

**Observing Trade:
Overview of Changes 1980-2001**

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To be presented at the conference
Observing Trade: Revealing International Trade Networks and Their
Impacts

Princeton Institute for International and Regional Studies

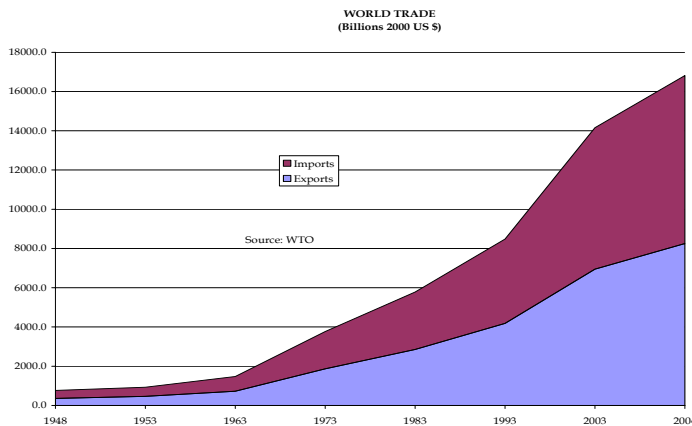
Thursday, 9th March 2006

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Anyone on the plus side of 40 can easily remember a time when travel abroad came with shopping lists. A tourist had to bring “American” goods to friends abroad, and then ferry the equivalent imports back. My personal favorites were English Muffins to Europe and Toblerone back. It is difficult to imagine now in 2006 how location would make any difference in consumption—at least of packaged goods. The world (or, as we will see, the rich part of it) is a single brand market. Citizens of the wealthy countries can purchase each others’ products and eat a global mosaic of cuisines. It is likely that we consume and use products from a least a dozen countries on a daily basis. Even if one tried to be a jingoistic consumer, the complexities of the global assembly line are such that “national” products may be a thing of the past.

It is important to realize how new this global supermarket really is. The first “takeoff” began in the 1960s, but the acceleration (notice the slope in Figure I) really occurred in the 1990s. A myriad of factors may account for this (e.g. the internet, the collapse of the Communist Block, etc.). This conference is not so concerned with exploring those factors as with analyzing the development of a global web of trade.

Figure I

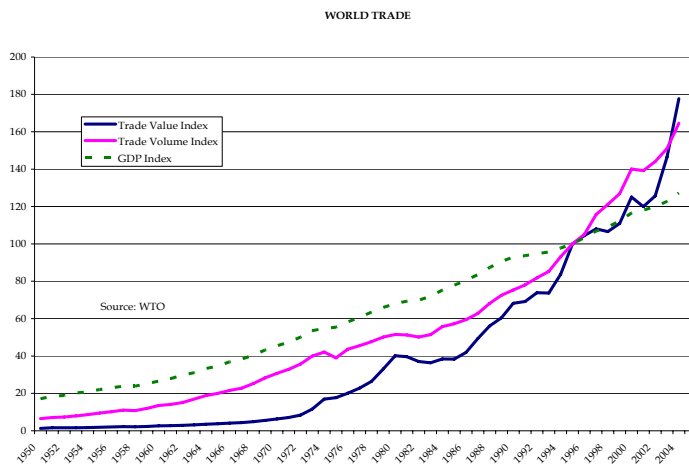


Why is this significant? If we think of trade as a network, the importance of knowing its various routes and connections becomes obvious. Networks are

arrangements of connections into nets, or permeable systems linking groups of points and intersecting lines. Obvious examples are the body's circulatory system, a network of veins and arteries, or a country's transportation network of roads, railways, rivers, and canals. Global interregional networks are defined by a complex series of interactions, such as trade and communications that can span wide geographical areas. Consider then the state of medicine without awareness of the circulatory system, or attempting to travel without any sense of roads and connections. The structure of global trade is critical because our daily life increasingly depends on its proper functioning.

A few examples should suffice. Price disputes between Ukraine and Russia in late 2005 led to lowering of gas supplies in countries "downstream" the pipeline towards the West. The SARS epidemic and its focal points in Hong Kong and Toronto created transport and logistical headaches for firms and consumers not directly connected to either site. The rapid contagion of financial crises in the 1990s also demonstrated that no bourse was an island.

Figure II

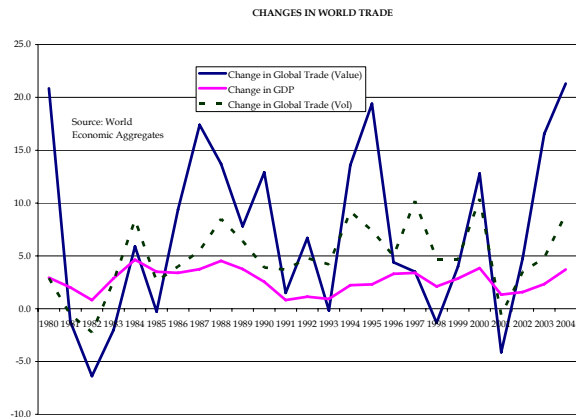


Countries can also use their relative position in the network to great advantage. A significant part of the Dutch GDP originates in that country's position astride the industrial network along the Rhine valley. Similar

advantages have accrued to Singapore and Bahrain. Globalization runs on networks and it is critical that we map them.

In order to appreciate the complexity of the structure we will be analyzing, let us begin with some indicators of the size of the global trade network. Unless otherwise specified, we will be discussing only merchandise trade – that is, trades in goods. A discussion of the service trade will follow.

Figure III

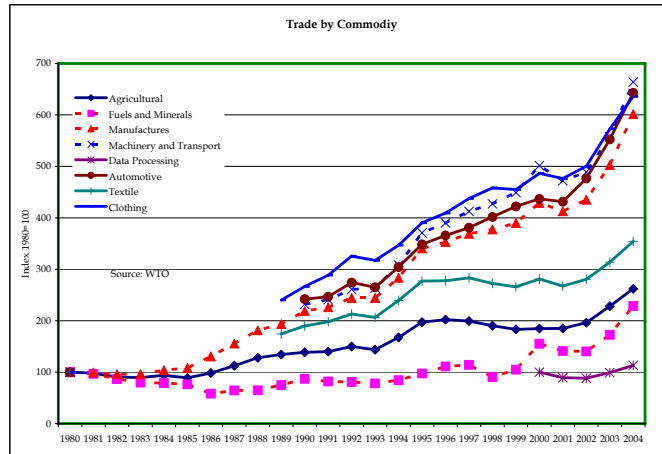


Figures I and II give a clear idea of how dramatic the changes in trade have been over the past few decades. Note that in Figure I, the data has been adjusted for dollar inflation. In the space of a single decade, (1993-2003) total global trade practically doubled. Figure II shows that this was not a function of more expensive goods, but reflected a real increase in the sheer volume of things being transported. That same figure as well as Figure III also indicates the turning point of the late 1980s and 1990s when trade began to increase even faster than the base economies.

Obviously, trade did not increase uniformly. Prices changed as did global demand and supply. One of the industries most affected by increase in trade was clothing. The last 25 years have seen a clear and dramatic move away from production in the OECD and growing exports from developing countries (Figure IV). Other manufactured goods including automobiles also rose reflecting both consumer preferences in major markets and the global distribution of

manufacturing. Primary products did not experience as much growth. In some cases this may be a product of lower prices (thus even larger volumes would still show no growth in trade) or simply flat demand. The trade in electronic data processing and other office machinery (with available figures only beginning in 2000) appear flat largely because of decreasing unit costs.

Figure IV



The increasing volume of trade led to a massive increase in the infrastructure required to manage it and deal with its logistical challenges. In Hong Kong alone, the capacity for loading and unloading shipping containers grew more than threefold. But even in older market entry points such as Rotterdam and New York, the volume almost doubled. The 1990s also witnessed a dramatic increase in the volume and value of trade shipped by air due to the combination of global supply chains and just-in-time inventories (Figures V-VI).

Figure V

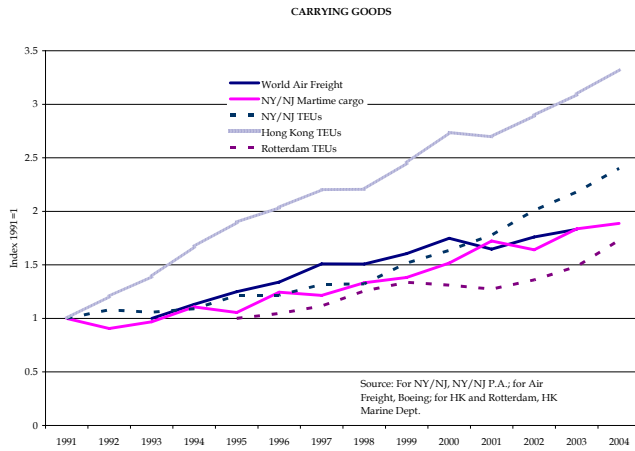
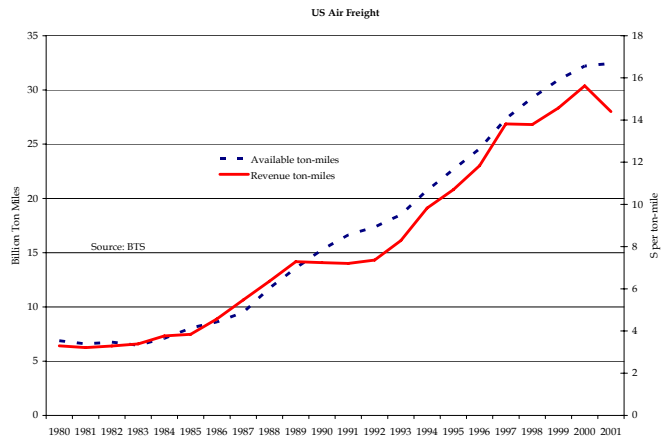


Figure VI



The increase in trade has also seen a general decline in prices for goods across the board. While the 1970s and early 80s saw dramatic spikes (largely due to the oil shocks), the 1990s have seen cheaper goods flowing from one end of the world to the other. The decline in the prices for computers is perhaps the most dramatic example of this trend. Increases in the price of energy beginning in 2001 may lead to higher transport costs and rises in associated products (e.g. fertilizer) (Figures VII-IX).

Figure VII

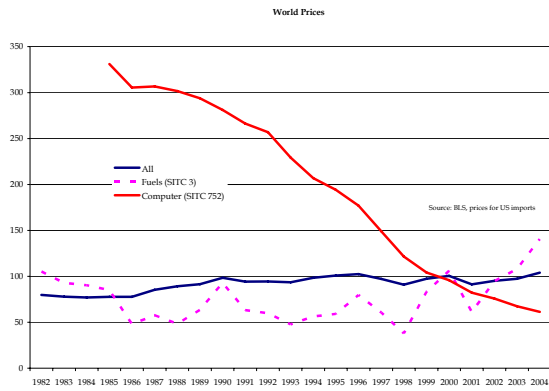


Figure VIII

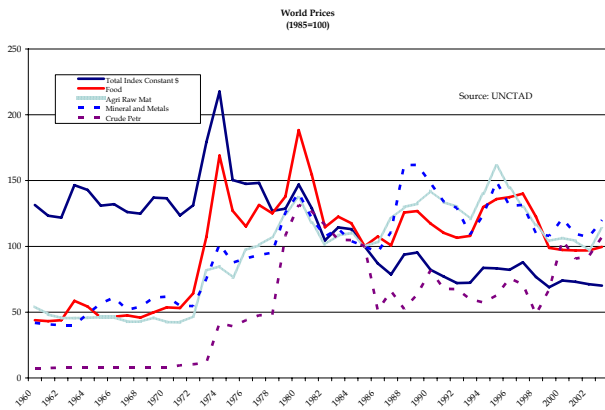
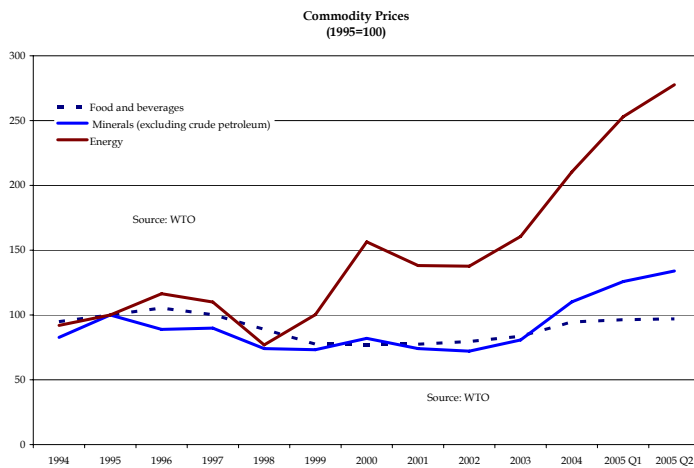


Figure IX



Despite all of these changes, some aspects of the global economy remain the same. The most prominent example is the fact that over $\frac{3}{4}$ of global trade

occurs among the wealthiest industrialized countries. No matter what classification used (in the first figure UNCTAD “Developed Economy, in the second, OECD with membership in 2000), Northwest Europe, North America, and Northeast Asia account for the most significant global transactions. Two other trends include the rise and subsequent fall (with perhaps another rise after 2001) of trade accounted for by OPEC members (Figure XI) and the rise to global importance of the Chinese economy (Figure X).

Figure X

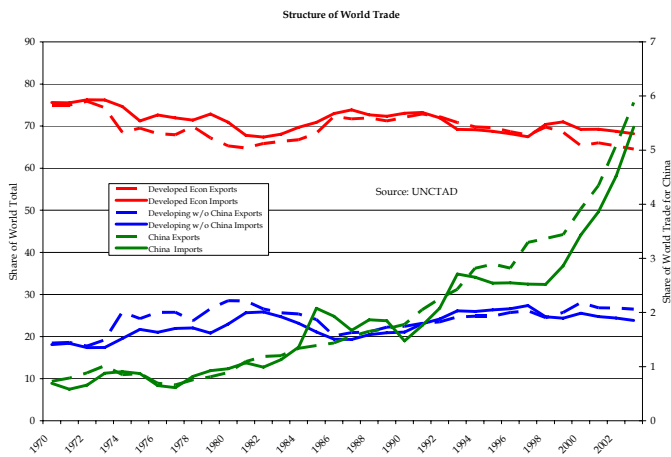
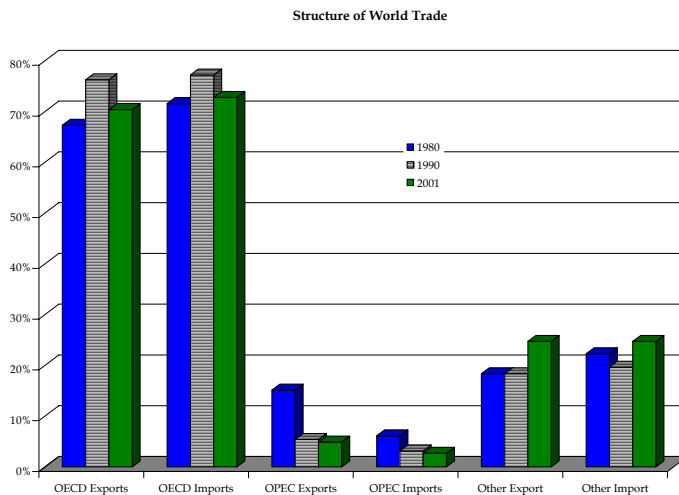


Figure XI



The other clear structural change in the global system has been the rise of regional networks. Intra-Asian trade, as well as that within NAFTA and Europe, have increased in sheer volume as well as market share. The two stars in this process have been NAFTA and the NE Asian and ASEAN corridor. Trade between these regions has also increased dramatically, particularly along the Pacific Rim. The share of world trade handled by the remaining “outsiders” has declined from one third of the total to less than a fifth (Figures XII-XIV).

Figure XII

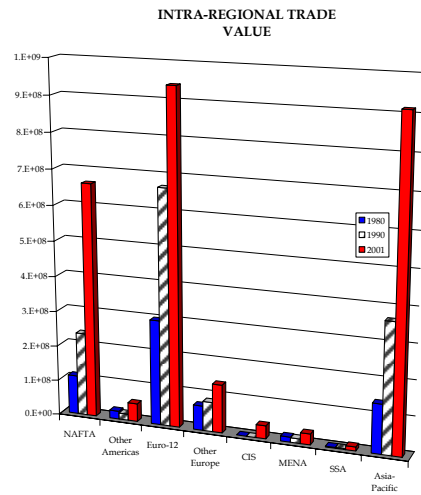


Figure XIII

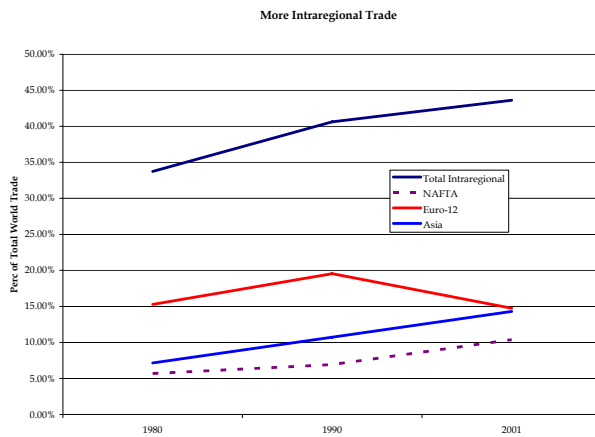
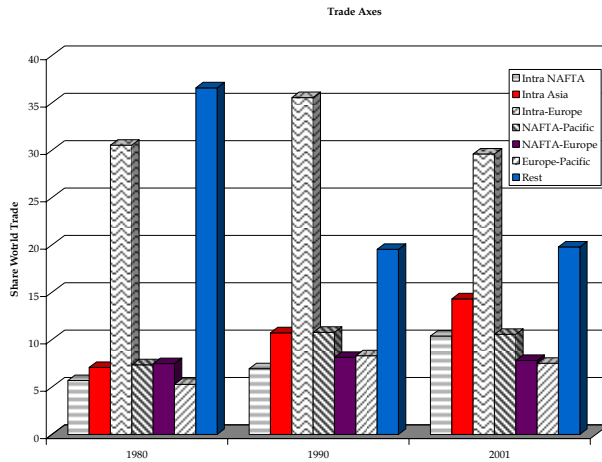


Figure XIV



The different regions have taken very different routes to their entry into the new global trade. One obvious trend is the collapse of the oil market leading to much smaller surpluses in MENA (but again, that may be changing in the 21st century). The most obvious contrast is between NAFTA's massive deficit and the huge surpluses for the Asian economies. These are two trends that appear to be accelerating after 2001, especially with the spectacular rise of China (Figure XV).

Figure XV

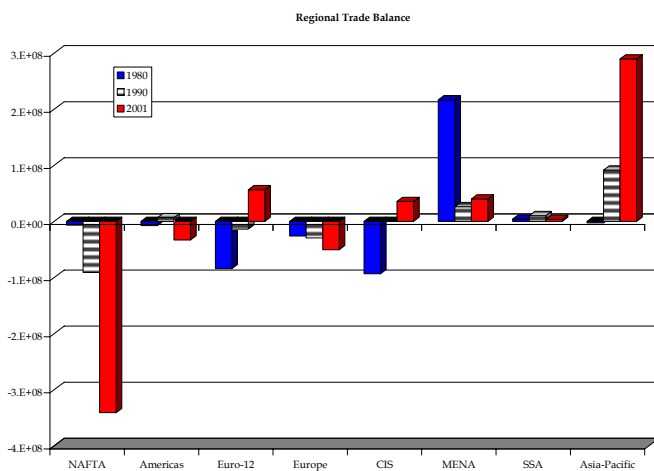
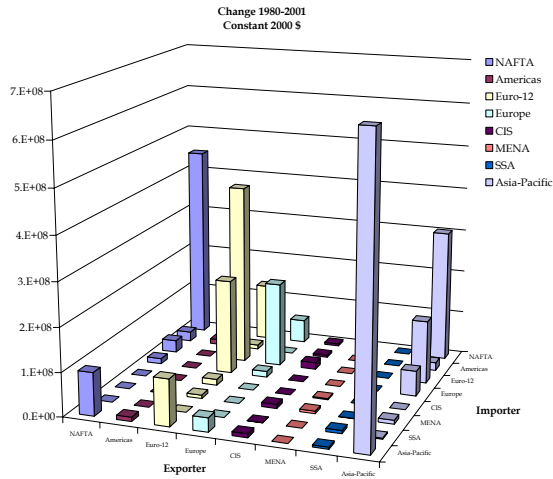


Figure XVI illustrates the rise of both intra-regional trade and that between the "Big 3" regions. We can identify three major zones of growth: trade

across the Pacific, trade within Europe, and most spectacularly, trade within Asia. Note also how other regions and their trade with each other and even the “Big 3” has barely changed over the 20 year period.

Figure XVI



The next two figures (XVII-XVIII), focus on the situation in 2001 and support the general model of regionalization and increasing contact between the most developed parts of the world.

Figure XVII

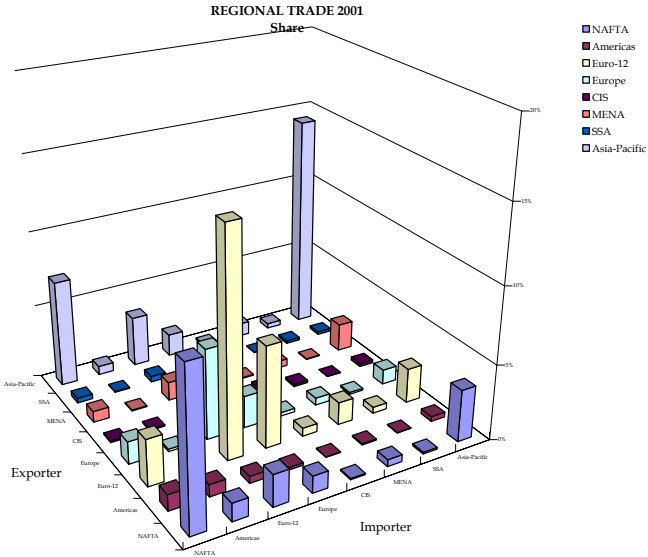
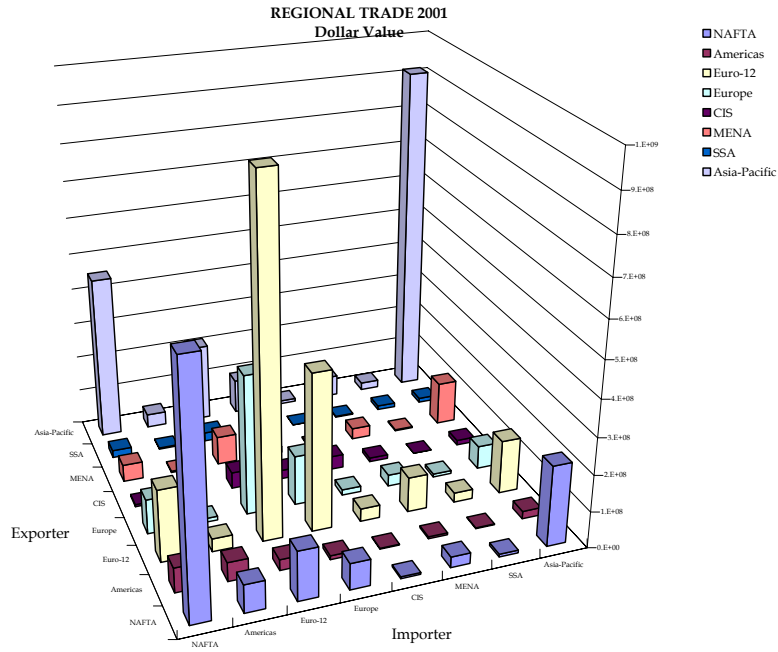


Figure XVIII



Looking at relationships between individual countries (Figure XIX and XX), it is clear that the triadic structure holds. In 1980 the U.S. and Euro-12¹ (and the U.K. to a lesser extent) have a huge amount of trade with each other, and the U.S. and Japan have a large amount of trade, but the link between Europe and Japan is not particularly strong. As well we see that Euro-12 also has a significant tie to Saudi Arabia (and other MENA countries). By 2001, there are some significant changes. The European-Saudi tie has diminished enough to no longer meet the 0.3% threshold². In intra-regional trade, the U.S.-Canada tie and the Euro-12-U.K. tie remain among the largest, while the value of the U.S.-Mexico tie and the number of European partners of the Euro-12 grow. Three other significant changes in world structure include the growth of Asia (in relative value of trade links, the number of inter-regional trade partners and the amount of intra-regional trade), the disappearance of any African nation trading at this threshold by 2001, and the appearance of Brazil and Venezuela by 2001.

¹ Euro-12 is an aggregate area of the twelve countries that share the Euro currency: Austria, Belgium, Germany, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, The Netherlands and Portugal.

² The 0.3% threshold represents trade links (exports or imports) that are greater than or equal to the value of 0.3% of the total trade in that commodity. This is adjusted for inflation.

Figure XIX

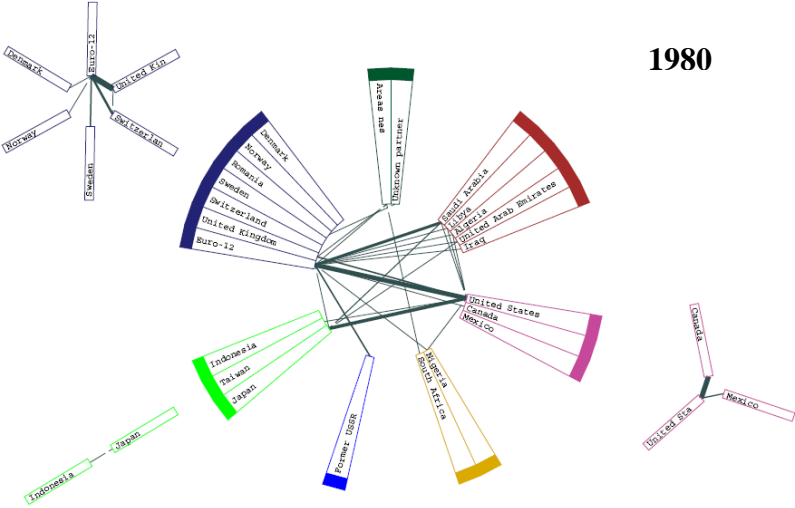
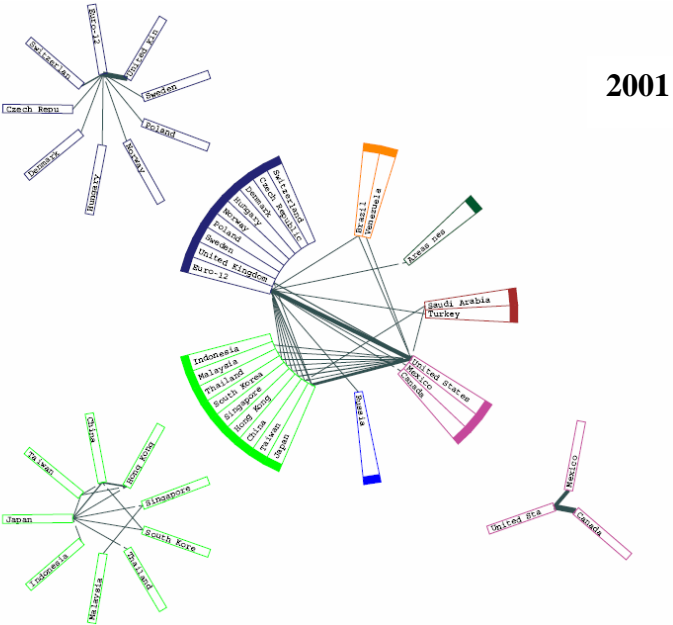


Figure XX



The increasing concentration of trade among a small number of actors is also evident in the next two images showing the links between countries accounting for the top 25%³ of global trade (Figures XXI-XXII).

Figure XXI

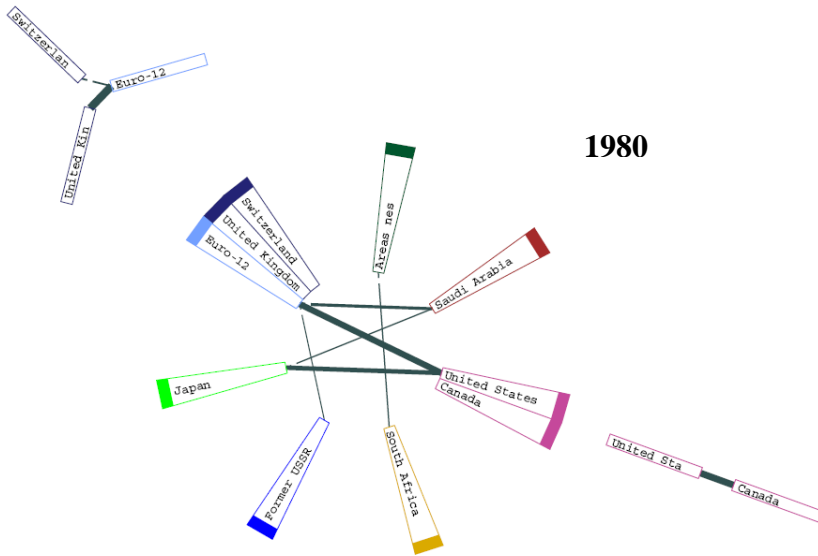
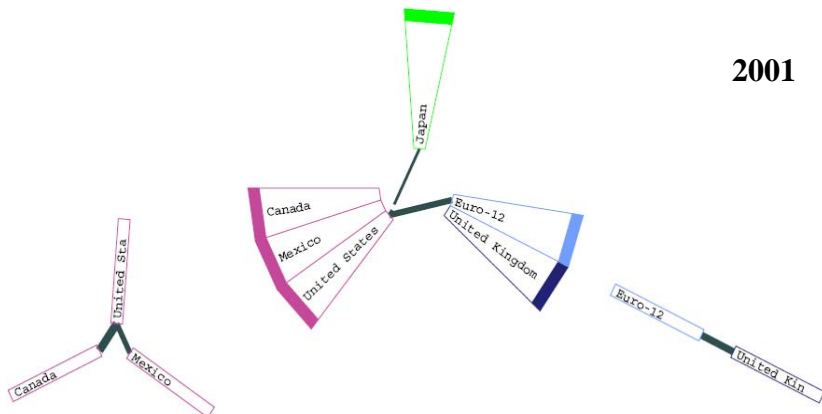


Figure XXII



Another finding is what we might call the “Empire Effect’. In the case of the Americas (Figure XXIII), the centrality of the U.S. is obvious, as is that of the

³ The top 25% of trade represents the largest trade links (exports or imports) that cumulatively account for 25% of the total value of world trade.

Euro-12 in the case of Africa (Figure XIV). Notice that we also find countries in a classic semi-peripheral status (e.g. Brazil and South Africa).

Figure XXIII

Americas 2001

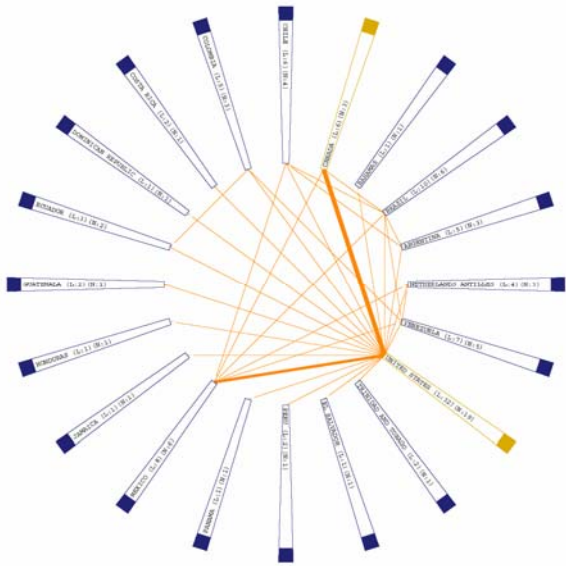
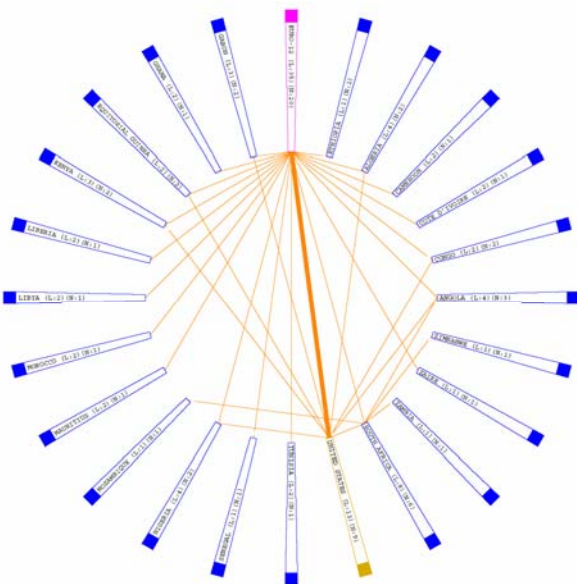


Figure XXIV

Africa 2001



Asia is the exception to this pattern. It has become a much more complex exchange network in the intervening 20 years and Japan's centrality has been seriously challenged (Figures XXV-XXVI).

Figure XXV

Asia 1980

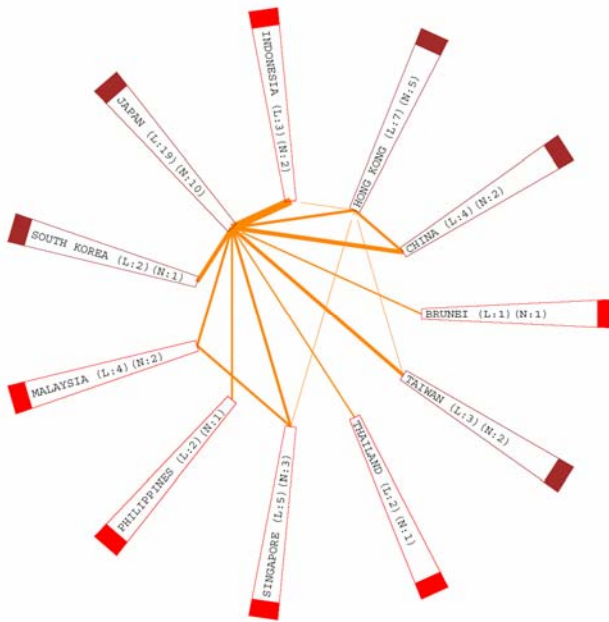
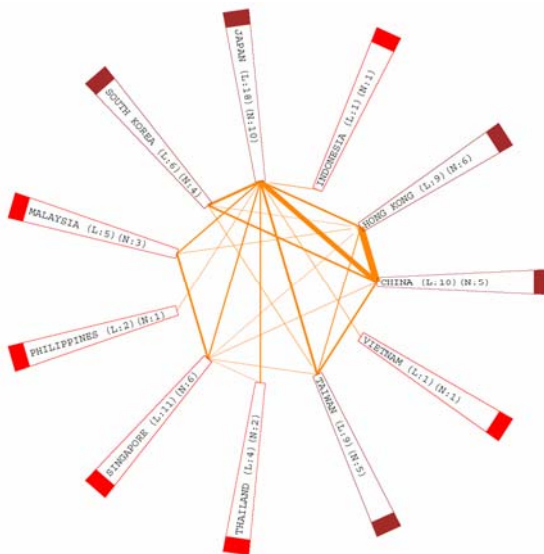


Figure XXVI

Asia 2001



Mapping Global Merchandise Trade

Major trends include:

- Massive increase in global trade over and above economic growth.
- Uneven distribution across different commodities and with different price tendencies (but within a general cheapening of price).
- Creation of new transport infrastructure.
- Most of trade continues to be between a small number of players.
- The position of energy exporting economies obviously depends on the price of oil and gas. China has entered into the “major leagues” of global trade networks.
- Much of the trade increasingly occurs within regions and between 3 major economic areas: NAFTA, Asia, and Europe.
- The “triad” effect is clear even at the level of individual countries.
- Among newly developing regions, Asia stands apart from Latin America and Africa in its:

- Sheer growth
- Development of a regional trade network
- Movement from unipolar network.

Global Service Trade

While much of the developed world has made a transition to a post-industrial economy where services can account for the vast share of the economy, global trade has been less affected by this transformation. There has been growth in the sheer volume of services exchanged internationally and the forms of services have been transformed, particularly in the past 20 years (Figure XXVII) But while there was some decline in the ratio of goods to services as part of global trade, this seems to have been reversed by the early 1990s and we find a fairly consistent ratio of 4:1 in goods to services (Figure XXVIII). There are significant differences between countries: the relative importance of services to goods in trade can range from over half to practically nothing.

Figure XXVII

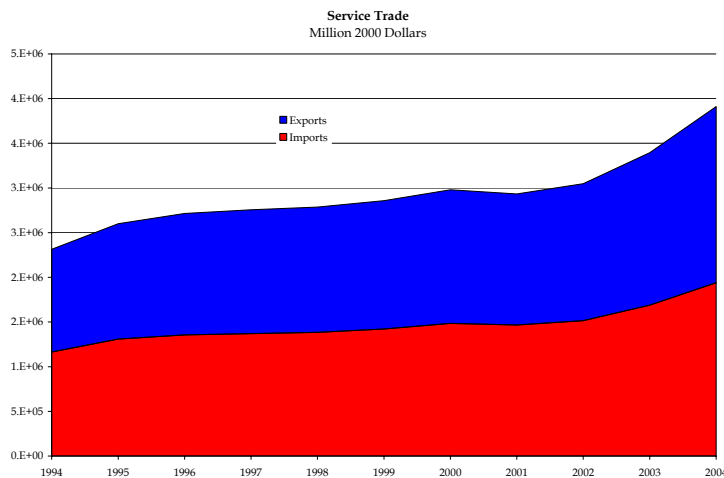
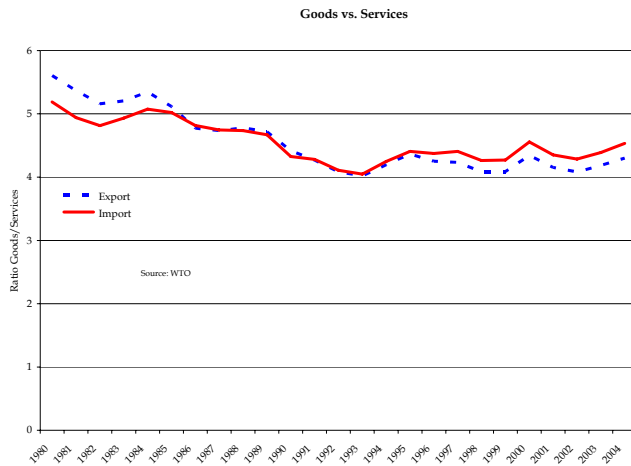


Figure XXVIII



The data for services is much thinner than for merchandise goods. We have, for example, extremely limited information on country to country flows. We can, however, see some patterns in the data available for the last decade. The division between the haves and the have-nots remains the general trend in the service industry. The concentration of global shares among a small group of rich countries is even more pronounced (Figures XXIX and XXX). Overall, the leading position of the United States in the general services category may be under strain. Not only has that country's share of the global exports declined, but its consumption of non-domestic services has risen, eroding the long standing and significant service trade surplus which that country has enjoyed. Note that in this instance, however, the major competition comes from Germany and the U.K. and that Japan has not had significant success in expanding its service export sector.

Figure XXIX

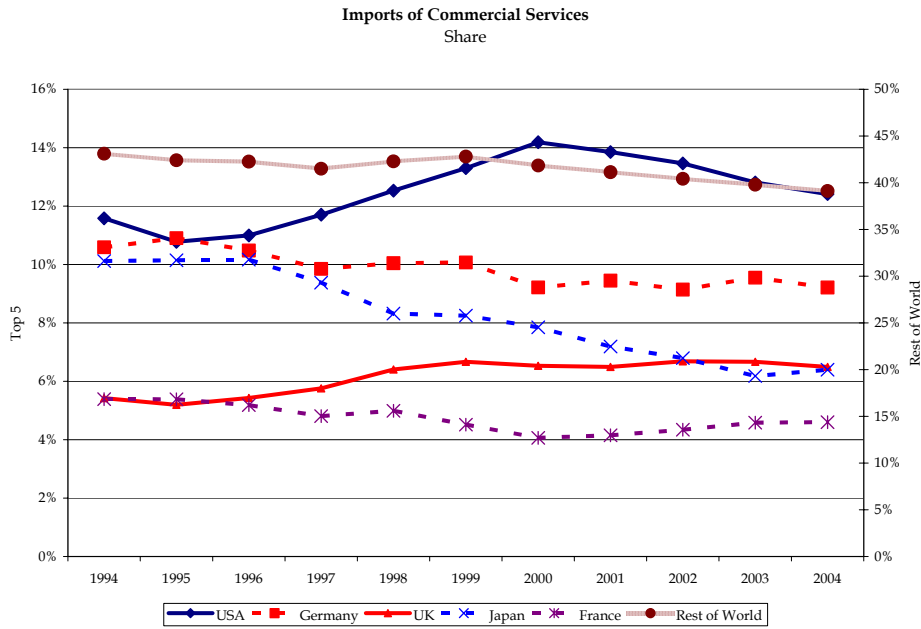
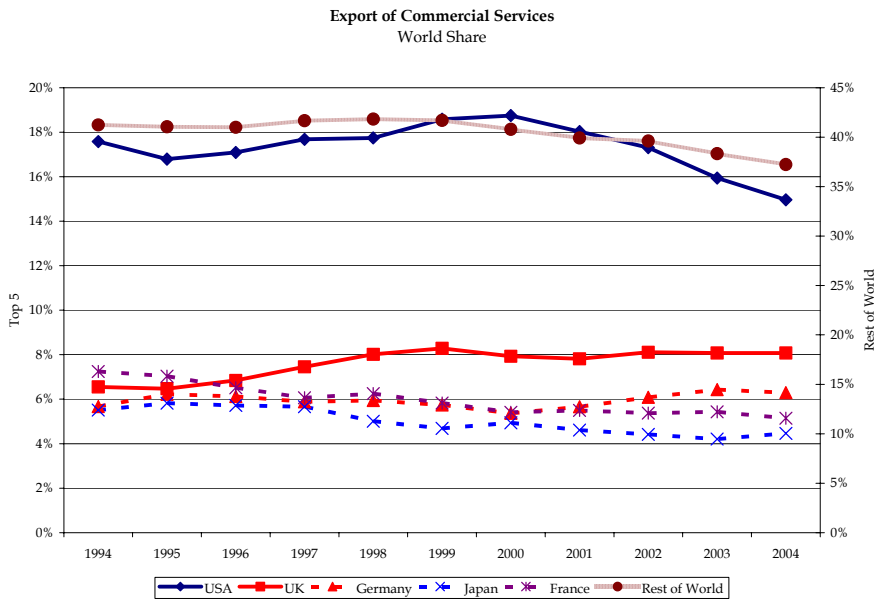


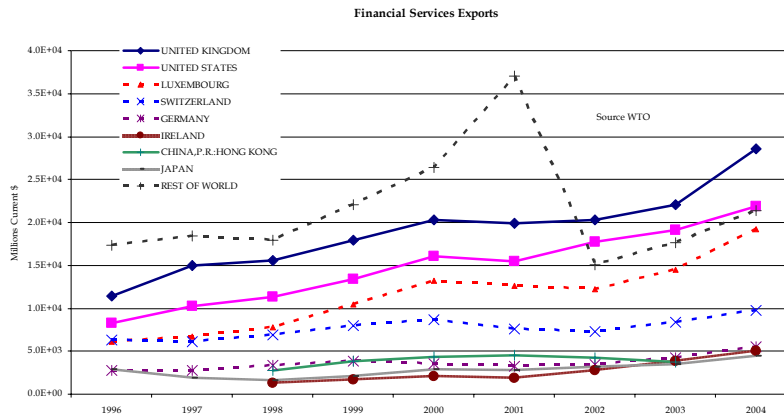
Figure XXX



Financial services may be one of the most visible aspects of globalization and these have seen dramatic growth in past decade totaling \$84 billion in 2004 (Figure XXXI). The relative standing of the leading countries has been fairly stable. However, note the continual rise of Ireland after its appearance in the late

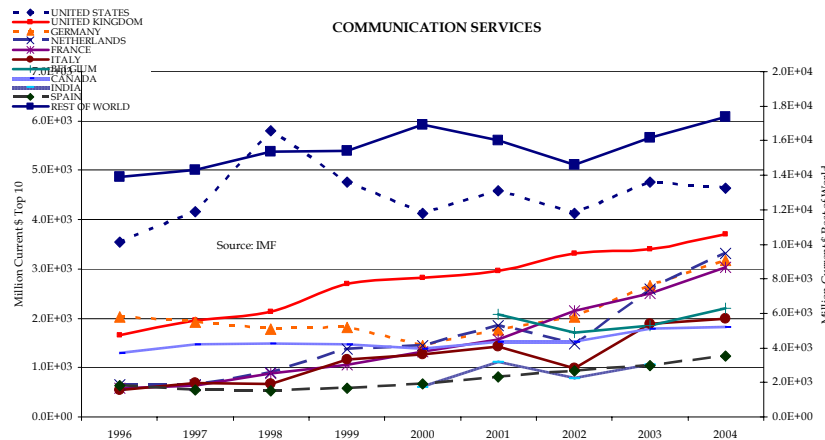
1990s and the drop in the relative share held by the non leading countries. As in the case of merchandise trade, leadership is exclusively held among a group of rich countries (as even the PRC's position is largely due to the wealthy Hong Kong).

Figure XXXI



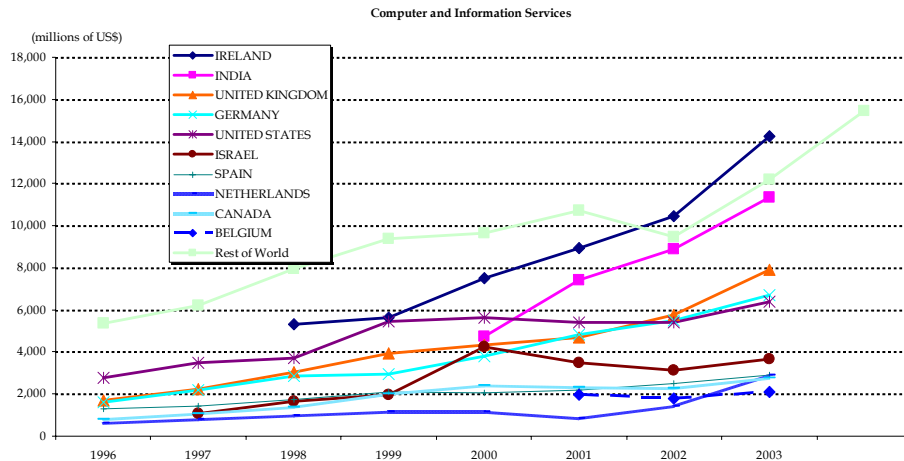
American leadership in the \$96 billion (2004) Communication Services is not surprising, and note that its relative share has been relatively stable over the past decade. The UK has made significant strides in this area. Here we see an exception to the OECD domination with the recent entry of India as a leading exporter (Figure XXXII).

Figure XXXII



The Computer Services industry has witnessed the greatest change (Figure XXXIII). First, its growth has been phenomenal with a more than five fold increase since 1996 for a 2004 total of \$75 billion. The leading role of two new entrants into the major leagues of global trade, Ireland and India, also differentiates this sector from other parts of global business.

Figure XXXIII



We do not possess longitudinal data on the two largest sectors of the service industry: travel (including tourism receipts) accounting for \$750 billion in 2004 and the category including a wide assortment of services including advertising, consulting, etc., totaling \$1 trillion in 2004 (Figure XXXIV). There are few surprises in the makeup of the leading countries in the travel category, but note the significance of the September 11, 2001 attacks on travel receipts for the United States. In the broader category (Figure XXXV), the possibly declining position of the United States is also worthy of note given that country's long standing leadership in this sector.

Figure XXXIV

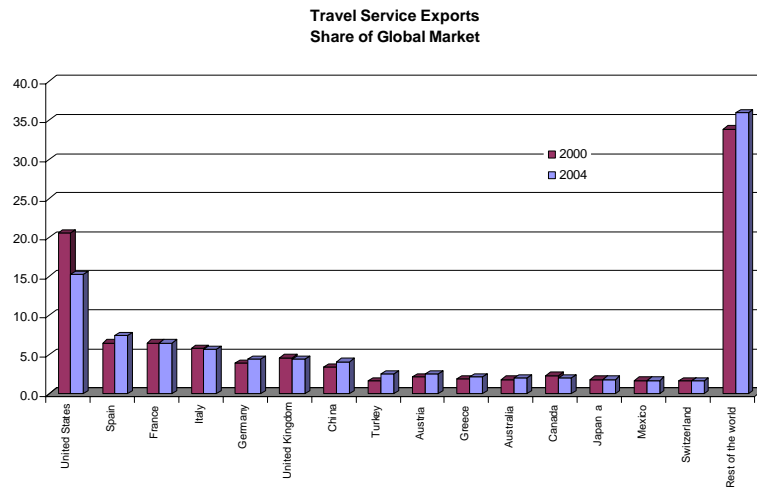
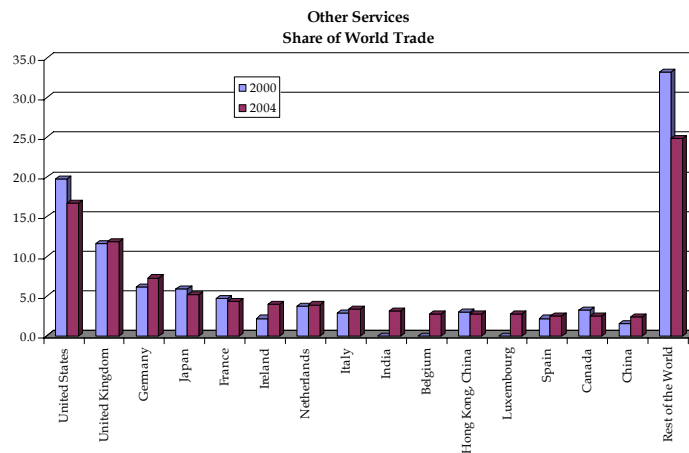


Figure XXXV



Conclusions on Service Trade

- Despite its critical importance of the domestic economies of most nations, the service sector remains a fraction of the dollar volume generated by merchandise trade.
- In the case of services, we also see an even more extreme version of the concentration among a few global leaders.
- The United States remains the leading power in this area, but its position may be slipping.

- In the service industry, the Asian challenge to the traditional global order has not been as strong.

General Conclusions

Globalization is not a global phenomenon – only part of the world is flat. Its growth has been largely restricted to a few set of countries. This pattern is likely to be supported by the regional effect. Asia is unique in the creation of an independent regional network over the past 20 years, but the traditional powers that arose from the 19th century retain their leadership in the service industry.