Why National Business Cycles are Largely Independent in Latin America?

Evidence from Intra-regional Trade and Investment

Pablo Mejía-Reyes*

"–Entonces, Jacinto, ¿dime qué les pasa a los niños que mueren?
–Los niños que se mueren, niño Guy, despiertan."
Emilio Abreu Gómez, Canek

A la memoria de nuestra Berenice González Mejía.

Recepción: abril 20 de 2001
Aceptación: julio 3 de 2001

* El Colegio Mexiquense, A. C. Ex-Hacienda Santa Cruz de los Patos. Apartado Postal 48-D. Toluca, México. C. P. 50120.
e-mail: pmejia@cmq.edu.mx.
Phone number: 0052 (722) 2 18 03 58 ext. 278.
Fax number: 0052 (722) 2 18 03 58 ext. 200.
This paper is a modified version of Mejía Reyes (2001). I would like to thank the comments of Denise Osborn and Eduardo Loría. Also I would like to acknowledge financial support from the Consejo Nacional de Ciencia y Tecnología of Mexico. The usual disclaimer applies.

¿Por qué los ciclos económicos nacionales son esencialmente independientes en América Latina? Evidencia del comercio e inversión intra-regionales

Resumen. Varios autores han presentado evidencia sobre el carácter fundamentalmente independiente de los ciclos económicos de varios países latinoamericanos. En este documento se analiza la dinámica del comercio internacional y de la inversión extranjera entre países latinoamericanos con el objeto de explicar este hallazgo. Los resultados sugieren que las magnitudes de este tipo de transacciones no han sido suficientemente altas como para que pudieran actuar como mecanismos de transmisión internacional.
Palabras clave: ciclos económicos, comercio internacional, inversión extranjera, América Latina.

Abstract. Various authors have presented evidence that national business cycles are largely independent in Latin America. The aim of this paper is to analyse the dynamics of international trade and foreign investment within this region, in order to explain that finding. Our results suggest that the magnitude of this type of international transaction has not been large enough to allow it to act as an international transmission mechanism.
Key words: business cycles, international trade, foreign investment, Latin America.

Introduction

Recently there has been an increasing interest in international economic integration following the European experience. Economists have paid attention both to what extent countries are actually integrated and what are the possibilities of a major integration in the context of recently signed free trade agreements and the promotion of foreign investment liberalisation and regional monetary unions. Following the paper by Backus and Kehoe (1992), numerous papers have addressed the international relationship between national business cycles. Generally most papers have found the existence of remarkable similarities as well as significant correlations between the economic fluctuations of developed economies suggesting an important integration (see for example Fiorito and Kollintzas, 1994; Christodoulakis, Dimelis and Kollintzas, 1995; Ravn, 1997).

Traditionally, international trade and investment have been mentioned as two of the most important transmission channels of individual economic fluctuations (Canova and Dellas,

1993). Then it could be expected the existence of an important economic integration between countries that are geographically close to each other. That could be expected to be the case for a more less homogenous area such as Latin America. However, the existing literature reports a rather low integration in the sense that national business cycles are largely independent (see below). In this context, the aim of this paper is to contribute to understand this finding by providing information about intra-regional trade and investment within Latin America. This task, as far as we know, has not been carried out before in papers analysing business cycles in this region. Our main finding is that the magnitude of these types of international transactions have not been large enough to act as transmission mechanisms of country-specific shocks causing national business cycles being mainly independent.

We will argue that international transactions have not been large enough to act as transmission mechanisms of national economic fluctuations and that common cyclical fluctuations may be explained by external common shocks.

The remaining of this paper is organised as follows. In Section 2 we review the literature addressing international business cycles in Latin America. We briefly describe the methodologies used in each paper and remark their main results. In Sections 3 and 4 we report evidence about the dynamics of intra-regional trade and investment within Latin America over the 1950-1995 period. Finally, some conclusions are stated in Section 5.

I. International Business Cycles in Latin America: a Literature Review

Different methodologies have been used to address the issue of international business cycles in Latin America. First, some papers use decomposition methods to remove the trend of some measures of output and obtain the cyclical fluctuations indicator as the difference between the observed series and the estimated trend. Arnaudo and Jacobo (1997) use deterministic trend approximations and ARIMA models to remove both deterministic and stochastic trends. They find that economic fluctuations of Mercosur countries (Argentina, Brazil, Urugual y Paraguay) are highly variable and not uniform over time, although they find a significant correlation pattern between Argentina and Brazil. Iguíñiz and Aguilar (1998) use the methodology suggested by Kydland and Prescott (1990)[1] and find that economic fluctuations of the Andean countries (Bolivia, Colombia, Ecuador, Peru, and Venezuela) and of the United States are positively corre-lated from 1950 to the start of debt crisis in 1982, but that most correlations become non-significant over the 1981-1995 period. Similar results are obtained by Torres-García (2000) –who also uses the methodology proposed by Kydland and Prescott (1990)– when he analyses the relationship between the business cycles of Mexico and of the United States: he finds that the correlation between the business cycles of these countries is positive and clear until 1987. Also, he reports evidence of a positive relationship –yet low and not clearly defined– between the cycles of some Latin American countries, which, he argues, may work through common shocks in the financial markets.

On the other hand, in a very interesting paper, Kose, Otrok and Whiteman (2000) estimate a Bayesian dynamic latent factor model to compute a world, regional and country-specific common factors as well as an idiosyncratic factor, which would let them to determine the sources of economic fluctuations. They find that the country-specific component along with the idiosyncratic component account for more of the volatility in developing economies, in general, and in "South America" (including Mexico), in paticular.

Finally, by using a classical business cycles approach to date business cycle turning points, Mejía-Reyes (1999) finds that business cycle regimes are synchronised only for a few countries (Brazil and Peru and Argentina and Brazil). Similar results are obtained from the application of Markov-switching models by Mejía-Reyes (2000), who finds some evidence of common cycle regimes only for Brazil and Peru and Chile and the United States. This was an expected result given that the estimated models lack an autoregressive structure suggesting the absence of inter-temporal and international transmission of country-specific shocks. Thus, the evidence would suggest that common business cycle regime result from common exogenous shocks.

In summary, existing literature analysing international business cycles in Latin America reports low and time-varying correlations between national cyclical fluctuations. Furthermore, significant correlations are limited to a small number of countries and existing common business cycle regimes may be explained by exogenous common shocks. In the remaining of this paper we try to shed some light on this issues. In particular, we will argue that international transaction have not been large

1. The Kydland and Prescott's (1990) methodology uses the decomposition technique suggested by Hodrick and Prescott (1997) to remove the stochastic trend. This is the most commonly used methodology in the empirical business cycles analysis literature.

Table 1. Intra-regional Exports as a Percentage of Total Exports in Latin America and the Caribbean, 1970-1995.

Year	Argentina	Bolivia	Brazil	Chile	Colombia	Mexico	Peru	Venezuela	All Latin America
1970	21.1	9.7	11.8	12.2	10.5	9.8	6.5	33.5	17.6
1975	25.9	35.9	15.7	23.7	21.7	14.3	16.7	33.2	21.0
1980	23.8	36.7	18.1	24.3	17.6	6.9	21.2	37.4	22.2
1981	19.7	42.6	19.3	21.9	23.7	9.8	12.8	36.6	21.1
1982	20.4	51.6	15.6	19.4	21.7	8.8	15.4	21.4	17.5
1983	14.1	55.0	10.4	12.1	14.0	7.5	10.4	20.9	14.0
1984	18.5	52.8	11.5	15.0	13.5	6.4	11.9	19.2	13.7
1985	18.7	60.2	9.7	14.5	14.0	5.4	14.1	18.3	12.6
1986	23.9	64.5	12.4	17.0	11.4	6.7	14.5	20.0	14.1
1987	21.6	57.8	12.4	17.0	17.3	7.8	16.1	23.9	14.9
1988	20.5	47.7	12.1	12.8	16.0	7.5	14.5	21.6	14.3
1989	25.9	44.0	12.1	12.1	16.0	7.1	15.3	21.5	15.4
1990	26.3	45.6	11.6	12.5	16.9	6.6	15.4	22.8	16.0
1991	30.3	51.2	16.7	14.4	24.1	4.7	16.1	24.9	16.1
1992	34.1	36.0	22.0	16.7	25.1	5.6	18.1	27.9	17.6
1993	42.0	37.7	25.2	19.5	26.4	5.4	17.8	26.7	19.3
1994	43.7	36.8	24.3	20.9	22.6	4.5	17.6	34.5	19.0
1995	47.7	36.9	23.0	18.7	29.7	5.7	17.1	33.9	19.2

Source: IMF. Directions of Trade Statistics, various issues.

enough to act as transmission mechanisms of national economic fluctuations and that common cyclical fluctuations may be explained by external common financial shocks.

II. Intra-regional Trade in Latin America

Latin American economies have experienced two very different trade regimes during the last sixty years. From the 1940s to the late 1980s these countries implemented a protectionist regime to encourage the domestic production of manufactured goods. Consequently, although inefficient and anti-export biased, an industrial sector was developed during this period. Economic growth resulted from an import-substitution industrialisation process. In the policy makers' view, international trade was not important because the expansion of the domestic market would become the engine of growth. Afterwards, in the late 1980s and in the eve of the stabilisation process, most Latin American countries conducted wide structural reforms. The liberalisation of trade was a very important component of this program and the magnitude and speed of the process was very impressive. Numerous regional free trade agreements have been signed since the late 1980s and international trade is expected to become the engine of growth.[2]

Although it would be interesting to analyse the dynamics of international trade in Latin America, we are only interested in trade transactions among some Latin America countries because our concern is to analyse in what extent trade has acted as a transmission mechanism of national fluctuations.

In Table 1 we can observe that the proportion of intra-exports in Latin America was below 20% over the period 1970-1995. If we analyse that information in more detail we can see that there was an important decline from the early 1980s to the early 1990s: from 21% in 1981, the percentage of exports fluctuated around 15% during that period. After that there has been a new upturn.[3] Although there has been

2. The change in the trade policy orientation was reflected immediately in the volume of international trade, and in particular in the volume of exports. For example, according to Edwards (1995, Chapter 5), the volume of exports for the region as a whole grew at an annual average rate of 2.0% between 1970 and 1980, at a rate of 5.5% between 1980 and 1985, and at an annual rate of 6.7% between 1986 and 1990. However, the real value of exports evolved at a somewhat slower pace because the terms of trade in every subgroup of countries deteriorated significantly between 1980 and 1991 (Edwards, 1995, Chapter 5).

3. It is difficult to say at this level of aggregation, but it is plausible to think that the proportion of exports during the 1970s and the early 1980s was associated with the exports of raw materials (such as oil and minerals). The decline in the 1980s, a period during which exports had to grow fast to finance the external debt, might be associated with a re-directioning of trade toward developed countries, in particular to the United States. Edwards and Savastano (1989) consider this fact as evidence of the limitation of the regional market to absorb new Latin American exports, specially in that period when the economy was in a generalised recession. The recent upturn in exports has been associated with structural reforms (particularly trade and foreign investment liberalisation as well as stabilisation of the economy) (Edwards, 1995).

Table 2. Intra-regional Exports (fob) as a Percentage of Total Exports, 1970-1995.

Exporting and Importing country	1960	1970	1980	1985	1990	1995
From Argentina to						
Bolivia	0.2	0.9	1.7	0.8	0.5	1.1
Brazil	7.7	7.8	9.5	5.9	11.5	26.2
Chile	3.9	5.2	2.7	1.3	3.7	6.9
Colombia	0.0	0.8	0.5	1.6	0.6	1.1
Mexico	0.1	0.9	1.5	3.0	2.6	1.4
Peru	1.4	1.8	1.5	1.9	1.5	1.5
Venezuela	0.5	0.7	0.8	0.9	1.2	1.8
United States	8.5	8.9	8.9	8.3	13.8	7.3
From Bolivia to						
Argentina	5.7	4.7	23.7	55.9	25.6	11.8
Brazil	5.9	0.4	3.5	0.7	8.5	1.8
Chile	0.4	1.0	4.8	0.8	3.7	2.2
Colombia	0.1	...	0.9	0.6	0.4	5.6
Mexico	...	...	0.3	0.0	0.1	0.1
Peru	...	2.7	3.1	1.9	5.7	12.5
Venezuela	...	...	0.5	...	0.3	0.5
United States	23.3	32.6	25.7	14.1	20.0	27.2
From Brazil to						
Argentina	4.4	6.8	5.4	2.2	2.1	8.7
Bolivia	0.0	0.3	0.9	0.7	0.6	1.1
Chile	0.9	0.9	2.2	0.9	1.5	2.6
Colombia	0.0	0.2	0.7	0.4	0.5	1.0
Mexico	0.0	0.7	2.3	0.9	1.6	1.1
Peru	0.0	0.3	0.6	0.4	0.5	0.9
Venezuela	0.1	0.3	1.1	1.2	0.9	1.0
United States	44.4	24.7	17.4	26.9	24.7	18.9
From Chile to						
Argentina	3.7	6.3	6.0	2.2	1.3	3.5
Bolivia	0.4	0.1	0.6	0.4	0.9	1.2
Brazil	1.2	1.9	9.6	5.5	5.7	6.4
Colombia	0.2	0.5	1.6	1.4	0.9	1.1
Mexico	0.1	0.8	1.4	1.3	0.7	0.8
Peru	0.7	0.7	1.5	1.2	0.9	2.6
Venezuela	0.2	0.3	1.7	0.9	0.4	0.
United States	37.2	14.1	12.6	22.7	17.3	14.5
From Colombia to						
Argentina	0.0	1.6	1.7	1.0	0.4	0.6
Bolivia	...	...	0.1	0.0	0.1	0.2
Brazil	...	0.2	0.2	0.2	0.4	1.1
Chile	0.2	0.7	1.6	0.6	2.4	1.4
Mexico	0.0	0.2	0.5	0.2	0.6	0.9
Peru	0.7	3.0	0.7	0.9	1.3	5.7
Venezuela	0.3	0.7	7.1	3.6	3.0	9.5
United States	64.2	36.3	27.1	32.8	44.5	34.1

Exporting and Importing country	1960	1970	1980	1985	1990	1995
From Mexico to						
Argentina	0.1	1.0	0.3	0.2	0.4	0.4
Bolivia	...	0.0	0.0	...	0.0	0.0
Brazil	0.2	1.0	2.6	1.3	0.6	1.0
Chile	0.2	1.1	0.2	0.1	0.3	0.6
Colombia	0.2	0.9	0.3	0.5	0.4	0.6
Peru	0.1	0.6	0.2	0.1	0.3	0.2
Venezuela	0.4	1.6	0.4	0.2	0.5	0.5
United States	59.6	59.8	64.7	60.4	69.3	83.6
From Peru to						
Argentina	2.2	1.3	1.5	1.2	0.9	0.6
Bolivia	0.7	0.2	1.8	0.4	0.6	1.4
Brazil	0.5	0.8	3.2	1.8	3.9	3.6
Chile	3.8	0.6	1.1	1.7	1.7	2.8
Colombia	0.2	0.9	1.4	2.5	2.9	2.2
Mexico	0.2	1.3	2.3	0.4	1.2	1.7
Venezuela	0.1	0.5	1.3	1.4	1.7	2.9
United States	36.2	33.2	32.1	33.9	22.3	17.3
From Venezuela to						
Argentina	2.7	0.9	0.3	0.0	0.0	0.3
Bolivia	...	...	...	...	0.0	0.1
Brazil	3.4	1.9	3.5	1.8	1.9	3.9
Chile	0.4	0.4	1.3	1.7	1.0	1.1
Colombia	0.1	0.3	1.4	1.6	2.1	6.3
Mexico	0.0	0.2	0.1	0.1	1.0	1.1
Peru	0.1	0.2	0.1	0.2	0.2	1.8
United States	43.6	37.9	27.7	46.0	51.5	48.8
From the US to						
Argentina	1.7	1.0	1.2	0.3	0.3	0.7
Bolivia	0.1	0.1	0.1	0.1	0.0	0.0
Brazil	2.1	1.9	2.0	1.5	1.3	2.0
Chile	0.9	0.7	0.6	0.3	0.4	0.6
Colombia	1.2	0.9	0.8	0.7	0.5	0.8
Mexico	4.0	3.9	6.9	6.4	7.2	7.9
Peru	0.7	0.5	0.5	0.2	0.2	0.3
Venezuela	2.7	1.8	2.1	1.6	0.8	0.8

... Indicates no trade.
0.0 does not indicate no trade, but a vary small value.
Source: IMF, *Direction of Trade Statistics*, various issues.

an increase in intra-regional exports, it seems that its magnitude has not been large enough to transmit country-specific shocks. A country by country analysis and a review of the role of regional trade integration might help to clarify this point.

The first modern attempts of commercial integration in Latin America were undertaken in the late 1950s and early 1960s. Trade integration was perceived and advocated as the only alternative to overcome the problems related to the inadequate scale of domestic markets. It was thought that regional integration would help to overcome the existing difficulties of substituting the importation of a full range of intermediate and capital goods (Edwards and Savastano, 1989). On the basis of this diagnostic, different agreements were signed, but the early results were rather poor.

Recently, two trade agreements have become important in South America, Mercosur and the Andean Group, and one in North America, the North America Free Trade Agreement (NAFTA). Mercosur is a trade agreement signed by Argentina, Brazil, Paraguay and Uruguay in 1991.[4] There is little doubt that the dynamics of this agreement will depend on the performance of Argentina and Brazil because they are the largest South American countries.

Argentina has increased its trade integration with Latin America in general: its percentage of exports to this region

4. The legal document of Mercosur is the Asunción Treaty, whose antecedent is an integration act signed between Argentina and Brazil is 1986. Its main objective has been to eliminate all tariffs for intra-regional trade by December 1994 and to establish a common external tariff to trade with the rest of the world.

has increased by more that 100% from 1970 (21.1%) to 1995 (47.7%) and it has shown a constant increase –except for a decline in the early 1980s– (see Table 1). Actually, the percentage of Argentinean intra-regional exports is the greatest one in the sample at the end of the period considered. In Table 2 we present information that shows a major integration of Argentina to the Brazilian economy: the percentage of Argentinean exports to Brazil increased by more than three times over the analysed period. Consequently, Brazil has become the major trade partner of Argentina.

It seems reasonable to think that this major integration is a consequence of the trade liberalisation within Mercosur. This statement is supported by the fact that, except with respect to Chile, there have not been important increases of Argentinean exports to other Latin American countries or even to the United States. This dynamics might indicate a re-directioning of trade towards Mercosur members, especially to Brazil. However, summation of the percentages of exports to the countries listed in the Table accounts only for around 50% of Argentinean exports, which suggests a large diversity of Latin America trade partners for Argentina.

In Table 1 we observe that the percentage of intra-regional exports of Brazil has increased significantly (from 12% in 1970 to 23% in 1995). However, in 1995 the percentage of Brazilian intra-regional exports was only a half of that corresponding to Argentina.[5] However, the data show an important increased since 1992, just after Mercosur was signed (from 11.6% in 1990 to 23% in 1995).

In Table 2 it is shown that despite the increase from 1990 to 1995 (from 2.1% to 8.7%), the percentage of Brazilian exports to Argentina is still at low levels and it is not much higher than its historical level. Furthermore, the United States is still the major trade partner of Brazil, although there has been an important decline in the percentage of exports to this country (in 1995 that percentage was less than a half of that corresponding to 1960). We can observe from the data that trade relationships with the other Latin American countries listed in the Table has been at very low levels.

The Andean Pact was renewed in 1990 by Bolivia, Colombia, Ecuador, Peru, and Venezuela.[6] In Table 1 we can observe that among the members of the Andean Group considered in this study, Bolivia has the largest percentage of exports to Latin America. However, this percentage in the 1990s has been around the level of the late 1970s and below the values of the 1980s. From the information presented in Table 2, we can observe that the percentage of exports of Bolivia to Colombia and Peru increased after the renewing of the Andean Pact (from 0.4% to 5.6% and from 5.7 to 12.5% between 1990 and 1995, respectively). At the same time, the percentage of exports to Venezuela coming from Bolivia has remained approximately constant (around 0.5%). Despite these increments, the percentage of exports to these countries is still low (less than 20% in 1995). On the other hand, it is apparent that the main trade partners of Bolivia are from outside the Andean Group. Although the percentage of exports to Argentina has decreased dramatically from the middle of the 1980s to the middle of the 1990s, it is still very close to that of its main trade partner within the Andean Group (12.5% of Bolivian exports are sold to Peru). Furthermore, it seems that the United States is recovering its status as the main trade partner of Bolivia; the percentage of exports to that country has risen since 1985.

Despite a significant increase during recent years, intra-regional trade in Latin America is still at low levels in percentage terms.

According to the information in Table 1, after the generalised decline of the percentage of intra-regional exports to Latin America during the 1980s, Colombian exports have increased. The jump of 1991 suggests that the Andean Pact affected positively its intra-regional exports. This is supported by the information in Table 2. On the one hand, we observe that the percentage of intra-regional exports to Latin America was very low over the period 1960-1995 and that most Colombian exports are sold to the United States (almost two thirds in 1960 and more than a third in 1995). On the other hand, we observe that in the 1990s there has been a slight shift in the destination of exports to Peru and Venezuela. However, the proportion of exports to the Andean Group members is still low (around 15%).

Peruvian integration to Latin America is relatively low. The percentage of exports to Latin America has fluctuated around 17%, except during the 1980s when there was a decline. At this level of aggregation, it does seem to be the

5. It is known that the Brazilian economy has been one of the most closed economies in the past and that it is still reluctant to open its economy. See Dornbusch (1997) for an analysis of the advances and limitations of the Brazilian reform.

6. In 1969 Bolivia, Colombia, Chile, Ecuador and Peru signed the Cartagena Agreement that formalised the integration of the *Andean Pact*. Its objectives were to implement a regional free trade zone, to define a common external tariff, and to liberalise foreign investment within the group (see Edwards, 1995).

case that the renewal of the Andean Pact had no impact on the destination of the Peruvian exports. In Table 2 we observe that the percentage of Peruvian exports to Latin America has been very low, in general, and that the exports to the Andean Group members have increased, but they are still low (the sum of the percentage of exports to Bolivia, Colombia and Venezuela was around 6.5% in 1995). It is important to note that the percentage of exports to the United States has declined persistently and that its value in 1995 was cut to half with respect to the value of 1960. These trends show an important diversity of the destinations of Peruvian exports.

Venezuela is the second most integrated country to the Latin America economy among the members of the Andean Group (only behind Bolivia) and the third among the countries listed in Table 1 (behind Argentina and Bolivia). However, the Venezuelan proportion of exports sold in Latin America experienced a decline during the 1980s as well. Yet, recently that proportion has recovered to the level of the 1970s and the early 1980s (around 32%). However, the information related to the destination countries in Table 2 shows very low values. Its most important Latin American trade partner in 1995 was Colombia (6.3%). This suggests a great diversification of destination countries within Latin America (with respect to countries not listed here). We can observe as well that the United States stands as the main trade partner of Venezuela: since 1985 the percentage of exports to that country have been above 45%.

In summary, it does seem that trade transaction within the Andean Group and trade relationships among the Andean Group members and other Latin America countries are very low. Edwards (1995) has found similar evidence. He argues that this fact reflects both the similarity of factor endowments across these countries and the existence of significant obstacles to trade, such as commercial regulations and an extremely poor system of land transportation.

After intensive and often confrontational negotiations, the North America Free Trade Agreement (NAFTA) started in 1994. It formalises the traditional integration of adjacent economies by grouping very different countries: the world largest economy, the United States; another developed country, Canada; and a developing country, Mexico.[7]

Mexico is the southern neighbour of the world largest economy and it is geographically the most distant country with respect to the rest of the Latin American economies. These conditions might explain its very low integration to Latin America. According to the data in Table 1 the percentage of exports to Latin America has declined to even lower levels (9.8% in 1970 to 5.7% in 1995). The same conditions might explain the major integration to the US economy. The percentage of exports to that country has been at least 60% since 1960. Recently, it does seem that the NAFTA has had an important impact on the exports to the US: the percentage of exports increased from 69% in 1990 to almost 84% in 1995.

The information in Table 2 shows very low values of the percentage of exports to Latin America coming from the United States. It is apparent that Mexico has been the major trade partner of the US in Latin America. After a decline during the 1980s, the proportion of exports to Brazil has recovered its historical levels. If we combine this information with the fact that some Latin American countries export most of their products to the US we might expect US economic fluctuations to affect the dynamics of Latin American economies.

Finally, after decades of protectionism, Chile became the pioneer in the trade liberalisation process in Latin America. Between 1975 and 1979, Chile unilaterally eliminated quantitative restrictions and reduced tariffs to a uniform level. Recently, in 1991 and 1993 Chile signed free trade agreements with Colombia and Mexico, respectively. The increase in exports to Latin America between 1970 and 1975-1980 that it is shown in Table 1 might be a consequence of the early liberalisation process. During the 1990s we can observe as well a revival of intra-regional exports. However, the information in Table 2 shows only slight increases in the proportion of exports directed to Brazil and Peru. There has been a reduction with respect to other countries, even with respect to the United States. Although in 1995 the US was the most important trade partner of Chile, the proportion of exports to that economy was not as high as it used to be during the 1980s. This might reflect an increasing differentiation in destination countries.

In summary, from the analysis above we can conclude that, despite a significant increase during recent years, intra-regional trade in Latin America is still at low levels in percentage terms. This is true even for adjacent countries and for countries that have become members of some sort of free trade agreement. We observe as well the existence of an important integration of some countries with respect to the US economy, especially in some extreme cases as that of

7. Its main objective was to create a free trade area in North America after some years. The agreement establishes very different speeds of liberalisation for different sectors. For example, in the agriculture sector there will be (for most items) a slow elimination of tariffs over a period of fifteen years. However, it is important to point out that after decades of protectionism and inward orientation, Mexico started a unilateral program of trade liberalisation in late 1985 as a component of a major structural adjustment program.

Mexico. From this information –and considering that a more formal evaluation is needed– it does seem plausible to think that intra-regional trade flows have not been large enough to become a transmission mechanism of country-specific shocks within Latin America. However, this still leaves open the possibility that economic fluctuations may be transmitted through other mechanisms, if any. This may be particularly relevant for close trade partner like Mexico and the US.

Table 3. Latin America: External financing (billions of US dollars), 1973-1995.

Year	Total net external financing (1)	Net non-debt-creating flows (2)	Net external borrowing (3)	Errors and omissions (4)	Change in Reserves (5)	Other (6)	External debt
1973	8.5	2.5	6.0		3.8		44.4
1974	13.3	2.2	11.1		-0.2		58.2
1975	14.7	3.3	11.4		-1.6		68.6
1976	16.9	2.7	14.2		5.6		82.0
1977	13.6	2.9	10.7	-3.4	5.1		124.6
1978	22.2	4.9	17.3	-3.1	8.9		154.9
1979	28.8	7.5	21.3	-2.1	7.5		187.2
1980	32.8	6.9	25.9	-13.0	-0.6		229.4
1981	64.3	8.2	56.1	-17.5	-1.4		285.6
1982	47.6	7.0	40.6	-22.1	-20.0		325.5
1983	23.9	4.1	19.8	-8.8	2.5		340.2
1984	18.6	4.6	14.0	-3.0	11.6		360.3
1985	12.7	6.8	5.9	-1.4	1.7		368.2
1986	12.7	5.2	7.5	-1.9	-6.4		381.9
1987	20.2	8.5	11.7	0.5	4.1		419.1
1988	9.2	9.9	-0.7	-3.5	-6.3		409.3
1989	13.9	7.2	6.9	-3.6	-1.1	-1.3	417.3
1990	34.6	6.7	26.8	-0.2	17.3	21.9	437.2
1991	45.2	11.5	34.8	1.7	15.5	26.7	459.0
1992	65.1	13.3	53.4		21.3	56.6	488.8
1993	69.1	14.2	55.8		19.9	50.4	533.8
1994	58.9	22.1	38.1		-11.2	71.7	576.5
1995	67.8	20.1	34.8		23.6	9.1	630.1

Items (1) to (6) present information from the Capital Account of the balance of payments. 1. It is the amount required to finance the deficit on goods and services, factor income, and current transfers: the increase in the official reserve level: the net asset transactions: and the transactions underlying net errors and omissions. It consists of Net non-debt-creating flows, Net credit and loans from IMF, and Net external borrowing. 2. It consists of Capital transfers, and Direct investment and other equity flows. 3. Net disbursement of long –and short– term credits (including exceptional financing) by both official and private creditors. 6. It is part of (3) and it includes primary bond issues and loans issued in the international capital markets. Since the estimates are residually derived, they also reflect any under-recording or misclassification of official and commercial bank credits. Sources: Data for Western Hemisphere from International Monetary Fund, *World Economic Outlook*, various issues.

III. Intra-regional Foreign Direct Investment

It is generally accepted that the lack of capital in Latin American is one of the most important causes of its underdevelopment. Despite there have been important restrictions to foreign property that have been just recently removed, Latin America has largely depended on foreign investment to modernise and expand its productive sector. There were steady inflows of foreign investment to Latin America until the mid-1970s (Pazos, 1988). Then, the region experienced two periods of huge inflows of capital in the late 1970s and the early 1980s and in the early 1990s and a period of significant outflows during most of the 1980s. We will present an overview of the dynamics of these episodes. We will argue that these episodes have been a consequence of common external financial shocks rather than a results of international interactions. Finally, we will show some data to illustrate the early stages of intra-regional investment in Latin America.

1. Capital Flows in Latin America

Capital inflows to Latin America have been mainly explained by a combination of external factors and domestic performance and policies. However, external factors have been given a major weight in the explanation of inflows during the late 1970s and the early 1980s. In the late 1970s several industrial countries experienced output declines and low real interest rates (despite constant increases in nominal interest rates), which, on the one hand, made it attractive to invest in other countries and, on the other hand, made it cheap to borrow for developing countries governments. These trends combined with a surge of the volume of bank lending to foreign governments as OPEC surpluses and accommodating monetary policies made available an ample supply of credit (Krugman, 1988; Eichengreen and Lindert, 1989). Thus, there were huge capital inflows to Latin America, mainly under the form of public foreign debt.

We can have an idea about the magnitude of capital inflows from the information presented in Table 3. In the column entitled "Total net external financing"[8] we observe a persistent increase in that series, which suggests the existence of a worsening current account deficit. The deficit was largely financed by Net external borrowing, which can be verified by looking at the dramatic increase in the external debt (last column in the Table): the value

8. See footnote on the table for definitions.

of external debt of Latin America in 1981 was three times its value in 1976.

Availability of resources allowed countries to follow expansionary policies which, together with additional capital inflows, caused current account deficits and overvaluation of exchange rates. Doubts about the sustainability of exchange rate regimes and current account deficits caused capital outflows in a first step and capital flights later. Whilst, the international context changed dramatically in the early 1980s. In 1981 real world interest rates jumped to a higher level, which increased the burden of the existing debt, especially for those with extensive floating interest rate and short-maturity debt. The resulting increase in the real cost of their debts provoked several Latin American countries to declare unilateral moratoria of the service of the external debt in late 1982. Then potential lenders lost confidence in countries ability to repay their debts and became unwilling to lend. Immediately, voluntary lending stopped and rather than flowing from the developed to the developing countries, since 1982 capital flowed from the debtor to the creditor.[9] Latin America experienced a lack of capital during the 1980s because it had to maintain debt service. In particular, since debtors have made resource transfers equal to interest less official inflows and because the latter have been fairly small, the end result has been that debtors have been forced to run massive trade surpluses to serve their external debt (Krugman, 1988).

Most countries have recently faced simultaneous massive inflows of capital largely determined by external factors. However, it does seem that, although associated with an adverse international scenario, unsustainable domestic performance and policies have triggered massive outflows.

The effects of the reversion in external conditions and the unsustainability of domestic policies in 1981-1982 are shown by the decrease in foreign reserves and the magnitude of the item of Errors and omissions (see Table 3). These items give a broad idea about the magnitude and speed of capital outflows associated with the external debt crisis. We observe as well the effects of the unwillingness of the private capital markets to lend money and invest in Latin America: Net non-debt-creating flows and Net external borrowing decreased significantly since 1982 and remained at very low levels during the 1980s. At the same time, the magnitude of the adjustment to serve the external debt can be observed in the fall in Total net external financing caused by the elimination of current account deficits and the necessity of obtaining huge trade surpluses during most of the 1980s. In the meantime, however, the external debt continued growing mainly due to official lending contracted to undertake the stabilisation and the structural reform of the economy.

The adverse external situation for Latin America reversed in the early 1990s. Several factors interacted to make Latin America a fertile territory for the renewal of foreign lending. First, the sustained decline in world interest rates coupled with a recession in several industrial countries. Second, there exists a trend toward international diversification of investments in major financial centres. Third, many heavily-indebted countries improved significantly their relationships with international creditors. Fourth, several countries began to adopt sound monetary and fiscal policies as well as market-oriented reforms that have included trade and capital market liberalisation. Finally, a large shift in capital flows to one or two large countries may generate externalities for the neighbouring countries (the so-called contagion effects). That seems to be the case in Latin America after Mexico and Chile re-entered into the international capital market in 1990. Domestic reforms played an important role in affecting both the magnitude and the composition of inflows. However, they cannot explain why capital sometimes flowed to countries that did not undertake reforms and why it sometimes did not flow, except until recently, to countries where reforms were introduced well before 1990. Thus, it does seem that capital inflows to Latin America were largely caused by external factors. Some authors have actually considered such inflows as an external shock common to the region (see Calvo, Leiderman, and Reinhart, 1993, 1996).

From the information presented in Table 3 we observe a dramatic change in most of the variables presented. First, private capital inflows grew as never before (Net non-debt-creating flows and the item of other jumped in 1991 and 1990, respectively, and increased until 1994). Second, Net external borrowing from both official and private institutions increased from 1990 to 1993. Third, although Total net external financing increased, showing a worsening current account deficit, capital inflows were enough to finance those deficits as reflected by

9. This is just a general description of the facts. We have not mentioned particular factor such as the volatility of economies during those years and the speculation against exchange rates and the resulting flight of capitals. An extensive analysis of the role of external and internal factors in the external debt crisis in Latin America is presented in Díaz-Alejandro (1984) and Griffith-Jones and Sunkel (1986).

the unprecedented increase in foreign reserves.

The importance in the dynamics of capital flows to Latin America was shown again when external factors changed in 1994. The tightening of monetary policy in the United States and the resulting rise in interest rates made investment in Latin America less attractive. This situation coupled with the recovery of the OECD economies in the mid-1990s. These factors and the existence of an increasing number of alternative emerging markets settled an adverse scenario for investment in Latin America. This context combined with important internal changes in the region. The situation was characterised by accumulation of foreign external reserves, widening current account deficit (associated with significant increases in consumption and investment), rapid growth of the money supply both in nominal and real terms, sharp increases in stock and real estate prices, and marked real exchange rate appreciation. It is plausible to think that Latin America was an extremely fragile economy in late 1993. It should not be too surprising that a new crisis started in late 1994.

Table 4. Amount and Percentage of Direct Foreign Investment Coming from Within Latin America, 1987 and 1992.

Year and amount and percentage	Argentina	Bolivia	Brazil	Chile	Colombia	Peru	Venezuela
1987a							
Amount (millions of US dollars)	21.07	0.01	<0.00	30.82	<0.00	17.85	22.49
Percentage of Total	28.0	1.1	<0.0	5.7	<0.0	65.3	4.7
1992b							
Amount (millions of US dollars)	99.00	31.89	84.78	73.71	58.65	46.91	94.39
Percentage of Total	32.6	31.6	7.9	7.5	27.2	29.0	40.8

a. Argentina, 1986. b. Argentina, 1989; Bolivia, 1990; Brazil and Venezuela, 1991.
Source: Edwards (1995), table 5.15, p. 152, based on CEPAL, 1993.

The new crisis started again in Mexico[10] and very soon generalised over other financial markets. The large and abrupt capital outflows from Latin America as a whole that followed the Mexican crisis in December of 1994 are a clear example of contagion effects. The nature of the new international context and of this new crisis can be summarised in the following terms. Calvo, Leiderman and Reinhart (1996) argue that with highly integrated and technologically sophisticated financial markets, changes in relative rates of return will quickly translate into changes in cross-border capital flows. This situation worsens when a growing proportion of investment is 'portfolio equity' –which is characterised by being highly volatile. This was an important feature of investment in Latin America during the 1990s. Also, Calvo and Mendoza (1996) argue that the Mexican crisis is an example of a new kind of balance of payments crisis in the era of the global capital market.

The magnitude and speed of the crisis of 1994 and of the adjustment that followed it are reflected in the information shown in Table 3. Massive outflows of capital in late 1994 can be observed in the fall of foreign reserves in 1994 and in the item Other in 1995. The magnitude of the adjustment might be inferred from the sudden increase in foreign reserves in 1995 despite the decrease in the item Other and in Net external borrowing. It is interesting to point out that Direct foreign investment did not decrease significantly in 1995, in opposite fashion to what happened in 1982-1983, which suggests that the crisis of 1994-1995 was largely due to speculative movements of capital.

From this evidence it seems plausible that capital flows to Latin America affect the region as a whole. It is clear enough that most countries have recently faced simultaneous massive inflows of capital largely determined by external factors. However, it does seem that, although associated with an adverse international scenario, unsustainable domestic performance and policies have triggered massive outflows.

2. Intra-regional Investment in Latin America

If we are interested in analysing international business cycles it is necessary to study the role of foreign investment as a potential transmission mechanism. In that sense, it is important to analyse the dynamics of intra-regional investment within Latin America.

Recently the Economic Commission for Latin America and the Caribbean (Comisión Económica para América Latina y el Caribe, CEPAL) delivered a report about foreign investment in Latin America (CEPAL, 1998) that addresses the topic of intra-regional investment. It might be considered as a pioneer work on this subject because it has previously been difficult to quantify intra-regional investment and because, although it has increased considerably in recent years, "... intraregional investment is a process that is still in its early stages..." (*ibid.*).

Recently there has been a significant increase in intra-regional investment. CEPAL observes that the expansion and diversification of trade within the region has been matched by substantial growth in investment between the countries of the region. This process has been facilitated by deep reforms that have allowed for the easing or lifting of restrictions on foreign capital, such as privatisation schemes, progress in regional integration (especially Mercosur) and strategic sectoral agreements between enterprises in different countries.

In aggregate terms, the International Monetary Fund (IMF) reports around US$12.745 billion in foreign investment

10. See Calvo and Mendoza (1996) for an interpretation of the causes of this Mexican crisis.

Table 5. Latin America: Foreign Direct Investment within the region by source and destination countries, 1997 (Millions of US dollars).

Source/Destination	Argentina	Bolivia	Brazil	Chile	Colombia	Peru	Venezuela	Total
Argentina	...	265	590	180	...	...	936	1979
Bolivia	...	...	...	6	...	...	...	6
Brazil	380	...	...	...	...	...	115	495
Chile	221	...	1337	...	1315	139	154	3156
Colombia	...	...	...	...	...	...	7	7
Mexico	232	...	20	...	...	...	1802	2222
Peru	...	...	...	...	...	...	100	100
Venezuela	118	...	...	9	271	...	...	398
Latin America and the Caribbean	941	265	1947	195	1586	139	3293	8365

Source: CEPAL (1998), Table I.28, p. 142.

originating in the countries of Latin America between 1990 and 1996, which represents around 8% of foreign direct investment flows in the region. According to preliminary estimates, which do not include Mexican investment, intra-regional investment flows were in excess of US$7.5 billion during the same period. Chile was the most active investor country (US$4.3 billion), followed by Brazil (US$935 million) and Argentina (US$900 million). The main destinations were Argentina and Peru (which received some US$4 billion and US$1 billion, respectively from Chile) followed by Venezuela (which received some US$600 million from Colombia).

The flows of capital allow identification of three main focal points of investment within this region. First, the Southern Cone (Mercosur, Bolivia, Chile, and Peru), especially the active internationalisation of Chilean firms. Second, Mexican investments, particularly in Central America and in some member countries of the Latin American Integration Association (LAIA) (Argentina, Chile, Colombia, and Venezuela). Finally, albeit on a much smaller scale, the investment between Colombia and Venezuela.

In Table 4 we present more detailed information about destination of Latin American investment. For all countries there has been an increase in absolute values of the investment coming from Latin America, and, except in the Peruvian case, we observe an increase from a very low level in the proportion of foreign investment coming within Latin America between 1987 and 1992. We can see that the proportion of this investment has been more important for Venezuela (40.8%), Argentina (32.6%) and Bolivia (31.6%), and that in absolute values Argentina and Venezuela have been the most important destinations (US$99 million and US$94.39 million, respectively). As mentioned above, this change might be a consequence of the reforms undertaken in the late 1980s.

Finally, although 1997 is out of our sample period of analysis, information about source and destination countries of foreign investment within Latin America is presented in Table 5. (We had to do so because of the lack of information for prior periods). We observe that the most important investor countries were Argentina (US$1 979 million), Chile (US$3 156 million), and Mexico (US$2 222 million), and that the most important destination countries were Venezuela (US$3 293 million), Brazil (US$1 947 million), and Colombia (US$1 586 million). We can observe as well that the most important destinations of Argentinean investment were Venezuela (US$936 million) and Brazil (US$590 million). Chile in turn has invested mainly in Brazil (US$1337 million) and Colombia (US$1315 million) while Mexico has done so in Venezuela (US$1802 million).

There is not enough evidence to obtain a definite conclusion, but it does seem plausible to think that the major impacts of inflows of capital to Latin America on the economic dynamics have been associated with generalised inflows to the region. In that sense, it does seem that intra-regional investment is a very recent phenomena whose magnitude is not enough to make it to become an important transmission mechanism of economic fluctuations over the period used in this study.

Conclusions

International trade and investment have been mentioned in the literature as very important transmission channels of economic fluctuations. On the other hand, many studies have reported a rather low relationship between national business cycles and/or non time uniform correlation in Latin America. This paper reports empirical evidence to understand why national business cycles in this region are rather independent. Despite being geographically close to each other, intra-regional trade has been low over the period of analysis even after the signature of free trade agreements (although intra-exports have increased). Furthermore, several Latin American economies have been more linked to the US economy via trade. However, even the economic fluctuations of these economies seem to be independent of those of the US.

Intra-regional investment, in turn, is a very recent phenomenon and it is not large enough to become a transmission mechanism. Thus it seems that existing common episodes for the region (the 1982 economic crisis, for example) are largely due to common external shocks such as capital inflows and outflows. Therefore, except for these few common episodes, the low levels of trade and investment flows within Latin America can explain the apparent independence of national business cycles. ergo

Bibliography

Arnaudo, A. and A. D. Jacobo (1997). "Macroeconomic Homegeneity Within MERCOSUR: An Overview", *Estudios Económicos*. El Colegio de México, Mexico, 12(1): 37-51.

Backus, D. K. and P. J. Kehoe (1992). "International Evidence on the Historical Properties of Business Cycles", *American Economic Review*. 82: 864-888.

Canova, F. and H. Dellas (1993). "Trade Interdependence and the International Business Cycle", *Journal of International Economics*. 34: 23-47.

Calvo, G.

_____; L. Leiderman and C. Reinhart (1993). "Capital Inflows and Real Exchange Rate Appreciation in Latin America", *IMF Staff Papers*, 40(1): 108-151.

_____(1996). "Inflows of Capital to Developing Countries in the 1990s: Causes and Effects", *Journal of Economic Perspectives*, 10(2): 123-139.

_____ and E. G. Mendoza (1996). "Mexico's Balance of Payments Crisis: A Chronicle of a Death Foretold", *Journal of International Economics*, 41: 235-264.

CEPAL (1998). *Foreign Investment in Latin America and the Caribbean. 1998 Report*. Santiago, Chile.

Christodoulakis, N.; S. P. Dimelis and T. Kollintzas (1995). "Comparison of Business Cycles in the EC: Idiosyncrasies and Regularities", *Economica*, 62: 1-27.

Díaz-Alejandro, C. F. (1984). "Latin American Debt: I don't Think we are in Arkansas Anymore", *Brookings Papers on Economic Activity*, 2: 335-389.

Dornbusch, R. (1997). "Brazil's Incomplete Stabilization and Reform", *Brookings Papers on Economic Activity*, 0 (1): 367-94.

Edwards, S.

_____(1995). *Crisis and Reform in Latin America*, The World Bank, Oxford University Press, Oxford and New York.

_____ and M. Savastano (1989). "Latin America's Intra-Regional Trade: Evolution and Future Prospects", in Greenaway, D.; T. Hyclak and R. J. Thornton (eds.), *Economic Aspects of Regional Trading Arrangements*. New York. New York University Press, P. 189-233.

Eichengreen, B. and P. H. Lindert (1989). "Overview", in Eichengreen, B. and P. H. Lindert (eds.). *The International Debt Crisis in Historical Perspective*, The MIT Press, Cambridge, Massachusetts: 1-11.

Fiorito, R. and T. Kollintzas (1994). "Stylized Facts of Business Cycles in the G7 from a Real Business Cycles Perspective", *European Economic Review*, 38: 235-269.

Griffith-Jones, S. and O. Sunkel (1986). *Debt and Development Crisis in Latin America*. Clarendon Press, London.

Hodrick, R. J. and E. C. Prescott (1997). "Postwar U.S. Business Cycles: An Empirical Investigation", *Journal of Money, Credit and Banking*, 29 (1): 1-16.

Iguíñiz, J. and G. Aguilar (1998). *Ciclos peruanos, andinos y de Estados Unidos*. Pontificia Universidad Católica del Perú, Documento de Trabajo Núm. 141, Lima.

Kose, M. A.; C. Otrok and C. H. Whiteman (2000). *International Business Cycles: World, Region, and Country Specific Factors*. Brandeis University-University of Virginia-University of Iowa, mimeo.

Krugman, P. (1988). "External Shocks and Domestic Policy Responses", in Dornbusch, R.; F. Leslie and C. H. Helmers (eds.). *The Open Economy. Tools for Policymakers in Developing Countries*, The World Bank, Oxford University Press, New York. 54-79.

Kydland, F. E. and E. C. Prescott (1990). "Business Cycles: Real Facts and Monetary Myth", *Federal Reserve Bank of Minneapolis Quarterly Review*, 14(2): 3-18.

Mejía-Reyes, P.

_____(1999). "Classical Business Cycles in Latin America: Turning Points, Asymmetries and International Synchronisation", *Estudios Económicos*. El Colegio de México, Mexico, 14(2): 265-297.

_____ (2000). "Asymmetries and Common Cycles in Latin America: Evidence from Markov Switching Models", *Economía Mexicana*. Nueva Época. CIDE, Mexico. IX(2): 189-225.

_____ (2001). "Why Individual Business Cycles are Largely Idiosyncratic in Latin America? Evidence from Intra-Regional Trade and Investment", *Documento de Investigación*. Núm. 58. El Colegio Mexiquense.

Pazos, F. (1988). "Foreign Investment Revisited", in Jorge, A. and J. Salazar-Carrillo (eds.). *Foreign Investment, Debt and Economic Growth in Latin America*. MacMillan Press, 17-28, London.

Ravn, M. (1997). "International Business Cycles in Theory and in Practice", *Journal of International Money and Finance*, 16(2): 255-283.

Torres-García, A. (2000). "Estabilidad en variables nominales y el ciclo económico: el caso de México", *Documento de Investigación*. No. 2000-03. Banco de México.