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International Trade: Globalization or Regionalism?

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Given that there are many different perspectives regarding the size and the consequences of globalization, this paper investigates the new structure of international trade as well as the degree of trade globalization, paying attention mainly to trade relations between the U.S., the E.U. and the Asia-Japan block. Sketching out the geography of the international trade flows, the paper also investigates the extent to which the international economy has been fully globalized, incorporating formerly excluded zones/countries of the international economy. It argues that on the contrary, the dominant tendency is regionalism, that is, the further deepening of the three aforementioned trade blocks.

1. Introduction

As the last decade of the century comes to a close, globalization has gradually become the subject of analysis for a growing part of the academic community. The reason for this development is the great importance attributed to its consequences for the distribution of production, income and wealth among states, as well as within states. However, the exact assessment of the globalization phenomenon is questionable.

International trade and investments are the variables that denote more accurately the extent of "economic interdependence" among two states or between members of a group of states. This is considered to be a general definition of globalization. However, in the economic literature, one can find a wide variety of definitions of "economic interdependence". J. Sachs (1998) suggests a definition that takes into account the size of production in a global level, occuring through multinational corporations. Furthermore, he claims that multinationals have geographically decentralized a large part of their productive activities, a procedure called "outsourcing". Along these lines, economists, like Ietto-Gillies (1997), note that large companies today are "internationals" and keep under their control the largest part of international trade and investments. Krugman (1995) also notes that the diffusion of production at an international level constitutes a new era of international trade, which includes the increasing volume of trade of "similar goods" among developed countries. Other

economists, like G. Thompson and P. Hirst (1996), reject the importance of the "outsourcing" of large companies, claiming that multinationals, in fact, continue to keep the biggest part of their productive activities within the national borders (of the developed North). Furthermore, they claim that international trade remains in low levels both in absolute terms and relatively to previous periods of capitalism.

Finally, an important part of the literature refers to the consequences that both economic interdependence and the size of "trade openness" have for the feasibility of national governance. J. Sachs (1998) argues that the increasing harmonization of economic and financial institutions at an international level is an inevitable result of globalization. This phenomenon, developed side-by-side with the dominance -during the 1980s- of the model of "market-based growth", includes the harmonization of national legal systems on policy issues regarding trade, investment, taxation, the banking sector, intellectual property rights etc. By contrast, Thompson and Hirst (1996) and Pelagidis (1998) consider that, despite the changes, the case for national governance remains a feasible and viable option.

From the above, one may conclude that there are many different perspectives regarding the aspects, the size and the consequences of globalization. This paper investigates the size, the new structure of international trade, as well as the extent of trade globalization, paying attention mainly to trade among the U.S., the E.U. and the Asia block. By sketching out the geography of international trade flows, the paper investigates the extent to which the international economy has incorporated formerly excluded zones/countries (globalization). It argues that, on the contrary, the dominant tendency is regionalism, that is, the further deepening of the three aforementioned trade blocks and, at the same time, the exclusion of certain countries and continents.

2. The Structure and Size of International Trade

The imports and exports (average) of global economy as a percentage of GDP reveal the degree of trade openness relatively to the past as well as the degree to which national economies have been integrated to the global system. Table 1 shows the evolution of exports of goods as a percentage of GDP from the middle of the previous century up to the middle of the 1990s. Table 1 shows that, since the 1970's, the volume of global exports returns approximately to the levels of the beginning of the century after a period of withdrawal during the inter-war period, although the percentage for the years 1850-1913 refers only to OECD countries.

Table 1

World Merchandise Exports as Percentage of GDP						
1850	*1880*	*1913*	*1950*	*1973*	*1985*	*1993*
5.1a	9.8a	11.9a	7.1	11.7	14.5	17.1

Source: World Bank (1995) from Krugman (1995)
a: OECD countries only

Furthermore, the increasing trend seems to continue during the 1980s and the beginning of 1990s in a level greater than the one during the beginning of the century. However, the case varies for each country. According to OECD (1997) and World Bank data, the following

Figure 1 (see appendix I)

figure 1 suggests that trade as a percentage of GDP for OECD countries has increased from 12%-13% in the middle of the 1970s to 20% in the middle of the 1990's.

On the other hand, in many regions of the international economy, developments are different. It can be seen that in such regions as the Middle East, North Africa, Latin America,

Asia, as well as countries of a considerable size, such as Brazil and India, the volume of trade as a percentage of GDP remains stagnant for the last 25 years. Noteworthy are the cases of under-developed sub-Saharan Africa countries where the volume of trade decreases, while in contrast impressive is the increasing trade openness of the countries of Northeastern Asia and China. Particularly interesting are the data of Table 2, which show a decrease of trade openness of many developed economies, among others France, Germany, USA, Italy, Japan and the Great Britain, while, as far as the G7 countries in particular are concerned, the percentage of Germany and Canada is stagnant.

Table 2

TRADE TO GDP RATIO (Exports and Imports divided by GDPx2)			
	Country	**1980**	**1992**
1	Hong Kong	104.1	126.6
2	Singapore	206.9	123.4
3	Malaysia	44.9	62.7
4	Belgium/Luxembourg	58.0	54.1
5	Ireland	55.2	50.4
6	Netherlands	42.8	44.9
7	Taiwan, Province of China	n.a.	35.3
8	Thailand	23.5	29.7
9	Portugal	32.0	28.7
10	Hungary	n.a.	28.6
11	Switzerland	32.5	27.3
12	Austria	27.3	26.6
13	Denmark	27.0	26.0
14	Norway	30.9	24.9
15	Indonesia	23.4	24.2
16	Chile	n.a.	24.0
17	Korea	34.2	23.9
18	Canada	24.2	23.7
19	Germany	23.2	23.4
20	New Zealand	23.3	22.9
21	Sweden	26.2	21.4
22	Venezuela	25.5	21.0
	Greece	22.0	21.0
23	Finland	29.8	20.9
24	United Kingdom	22.5	19.8
25	France	18.9	17.8

26	South Africa	30.1	17.6
27	Pakistan	18.5	17.1
28	Turkey	9.8	16.6
29	Italy	22.5	15.0
30	Australia	14.3	14.6
31	Spain	13.8	14.3
32	Mexico	10.4	11.5
33	United States	9.1	8.3
34	Japan	12.7	7.8

Sources: World Competitiveness Report (World Economic Forum and IMEDE), 1993; World Development Report (World Bank), 1994; World Investment Report (UNCTAD), 1995; United Nations Statistical Yearbook 1983/1984, United Nations, 1986; All from Dunning and Hambani (1997)

Looking at the statistical data for USA, Germany and the Great Britain in Table 3, the aforementioned trend is confirmed for Great Britain. As far as the other two countries (USA and Germany) are concerned, trade reaches again the levels of the beginning of the century only during the 1970s (and continues to increase since then). As far as the USA is concerned, its percentage remains at low levels, indicating its low degree of incorporation to the international economy.

Table 3

Trade Shares in the United Kingdom, the United States and Germany (Percent a)				
Country	***1913***	***1950***	***1970***	***1987***
Great Britain	27.7	13.1	16.6	21.1
United States	3.9	2.9	4.4	7.4
Germany	19.9	9.8	17.4	23.3

Source: Liesner, 1989; from Krugman (1995)
a. Merchandise trade, measured as the average of exports and imports, as a share of GDP.

Even in the 1990's, the share of imports and exports to the GDP of the USA represents just half of the share of Great Britain 30 years ago (Krugman, 1995). These trends are also confirmed in Table 4. OECD data (Table 4) confirms that, despite the high rate of increase of

international trade, there is a relatively low degree of trade openness of the most developed economies.

Table 4

Geographical Structure of OECD trade

Percentage of nominal GDP

Source/Destination		Source of imports						Destination of exports					
		1962	1972	1982	1992	1996	1997	1962	1972	1982	1992	1996	1997
OECD	**OECD**	6.14	8.10	10.52	11.48	12.56	12.02	5.89	7.98	10.17	11.28	12.63	12.14
	ÅU	3.56	4.87	6.07	6.75	7.06	6.52	3.56	4.79	6.29	6.90	7.23	6.71
	USA	1.22	1.26	1.63	1.71	2.03	2.09	0.86	1.38	1.65	1.88	2.30	2.38
	other	1.35	1.97	2.82	3.01	3.47	3.41	1.48	1.82	2.23	2.50	3.11	3.05
	Non-OECD	2.33	2.32	4.53	3.38	4.21	4.18	2.29	2.19	4.08	3.23	4.15	4.08
	DAEs+China	0.22	0.36	0.92	1.31	1.81	1.82	0.25	0.38	0.80	1.21	1.66	1.61
	OPEC	0.66	0.81	2.13	0.82	0.79	0.79	0.33	0.41	1.41	0.60	0.50	0.51
USA	**OECD**	1.86	3.55	5.09	6.02	7.18	7.40	2.29	3.01	4.35	5.32	5.95	6.17
	EU	0.71	1.18	1.50	1.68	1.93	2.01	0.99	1.16	1.75	1.79	1.73	1.80
	other	1.14	2.37	3.60	4.34	5.25	5.39	1.30	1.86	2.61	3.53	4.22	4.37
	Non-OECD	1.02	1.06	2.63	2.80	3.52	3.72	1.51	1.11	2.37	2.10	2.48	2.61
	DAEs+China	0.11	0.29	0.82	1.52	2.02	2.11	0.09	0.18	0.56	0.87	1.09	1.13
	OPEC	0.26	0.22	0.99	0.55	0.60	0.62	0.18	0.23	0.72	0.36	0.32	0.35
Japan.	**OECD**	5.42	4.15	4.72	3.38	3.90	4.05	4.18	5.59	6.68	5.54	4.97	5.63
	ÅU	0.89	0.72	0.79	0.91	1.08	1.08	0.98	1.40	1.82	1.80	1.37	1.57
	USA	2.97	1.92	2.22	1.42	1.74	1.81	2.32	2.95	3.35	2.60	2.46	2.83
	other	1.56	1.50	1.70	1.05	1.09	1.16	0.88	1.24	1.51	1.14	1.14	1.23
	Non-OECD	3.83	3.56	7.36	2.89	3.70	4.04	3.89	3.82	6.03	3.59	3.97	4.42
	DAEs+China	0.94	0.99	2.41	1.51	2.23	2.34	1.25	1.55	2.34	2.44	2.97	3.25
	OPEC	1.12	1.50	4.45	1.05	1.03	1.20	0.52	0.61	2.00	0.51	0.38	0.47
ÅU	**OECD**	11.07	13.42	17.93	18.09	19.10	17.96	10.35	13.47	17.05	17.40	20.15	19.07
	ÅU	7.57	10.19	13.19	13.75	14.31	13.21	7.44	10.16	13.31	13.81	15.35	14.29
	USA	1.75	1.43	2.04	1.55	1.77	1.83	1.04	1.36	1.55	1.34	1.68	1.76
	other	1.75	1.80	2.70	2.78	3.02	2.92	1.87	1.95	2.19	2.24	3.12	3.02
	Non-OECD	4.16	3.68	6.18	3.53	4.00	3.96	3.35	3.04	5.46	3.30	4.19	4.19
	DAEs+China	0.27	0.29	0.57	1.00	1.33	1.35	0.28	0.25	0.51	0.71	1.16	1.10
	OPEC	1.20	1.38	2.82	0.74	0.67	0.65	0.55	0.60	2.07	0.73	0.62	0.65

Source: OECD (1998a); for 1996 and 1997 OECD (1998b)

During the 1990s, trade of OECD countries with European Union is approximately 12%-13% of their combined GDP, which is higher by almost 1% since the 1980s but is double

the percentage since the beginning of 1960s. In any case, the percentage remains in relatively low levels confirming the fact that the most developed countries remain relatively "closed economies", trading mainly among them. It is worth mentioning that the trade of OECD countries with non-OECD countries represents only 4% of their GDP.

The same holds for the rest of the large countries or integrated blocks/regions like the EU, the USA and, especially, Japan. In particular, during the past few years, Japan imports far less from OECD countries and the USA than in the past. Similarly, EU trade is developed mainly between its member-states, a tendency which is also confirmed with data presented below. Last, but not least, the USA, with a percentage of trade to GDP approximately 10%, remains essentially a closed economy.

On the other hand, the increase of trade openness of China, Thailand, Malaysia, Hong-Kong, as well as Indonesia and Singapore (S.E. Asia), can be confirmed in Figure 1. However, it is true that the rates of increase of international trade have been accelerated since the 1970s, despite the fact that international trade, as a percentage of GDP, remains in relatively low levels. Since then, the adoption by developing countries (especially the countries of South-East Asia) of outward industrial strategies, as well as the technological progress in the sectors of transportation and communication, increased global trade with higher rates than global GDP rates. As is shown both in Table 5 and in Figure 2, with the exception of the period 1980-1985, global exports increased with faster rates than global GDP.

Table 5

Indicators of the Growth of International Economic Activity, 1964-1994 (Average Annual Percentage Change)		
Period	**World Export Volume**	**World Real GDP**
1964-1973	9.2	4.6
1973-1980	4.6	3.6
1980-1985	2.4	2.6
1985-1994	6.7	3.2

Source: J. Perraton, D. Goldblatt, D. Held and A. McGrew, "The Globalization of Economic Activity", New Political Economy, Vol.2, No. 2, July 1997; from UNCTAD (1997)

Figure 2 (see appendix)

Table 6 below shows the relationship between the rates of increase of international trade and the rates of increase of the global GDP.

Table 6

Growth of Trade and Industry in selected countries, 1870-1913 (Annual average volume change in per cent)			
	Exports	**Manufacturing Industry**	**Per capita GDP**
Western Europe	3.2	3.0	1.3
United States	4.9	5.7	1.8
Canada	4.1	5.3	2.2
Russia	..	3.0	0.9
Japan	8.5	3.0	1.4

Source: UNCTAD secretariat calculations, based on Maddison "Monitoring the World Economy, 1820-1992" (Paris: OECD, 1995); Output of manufacturing industry is from Paul Bairoch "International Industrial Levels, 1750-1980", Journal of European Economic History, Vol.11, No.2, Fall 1982; All from UNCTAD (1997)

The trends of the last 20-30 years are similar with those of the period of the last years of the 19th century-early 20th. As is shown in Table 6, during that period the rate of increase of exports was more than double of the per capita increase of GDP for Western Europe, USA, Canada and Japan. It is worth noting that this period was also characterized by a break-through in transportation and communications, a break-through that indeed promoted the development of trade among these nations. Back then, the tariffs for intermediate goods were low among industrial countries, exactly as is the case today (as tariffs have been curtailed to just 4% of the average value of the products). According to Economist (1998), production services assisting trade reached $1,2 trillion in 1996, a figure that represents approximately 1/4 of the total value of trade and shows the extent to which trade flows were “pushed”. However, despite the fact that the global economy today is less transport-intensive than it was in the past, trade remains strongly geographically concentrated, as is shown in Table 7.

Table 7

Neighbourly **Leading World Exporters, 1996**	
Countries	**Biggest export market***
United States	Canada (21.3)
Germany	ÅU (56.4)
Japan	USA (27.5)
France	ÅU (62.6)
Britain	ÅU (52.7)
Italy	ÅU (55.4)
Netherlands	ÅU (78.1)
Canada	USA (82.3)
Belgium/Luxembourg	ÅU (70.4)
China	Hong Kong (21.8)
South Korea	USA (16.7)
Singapore	USA (18.4)
Taiwan	Hong Kong (39.6)
Spain	ÅU (79.0)

Source: IMF, from Economist (1998)
* % of total exports

As can be seen from Table 7, the highest percentage of exports goes to the countries that are geographically close. This is particularly true for Europe, where 61% of trade of EU countries (average) takes place among member-states. This percentage is continuously increasing, from 6.1% during the period 1985-1990 to 2.6% during 1985-1997 (European Economy, 1998, p.153). In contrast, trade openness of the EU economy is stable to approximately 20% of the GDP. It is worth noting that for Japan and the US this percentage is around 10% (Artis, Kohler and Melitz, 1998). Even in countries that are geographically close, such as the USA and Canada, the new patterns of trade on "similar products" dominate. It worths mentioning that the volume of trade between two Canadian states today is 20 times

greater than the volume of trade with the nearest USA States. This fact confirms the large influence of domestic markets both to the direction and the pattern of the national production systems.

Finally, the index of trade openness of the Japanese economy, measured by imported goods as a percentage of the GDP, remains at the same level as the level of the ‘80s (OECD, 1998), a fact which is clearly confirmed in Figure 3 below.

Figure 3 (see appendix I)

The same holds for the EU, if one subtracts the intra-European trade, as well as for the USA, although, as Helliwell (1996) confirms, US percentage has been increasing during the 1990s. His analysis, covering the period 1988-1994, suggests a very high degree of “home bias” among developed countries, despite the fact that these countries, to a large extent, are similar in their productive and consumption structures. Wei (1996) estimates that, for the period 1992-1994, OECD countries “import” from the “domestic market” two and a half times more than they “import” from foreign markets (“imports” from the domestic markets equal: GDP minus Total Exports). The author reports that this percentage has been decreased, by approximately about 10%. However, these reductions relate mainly to the regional trade blocks and essentially to the EU, where the percentage of “domestic imports” to the imports from non-EU countries in 1994 was only half from what it was in 1982.

Although, developed economies remain to a large extent closed, increasing domestic trade flows, on the other hand, developing economies of South-East Asia, such as Korea, Malaysia, Indonesia, Thailand, Singapore and Hong-Kong, are “open” 78.4% (average) of their combined GDP. It should be noted that the latter is due to high trade flows with Japan and the USA, as is shown in Table 8 below.

Table 8

OECD trade with major regions

Shares in total merchandise trade, per cent

	Exports			Imports		
	USA	Japan	OECD Europe	USA	Japan	OECD Europe
USA						
1970	..	31	8	..	29	10
1980	..	24	5	..	17	8
1990	..	32	7	..	23	7
1993	..	29	7	..	23	8
Other North America						
1970	25	3	2	31	6	2
1980	22	3	1	21	4	1
1990	28	3	1	24	4	1
1993	30	3	1	25	4	1
Japan						
1970	11	..	1	15	..	2
1980	10	..	1	13	..	3
1990	12	..	2	18	..	4
1993	11	..	2	18	..	5
OECD Europe						
1970	32	15	66	28	10	61
1980	29	17	67	19	7	59
1990	28	22	72	22	18	68
1993	23	18	67	20	15	65
Other Asia and Oceania						
1970	11	29	5	11	23	4
1980	15	29	5	13	22	5
1990	18	32	6	21	30	6
1993	21	39	8	24	35	8
Central and South America						
1970	9	4	3	9	6	4
1980	8	5	2	8	3	3
1990	6	2	4	5	3	2
1993	7	3	2	4	3	2

Source: Richardson (1997).

In the same table, we also note the following: USA imports and exports with Japan and Europe (as a percentage of US total trade) are declining constantly. Japan's exports to US and to Europe (as a percentage of its total exports) remain stable, in very low levels with US and in even lower levels with Europe (approximately 2%). Another important fact is that Europe's trade with USA (as a percentage of its total trade) is decreasing. In contrast, from Table 8 it is confirmed that there is a significant and increasing volume of trade among European member-states. Finally, there is an increasing volume of trade among Asian countries and Oceania with Japan and the USA. In contrast, Eastern-European as well as Central and Latin American countries are shown to be remote from the large economic and trade blocs. Particularly, despite the fact that, on average, Latin American countries are "trade open" countries (by 18% as a percentage of their combined GDP 1990-1995, average), only 3% of their trade is conducted with the USA, 3.5% with EU and only 1.3% with Japan (Artis, Kohler, Melitz, 1998, elaboration from Table 29).

If not even more reduced, the same relationship holds for the Middle-Eastern countries with the three large trade blocks, despite the fact that these countries are much more open (52%, average) than the previous ones.

Last, as far as regards the EU block, Table 9 is particularly illuminating. European economies are approximately on average 30% "trade open".

Table 9

Trade weights in Western Europe 1990-95				
	USA	**EU6**	**Japan**	***Openness***
ÅU6				
Germany	1.8	10.8	1.0	26.0
France	1.8	11.9	0.7	23.4
U.K.	3.1	10.6	1.1	26.2

Italy	1.3	10.0	0.5	20.9
Netherlands	3.4	34.7	1.3	56.3
Belgium/Luxembourg	3.8	46.9	1.4	70.4
Iberia				
Spain	1.3	11.9	0.6	20.6
Portugal	1.3	18.4	0.7	34.0
Scandinavia				
Sweden	2.6	14.2	1.1	32.3
Denmark	1.8	16.9	1.3	35.0
Norway	2.4	17.5	1.2	36.2
Finland	1.9	11.1	1.0	28.9
Iceland	3.8	14.6	2.5	33.5
Other				
Austria	1.4	23.5	1.2	39.1
Greece	0.9	12.9	1.0	23.4
Switzerland	2.5	20.0	1.3	33.2
Ireland	7.6	40.5	2.6	64.3

Source: Artis, Kohler and Melitz (1998)

However, half of this percentage is intra-industry trade among the six most developed countries, which, by the way, share geographical borders and all have a high degree of industrial and technological development.

Therefore, despite the modern telecommunications and transportation facilities, the increase of international trade flows is confined within the three developed trade blocks of the global economy (U.S.A., E.U., Japan) and, furthermore, within these blocks and surely not among them. In this case, it is confirmed a process of deepening regional integration (regionalization) of particular groups/blocks of countries, rather than a total increase of global trade and production interdependence in the world economy. This is despite the fact that, the

total volume of global trade has, in most of the regions in the world economy, increased relatively more than the increase of the global product.

It is also noted the impressive increase of trade as a percentage of GDP in the South-East Asian countries, a fact that indeed reflects the fast integration of these countries to the global economy. Of course, this trend remains to be confirmed after the intense financial turbulence in these countries and the economic crisis that followed.

Finally, it has to be mentioned that since 1996 there has been a clear slowdown of the rates of increase of international trade (4.1% 1996 according to the report of WTO). This rate is expected to remain stagnant or even more to decrease after the financial crisis in the countries of SE Asia and the estimated low growth rates of the international economy. Indicative of these trends are Goldman-Sachs forecasts, according to which the growth of exports of OECD countries, after being confined to 2.2% in 1998, will increase just 0.2% in 1999. Even worse are the forecasts for American and Japanese exports.

3. Conclusions

This paper, examined the extent of the so-called globalization of trade flows. It is confirmed that, despite the opposite views arguing in favor of full globalization of trade, as well as of national productive systems, regional trade increased more than the global trade. It is also confirmed that the more mature and developed an economy is, the stronger seems to be the growth of its internal market.

The recent breakdown of the economies of SE Asia proves, in addition, that the adoption of the one-sided outward-development model, without taking care of the development of the national market, disorganizes national productive systems. Although, during the last years, their integration to the global economy has indeed been confirmed, it is expected that this trend

will succumb after the recent financial and economic crisis in the region. In addition, it has been confirmed that the stagnation, if not the reduction of trade flows in many regions, results in the limited integration of these countries to the global economy. Generally speaking, despite the positive international climate, a result of important reductions in transportation costs, and of the development of new technologies, markets continue to be determined, to a large extent, nationally.

On the other hand, regional trade blocks develop in the new global economy. Economic and trade activities increase within the regional economic group of developed countries in particular. An indicative example is the case of the E.U. Thus, it can be confirmed at this point an intense process of regionalization -and not globalization- of the international trade.

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APPENDIX I

FIGURE 1, FIGURE 2, FIGURE 3 (to be presented in the conference).

APPENDIX II

One issue that emerges from the discussion in the main part of this paper is the relative speed of market integration at the regional and global level. To put it in other words, does globalization or regionalization takes place faster? Do nations tent to trade globally or they tent to confine their exchanges within their relatively close neighbors? Of course globalization implies stronger ties at the regional level as well. In addition, trading blocks exist to encourage trade within specific regions (NAFTA, EU, etc.). Therefore it is not surprising that intra-regional trade activity is stronger as compared to interregional. But if globalization is a process, this distinction between regional and global should gradually become weaker. The openness of a country should tent to be leveled with that of its "region" and with the global as well. In this appendix we use a variation of the tests employed to examine the issue of economic convergence by Barro (1991), to address the issue of whether countries tent to become integrated faster at the regional or the global level.

The methodology employed is based on convergence tests as developed by Barro (1991). Barro tests of convergence have been employed to examine convergence in government expenditures

(Afxentiou and Serletis 1996, 1999) besides their original application to economic growth and productivity. We now apply such tests to issues of economic integration.

While in typical Barro convergence tests consider the disparity of a given country from a "leader" we consider the disparity from both the average openness ratio (global and regional) and from a "leader". Considering the disparities from the average openness ratio makes more difficult the interpretation of the coefficient β. Considering the disparities from a "leader" avoids this problem since a negative β can be interpreted as indicating that relatively closed countries tend to converge to the openness levels of more open economies. The weakness of this approach is that the gravitational force is the leading (more) country and not the global economy or a region. In addition, the leader is not the same over time.

We use the following specification:

$$tr_i = a + b_R(P_R - P_i) + u_t \quad (1)$$

$$tr_i = a + b_G(P_G - P_i) + u_t \quad (2)$$

where tr_i is the rate of growth of the trade to GDP ratio in country i, $(P_R - P_i)$ is the logarithmic difference between the trade to GDP ratio in a given region and the trade to GDP ratio in country i, and $(P_G - P_i)$ is the logarithmic difference between the global trade to GDP ratio and the trade to GDP ratio in the same country i. We consider two gravitational forces for each country. That is, the trade to GDP ratio in the region itself and the global trade to GDP ratio.

How to interpret the results of such a test? Consider a country with an openness indicator lower than the global and the regional openness indicator. Then both b_G and b_R should be negative (and statistically significant) because both the globalization and regional integration process should takes place more aggressively in the relatively closed economies. In other words, trade in such countries should grow faster than trade in already relatively open economies. More interestingly, for the purposes

of this paper, comparing the magnitudes of the "convergence" coefficients (b_G and b_R) we have an indication as to whether a given country gravitates faster toward the global or the regional index.

Our data source is the International Financial Statistics of the International Monetary Fund (CD-ROM, Version 1.1.48). We use data on exports, imports, GDP (in national currency), and national currency per SDR for the following countries -- Australia, Japan, Hong Kong, Philippines, US, Canada, Mexico, Austria, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK. The period we cover is 1981:01-1997:04. Our choices of data and countries are constrained by the data availability.

We define the openness indicator for a nation as follows:

Openness indicator $= \dfrac{(\text{Exports} + \text{Imports})}{(\text{GDP})}$ where exports, imports and GDP are measured in US dollars. IFS data on exports and imports are provided in US dollars. However, the IFS data on GDP is provided in national currency. We use the following formula to get GDP (measured in dollars): GDP (measured in dollars) = $\dfrac{\text{GDP (in national currency)}}{\text{National currency per SDR}}$ * [US dollar per SDR].

We define the global openness indicator as the mean of the openness indicators of all the countries. In order to define regional openness indicators, we divide the world to three regions – Asia (includes Australia, Japan, Hong Kong, and Philippines), Northern America or NAFTA region (includes US, Canada, and Mexico) and Europe (includes Austria, Finland, France, Germany, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and UK). Then we define the regional openness indicator as the mean of openness indicators of all countries in a particular region.

	Global intercept	Global coefficient	Regional intercept	Regional coefficient	stro
Asia					
Australia	0,387981 **	-0,24474 **	0,029404	-0,01028	glob
Japan	-0,02295	0,010843	-0,039265	0,014227	X

Hongkong	-0,09041	-0,05527	-0,495655 ***	-0,44442 ***	regi
Phillippines	-0,48125 **	-0,23093 **	0,158937 **	-0,3764 **	regi
North America					
U.S.	0,14395	-0,06551	-0,048197	0,073559	X
Canada	0,194221 **	-0,18619 **	-0,109185 ***	-0,26451 ***	regi
Mexico	0,287704 **	-0,17716 **	0,039125 **	-0,27663 **	regi
Europe					
Austria	-0,15303 **	-0,34187 **	-0,110167	-0,18972	glob
Finland	-0,05855	-0,18159 **	-0,122313 **	-0,25757 **	regi
France	0,39882 **	-0,30304 **	1,29549 **	-1,12088 **	regi
Germany	0,061666	-0,04371	0,043793	-0,03408	X
Italy	0,208589	-0,1523	0,453222 **	-0,37548 **	regi
Netherlands	0,025474	-0,06305	0,024953	-0,10464	X
Norway	-0,0479	-0,10352	-0,087833	-0,1433	X
Portugal	-0,07721	-0,16123	-0,21065 ***	-0,32796 **	regi
Spain	1,416168 **	-0,95793 **	0,902378 **	-0,67128 **	glob
Sweden	-0,03995	-0,09956	-0,070563	-0,12615	X
Switzerland	0,093622	-0,09948	0,083584	-0,10509	X
UK	0,197632	-0,16661	0,090274	-0,08378	X

** statistically significant at 5% level (for the t-test).

*** statistically insigniicant at 10% level, not at 5%.

X no conclusive result

Comments: 1. Four big countries -- US, Japan, Germany, UK have no movement.

2. Netherlands, Norway, Sweden and Switzerland are traditionally very open.

3. Australia, though we took in Asia, is more global.

We expected the small countries to move towards the regional average. This is happening with some exceptions. In some small countries like Netherlands, Norway, Sweden and Switzerland – which are very open already, there is no movement towards the average.

A small country, Australia, instead of moving to Asian average is moving towards the global average. This is because of the fact that we do not have the data on relevant variables of Australia's traditional trade partners, e.g. New Zealand. It is clear that large countries e.g. Japan, US, Germany, UK is not moving either towards global or regional average. This is because of the fact that these countries are large and as Feenstra (1998) points out, large counties trade more internally. A large country, France, is moving towards the regional average.

The above results are suggestive rather than conclusive. Further research on the correct empirical measurement of the globalization and regionalization forces is warranted and we are in the process of pursuing further this agenda.

Appendix II References:

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