How Much Globalisation?

Reassessing the Growth of International Trade in the OECD

Henrik Wiig

Abstract

This report examines the consequences of using different measurement methods for the most common globalisation indicators; trade intensity. The use of constant prices will overestimate the increase in economic openness, while applying official exchange rates will underestimate the level of openness and the speed of the globalisation process in our sample of relatively rich countries. This analysis shows that trade intensities should be measured in current purchasing power parity-adjusted prices. According to this, trade intensities have on average more than doubled for the OECD since 1970. Meanwhile, the globalisation indicator is very volatile, with peaks during the oil crisis of the 1970s close to the openness level of today.

1: Introduction[1]

The explosive use of the expression 'globalisation' has worn out the concept even though people still disagree about the content. The public discussion tends to overdramatise the extent, since it is often seen as a useful argument, both among those who favour the concept and among those who express serious worries. No matter what opinion one may have, it is necessary to establish proper indicators for the amount and speed of globalisation. As this report will show, both the choice of indicators and the measurement method applied are extremely important for the determination of stylised facts relating to the degree of globalisation. The intention of this report is to examine and identify the measurement methods of the chosen indicator that best reflects globalisation. This leads us to reassess the growth patterns of international trade in the OECD area.

[1] I am grateful to my colleagues at NUPI: Lars Svindal for valuable research assistance, Leo Andreas Grünfeld and Arne Melchior for comments to earlier drafts and Eilert Struksnes for assistance in questions of linguistic caracter.

The broadest definition of the globalisation process is increased interdependency between people across borders. An important aspect of this is economic openness, which is frequently measured by the relative size of international trade relative to the production in the country (GDP). Such trade intensities capture some aspects of openness and globalisation but obviously not all. In an economic sense, globalisation is thought to be liberalisation of the major markets for labour, capital, goods and services.[2] I will focus on trade in goods and services, with a short description of foreign direct investments in the end. I do not examine migration, nor do we analyse financial liberalisation which is an important aspect of globalisation.[3]

According to the Organisation for Economic Co-operation and Development (OECD) one should distinguish between three phases of the 'globalisation' process: *internationalisation* with increased trade across national borders, *transnationalisation* which entails increased investment by foreigners and multinational companies and finally *globalisation* when a world-embracing network of production and information arises.[4] The concept 'regionalisation' includes similar processes in an intra-regional or intra-continental context.[5] This report does not intend to examine all aspects of globalisation, but focus trade intensity as the most important elements.

Trade intensity (trade/GDP) may seem to be a simple measure, but it is complicated by the fact that price levels are different between countries, and furthermore that prices for traded goods have increased less than prices in general. It therefore matters greatly whether we use current or fixed prices, and whether GDP levels are purchasing power parity-adjusted or not (accounting for different price levels across countries). In Chapter 3, these issues are discussed and relatively clear conclusions are reached. From a theoretical point of view, the use of constant values will overestimate

[2] Equal to the 'four freedoms' of the borderless economy in the European Union.
[3] Migration is still institutionally restricted in most of the world. Flows of shortterm financial capital have increased enormously but it is rather blurred whether the volume increase in itself is a good indicator of global interdependence. It might just reflect the growing importance of the sector (both inside and between national borders) and the speed of transactions (whether a given amount of US dollars and euros is exchanged back and forth one or ten times in a day amounts to the same).
[4] The distinction between internationalisation and globalisation is blurred in the popular and academic debate. 'Internationalisation' to most people means increased activity between nations where the political authorities still have the power to regulate the activity and organise the society in a nationally distinct manner. 'Globalisation', on the other hand is often understood as increased interdependence directly between people across the world, without interference of political authorities who further have to organise the society in a given manner determined by forces outside the borders.
[5] Such regions might be politically integrated, for instance the European Union or with few political ties like in Asia.

the globalisation process. The use of GDP figures adjusted by the official exchange rate instead of purchasing power parities implies an overestimated globalisation level in poor countries and underestimated in rich countries. Hence, we claim that the best indicator is trade intensities measured in current PPP-adjusted prices. Chapter 2 examines how increased openness should affect trade. The empirical trade intensities are presented in chapter 4, while conclusions follows in chapter 5.

We have computed the trade intensities in current PPP-adjusted prices for 24 countries in the OECD from 1970[6]. The indicators are presented both separately by country and aggregated. Comparisons of the different measurement methods illustrate the importance of choosing the right one. Trade intensities in constant exchange rate-adjusted values increased from 18 per cent in 1960 to 46 per cent in 1996. However, if we apply current PPP-adjusted values, there is a small increase between 1974 and 1996, from 36 to 45 per cent. The data also show that the trade intensity of today is equal to the trade intensity in 1978, when the second oil price shock hit the world economy.

2: Globalisation and trade

The drastic reduction in barriers to trade has led to increased openness and is thought to be the main force behind the globalisation process. The *institutional barriers* have more or less disappeared. The 23 countries signing the first round of General Agreement on Tariffs and Trade (GATT) in 1947 had an average import duty of 40 percent, while the World Trade Organisation (WTO) today has 125 member countries and the remaining tariffs just amounts to 3–4 per cent. (Tenold and Nordvik, 1998). International standards, law and agreements have become more binding and has hence eased international contacts, being trade or investments. The *geographical barriers* mainly relate to transport and communication costs, which has gone through fundamental changes in the last century. Innovations and improvements has induced cost reductions, for instance cargo shipments by 70 percent since 1920, telephone by 95 percent since 1940, etc. (Bergeijk and Mensink, 1997). The reduction in *cultural barriers* will also led to more contact in various ways. Better understanding across borders will induces less transport, investment and marketing costs. The

standardisation of consumption patterns is equally important as the market for each product becomes larger.

More trade is the effect of reductions in barriers in the traditional Ricardian theory framework based on comparative advantage due to resource endowments in the countries. Reduced trading costs, ceteris paribus, leads to more specialisation and exchange of products. Modern trade theory, based on economy of scale on plant level and the consumers preference for consuming different variants rather than more of the same good, results in a 'created' comparative advantage and hence more trade when the different barriers are reduced, ceteris paribus, (Helpman and Krugman, 1989). Such comparative advantages which results in intra-industrial trade (IIT) is often based on the historical preferences and former production patterns in each country. For example the Japanese has dominated the world marked for small cars until now while USA has exported large ones (Bhagwati, 1982)

Moving production instead of products has become an important alternative as foreign investments now are welcome in most countries. Brainard (1995) has constructed a model, were the extra cost of building a new factory abroad is compared to the transport costs and economy of scale advantage on just one plant at home. The effect on traded volume of the reduction in barriers to both trade and investments associated with globalisation, is hence uncertain. The author meanwhile shows how economic catch-up and equalisation of market size associated with globalisation, will lead the companies to substitute trade with investments in the consuming country. Another trend in the globalised economy is vertical integration, as each part of the production process is performed in the country with a comparative advantage in just this part, for example labour-intensive assembling in poor and labour-abundant countries and R&D in developed countries with high-skilled workers. The result is more FDI on one hand, but also more trade in both intermediates and final products. Empirical investigations are ambiguous as to international trade and investment being substitutes or complements on a macro-level (Bjørnestad, 1998).

Monopolistic or oligopolistic competition has been a distinct feature of protected markets due to institutional barriers. The supply of small volumes and prices above

[6] Trade intensities with GDP applying official exchange rate is presented from 1960.

marginal cost at home, has led to export dumping at low prices on the international market. Reduction in both tariffs and other non-tariff barriers has made such price-discrimination less viable, since price competition from abroad has become harder. The result is less exports, since the companies will prefer to sell the products at home as long as the price is above marginal costs. Numerical simulations undertaken by Smith and Venables (1988) suggested that intra-EU trade might be sharply reduced for important manufacturing sectors if the EU internal market leads to an elimination of price discrimination across borders. More openness and 'globalisation' will hence contra-intuitively lead to less and not more trade.

This brief account tells us 'globalisation ' affects trade, but there is no simple and monotonous relationship between the reduction to trade barriers and the actually traded volume.

3: Measurement problems

Traded volume is nevertheless associated with 'globalisation' and trade intensities are the most common indicator in academic and popular debate. This analysis applies total trade divided by GDP to flatten short run trade imbalances between imports and exports. Meanwhile, the choice of measurement method turns out to be decisive for the dynamic development of this globalisation indicator.

First we have to decide whether to measure trade and GDP in constant or current values. Current values implies the use of the economic agents' valuation of products at a given moment in time,[7] and this evaluation often changes. On the other hand, measures in constant values reflects the utility of goods in a given year, assuming the same relative evaluation of goods in all other years. The price increase on internationally traded products are lower than the average inflation due to the large share from the manufacturing sectors which are characterised by immense technological improvements. The increased demand for services as the general income level rises has further deepened the change in relative prices between international trade and GDP. Hence measuring trade and GDP in constant values will reflect the physical quantities, while current value will reflect how people at the time

[7] We assume marginal utility of money spent is equal between all goods.

perceived the utility of the same quantities. Bergeijk and Mensink (1997) uses constant prices in their analysis, arguing for physical comparisons as the interesting aspect, and shows that world export intensities has increased from 5 percent in 1870 to 14 percent today. But comparing physical quantities as such is rather absurd over a 100 year period as the composition and evaluation of consumption has changed completely. Measurement in current prices is a more proper method to measure human interaction when it is not the physical amount of goods and services as such, but the utility they represent that matters, and will hence be chosen in this analysis. This estimated globalisation process is then not as strong as when constant prices are applied.

The second problem is to choose a sensible way of comparing economic variables across countries. Traded volumes are usually comparable since fully convertible currencies like American dollars and Euro are used in more or less perfect functioning international markets. On the other hand, a large share of GDP constitutes of non-tradables, being services or goods which are institutionally, geographically and culturally protected from foreign competition. The official exchange rate on GDP is hence a poor tool to compare the size of the different economies. Empirical evidence shows that it is possible to buy more products for one US dollar in poor countries than in rich. The most important theories in order to explain this is based labour being less productive in developing countries than in their industrialised counterparts.

The Harrod–Balassa–Samuelson approach assumes lower labour productivity in poor countries, where the productivity gap is larger in the manufacturing (and international tradable) than in the service (non-tradable) sector. Wages are set in the manufacturing sector and has to be lower than in their industrialised counterparts in order to compete on the world market. This low equilibrium wage level spills over to the service sector. The result is lower product prices on the sheltered products than in the richer part of the world (Balassa, 1964). The Kravis–Lipsey–Bhagwati approach is a further refinement of this Ricardian model. With equal technology available in all countries and no mobility of labour and capital, the labour-abundant developing countries will have lower wages due to low productivity in the capital-intensive sector for tradable goods (Bhagwati, 1994), and this equilibrium wage will affect the people involved in the efficient service sector where the lack of capital is less important.

Less colourful explanations for price differences are market imperfections and trading costs. Import and export quotas and tariffs imply that the local price on tradables which will deviate from the world market price. Regulated currency markets often imply restricted access to foreign currency at the official exchange rate. This may lead to higher prices in the local currency on the parallel black markets. As a result, trade intensities become downward biased since the official exchange rate undervalues the utility of imports in low-income countries.

Purchasing Power Parities indexes are the alternative measure to the official exchange rate, i.e. the relative price of a given basket of products in local currencies compared to the price of the same basket in a reference country and currency. The International Comparison Program (ICP) of the United Nations (UN) is a co-ordination programme to assemble the PPPs. Local statistical authorities gather prices for about 400 products, which are comparable both in quantities and qualities between countries.[8] These are grouped into 150 national account expenditure categories, containing 110 consumption sectors, 35 investment sectors and 5 governmental sectors. The relative price in the given country compared to the reference currency for the categories, is averaged by using a special regression technique which allows for missing products.[9] The resulting relative price for each category is then weighted by its share of total expenditure in order to calculate the final PPP for the actual country. The comparison of GDP between countries, using this method, is unfortunately influenced by the choice of reference country. It is possible to avoid such biases by constructing a world average reference price on each product following the Geary–Khamis approach (UN, 1992). The price in local currency for each country is weighted by the actual country's share of world expenditure for this product, and the resulting price is then a composite currency unit which is utilised the same way as the US dollars in the traditional procedure, normalised in order to make the PPP for the USA equal to one.

[8] For many products it is extremely difficult to find the same level between cultures and nations. Thonstad (1993) finds housing consumption per capital in Portugal to be higher than in Norway with PPP-adjusted prices in the ICP. This seems intuitively wrong as the consumption level is four times higher in Norway when the official exchange rate is applied, and the Portuguese have less room available and many houses are still without water and bathroom facilities.

[9] The selection of products is not the same all over the world and some differences in products are hence allowed between countries. There are around 1,500 products represented in the ICP in total.

The normalised unit called international dollar makes GDP measured in PPPs transitive between countries.

Economic comparisons across countries in the globalisation debate, should reflect the real standard of living. The optimal choice should be to convert GDP with PPPs which reflects the physical consumption, and not the official exchange rate which more reflects the marginal evaluation between tradable and non-tradable goods. This follows the line of the World Bank which applies PPPs in international comparisons, both for GDP and more composite indicators (World Bank, 1998). The various organisations of the UN are more casual in choice. The United Nations Development Program (UNDP) adjusts the GDP figures by PPP in their Human Development index, while trade openness is measured in current values using the official exchange rate to US dollar for GDP. UNCTAD, Eurostat, the OECD and the IMF all apply GDP in current values using the official exchange rate. Openness indicators in constant values, either PPP-adjusted or not, are, on the other hand, rare. They are used in some historical comparisons when it is difficult to compile the openness indicators directly in current values. Maddison (1995) for instance has converted time series in constant values measured in the local currency unit by applying the Purchasing Power Parity index for 1990. Since trade and GDP volumes exist separately, we often see authors compile the trade intensity themselves in academic and popular discussions, without reflecting much around the possible problems.

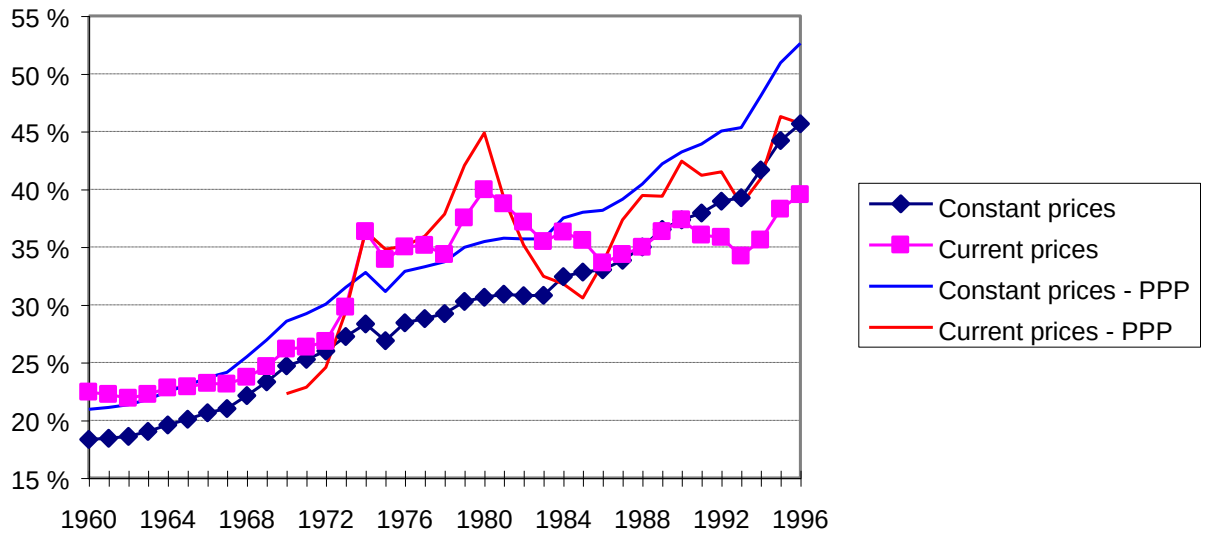
The sample of activities to be included in the economic variables and the classification creates further problems in measuring the trade intensity correctly over time and between countries. Governmental and private service sectors which are included in the GDP concept today, were often exchanged as non-monetary favours inside the extended family or local society and earlier hence excluded. The increase implies an overestimation of the trade intensity in the beginning of the period, and hence and underestimation of the globalisation process. This is further aggravated by the inclusion of economic activity in the GDP concept today which more have the character of intermediates than final goods. This applies to governmental services like education, building of infrastructure, transport, etc. and private services like lawyers and other rent-seeking activity, that is, if the cost is not deduced from value added by the receivers of their services (Rødseth, 1998). This inclusion further tend to

overestimate GDP in poor countries and hence underestimate trade intensity since governmental expenditure like education and governmental services constitutes a major part of the economy.

4: Empirical comparitions

The comparison of trade intensities in the OECD are computed for the four possible measurement combinations, constant vs. current values and PPPs vs. exchange rate. The difference between them illustrates how the choice of measurement method will affect our perception of the globalisation process. The international trade and GDP statistics are drawn from OECD's annual national account figures, which has complete figures for 24 of the 29 OECD countries today.[10] GDP and trade are available in current and constant 1990 values in US dollars since 1960, while current PPP-adjusted values in international dollars are only from 1970 when the first ICP round were conducted.

Figure 1: Total trade as share of GDP, OECD-24



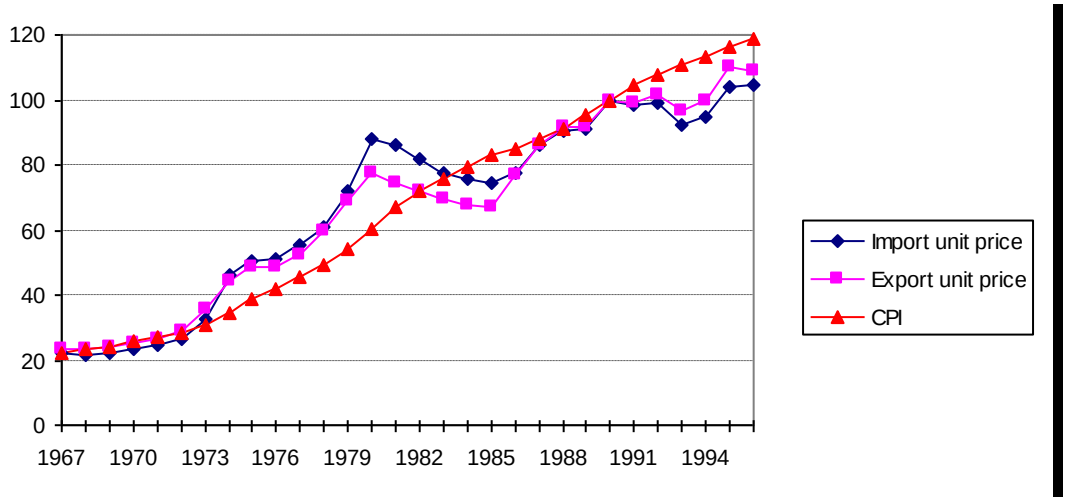
Source: Total trade (imports and exports) and GDP from OECD (1997a)

[10] All original OECD members are included except Turkey since data were missing for several years and variables, while the new member South Korea is included. Mexico, the Czech Republic, Poland and Hungary are not included.

The increase in trade intensities measured in constant prices applying official exchange rates was the most remarkable, up from 18 in 1960 to 46 per cent in 1996. The corresponding figures in current prices rose from 22 to 40 per cent. The cost of living in the OECD countries is higher than in USA on average, and the PPP-adjustment trade intensities are hence higher in most of the period. The indicator in constant 1990 prices increased steadily from 22 to 55 percent. Our preferred measure according to the theoretical discussion in the preceding chapter is current prices and PPP-adjusted GDP figures, increases sharply from 23 percent to 46 percent today but the indicator is more volatile than the other available measurement methods.

The world is undoubtedly more open today than in 1960 according to all alternative measures of the trade intensity. Whether this signify globalisation is unsure, at least for the last 25 years. Our chosen indicator rose rapidly after 1970 and peaked during the first oil crisis at 35 percent. The level during the second oil crisis in 1978 was at the same level as today, around 45 percent. Large fluctuations in trade intensity illustrates how the importance of economic trade depends on more than the general long term globalisation process, since especially the cyclical prices of raw materials like oil and energy seems to matter. The sudden increase in oil prices (above 40 US dollar per barrel in 1980) soon spilled over on international tradables, while it took more time before the non-tradable part of the economy followed suit. The import unit price in industrialised countries rose by nearly 90 per cent in the period 1972–1975, the export unit price by 70 per cent, while the general consumer price index by 35 per cent in the same period.

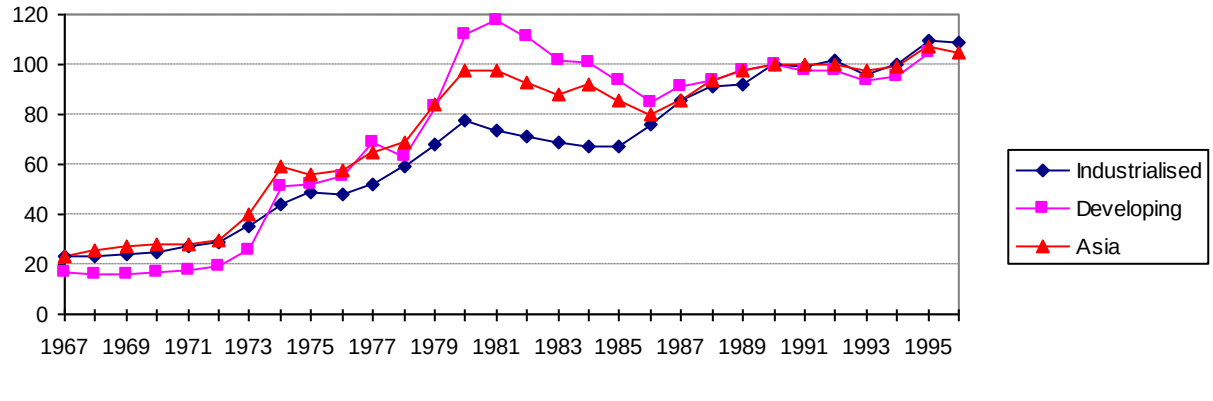
Figure 2: Price indexes for industrialised countries (1990=100)



Source: IMF (1997b)

International trade also became more cost efficient when the process of transferring labour-intensive production from Europe to developing countries, especially in Asia, speeded up in the beginning of the 1980's. Intra-regional division of production was transformed to an inter-regional pattern. This pure form of the globalisation process hence generated changes in prices and directions of trade, but not necessarily in the volume traded. The textile industry is a good example. Exports from Portugal, Spain, Italy etc. in the 1970s and 1980s were protected by European import quotas from the even cheaper countries in Asia. When the quota system fell apart, the Europeans preferred to go 'shopping' on the other side of the globe (Melchior, 1998). A fall in export and import prices, due to a more efficient division of production in the world, could hence explain why trade intensities has been rising in constant prices while the level in current prices is more or less constant over the last two decades.

Figure 3: Export unit price (1990=100)



Source: IMF (1997b)

Other plausible reasons for the lack of increase in trade intensities during the last 25 years, which is thought to be the golden era of globalisation, are that trade actually might decrease when the barriers to trade and FDI are reduced as explained in theory chapter. Open borders make price discrimination and dumping less viable and hence less will be exported. Companies might prefer to establish production units around the world instead of exporting products.

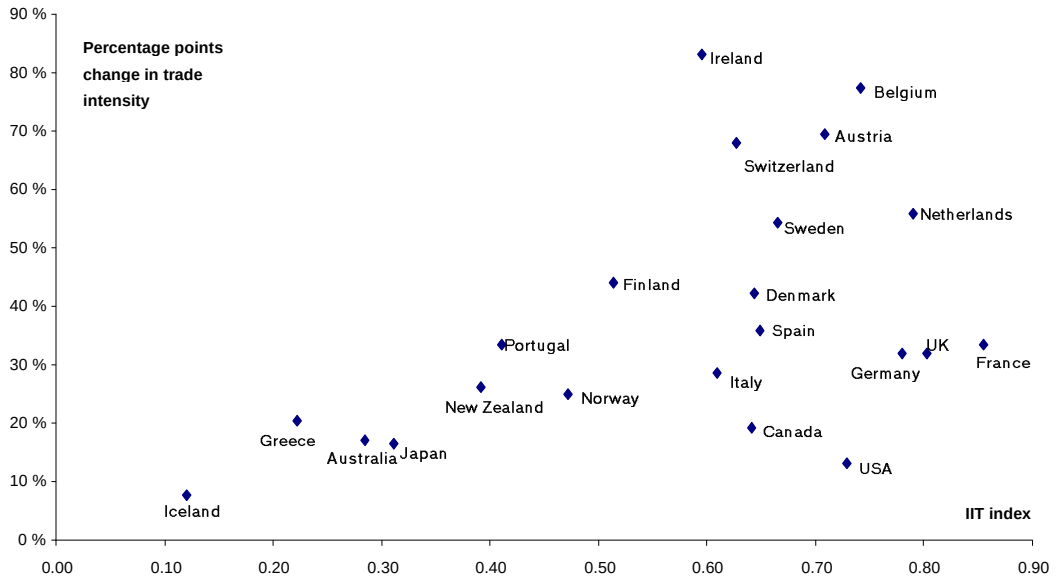
In this report I choose to analyse changes in openness by using trade intensities measured in current values adjusted by the purchasing power parity. This is a mixed measurement. It emphasises the utility dimension over time by using current values,

but comparing physical volume between countries by using PPPs on GDP. The increase of 23 percentage points from 1970 to 1996 for OECD-24 is partly due to a large growth in trade intensities for some formerly more or less closed countries, and partly due to the general increase of openness in the large open economies. The USA is the major contributor with 20 per cent of the increase in trade value over the period 1970–1996, mainly due to the size of the economy (see appendix). The relative change in US trade intensity has also increased more than the weighted average for OECD-24, from 11 to 25 per cent, but the GDP growth is slightly lower. The other important contributors are also large economies, but only France and Italy have increased their trade intensities by more than 130 per cent. The small and formerly closed countries Spain and South Korea (due to political dictatorship and underdevelopment) have opened their economies most, driving trade intensities up by a factor of 2.5. The extraordinary economic growth in Korea of 13 per cent per year in GDP-PPP has also made this country a major contributor to the growth in total trade. Another trade-driven economic 'miracle' is Ireland with 10 per cent economic growth per year and the trade intensity now at 140 per cent, more than 1.5 times higher as in 1970. Countries that contribute less to the overall trade intensity are the small but traditionally open economies of Iceland and Norway. Their trade intensities have only increased by a factor of respectively 0.1 and 0.3.

The importance of intra-industry trade in the globalisation process is to some degree visible in our sample. There is a weak positive, but not significant, correlation between the share of intra-industry trade to total trade and the relative increase of trade intensities[11].

Figure 6: The importance of intra-industry trade to increase in openness

[11] The ITT indicators are Grubel-Lloyd indexes by country in 1992, were the economy is split in 1000 separate industries.



Source: Trade intensities from OECD (1997a) and the Grubel-Lloyd IIT index for 1992 from Melchior (1997)

The correlation between intra-industrial trade and the percentage points change in trade intensities from 1970 to 1996 is on the other hand positive at a significance level above 97.5 per cent, and the linear function will explain more than 20 per cent of the variation of the sample. Countries with economies based on resource extraction and trade like Iceland, Australia, New Zealand and Norway have experienced modest changes in trade intensities since 1970. The smaller countries which constitute the core of the integrated Europe, have exploited the opportunities of open borders within the region. Ireland, Belgium, Switzerland, Austria, Finland, Denmark, Sweden and the Netherlands now base much of their economy on intra-industry trade and they have hence experienced a substantial increase in trade intensities. A hypothesis may thus be that intra-industry trade is the driving force behind increased trade within the OECD-area over the last 25 years, while economies based on exports of natural resources and comparative advantage in the traditional sense had reached high levels already in 1970.

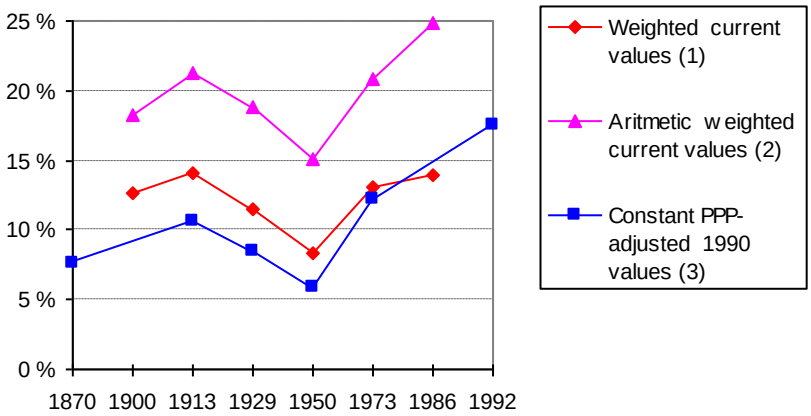
Large economies are now highly dependent on intra-industrial trade. Canada, Germany, the United Kingdom, Italy and France all have IIT indexes above 0.6, but the percentage points change in intra-industry has been rather small. This is in accordance with the literature, since large economies are less dependent on trade in

general. The relative increase in trade intensity in for instance the USA is higher than the average increase of this OECD sample.

International trade has been the backbone in many developed societies in historical times. The evolution of trade and globalisation has been a cyclical phenomena through history, the different societies and civilisations has appeared an then vanished. The last globalisation period characterised by large trade peaked in 1914. There has been various attempts to estimate trade and GDP figures. Maddison (1995), going as far back as 1820 for some countries, has figures for a representative group of 17 countries[12] from 1870 (the sample constitutes 97 per cent of GDP in OECD-24 for 1992). The trade intensities are constructed by dividing merchandise exports in constant 1990 values by GDP measured in constant PPP-adjusted prices for 1990. This shows a considerable increase in export intensities, up from 8 per cent in 1870 to 18 per cent in 1992. Maddison (1989), on the other hand uses merchandise export intensities that are calculated from the original export and GDP figures in current values for 16 countries.[13] The author reports the arithmetic average which rises from 18 per cent in 1900 to 24 per cent in 1987, but he obviously overestimates the level since smaller countries in general are more open than large ones. The weighted average[14] provides lower and more constant export intensities for the OECD 16 group, rising from 12.7 per cent in year 1900 to 14 per cent in 1987, the same level as in 1913 which was the most open year throughout the sample period.

Figure 11: Merchandise exports as share of GDP[15], OECD 16

[12] Luxembourg, Greece, Iceland, Ireland, South Korea, New Zealand and Portugal are excluded from the OECD-24 group.
[13] Spain is excluded from the OECD 17 group.
[14] Using Maddison (1995) figures for GDP-PPP measured in constant 1990 Geary–Khamis international dollars in the given year.
[15] The service sector is not included in historic comparisons, since merchandise constituted the major part at the beginning of the century.



Sources: (i) Merchandise exports as share of GDP by nations in current values from Maddison (1989) and then weighted by national shares of GDP-PPP in given years from Maddison (1995), (ii) arithmetic average of merchandise export shares in current values by nations from Maddison (1989), (iii) merchandise exports in constant values divided by GDP i constant values from Maddison (1995).

Reduced protectionism, new telecommunication technology and trade in raw materials from the new colonies led to high trade volumes before World War I. The export intensity fell in the next decade due to more segregated markets, but protectionism with preventive tariffs was first introduced *after* the collapse of the stock markets in 1929. The result was falling world market prices and what is called the 'Great Depression'. The world export volume fell by 27 per cent, but the value fell by as much as 62 per cent (Skarstein, 1998). The world economy took a positive turn before World War II. After the war most European countries were busy rebuilding the basic parts of their national economy, while the USA became the natural worldscale supplier of advanced products. One of every four dollars of export from the OECD came from the USA in the 1950s. Economic growth in Europe and Japan was driven by industrial reconstruction and specialisation gave room for a recovery of international trade and higher export intensities, which were further fuelled by regional integration (for instance, the European Community).

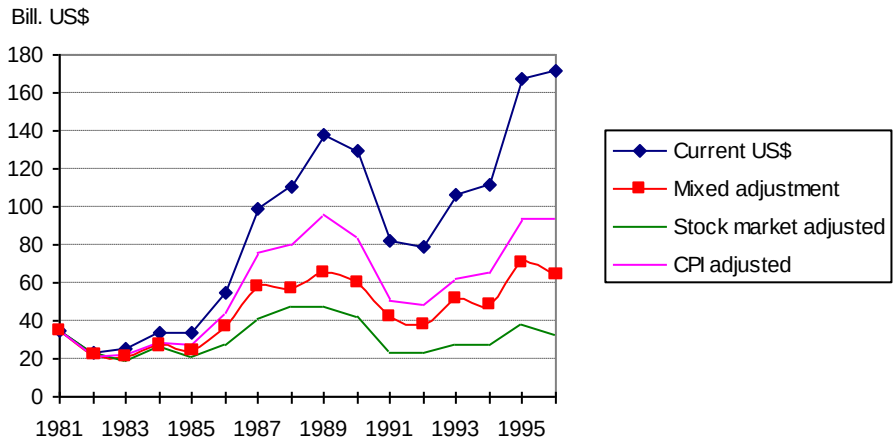
5: Conclusions

Trade intensities measured in current PPP-adjusted prices rises rapidly form 23 to 35 percent in the tree years unto the first oil crisis in 1973. The volatility of the indicator is extremely high. Applying the official exchange rate and constant prices on trade intensities results on the other hand in a steady increase in openness, from 22 percent in 1960 to 56 percent in 1996. This illustrates how "white lies and statistics" through measurement manipulations might influence our perception of the globalisation

process just thought the measurement method. The missing increase in openness for the last 25 years further questions the wisdom of using trade intensity as a proxy for the globalisation process. Open borders entails free competition, less price discrimination and hence export dumping in other countries. Furthermore, the spread of the market economy, more FDI-friendly regimes and improved communication techniques might have led companies to move production instead of products. An alternative interpretation is of course that the globalisation process has been overdramatized.

FDI intensities is the other alternative indicator. It has increased from 1 per cent in 1981 to above 2 per cent in 1996. Meanwhile, the volatility is quite high, peaking of 2.5 per cent in 1989 and down to 1.5 per cent three years later. This volatility might be explained more by volatile prices on stocks, than changes in volume. A mixed deflation of FDI inflows by both stock market index and consumer price index that takes account of the share of greenfield investments, generates volumes in 1996 that are similar to the level in 1987. Moreover, the volatility is dramatically reduced compared to the volatility of FDI measured in current prices, or deflated by the consumer price index.

Figure 10: FDI inflows, OECD 13[16]



Source: OECD (1997b), national stock market indexes

The true nature of globalisation might take other forms than trade or FDI. The alternative in international production are forms of strategic partnerships, like joint

[16] Austria, Belgium/Luxembourg, Canada, Denmark, Finland, France, Germany, Italy, Japan, Norway, Sweden, the United Kingdom and the USA.

ventures, subcontracting, franchising, licensing, research and development co-operation etc. An MNC might earn just as much money by letting others take care of the daily business by licensing out a brand name or technology. International activity without complete ownership, either of the production process or product, has been a trend since the mid-80s. There were 1,760 cross border inter-firm agreements (R&D partnership excluded) concluded in 1990, rising to 4,600 just five years later.[17] The number of inter-firm research and development partnerships has increased from 300 in 1990 to 500 in 1994.

The co-operation in WTO is based on the Most Favoured Nation concept. This principle of equality implies that no country is allowed better trade and investment conditions than another. However, countries may form regional economic and political unions, for instance the European Union (EU), NAFTA and Mercosur, with reduced trade tariffs within the member area. Lately, several regional economic unions have formed, and much of the increased economic activity across borders is actually found inside such regions. The internationalisation of economic activity could hence be characterised more as regionalisation than globalisation. The stepwise economic integration of countries in the European Union (EU) has led to one single market with hardly any barriers to trade and investment across borders. Kleinknecht and ter Wengel (1998) find regionalisation and not globalisation to be the true reason for increased export intensities for the EU countries since 1960, using trade statistics from the European Commission. Intra-regional trade for 12 countries in the EU[18] has increased from only 6 per cent in 1960 to above 14 per cent in 1995, while export of goods to countries outside the EU has been around 9-10 percent of GDP in the whole period. Yeats' (1998) study of trade in the Mercosur countries Brazil, Argentina, Paraguay and Uruguay shows a remarkable increase in trade between the member countries and this trade has to some degree replaced trade with countries in the rest of the world. Only 6.7 per cent of total exports went to other member countries in the mid 80s, while this share had risen to nearly 20 per cent in 1994 after the introduction of regional trade policies.

Bibliography

[17] UN World Investment Report 1998, based on statistics from UNCTAD and IFR Security Data Company.
[18] The EU-12 countries are Belgium/Luxembourg, Denmark, (West) Germany, Greece, Spain, France, Italy, Ireland, the Netherlands, Portugal and the United Kingdom.

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Appendix

Table 1, Change in total trade as share of national production*

	Trade/GDP				Trade	GDP	Shares of OECD-24 total					
	1970	1983	1996	growth	growth	growth	Trade 1970	Trade 1996	Trade ch.	GDP 1970	GDP 1996	GDP ch.
Spain	14 %	24 %	50 %	259 %	2722 %	687 %	1.8 %	3.3 %	3.4 %	2.9 %	3.0 %	3.0 %
Korea	16 %	42 %	54 %	240 %	9773 %	2804 %	0.6 %	3.7 %	3.9 %	0.8 %	3.2 %	3.5 %
Austria	40 %	59 %	109 %	175 %	2027 %	673 %	1.6 %	2.1 %	2.1 %	0.9 %	0.9 %	0.9 %
Switzerland	43 %	75 %	111 %	157 %	1338 %	459 %	2.5 %	2.2 %	2.2 %	1.3 %	0.9 %	0.9 %
Ireland	58 %	88 %	141 %	143 %	2937 %	1151 %	0.6 %	1.1 %	1.1 %	0.2 %	0.4 %	0.4 %
France	25 %	37 %	58 %	135 %	1470 %	568 %	7.9 %	7.8 %	7.8 %	7.1 %	6.1 %	6.0 %
Italy	22 %	31 %	50 %	130 %	1539 %	613 %	6.2 %	6.5 %	6.5 %	6.4 %	5.9 %	5.8 %
Portugal	26 %	29 %	59 %	127 %	2074 %	857 %	0.6 %	0.9 %	0.9 %	0.5 %	0.7 %	0.7 %
Japan	14 %	25 %	30 %	119 %	2047 %	881 %	7.3 %	10.0 %	10.1 %	11.8 %	15.0 %	15.5 %
United States	11 %	18 %	24 %	115 %	1473 %	632 %	20.3 %	20.3 %	20.3 %	39.8 %	37.8 %	37.6 %
Greece	18 %	28 %	38 %	112 %	1711 %	756 %	0.5 %	0.6 %	0.6 %	0.6 %	0.7 %	0.7 %
Sweden	53 %	68 %	108 %	102 %	1036 %	462 %	2.9 %	2.1 %	2.0 %	1.2 %	0.9 %	0.8 %
United Kingdom	31 %	43 %	63 %	102 %	1132 %	511 %	9.9 %	7.7 %	7.6 %	7.1 %	5.6 %	5.4 %
Finland	44 %	60 %	88 %	100 %	1377 %	638 %	1.0 %	0.9 %	0.9 %	0.5 %	0.5 %	0.5 %
Germany	32 %	48 %	64 %	99 %	1323 %	616 %	13.8 %	12.4 %	12.4 %	9.6 %	8.9 %	8.8 %
Belgium	82 %	106 %	160 %	94 %	1288 %	616 %	4.5 %	4.0 %	3.9 %	1.2 %	1.1 %	1.1 %
Netherlands	67 %	98 %	123 %	83 %	1226 %	626 %	5.3 %	4.5 %	4.4 %	1.8 %	1.7 %	1.6 %
New Zealand	33 %	45 %	59 %	80 %	1102 %	569 %	0.5 %	0.4 %	0.4 %	0.4 %	0.3 %	0.3 %
Denmark	54 %	71 %	96 %	79 %	1118 %	582 %	1.6 %	1.3 %	1.2 %	0.7 %	0.6 %	0.6 %
Australia	25 %	31 %	42 %	68 %	1314 %	741 %	2.0 %	1.7 %	1.7 %	1.7 %	1.9 %	1.9 %
Luxemburg	141 %	149 %	216 %	54 %	1383 %	864 %	0.3 %	0.3 %	0.3 %	0.1 %	0.1 %	0.1 %
Canada	48 %	51 %	67 %	40 %	1092 %	750 %	6.4 %	4.8 %	4.7 %	3.0 %	3.3 %	3.4 %
Norway	82 %	97 %	106 %	30 %	1119 %	836 %	1.6 %	1.3 %	1.2 %	0.4 %	0.5 %	0.6 %
Iceland	76 %	77 %	84 %	10 %	1056 %	950 %	0.1 %	0.1 %	0.1 %	0.0 %	0.0 %	0.0 %
OECD-24	**22 %**	**32 %**	**46 %**	**105 %**	**1479 %**	**670 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**	**100.0 %**

Source: Trade and GDP figures from OECD (1997a)

*Total trade (imports and exports) is measured at current US dollars and GDP is purchasing power parity adjusted and measured in current international dollar

Table 2. Change in total FDI flows as share of national product* (FDI/GDP-PPP)

	FDI/GDP-PPP				FDI	GDP-PPP	Shares of OECD-24 total					
	1981	1989	1996	growth	growth	growth	FDI 1981	FDI 1996	FDI ch.	GDP-PPP 81	GDP-PPP 96	GDP ch.
Switzerland	0.9 %	7.6 %	8.1 %	855 %	1746 %	117 %	0.9 %	3.0 %	3.5 %	1.1 %	0.9 %	0.8 %
Finland	0.5 %	4.6 %	4.9 %	811 %	1992 %	130 %	0.3 %	1.0 %	1.2 %	0.5 %	0.5 %	0.5 %
Denmark	0.5 %	3.9 %	3.6 %	613 %	1653 %	146 %	0.3 %	0.9 %	1.0 %	0.6 %	0.6 %	0.6 %
New Zealand	1.0 %	1.3 %	6.8 %	567 %	1436 %	130 %	0.3 %	0.9 %	1.0 %	0.3 %	0.3 %	0.3 %
Belgium/Lux	1.4 %	7.9 %	7.8 %	455 %	1224 %	139 %	1.5 %	3.8 %	4.4 %	1.2 %	1.2 %	1.2 %
Sweden	1.2 %	8.8 %	5.8 %	365 %	859 %	106 %	1.1 %	2.1 %	2.3 %	1.1 %	0.9 %	0.8 %
Korea	0.2 %	0.4 %	0.7 %	332 %	2117 %	486 %	0.2 %	0.9 %	1.0 %	1.3 %	3.2 %	4.4 %
Norway	2.1 %	4.1 %	8.2 %	289 %	908 %	159 %	1.0 %	1.8 %	2.0 %	0.5 %	0.5 %	0.6 %
Austria	0.7 %	1.2 %	2.8 %	279 %	813 %	141 %	0.6 %	1.0 %	1.1 %	0.9 %	0.9 %	0.9 %
France	1.3 %	3.7 %	4.1 %	220 %	591 %	116 %	7.8 %	10.2 %	10.8 %	7.0 %	6.1 %	5.5 %
Canada	0.8 %	2.0 %	2.2 %	193 %	583 %	134 %	2.3 %	3.0 %	3.2 %	3.5 %	3.3 %	3.2 %
Portugal	0.4 %	2.1 %	1.1 %	167 %	607 %	164 %	0.2 %	0.3 %	0.3 %	0.6 %	0.7 %	0.7 %
Irland	1.0 %	0.2 %	2.5 %	147 %	744 %	242 %	0.2 %	0.4 %	0.4 %	0.3 %	0.4 %	0.4 %
Germany	0.6 %	1.9 %	1.4 %	141 %	486 %	143 %	4.7 %	5.2 %	5.3 %	9.1 %	8.9 %	8.8 %
Spain	0.8 %	2.3 %	1.9 %	126 %	456 %	146 %	2.2 %	2.3 %	2.3 %	3.0 %	3.0 %	3.0 %
United States	1.1 %	2.0 %	2.3 %	101 %	388 %	143 %	38.6 %	35.7 %	35.0 %	38.5 %	37.8 %	37.4 %
United Kingdom	3.7 %	7.5 %	7.0 %	88 %	326 %	127 %	19.9 %	16.1 %	15.2 %	6.1 %	5.6 %	5.3 %
Japan	0.5 %	2.1 %	0.8 %	70 %	366 %	174 %	5.6 %	5.0 %	4.8 %	13.5 %	15.0 %	16.0 %
Italy	0.5 %	0.5 %	0.8 %	56 %	246 %	122 %	2.9 %	1.9 %	1.6 %	6.5 %	5.9 %	5.4 %
Netherlands	3.8 %	10.6 %	4.1 %	9 %	165 %	144 %	5.6 %	2.8 %	2.1 %	1.7 %	1.7 %	1.6 %
Australia	2.1 %	4.3 %	2.0 %	-5 %	146 %	159 %	3.4 %	1.6 %	1.2 %	1.8 %	1.9 %	2.0 %
Greece	0.9 %	0.8 %	0.8 %	-12 %	103 %	141 %	0.6 %	0.2 %	0.1 %	0.7 %	0.7 %	0.7 %
Iceland	0.5 %	0.6 %	0.1 %	-80 %	-57 %	163 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
OECD-24	**1.1 %**	**2.7 %**	**2.4 %**	**109 %**	**428 %**	**147 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**

Source: FDI from OECD (1997b) and GDP from OECD (1997a)

* FDI-total (inwards and outwards) is measured in current US dollars and GDP is purchasing power parity adjusted and measured in international dollars.