefficient of “net imports” with “capital formation: 0.619 (32 observations, t = 5.500).

Venezuela's exchange-rate policy remains a source of uncertainty and instability. It is clear enough, however, that Venezuela's exchange-rate regime and – more important -- its exchange-rate setting are matters that must be determined along with and in the context of the economy's overall structure, including its fiscal, monetary, oil-economy, and external-financing systems. This point can be made for just about any economy, and as stated here is probably a truism: Section 11, which summarizes overall conclusions, returns to it briefly. It applies with particular force, however, to Venezuela.

X. Intra-Andean bilateral exchange-rate and trade relationships

The discussion thus far has centered on the five economies' overall, trade-weighted exchange rates and exchange-rate regimes. The reality that the five economies each have their own currencies and exchange-rate regimes has the sometimes overlooked consequence that their bilateral exchange rates can vary, in both nominal and real-effective terms, in ways that seem, on the fact of it, haphazard from the respective trading partners' perspectives. One notable example is that of Ecuador and Colombia since 2000. The combination of Ecuador's hard fixed rate, its inflation, and Colombia's float meant that Ecuador's real-effective exchange rate *vis-à-vis* Colombia appreciated sharply, generating a surge in Ecuadorian imports from Colombia.

In general, in managing exchange rates, policy-makers in all the Andean economies focus principally on the U.S.-dollar exchange rate. They also monitor other key exchange rates, such as those with European economies and, in the case of Bolivia, the MercoSur economies. Where the exchange-rate regime allows (i.e., in regimes other than Ecuador's dollarization), they may adjust their exchange rate against the dollar if necessary to accommodate changes in relationships with other economies. In general, however, for most Andean economies, even under their different regimes, exchange rates for non-dollar currencies are subordinate policy objectives. In effect, the bilateral relationships between each Andean economy and partners other than the United States are determined from the two economies'

respective exchange rates with the U.S. dollar. This is most forcefully so for dollarized Ecuador, of course, but also in fact for the managed-floating exchange rates. The implication is that bilateral exchange rates are essentially exogenous, and the incentives for bilateral trade can vary in some measure arbitrarily.

This paper’s Annex examines the recent evolution of intra-Andean exchange rates and trade flows. The straightforward, unsurprising conclusion is that real-effective exchange rates have indeed evolved in ways that seem to make little sense from any other perspective. As long as the Andean economies maintain separate currencies and different regimes, their bilateral exchange rates are likely to remain unstable and uncertain, impeding development of commercial relationships that might otherwise be natural given their geographical proximity.

XI. Conclusions

One of the basic premises of recent discussions of exchange-rate regimes has been that the choice of regime is a matter of crucial importance for most nations' macroeconomic policy. Unfortunately, the "counterfactual" problem of evaluating any macroeconomic policy *ex post* applies with particular force to any attempt to analyze exchange-rate experience. It is never really possible to know for sure whether a nation would have been better or worse off if its exchange-rate regime had been different. Bearing this inherent limitation in mind, however, it appears quite possible to draw some conclusions from the five Andean nations' recent experience, and moreover to make useful comparisons among them.

Perhaps the most interesting aspect of the five nations' exchange-rate experience was their responses to the external shocks of 1998, which affected all five economies. To be sure, the different aspects of the 1998 shocks – the sharp reduction in oil export prices, the 1997-8 El Niño episode, and the withdrawal of external finance in the context of the international financial turmoil that took place that year, all had different consequences for each economy. With this caveat, a comparison of the five economies' responses under their different exchange-rate regimes is instructive. Ecuador, working within and struggling to maintain its pre-announced crawling-peg regime, delayed a necessary exchange-rate adjustment. It depreciated outside its band just twice during 1998, and then further delayed depreciating to accommodate its legislature's annual budget debate. Its foreign-exchange reserves ran out in the course of these delays, and in February 1999 it had little choice but to move to a full float and sharp depreciation, which led eventually to hyperinflation and forced

dollarization. Peru, in contrast, found it possible to confront the shocks by allowing a measured amount of monetary expansion and a moderate amount of exchange-rate depreciation. Given Peru's low inflation rate, the real-effective depreciation was substantial. The nominal exchange rate leveled off in 1999 without leading to the dreaded depreciation-inflation cycle, and the exchange rate has remained stable, so far, for about four years.

There is a wide range of reasons why Peru succeeded in carrying out this adjustment and stabilizing its price level and exchange rate while Ecuador could not. Whatever the relative importance of the other differences between the two economies, it seems fair to say that Peru's exchange-rate regime was simply more appropriate for the circumstances that developed in 1998. Ecuador's policy-makers had to dishonor a standing promise that the exchange rate would remain within a pre-announced band; in contrast, Peru's policy-makers had made no similar promise. Not having made such a promise, Peruvian policy-makers suffered less damage to their credibility. Accordingly, during the crucial months of mid-1999, whereas Ecuadorian policy-makers had essentially spent their credibility, Peruvian policy-makers still possessed sufficient credibility to bring about stabilization.

Among the five Andean economies, Ecuador's experience was probably the most varied, encompassing periods with a pre-announced band, a pure float, and finally dollarization, although to be sure the float was forced by the collapse of the pre-announced band and dollarization was forced by the runaway hyperinflation engendered by the float. In hindsight, the pre-announced band afforded inadequate flexibility to permit the exchange rate to move in response to the 1997-8 shocks. After a lengthy adjustment period – at least two years – dollarization has brought the price level to a more or less stable level. At the same time, however, Ecuador's international competitiveness has been severely diminished. This paper has argued that Ecuador must seek to enhance its competitiveness in ways more fundamental than exchange-rate adjustment, basically because exchange-rate adjustment simply appears incapable of bringing about permanent improvement in competitiveness.

In contrast, Peru's managed floating exchange-rate regime appears to have played an important role in bringing about and helping to sustain price-level and exchange-rate stability. In contrast with Ecuador, Peru carried out a thoroughgoing reform of its central bank and monetary-policy mechanisms in the early 1990s, partly in response to the trauma of the macroeconomic collapse of the late 1980s. Perhaps paradoxically, Peru's floating exchange-rate regime helped enhance its policy-makers' basic credibility, and this, along with the quality of the monetary reforms of the early 1980s, enabled them to manage the effects of the 1997-8 shocks more effectively than Ecuador's policy-makers. Peru's 1998-9 depreciation made its adjustment far smoother than Ecuador's. Peru still faces a formidable policy challenge in coming years to restore solid growth momentum. Even though their exchange-rate regimes are almost polar opposites, Ecuador and Peru can now be expected to go forward with price stability, and their respective exchange-rate regimes will be key points in ensuring that stability. In neither case can they expect their exchange rates to help them in any way to promote growth.

The three largest Andean economies now have managed floats, at least as characterized by their policy-makers. In the Andean context, this type of regime is best understood as “usually fixed but subject to change as circumstances require. Colombia, Peru and Venezuela have moved to this form of exchange-rate management through a process of trial and error, because it is the most feasible – or perhaps least unfeasible – approach in view of two essential realities of the Andean economies. The first is that, in the Andean economies' present state of development, the exchange rate is -- and is believed generally to be -- the price-level anchor. The second reality is that, because the Andean economies are exposed to volatile international conditions and, in some measure, to internal policy miscalculations, their exchange rates must be adjusted from time to time.

Of the two smaller economies, Bolivia maintains what its policy-makers characterize as a crawling-peg exchange rate. In reality, Bolivia's policy approach has been relatively flexible, particularly in view of its particular need to cope with the volatile exchange-rate movements of its MercoSur trading

partners. At present, the region's one exceptional exchange-rate policy is Ecuador's full dollarization, amounting to a hard fixed exchange rate. Ecuador's experience under dollarization has been difficult, with the competitiveness of its non-oil economy slipping almost continually. As explained in Section 7 above, Ecuador dollarized because it was forced to do so. It would probably not have done so if it could have avoided it, and its authorities might wish to reintroduce a national currency if they believed they could.

The Andean experience suggests that the classification of exchange-rate regimes given by Ghosh, Gulde and Wolf 2002 needs to be understood with a large measure of subtlety. In the end, the only difference between a managed floating exchange rate as carried out by Peru since 1999 and a conventional fixed exchange rate is that in the latter case the authorities make an explicit commitment. As a practical matter, where circumstances happen to be such as to make commitment to a fixed exchange rate less than fully credible, the fixed-rate regime hardly differs from a managed float. Peru's and Bolivia's experience show persuasively that floating-rate and crawling-peg regimes can be as consistent as a fixed-rate regime with price-level stability, particularly if the authorities are believed to possess the means in particular, the foreign-exchange reserves to defend the prevailing rate.

Indeed, in any economy where policy-makers possess the means to manage the prevailing rate, the key issue may be less the regime and more the appropriate levels for the nominal and real-effective exchange rates. That is, given an economy's international and domestic circumstances, its policy-makers' objectives, and the availability of external and internal financing, there is presumably some appropriate exchange rate. In principle, policy analysts can estimate this exchange rate, using analytical tools such as consistency exercises¹² or general-equilibrium models, and use this to guide their policy settings. One generalization that seems fair is that any exchange-rate regime will work well if the exchange rate it sets is appropriate, or if it can move efficiently enough to the appropriate rate, while any exchange-rate regime will work poorly if the exchange rate it sets is inappropriate, or if it cannot move efficiently to the appropriate rate.

The discussion of bilateral exchange rates and bilateral trade relationships among the Andean economies raises concerns of a different kind. It is impossible to say by how much indeed whether trade among the Andean economies would have been larger than it actually was if their bilateral exchange rates had been rigorously fixed – i.e., if the five countries had a common currency. Unfortunately, it is probably impossible to formulate a persuasive counterfactual in which the five nations possessed a common currency. Among other things, it would have depended on how that common currency evolved *vis-à-vis* other currencies. It is probable, to be sure, that a common currency would have encouraged trade among the region's economies. It is more difficult to guess, however, how much that trade would have represented diversion from other parts of the world, and whether that diversion would have constituted improved efficiency. For each particular economy, it would be difficult to formulate a persuasive analysis to address the question of whether participation in a common Andean currency would be optimal. Addressing the issue becomes even more complicated if and as the five nations progress at different paces toward free-trade agreements with the United States.

As a practical matter, for the foreseeable future, it is likely that Colombia, Peru and Bolivia will maintain their managed floats. Ecuador is likely to maintain its dollarization, although this could conceivably come under pressure as its circumstances evolve. Given the role that Venezuela's exchange rate plays within its public-budget system, it is difficult to see how it could float its currency without reforming that system. It follows, then, that for the foreseeable future the region's exchange rates are likely to remain an obstacle to development of trade among the five economies.

¹² Many governments and central banks have spreadsheet exercises that can be applied in this way. The standard IMF programming exercises can be applied as well. The World Bank RMSM-X is less helpful, because exchange rates play only a limited role in its calculation procedure. This writer has helped develop or is helping to develop versions of a medium-term macroeconomic consistency exercise for several economies (including Rwanda, the Dominican Republic, and Peru) that can be used for this purpose, and has drafted a book describing its projection procedure.

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Annex

Intra-andean bilateral exchange-rate and trade relationships

This Annex describes recent evolution of the five economies' overall, trade-weighted real-effective exchange rates and trade relationships. It considers the five economies one by one, reviewing the recent evolution of their respective direction-of-trade figures and relating them to their exchange-rate regimes. It also examines each economy's competitiveness *vis-à-vis* selected Asian economies.

In general, in managing exchange rates, policy-makers in all the Andean economies focus principally on the U.S.-dollar exchange rate. They also monitor other key exchange rates, such as those with European economies and, in the case of Bolivia, the MercoSur economies. Where the exchange-rate regime allows (i.e., in regimes other than Ecuador's dollarization), they may adjust their exchange rate against the dollar if necessary to accommodate changes in relationships with other economies. In general, however, for most Andean economies, even under their different regimes, exchange rates for currencies other than the dollar are subordinate policy objectives. In effect, the bilateral relationships between each Andean economy and partners other than the United States are collateral consequences of the two economies' respective exchange rates with the U.S. dollar. This is most forcefully so for dollarized Ecuador, of course, but also in fact for the managed-floating exchange rates. The bilateral exchange rates are therefore essentially exogenous, and the incentives for bilateral trade vary pretty much arbitrarily. In general, the Andean economies' competitiveness *vis-à-vis* Asian economies has deteriorated since the early 1990s, a point of some concern for policy-makers aiming to liberalize imports and to increase exports.

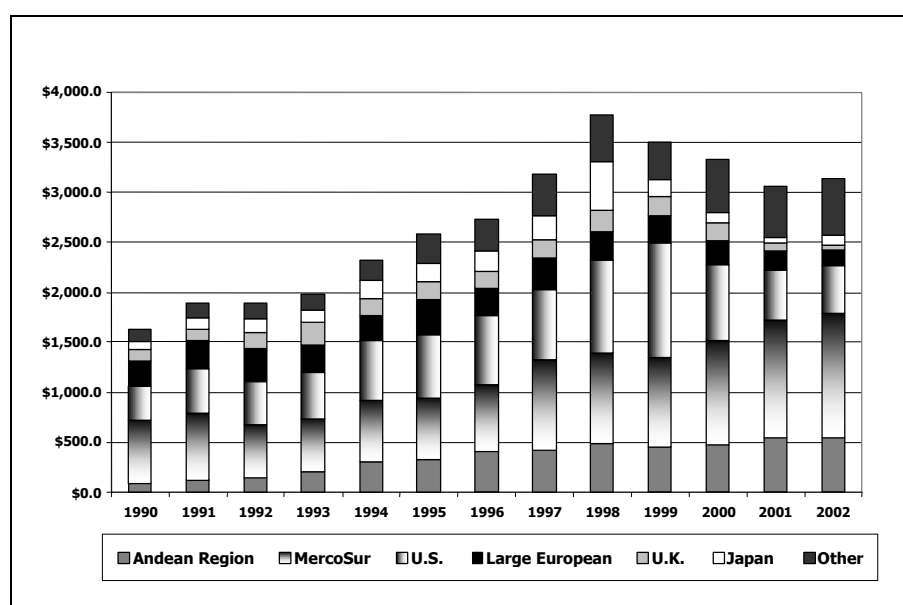
It is important to bear in mind that direction-of-trade figures are estimates at best, particularly for developing nations that share long and essentially open borders.¹³

¹³ Direction-of-trade statistics are notoriously subject to the inconsistency arising from the fact that one nation's reported exports to a given trading partner are likely to differ significantly from the trading partner's reported imports. For present purposes, each nation's reported bilateral exports and imports are taken to be the appropriate estimates for that nation. No attempt is made to reconcile the reported figures.

Bolivia

Bolivia's trade structure is unique among the Andean economies in the degree to which it involves the MercoSur economies. Over the years 1990-2002 more than 30 per cent of Bolivia's merchandise trade was with MercoSur economies (including Chile). These figures have been rising, as Bolivia's gas exports to Argentina and Brazil have increased with the construction of pipelines. Meanwhile, imports have increased as Bolivia has taken on associate membership with MercoSur. In 2002 MercoSur was the partner for 29 per cent of Bolivia's exports (up from 20 per cent on average between 1992 and 2000) and 48 per cent of its imports (up from 31 per cent on average between 1992 and 2000).

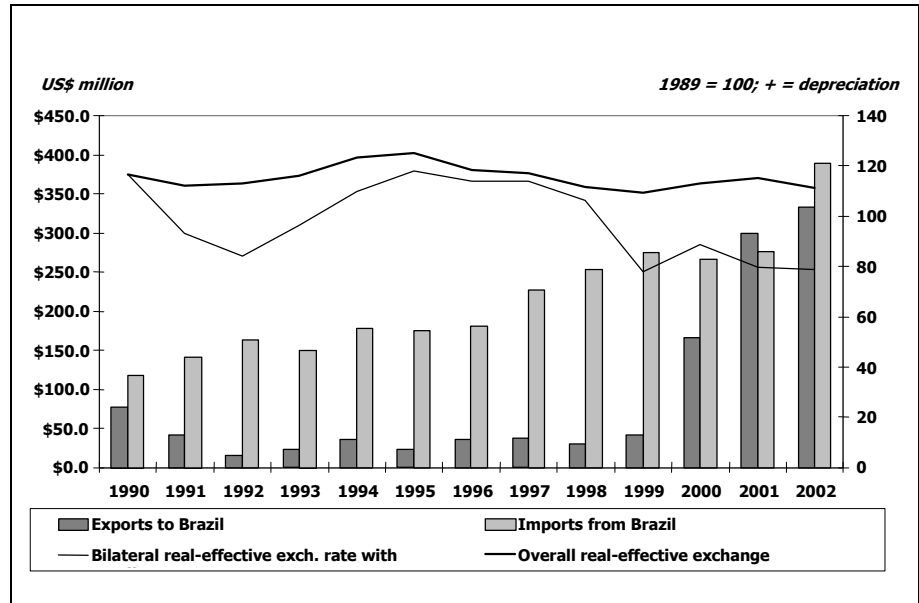
Figure 23
BOLIVIA: MERCHANDISE EXPORTS PLUS IMPORTS, 1990-2002
 (per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

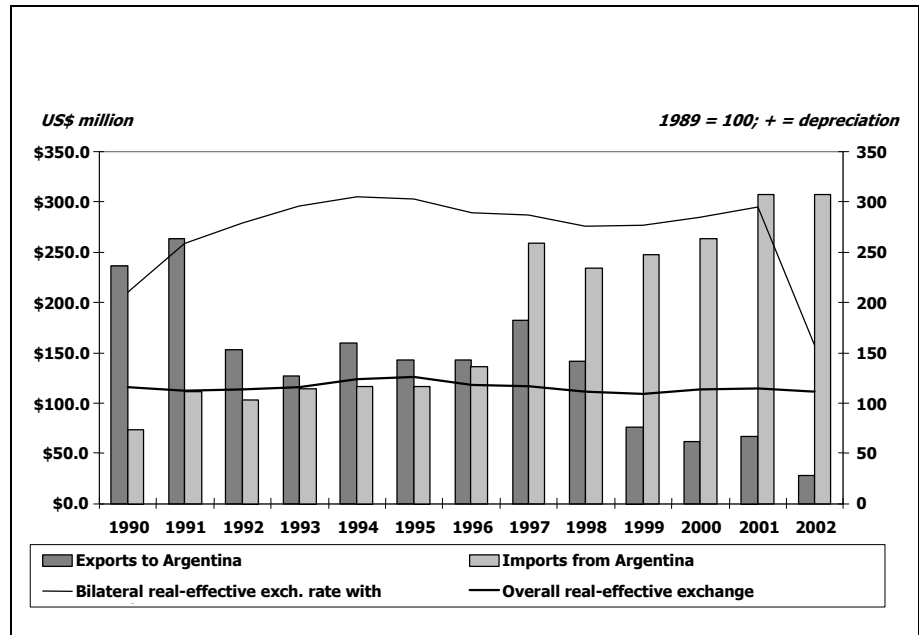
Brazil's and Argentina's sharp exchange-rate depreciations in 1999 and 2002 respectively appear to have affected Bolivia's trade with these economies. Figure 24 shows Bolivia's exports to and imports from Brazil, along with Bolivia's real-effective exchange rate *vis-à-vis* Brazil. Figure 25 shows the corresponding figures for Bolivia's relationship with Argentina. Bolivia's real-effective exchange rate with Brazil was about 25 per cent more appreciated in 1999 than in 1998, and its real-effective exchange rate *vis-à-vis* Argentina was nearly 50 per cent more appreciated in 2002 than in 2001. Bolivia's imports from Brazil continued to grow as they had over the 1990s, and indeed surged strongly in 2002. Bolivia's exports to Brazil were also substantially higher, but this was largely the consequence of the gas exports. Bolivia's imports from Argentina rose after the 2002 depreciation, continuing a trend that had begun in the late 1990s. Bolivia's exports to Argentina fell very sharply, continuing a trend that had also begun after 1997 with Argentina's descent into severe recession.

Figure 24
BOLIVIA WITH BRAZIL: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989=100)
(US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Figure 25
BOLIVIA WITH ARGENTINA: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989=100)
(US\$ million)

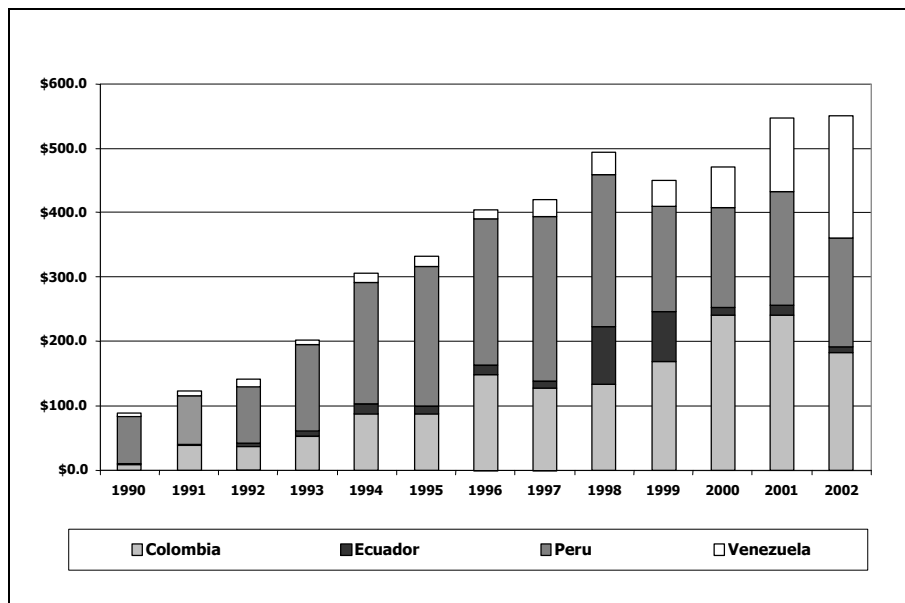


Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Apart from MercoSur, Bolivia has been carrying out a growing proportion of its trade with other Andean economies (see Figure 23 above). Figure 26 shows that its most important Andean trading partners have been Colombia, Peru and, more recently, Venezuela.

Figure 26
BOLIVIA: MERCHANDISE EXPORTS TO PLUS IMPORTS FROM ANDEAN ECONOMIES 1990-2002

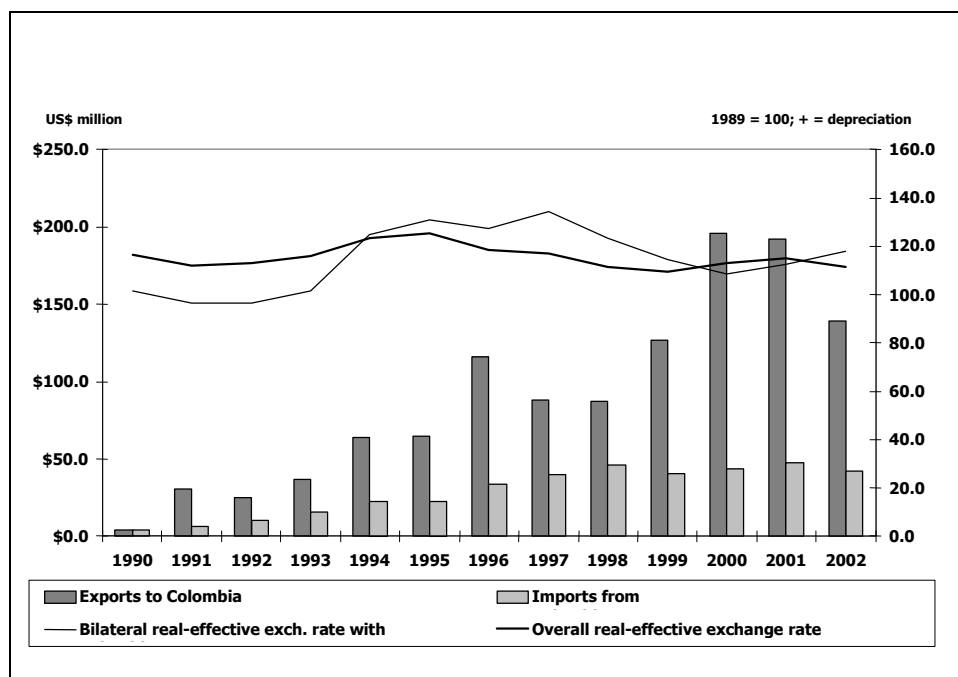
(per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

Bolivia’s merchandise trade with Colombia has grown substantially over the 1990s, from around US\$4-5 million in exports and imports in 1990 to nearly US\$200 million in exports and nearly US\$50 million in imports by 2001. Bolivia’s real-effective exchange rate *vis-à-vis* Colombia first appreciated in the early 1990s, then depreciated (it was more than 25 per cent more depreciated on average in 1993-1998 than in 1990-1992), and then appreciated somewhat, although it has remained around 10-20 per cent more depreciated than it was in 1989.

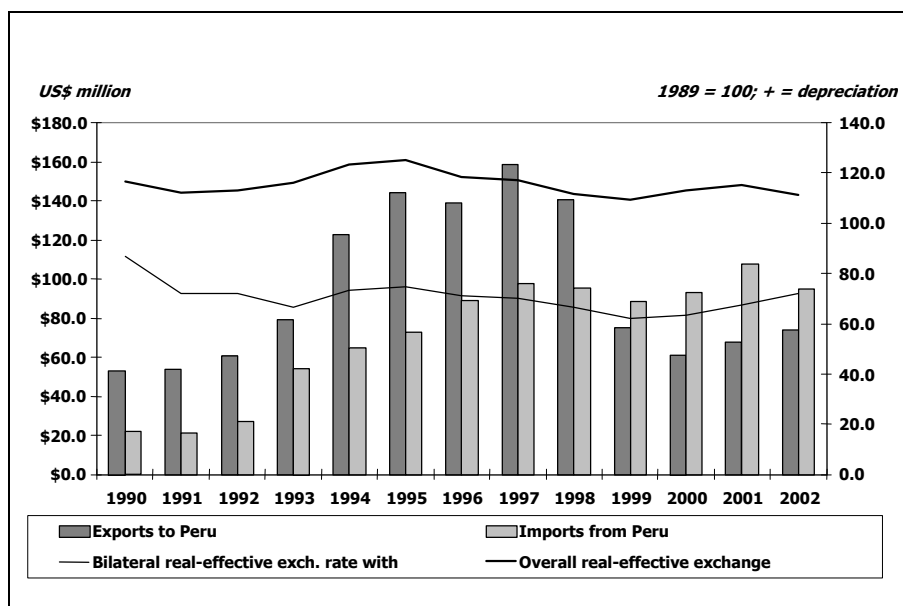
Figure 27
BOLIVIA WITH COLOMBIA: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
(US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Bolivia and Peru have maintained crawling-peg and managed-floating exchange rates respectively since the early 1990s. Bolivia’s real-effective exchange rate *vis-à-vis* Peru’s currency appreciated in the early 1990’s as the latter depreciated in the wake of the hyperinflation in the late 1980s, but has remained relatively appreciated since then (on average, about 30 per cent more appreciated over the years 1991-2002 than in 1989). This appreciation contributed to the increase in Bolivia’s annual imports from Peru over the 1990s, from around US\$20 million to around US\$100 million. Bolivia’s exports to Peru nearly tripled between 1991 and 1996 as Peru’s economy recovered, but then slipped back as Peru’s recession took hold. The real-effective exchange-rate appreciation probably contributed to this outcome.

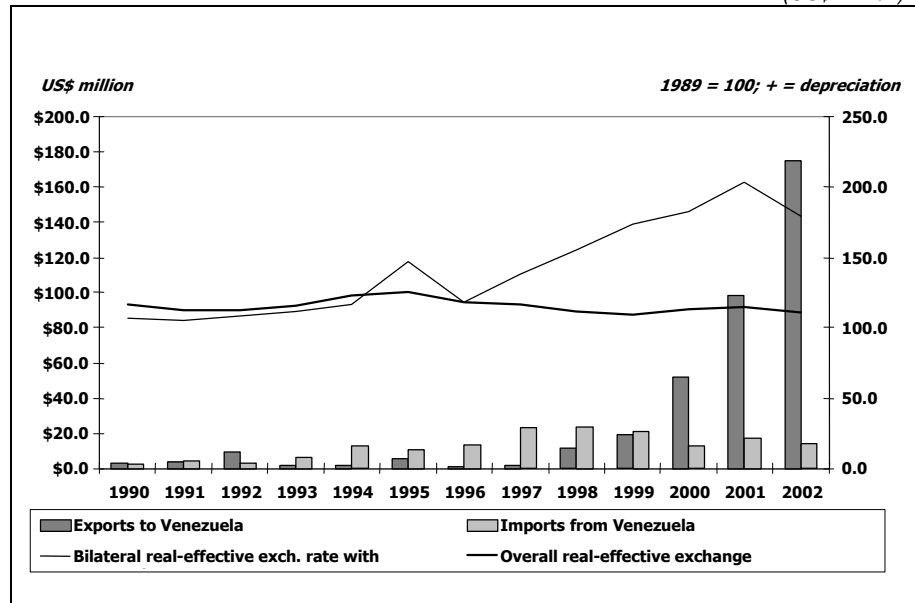
Figure 28
BOLIVIA WITH PERU: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
 (US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Bolivia’s real-effective exchange rate *vis-à-vis* Venezuela depreciated by more than 70 per cent between 1996 and 2001, basically as a consequence of Venezuela’s exchange-rate appreciation against the U.S. dollar. Bolivian exports to Venezuela surged (see Figure 29) from a negligible flow in 1996 to US\$175 million in 2001. Bolivia maintained a negligible import flow from Venezuela.

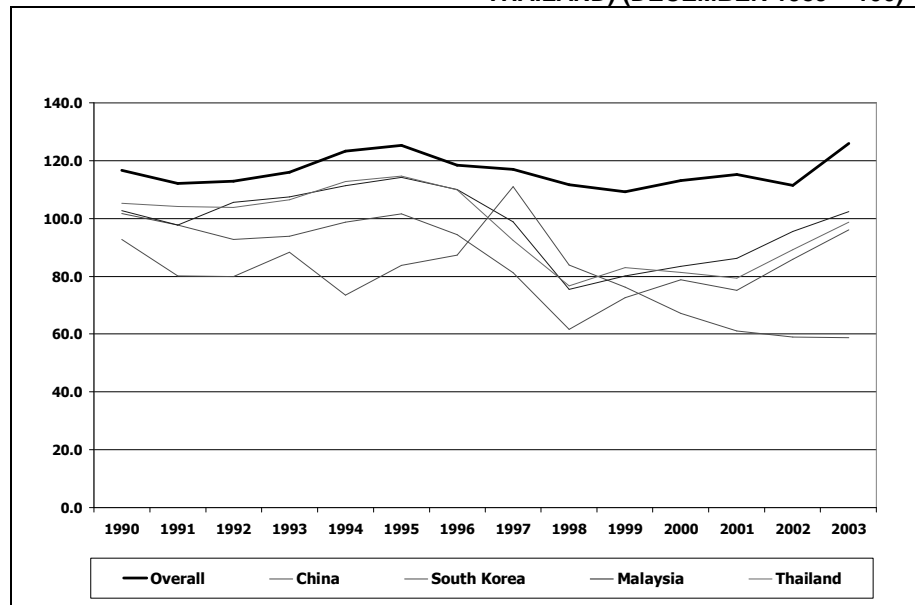
Figure 29
BOLIVIA WITH VENEZUELA: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
(US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Finally, Bolivia’s competitiveness compared with East Asian economies slid sharply over the first part of the 1990s, although it has recovered somewhat in more recent years (see Figure 30). Bolivia’s diminished competitiveness is one possible reason among many why Bolivia has failed to compete successfully with the Asian economies in manufacturing export markets.

Figure 30
BOLIVIA'S COMPETITIVENESS RELATIVE TO SELECTED EAST-ASIAN ECONOMIES, 1990-2003 (CHINA, REPUBLIC OF KOREA, MALAYSIA, THAILAND) (DECEMBER 1989 = 100)

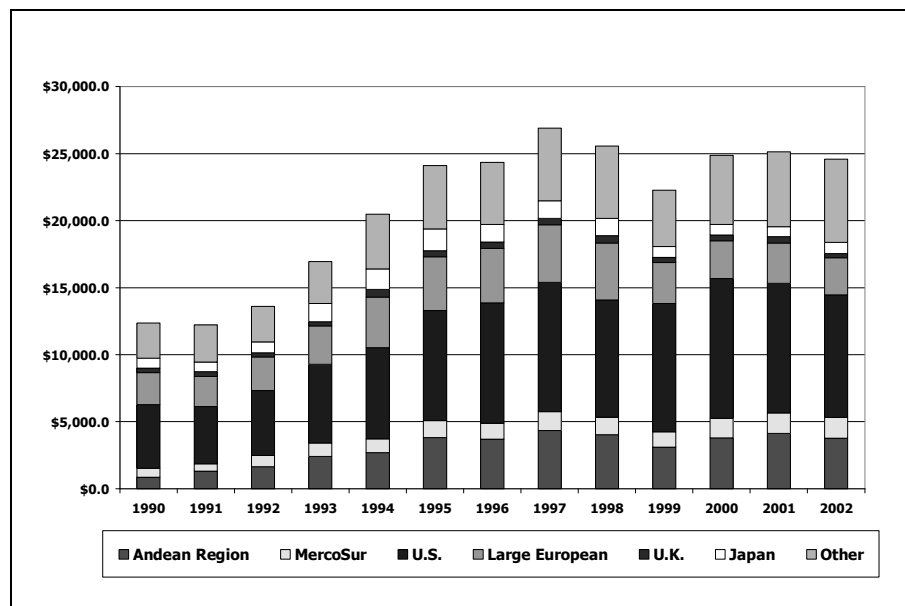


Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Colombia

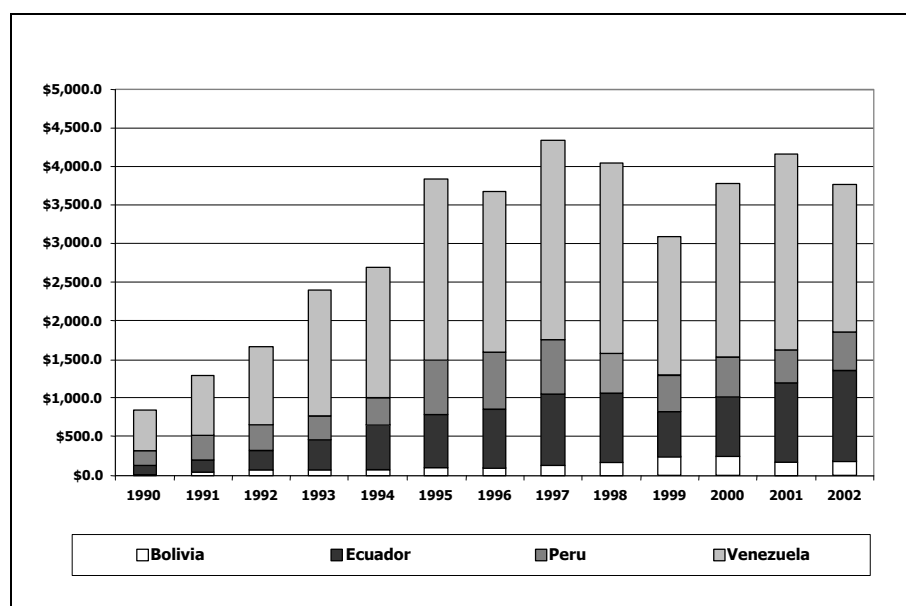
Since 1990, the bulk of Colombia’s trade has been with the United States, Europe, and Japan. Together, these economies account for just over 60 per cent of Colombia’s total trade (both exports and imports) (see Figure 31). Trade with the Andean economies has accounted for just 16 per cent of the total, with Ecuador, Peru and Venezuela accounting for 4, 3, and 9 per cent respectively (see Figure 32).

Figure 31
COLOMBIA: MERCHANDISE EXPORTS PLUS IMPORTS, 1990-2002
(per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

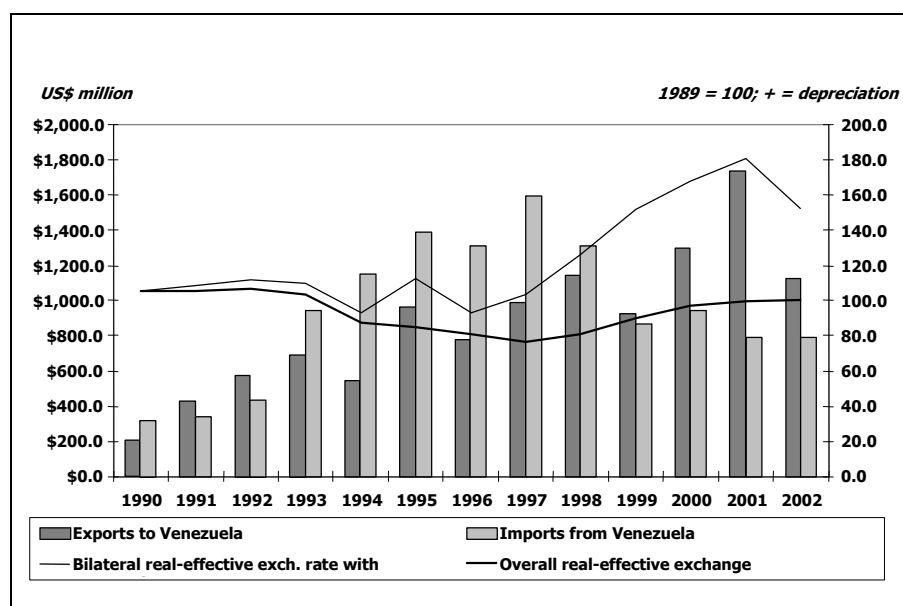
Figure 32
COLOMBIA: MERCHANDISE EXPORTS TO PLUS IMPORTS FROM ANDEAN ECONOMIES, 1990-2002
(per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

Colombia's real-effective exchange rate *vis-à-vis* Venezuela was relatively stable over the first half of the 1990s, but then depreciated sharply over the remainder of the decade. Bilateral trade between the two economies has grown rapidly since the early 1990s, but, particularly since the middle of the 1990s, it has apparently been affected strongly by the evolution of the bilateral real-effective exchange rate: Colombia's exports to and imports from Venezuela appear to have responded positively and negatively respectively to the real-effective depreciation. Colombia's exports to Venezuela have grown from around US\$200 million in 1990 to more than US\$1.7 billion in 2001, although they slipped to around US\$1.1 billion in 2002.

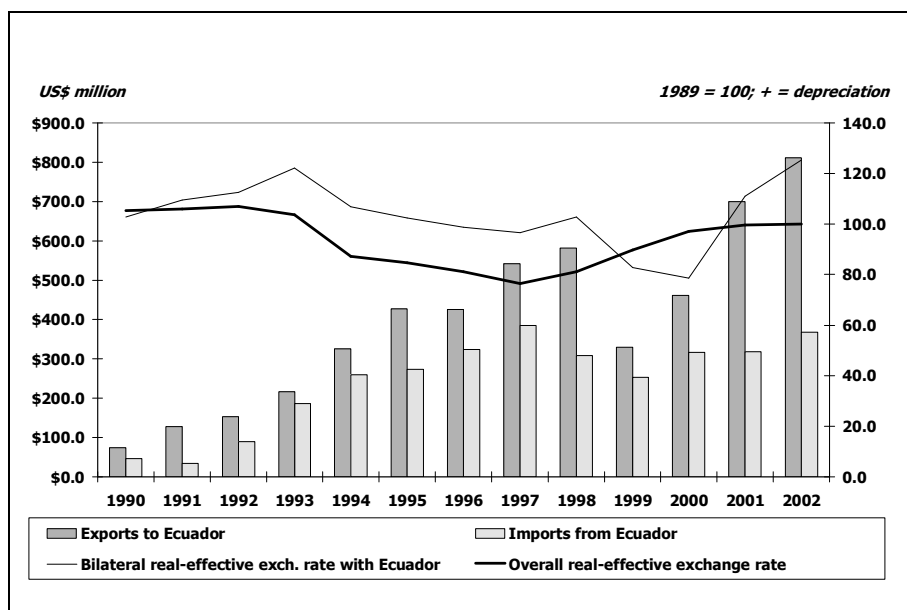
Figure 33
**COLOMBIA WITH VENEZUELA: BILATERAL TRADE AND REAL-EFFECTIVE
 EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)**
 (US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Colombia's bilateral relationship with Ecuador is one of the more dynamic bilateral relationships among the Andean economies as a consequence of the evolution of both economies' real-effective exchange rates. Colombia's exports to Ecuador grew rapidly over the 1990s, from about US\$75 million in 1990 to more than US\$580 million by 1998. This growth came about despite Colombia's real-effective appreciation over the same years. (Some of Ecuador's high 1998 imports were for inventory build-up, as importers anticipated exchange-rate depreciation.) In 1999 and 2000 Colombia's exports to Ecuador nearly halved compared with 1998, as Ecuador underwent intense crisis (see Section 7 above) and its exchange rate depreciated sharply. Beginning in 2000, however, as Colombia's real-effective exchange rate depreciated with the introduction of the float while Ecuador's real-effective exchange rate appreciated under dollarization, Colombian exports to Ecuador surged to US\$700 million and US\$800 million in 2001 and 2002 respectively. Ecuadorian business interests were troubled by what they viewed as an artificially unfavorable exchange rate resulting from the combination of dollarization and Colombia's floating rate. Colombian imports from Ecuador grew after 1999, but not nearly so rapidly as exports, and remained below their 1997 high.

Figure 34
COLOMBIA WITH ECUADOR: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
(US\$ million)



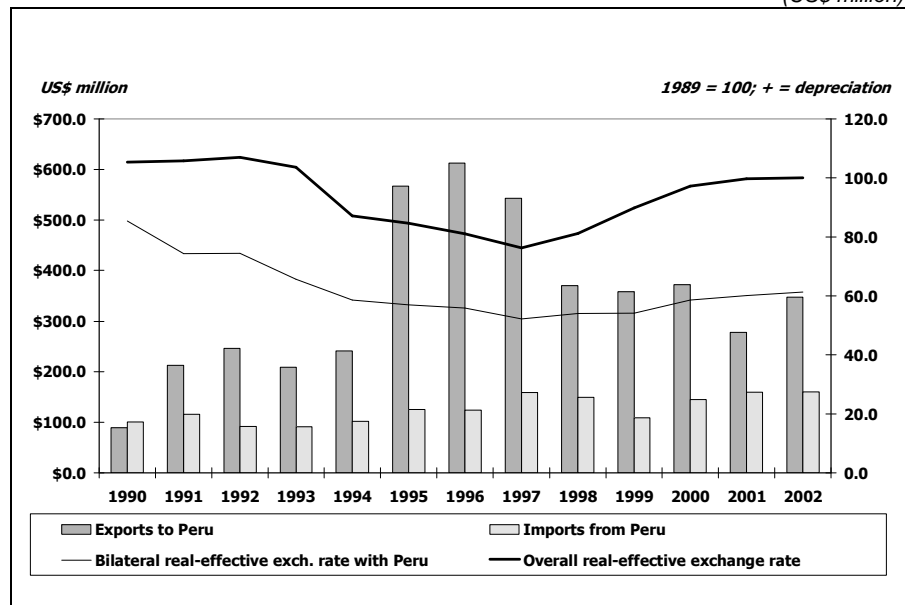
Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Colombia’s real-effective exchange rate *vis-à-vis* Peru appreciated sharply in 1990 as Peru’s exchange rate depreciated in the wake of its hyperinflation. Colombia’s exports to Peru rose as Peru’s economy recovered, but further appreciation of Colombia’s real-effective exchange rate restrained their growth. In 1995, 1996, and 1997, however, Colombia’s exports to Peru doubled, despite Colombia’s continuing real-effective appreciation *vis-à-vis* Peru. In 1998 Colombia’s exports to Peru slipped back by about a third, as a consequence of Peru’s economic slowdown in that year. The volatility of Colombia’s exports to Peru contrasts markedly with the performance of imports from Peru, which have remained stuck since 1990 between US\$90 million and US\$60 million. The two nations’ population and production centers are relatively distant from one another.

Figure 35

COLOMBIA WITH PERU: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)

(US\$ million)

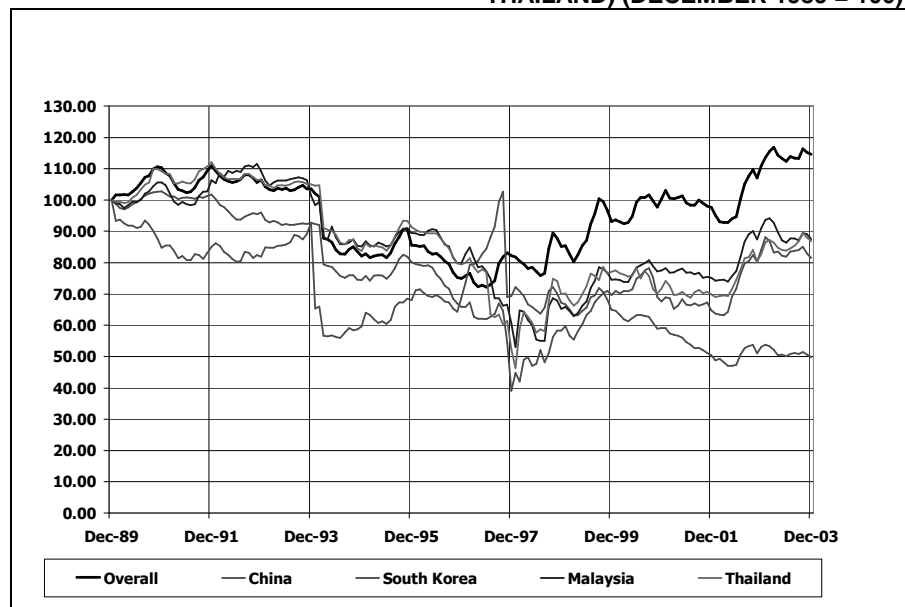


Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Like other Andean economies, Colombia's competitiveness *vis-à-vis* east Asian economies slid sharply over the 1990s, and has recovered only partially in more recent years (see Figure 36). This is one reason among many why Colombia's manufacturing exports have failed to compete successfully with the Asian economies in manufacturing export markets.

Figure 36

COLOMBIA'S COMPETITIVENESS RELATIVE TO SELECTED EAST-ASIAN ECONOMIES, 1990-2003 (CHINA, REPUBLIC OF KOREA, MALAYSIA, THAILAND) (DECEMBER 1989 = 100)

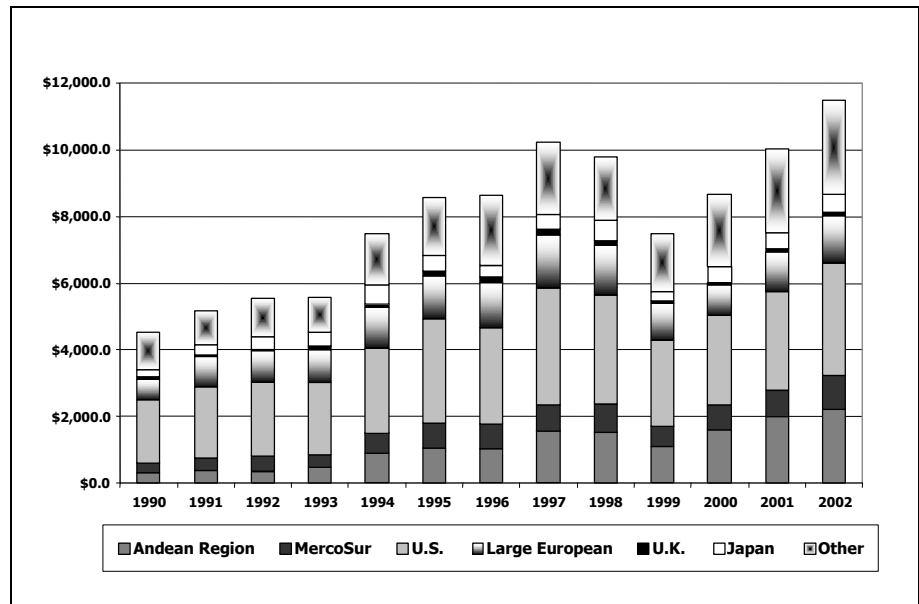


Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Ecuador

More than half of Ecuador's trade since the start of the 1990s has involved the larger OECD economies (see Figure 37). Only 11 per cent of its exports have gone to Andean economies and just 15 per cent of its imports has come from them (see Figure 38), even though its population centers have good road links with both Colombia and Peru.

Figure 37
ECUADOR: MERCHANDISE EXPORTS PLUS IMPORTS, 1990-2002
(per cent of total exports plus imports, US\$ million)

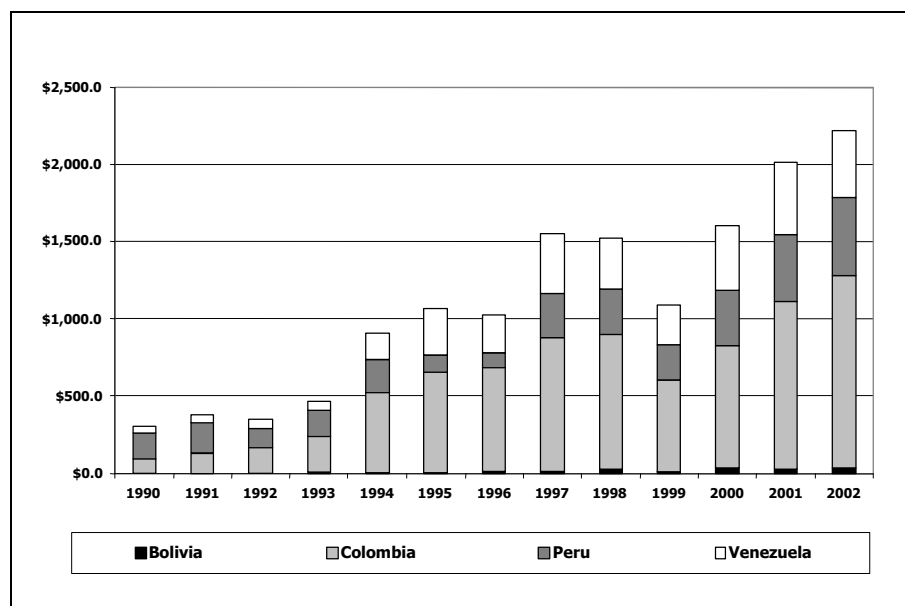


Source: United Nations Economic Commission for Latin America and the Caribbean

Figure 38

ECUADOR: MERCHANDISE EXPORTS TO PLUS IMPORTS FROM ANDEAN ECONOMIES, 1990-2002

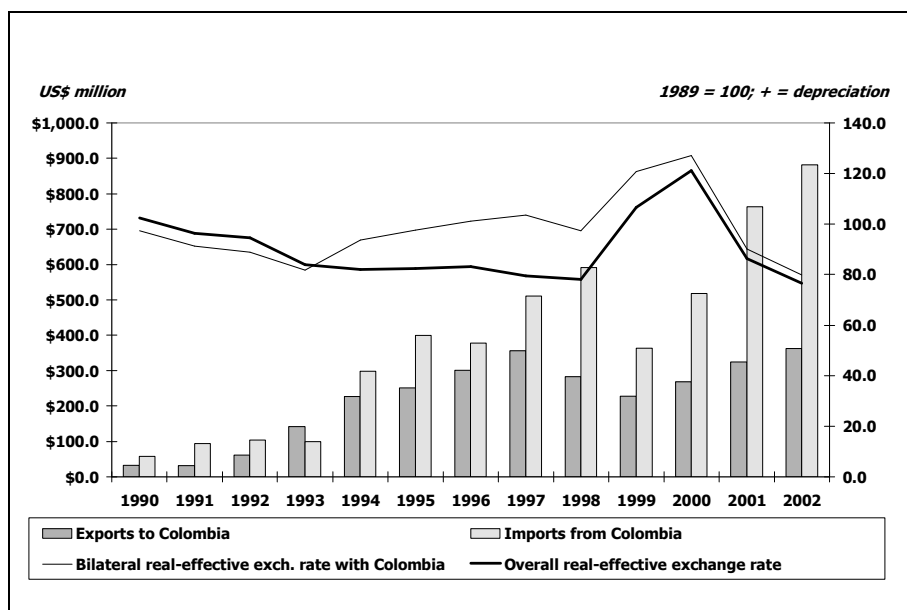
(per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

The bulk of Ecuador’s Andean trade has been with Colombia. Ecuador’s trade with Colombia grew steadily over the 1990s, from 2 per cent of Ecuador’s total trade in 1990 to 11 per cent in 2002. Ecuador’s real-effective exchange rate *vis-à-vis* Colombia (mirroring, of course, Colombia’s real-effective exchange rate *vis-à-vis* Ecuador, discussed above) was characterized by a high degree of volatility after 1990. Ecuador’s real-effective exchange rate *vis-à-vis* Colombia appreciated somewhat until 2000, but then appreciated sharply under dollarization. As noted above in the discussion of Colombia, Ecuador’s exports to Colombia grew over the 1990s despite the real-effective appreciation. Imports from Colombia have grown particularly strongly since 2000 with the real-effective appreciation that took place in the aftermath of dollarization.

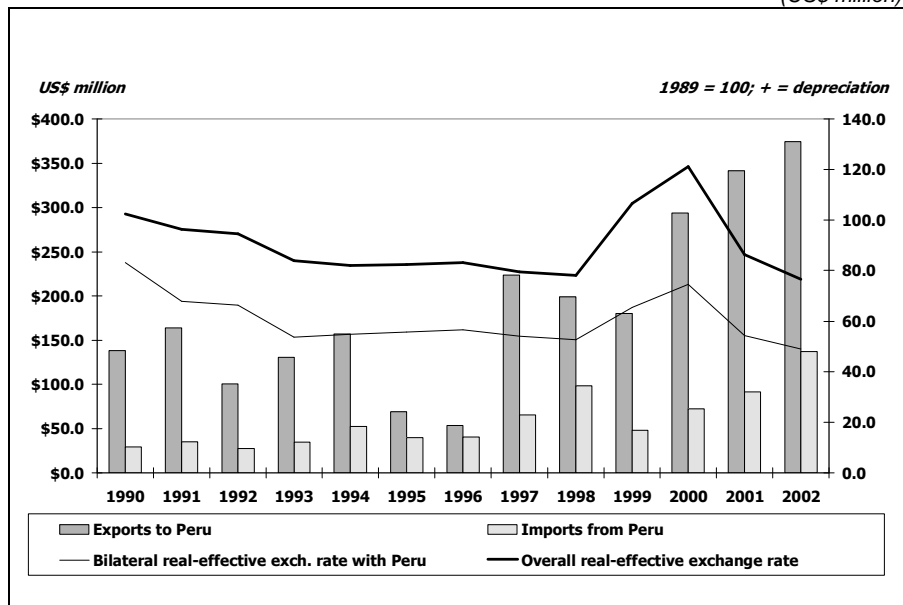
Figure 39
ECUADOR WITH COLOMBIA: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
(US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Ecuador’s economic relationships with Peru were impeded by a standing border dispute, which flared briefly into armed conflict in 1995. In October 1998 a peace treaty settled the conflict, and offered the prospect of normal relations between the two economies. Trade between the two neighbors had amounted to only about 3 per cent of Ecuador’s total trade. Inevitably, it dipped to less than one per cent in 1995 and 1996. Beginning in 1997, however – even before the peace accord -- Ecuador’s exports to Peru returned to a higher, presumably more normal level. Since 2000, Ecuador’s imports from Peru appear to have responded positively to Ecuadorian currency’s real-effective appreciation *vis-à-vis* Peru’s currency.

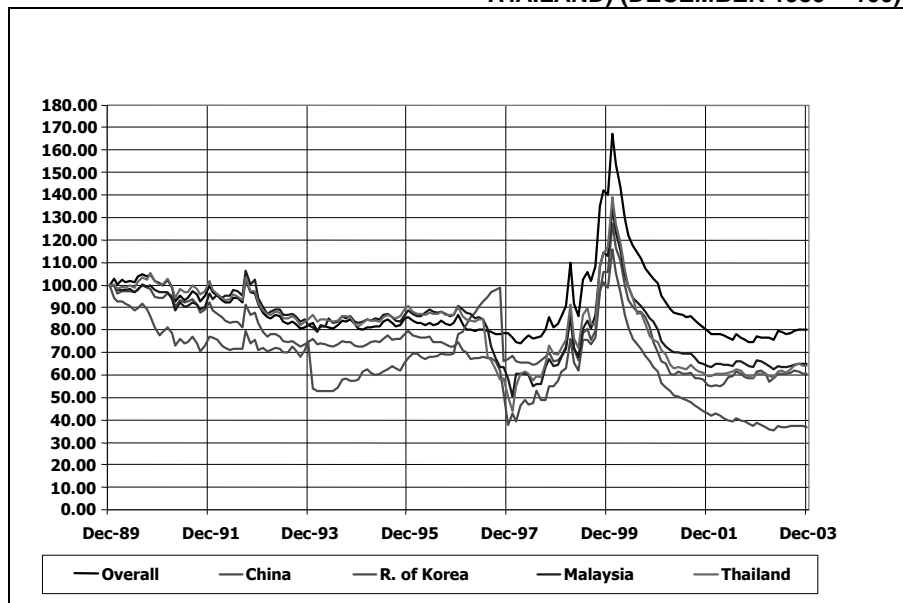
Figure 40
ECUADOR WITH PERU: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
 (US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Again, like other Andean economies, Ecuador’s competitiveness *vis-à-vis* east Asian economies slid sharply over the 1990s, and has recovered only partially in more recent years (see Figure 41). Again, this is one reason among many why Ecuadorian exports have generally competed unsuccessfully with the Asian economies in manufacturing export markets.

Figure 41
ECUADOR’S COMPETITIVENESS RELATIVE TO SELECTED EAST-ASIAN ECONOMIES, 1990-2003 (CHINA, REPUBLIC OF KOREA, MALAYSIA, THAILAND) (DECEMBER 1989 = 100)

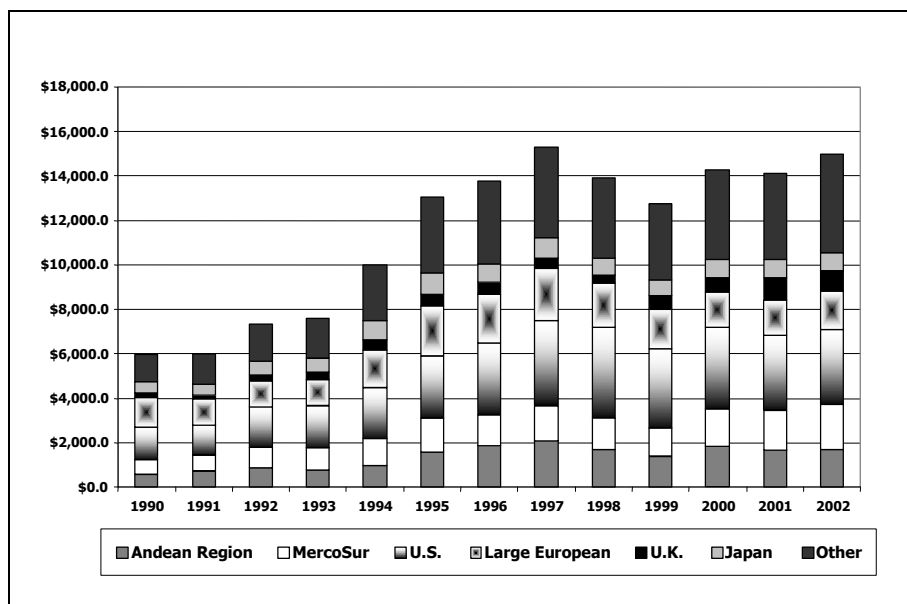


Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Peru

Since 1990, Peru's trade with the United States, Europe, and Japan has accounted for just over 60 per cent of the country's total trade (both exports and imports) (see Figure 42). The Andean economies have accounted for just 12 per cent of Peru's trade since 1990, and almost all of that trade has been with Colombia and Venezuela.

Figure 42
PERU: MERCHANDISE EXPORTS PLUS IMPORTS, 1990-2002
(per cent of total exports plus imports, US\$ million)

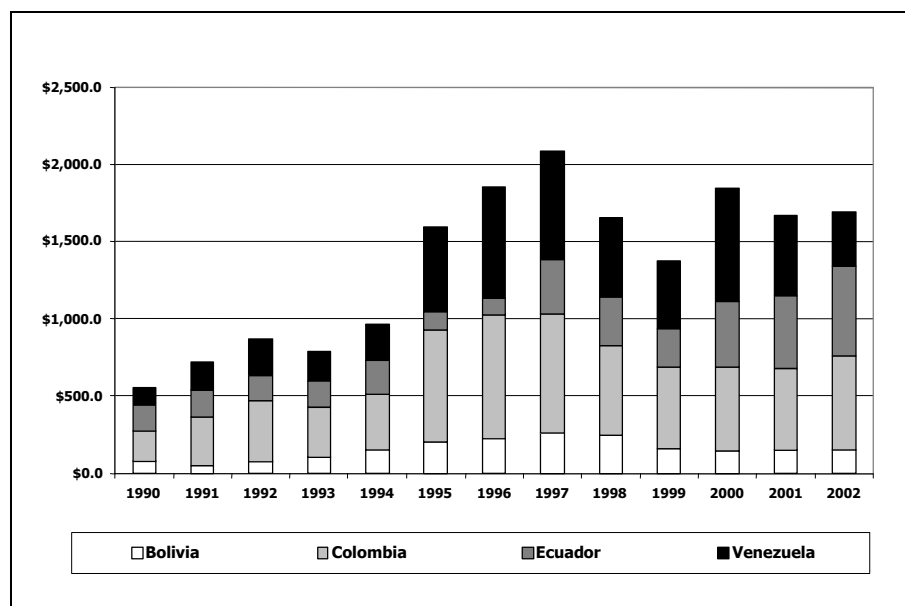


Source: United Nations Economic Commission for Latin America and the Caribbean.

Figure 43

PERU: MERCHANDISE EXPORTS TO PLUS IMPORTS FROM ANDEAN ECONOMIES, 1990-2002

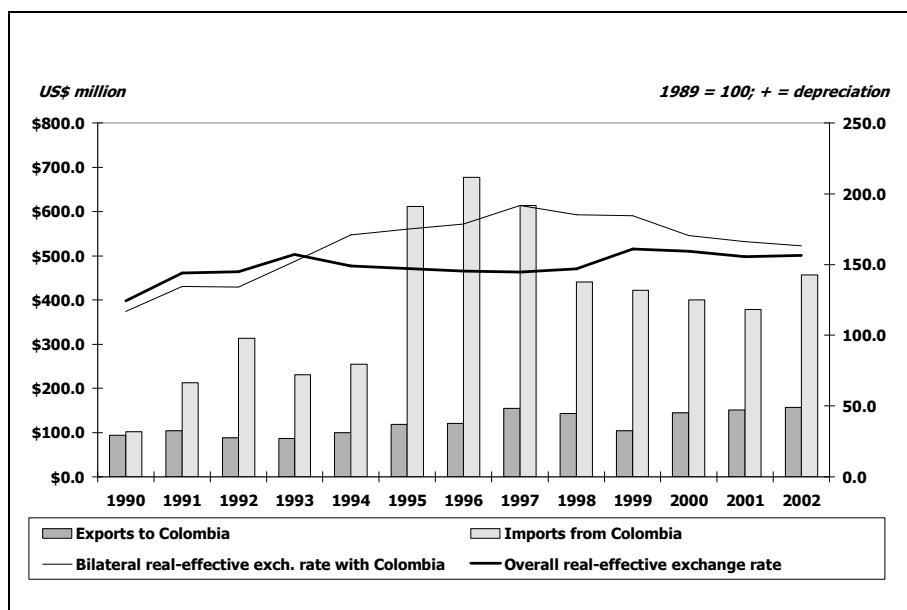
(per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

Peru’s real-effective exchange rate *vis-à-vis* Colombia (the mirror image, of course, of Colombia’s real-effective exchange rate *vis-à-vis* Peru, discussed above) depreciated sharply in 1990 as Peru’s exchange rate depreciated in the wake of its hyperinflation. Peru’s imports from Colombia grew as its economy recovered, but further real-effective depreciation of the peruvian currency restrained their growth. In 1995, 1996, and 1997, however, Peru’s imports from Colombia doubled, despite Peru’s continuing real-effective depreciation *vis-à-vis* Colombia. Beginning in 1998, however, as Peru’s growth rate slowed, its imports from Colombia fell to a lower level. Meanwhile, throughout the period Peru’s exports to Colombia have remained relatively low.

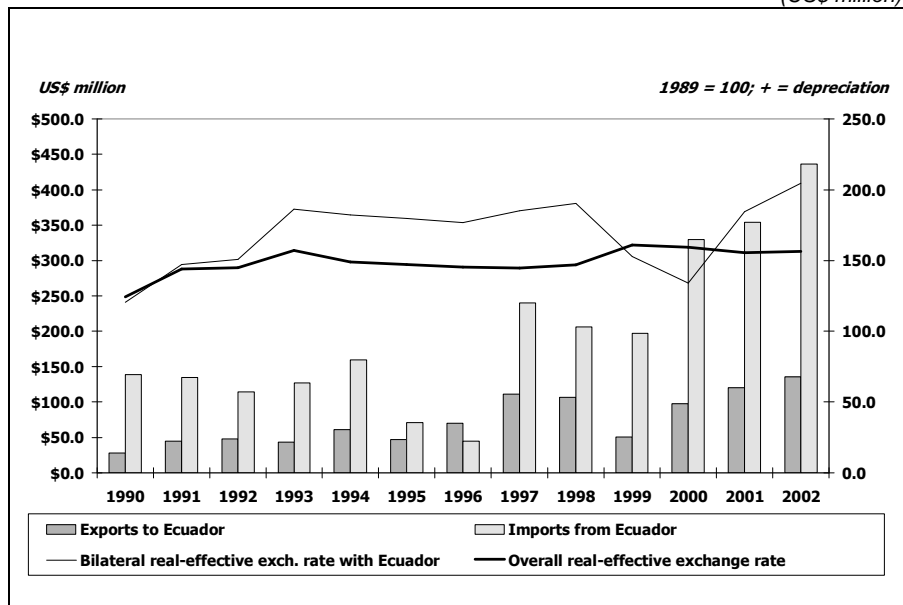
Figure 44
PERU WITH COLOMBIA: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
(US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Although the two countries are neighbors and transport links are good, trade between Peru and Ecuador has amounted only to about 2 per cent of Peru’s total trade. Peru’s real-effective exchange rate *vis-à-vis* Ecuador (again, the mirror image of Ecuador’s real-effective exchange rate *vis-à-vis* Peru, discussed above) depreciated sharply in 1990. Beginning in 1997, however, even before the peace accord between the two economies, Peru’s imports from Ecuador rose to a higher, presumably more normal level. Since 2000, Peru’s exports to Ecuador have responded positively to the Peruvian currency’s strong real-effective depreciation *vis-à-vis* the Ecuadorian currency.

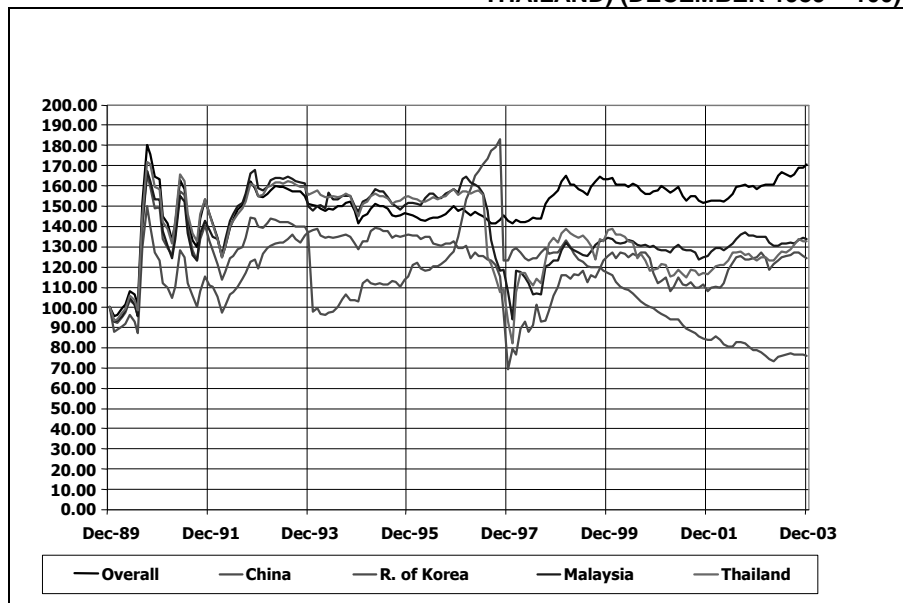
Figure 45
PERU WITH ECUADOR: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
 (US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

Yet again, like other Andean economies, Peru’s competitiveness *vis-à-vis* east Asian economies slid sharply over the 1990s, and has recovered only partially in more recent years (see Figure 46). This is one reason among many why Peruvian exports have generally competed unsuccessfully with the Asian economies in manufacturing export markets.

Figure 46
PERU’S COMPETITIVENESS RELATIVE TO SELECTED EAST-ASIAN ECONOMIES, 1990-2003 (CHINA, REPUBLIC OF KOREA, MALAYSIA, THAILAND) (DECEMBER 1989 = 100)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund

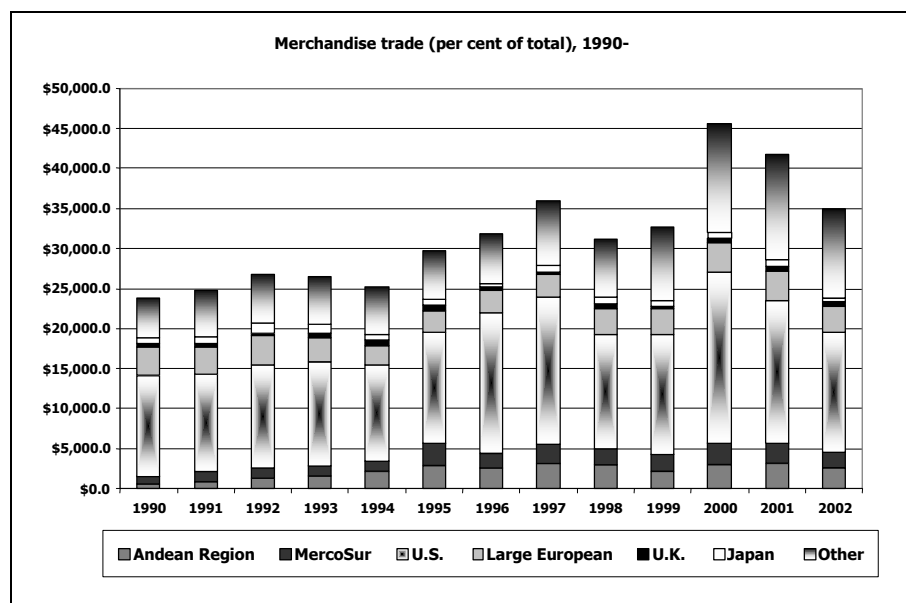
Venezuela

As noted in Section 9 above, crude oil has accounted for roughly 85-90 per cent of Venezuela's exports over the 1990s. Venezuela's exchange rates -real-effective or nominal- have relatively little importance in influencing either the volumes or the direction of this trade, among other reasons because the quality of most Venezuelan crude means that only specialized refineries located in relatively few places can process it. Almost half of Venezuela's total trade was with the United States, largely because that is where most of the specialized refineries are located (see Figure 47). Since the 1990s, however, only about 40 per cent of Venezuela's imports have come from the United States, and the figure has been declining, reaching just 33 per cent in 2002. Unlike exports, however, Venezuela's exchange rate presumably does affect the volumes and direction of its imports. Only 7 per cent of Venezuela's overall trade is with Andean economies, and its only significant partner among them is Colombia (see Figure 48). Imports from Colombia have accounted for 6 per cent of Venezuela's total during the 1990s, rising over the decade.

Figure 47

VENEZUELA: MERCHANDISE EXPORTS PLUS IMPORTS, 1990-2002

(per cent of total exports plus imports, US\$ million)

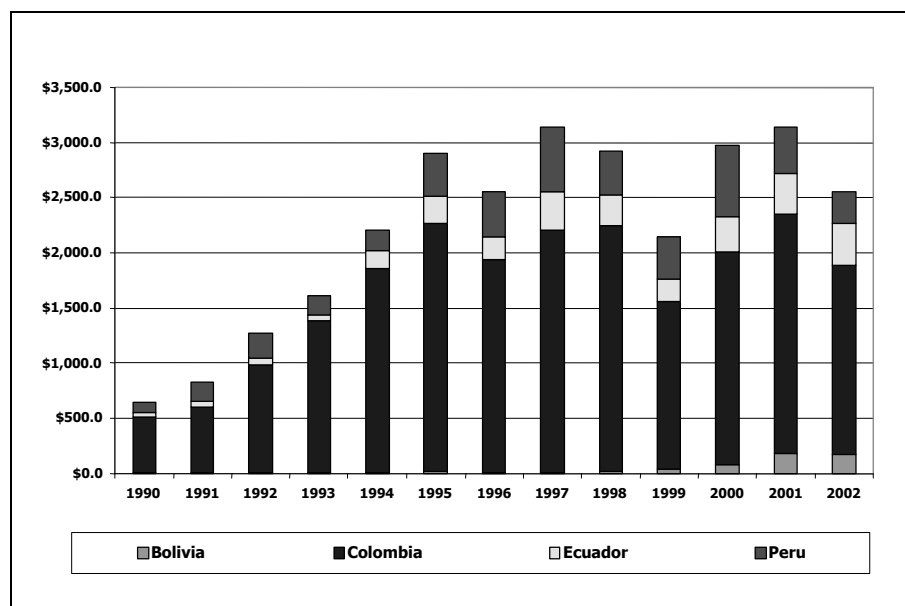


Source: United Nations Economic Commission for Latin America and the Caribbean.

Figure 48

VENEZUELA: MERCHANDISE EXPORTS TO PLUS IMPORTS FROM ANDEAN ECONOMIES, 1990-2002

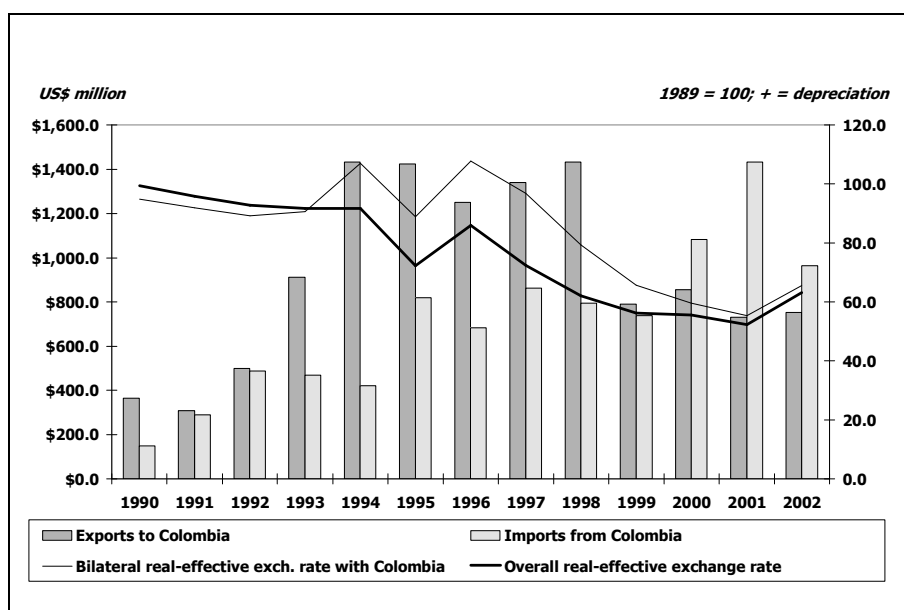
(per cent of total exports plus imports, US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean.

Since the early 1990s Venezuela’s real-effective exchange rate has appreciated *vis-à-vis* Colombia (see Figure 49) – once again, the mirror image of the Colombian currency’s real-effective depreciation *vis-à-vis* the bolivar discussed above. With this appreciation, Venezuela’s imports from Colombia grew, rising from about US\$150 million in 1990 to more than US\$1.4 billion in 2001. Their growth was especially rapid after 1999, when Colombia’s exchange-rate depreciation augmented Venezuela’s import incentive.

Figure 49
VENEZUELA WITH COLOMBIA: BILATERAL TRADE AND REAL-EFFECTIVE EXCHANGE RATE, 1990-2002 (DECEMBER 1989 = 100)
(US\$ million)



Source: United Nations Economic Commission for Latin America and the Caribbean, International Monetary Fund.

From this examination of the Andean economies' bilateral real-effective exchange rates and their bilateral trade performance, it seems fair enough to conclude that the five economies' exchange-rate policies have interacted in ways that may be characterized as haphazard. Thus, for example, beginning in 2000 Ecuador's move to dollarization combined with Colombia's move to a floating exchange rate interacted to generate strong incentives favoring Colombian exports to Ecuador. This outcome must be regarded as a haphazard consequence of policies in the two countries intended to address larger issues. There are many reasons why trade among the Andean economies has grown relatively slowly over recent decades. Some have to do with the "fundamental" reality that these economies are to a large degree competitive rather than complementary. It is likely, however, that they would engage in a larger amount of bilateral trade among themselves if their exchange rate regimes did not subject trade relationships to such haphazardness and uncertainty.

It is also a matter for concern that the Andean economies' real-effective exchange rates have tended to appreciate over the 1990s compared with those of east Asian economies, implying a deteriorating capacity to compete in export markets with those economies.



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