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ASPECTS OF GLOBALIZATION

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Abstract: The author deals with the costs and benefits of globalisation. He also gives a simple explanation of the core economic forces behind the globalisation. The current technical development favours the decline of the fixed coordination costs of the multinational enterprises and this opens up the possibility for the enterprise to utilize the lower marginal costs elsewhere on the globe. The optimal degree of globalisation depends on the interplay between the fixed coordination costs and local marginal costs. Even though globalisation brings also costs in addition to benefits, the critics should remember, that any structural economic change tends to cause adjustment costs.

Key words: globalisation, structural change in economy, coordination costs, adjustment costs, marginal costs, multinational enterprises

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Tiivistelmä: Kirjoittaja tarkastelee globalisaatiosta käytyä keskustelua, globalisaation etuja ja haittoja. Hänen esityksensä keskeisin argumentti liittyy niihin tekijöihin, jotka selittävät globalisaation nopeaa leviämistä tänä päivänä. Keskeisimpänä syynä kirjoittaja näkee uuden tekniikan mukanaan tuoman yritysten toimintojen koordinaatiokustannusten alenemisen. Koordinaatiokustannukset ovat monikansallisen yrityksen keskeisiä kiinteitä kustannuksia. Kun ne alenevat uuden tekniikan seurauksena yritykset voivat kannattavasti hyödyntää muualla maailmassa esiintyviä alhaisempia tuotannon rajakustannuksia, jotka voivat johtua mm. alemmista työvoimakustannuksista. Yrityksen optimaalinen globalisaation aste riippuu kiinteiden koordinaatiokustannusten ja alueittain vaihtelevien rajakustannusten välisestä suhteesta. Malli on yksinkertainen, mutta intuitiivisesti kiinnostava ja selkeä esitys globalisaatiota edistävistä talouden perustekijöistä.

Asiasanat: globalisaatio, talouden rakennemuutos, koordinaatiokustannukset, rajakustannukset, monikansalliset yritykset

Esipuhe

Tämä on professori Ronald Jonesin juhlaesitelmä Valtion taloudellisen tutkimuskeskuksen 15-vuotisjuhlaseminaarissa 3.10.2005 Finlandia-talolla Helsingissä.

Jones tarkastelee globalisaatiosta käytyä keskustelua, globalisaation etuja ja haittoja. Hänen esityksensä keskeisin argumentti liittyy kuitenkin niihin tekijöihin, jotka selittävät globalisaation nopeaa leviämistä tänä päivänä. Keskeisimpänä syynä tässä Jones näkee uuden tekniikan mukanaan tuoman yritysten toimintojen koordinaatiokustannusten alenemisen. Koordinaatiokustannukset ovat monikansallisen yrityksen keskeisiä kiinteitä kustannuksia. Kun ne alenevat uuden tekniikan seurauksena yritykset voivat kannattavasti hyödyntää muualla maailmassa esiintyviä alhaisempia tuotannon rajakustannuksia, jotka voivat johtua mm. alemmista työvoimakustannuksista. Yrityksen optimaalinen globalisaation aste riippuu kiinteiden koordinaatiokustannusten ja alueittain vaihtelevien raja kustannusten välisestä suhteesta. Malli on yksinkertainen, mutta intuitiivisesti voimakas ja selkeä selitys globalisaation etenemiselle.

Globalisaatio tuo etuja, mutta aiheuttaa myös kustannuksia. Globalisaatiokritiikissä on kuitenkin hyvä muistaa, että mihin tahansa talouden rakennemuutokseen liittyy lähes aina myös haittoja etujen ohella.

Ronald Jones on suorittanut tohtorin tutkintonsa Massachusetts Institute of Technologyssä ja on nykyisin taloustieteen Xerox professori Rochesterin yliopistossa Yhdysvalloissa. Hän on tunnetuimpia kansainvälisen talouden tutkijoita maailmassa. Hän on kirjoittanut mm. kansainvälisen talouden oppikirjan World Trade and Payments yhdessä Richard E. Cavesin ja Jeffrey A. Frankelin kanssa. Kirjasta on nyt menossa 9. painos. Lisäksi hän on kirjoittanut suuren määrän paljon siteerattuja artikkeleita kansainvälisen kaupasta. Hän on erityisesti keskittynyt reaalisen eli ns puhtaan kaupan – eli tavara- ja palvelukaupan – selitysmalleihin erotukseksi kansainvälisen kaupan monetaarisesta tutkimuksesta. Hänen uusin kirjansa Globalization and the Theory of Input Trade, (2000), M.I.T. Pressin julkaisemana summeeraa suuren osan hänen tutkimuksiaan, joihin sisältyy mm. viime aikoina globalisaation yhteydessä esiintyvän ulkoistamisen taloudellinen selittäminen ja analyysi.

VATT esittää lämpimimmät kiitoksensa professori Jonesille hänen panoksestaan tutkimuskeskuksen juhlaseminaarissa.

Helsingissä joulukuussa 2005

Reino Hjerppe
ylijohtaja
VATT

Preface

This is a speech given by professor Ronald Jones at the 15th anniversary of the Government Institute for Economic Research (VATT) on the 3rd of October, 2005 at the Finlandia Hall in Helsinki.

The speech deals with the costs and benefits of globalisation. Professor Jones also gives a simple explanation of the core economic forces behind the globalisation. The current technical development favours the decline of the fixed coordination costs of the multinational enterprises and this opens up the possibility for the enterprise to utilize the lower marginal costs elsewhere on the globe. The optimal degree of globalisation depends on the interplay between the fixed coordination costs and local marginal costs.

Ronald Jones has a Ph.D from M.I.T. and is currently the Xerox Professor of Economics at the University of Rochester in USA. His field is international economics and most of his research has been on the pure theory of international trade. Early papers have tended to concentrate on developing a set of small-scale competitive trade models in a general equilibrium context. More recently his attention has shifted to trade theory in which some inputs into the production process, or primary factors such as labor, are traded or mobile in world markets. His recent book for M.I.T. Press, Globalization and the Theory of Input Trade, (2000), summarizes much of this work, including a discussion of the tendency recently in world markets for firms to outsource fragments of the production process to other parts of the globe where factor prices (especially wage rates) give a better match with input requirements. He is a joint author of a textbook in the international area, World Trade and Payments, (joint with Richard E. Caves and Jeffrey A. Frankel), (Addison Wesley), now in its 9th edition.

I want to thank Ron for his excellent contribution to the celebration of the institute.

Helsinki, December 2005

Reino Hjerppe
Director General
VATT

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1. Aspects of Globalization

Whatever the word "globalization" means, and the phrasing is relatively new, some form of it has been around for a long time. Over a century ago levels of international labor migration as well as capital movements from countries like England and France to recipients such as the United States, Canada and Russia were at levels rarely seen since. And even some volumes of international trade, such as in Japan, were comparable a century ago.

The aspect of today's globalization that is, in my opinion, a more distinctive feature of current international trade concerns the nature of productive processes and the consequent changes in the composition of international trade. Increasingly, international trade in goods in process, parts and components, as well as raw materials and other middle products, have become more important than trade in final products. Obtaining good data is difficult, but Francis Ng and Alexander Yeats (2003) at the World Bank have recently provided some interesting figures on the nature of trade growth in the 1990-2000 period: Yearly expansion of world GDP was at a 3.7% level over the decade. We have become used to overall levels of world trade growing at an even faster rate, and it has, at a 6.5 % yearly rate. And the sub-sector of trade in parts and components rose at a 9.1% rate, even greater than intra-industry trade.

It was 15 years ago (matching the anniversary you celebrate today) that Henryk Kierzkowski and I first published our research that focused on this prominence of trade in parts and components and spoke of the fragmentation of production processes: Instead of all parts of production taking place in a single locale, under the rubric of a single firm, increasing scales of activity allow a relocation of parts of the process to other regions better suited to their production, even though such fragmentation incurrs co-ordination costs (service-link costs) such as transportation, communication and information. The outsourced fragments (that we call production blocks) might be located nearby or might even cross national borders. Similarly they might remain within the firm (e.g. a multi-national) or be provided at arms length by a different firm. Real-world examples include the Nike corporation whereby design activities take place in the United States and actual production is spread out over a wide variety of less developed countries where low labor costs make labor-intensive activities possible. Closer to home is Ikea, which for years combined design activities in Sweden with actual labor-intensive processes for producing furniture in Poland, with "kits" left to be assembled by consumers purchasing their wares in retail outlets found in many countries.

The basic ideas prove to be most simply expressed in a single diagram, reproduced in Figure 1 and referred to in many of our articles on fragmentation.[1]

[1] This precise form of the diagram appears in Jones and Kierzkowski (2005a) and (2005b).

It relates the total costs of producing at various levels of output, and how such costs differ depending upon the degree of vertical integration or fragmentation that is chosen. Consider the ray from the origin, 01. It shows the possibility of total costs rising in direct proportion to output in a single vertically-integrated production process. An alternative process, reflected in line segment A2, indicates the different cost-output array possible if, say, locally the process is split into two activities, with the more labor-intensive fragment re-located to a nearby area where labor costs may be lower and/or labor more productive. Such fragmentation incurs the service link costs captured by distance 0A, which we assume to be largely of a fixed-cost nature (e.g. the costs of communication). A greater degree of fragmentation, and/or a relocation to different countries where factor price differentials are greater could lead to a further lowering of marginal costs of total production (e.g. in segments B3 or C4). These would entail even greater service link costs (distances 0B or 0C). The minimum cost locus over all output levels is the heavy broken line, and exhibits increasing returns to scale as output levels rise. In such a fashion can the classical constant-returns trade theory models of David Ricardo, emphasizing inter-country differences in skills, climate, or technology, and of the Swedish pair of Eli Heckscher and Bertil Ohlin, emphasizing the importance of different factor intensities required in various production blocks and the great range of relative factor prices found regionally and (more importantly) internationally, be integrated into a simple theory of production in which increasing returns (decreasing costs) are standard phenomena.

Three aspects of such a model deserve emphasis: (i) World-wide growth of GDP in many countries would suggest, as in Figure 1, that average production costs are lowered by greater degrees of international fragmentation and reliance on international trade. (ii) For the past couple of decades one of the prominent changes taking place in technology is the reduction of the costs of service-link activities, especially the driving down of the costs of communication almost to zero. In Figure 1 this would be captured by downward shifts in the cost schedules and leads to a greater degree of fragmentation for any given level of output. (iii) As well, activities of the GATT and WTO have encouraged a lowering of impediments to trade in the form of tariffs and quotas. This has been accompanied, in a number of countries, by successful efforts at deregulation, further serving to lower costs.

In the Uruguay Round of reductions in trade barriers, leading up to the creation of the World Trade Organization (WTO), attempts were made (some successful) to liberalize trade in services. At that time some less developed countries were concerned that they did not have a comparative advantage in service activities, and thus would be hurt by this kind of increase in globalization. By contrast, freeing up trade in services was one element that encouraged great leaps in the degree of international fragmentation, leading to many less developed countries being able to provide some fragments (e.g. auto parts) or production blocks for which a good fit between high labor intensities and low wage rates conferred a comparative advantage. Such areas would find it difficult to compete in world markets if vertically unified production structures were required. In the case of a large country (India), much attention has been paid to accounting and call services provided by an English speaking cadre of Indian labor and outsourced from the United States and Europe. Although such activities are usually referred to as “services”, they are really production blocks, the outsourcing of which are made possible by lower costs of the service link activity of communication. Similarly, when American medical practitioners send X-rays and other medical information to India to get expert analysis, the activities of Indian doctors and technicians are best viewed as production blocks, with outsourcing made possible by lower costs of information transfer among countries.

I turn, now, to potential negative aspects of globalization. Could countries legitimately have fears concerning the globalization phenomenon? The answer provided recently by Prof. Paul Samuelson of M.I.T. is yes, they could.[2] He admonished the tendency of some in the economics profession (and in government) to put too favorable a light on globalization by suggesting that most every individual (or country) could gain. By contrast, a country like China might grow and develop better technology for producing commodities that other countries might be exporting, and thus worsen the terms of trade for these other countries. The current stockpiling of Chinese textiles in Europe, already paid for by European retailers but not released, attests to these concerns. Economists must shoulder some of the blame for confusing the possible increasing strain put on some countries by greater globalization with the universally held view of most economists that the move from autarky (no trade) to free trade benefits all countries. That may be the case, but once trade takes place, countries are in exposed positions (since they export and import). For example, greater growth in China puts upward pressure on the relative price of energy products, and thus tends to hurt countries that are net importers.

In advanced countries, such as the United States, the media discussion of the dangers of globalization often stresses the effects on aggregate employment. Here I emphasize two general points. First of all, almost any shock to an economy, whether stemming from home or foreign sources and whether welfare improving overall or adverse, calls for some resource reallocation, with some workers losing their current jobs – there are (short-term) losers as well as gainers. Whereas these job losses often receive wide attention from the popular news sources, economists (especially trade theorists) are more apt to compare the welfare situation before and after resources move to their new occupations (assuming they do). This difference in the time frame considered is quite widespread. Concerns with short-run employment losses suggest viewing almost

[2] The *New York Times* of Sept. 9, 2004 wrote of Samuelson’s forthcoming article (2004), naming several economists for holding too optimistic views on globalization.

any change in pessimistic terms. Secondly, calls for public policy to prevent these job losses often lead to regulations and protection that impede labor market readjustments. Changes do take place in the ranking of productive activities by comparative advantage for any country, and efforts to prevent reallocations could easily result in greater losses than in allowing such changes in factor markets. And static losses get enhanced by dynamic considerations over time as new entrants to the labor market or to educational possibilities are guided by signals inappropriate to current world prices.

Anti-globalization arguments for advanced countries often stress what are considered to be the unfortunate effects on the returns to the nation's pool of unskilled labor. Here standard trade theory based on Heckscher-Ohlin settings of the 2x2 model and the Stolper/Samuelson theorem argue that a nation's scarce factor gets unambiguously harmed by trade – international trade relieves the pressure on the return to the scarce factor. With globalization encouraging greater degrees of international outsourcing of unskilled labor-intensive production blocks to areas in which they are relatively less costly to produce, this pessimistic outlook for unskilled labor may not be justified. A country may have to say bon-voyage to an unskilled labor-intensive fragment, but that could make the country more competitive in the remaining fragments – and this is like their experiencing technical progress. In advanced countries, the other commodity (or commodities) produced may well be more intensive in their use of skilled labor (or capital) and standard theory then predicts that the return to unskilled labor will increase. This is only a possibility, but it does suggest that the fragmentation process may yield results that conflict with common-held presumptions.

For less advanced countries I have already commented on the new opportunities encouraged by international fragmentation in which unskilled labor-abundant countries can find a comparative advantage in certain unskilled labor intensive fragments that could not have been undertaken when production processes were more vertically integrated. In an article by David Brooks appearing less than a year ago in the New York Times, it was pointed out that developing countries in 2004 grew by 6.1%. Of course these include China, India and Russia, all big countries in this group and all having very good growth years. But leaving these out it is still the case that remaining developing countries grew around 5%. It is hard to argue that on net less developed countries have lost out with globalization.

Despite such an argument, it remains the case that less developed small economies that have not been very open to trade suffer from a common complaint: Their industries have typically been protected from stiff competition from foreign sources, and, as well, do not face much internal competition because of the size of their markets. Globalization prospects can appear quite alarming. Hardly anyone likes competition, perhaps with the exception of great athletes such as Lance Armstrong, Tiger Woods, or Roger Federer. On the other hand, it gives new entrepreneurs an opportunity to establish markets abroad or, perhaps in alliance with foreigners, to establish joint ventures at home. Recently Sugata Marjit and I (2001) have suggested an extremely simple minded and strong hypothesis that bears upon the position of many less developed countries facing an increasingly globalized world: Their development prospects have been hindered by sets of regulations and aspects of their culture that have one principle objective, viz, to maintain the physical wealth and power of special groups in the older generation in the face of two persistent challengers, foreigners, and the younger generation. The obstacles to foreigners are rather obvious – restrictions on trade and on foreign investment. As for the younger generation, apprenticeship schemes and difficulties in providing individual sources of credit to members of this generation unless sponsored by firms run by the older generation are examples of regulations that inhibit sources of growth. But things are changing – more students are going abroad and getting MBA's and making contacts that could provide credit. Even those staying at home may have access to the internet and information about other lifestyles. A foreigner tempted to outsource a labor-intensive fragment of production in such a country is more likely to make an alliance with a younger local entrepreneur (say a graduate of the Wharton School) than with an established firm (that may be protecting a more vertically-integrated commodity). Even in a more advanced country such as Japan such inter-generational views may be strongly held. The Economist (April 29, 2000, pp. 58-59) provides a good example. A new high-tech firm (Hikari Tsushin), run by a young president, (Yasumitsu Shigeta), found itself in severe financial trouble.

The reaction of the older generation in Japan?:

Japan's banks and big businesses have watched the recent rise of entrepreneurs such as Mr. Shigeta with real revulsion. To them, Hikari Tsushin and its sort are an aberration. Brash, young, aggressive, loud and on the make, these companies ooze with the types of values that Japan's business elite finds distasteful and dangerous.

The increased ability of private firms to outsource parts of the production process to other countries creates a challenge to national governments. Almost by definition these governments have typically had little competition in creating regulations that control the activities of its citizens. Firms now often have a number of foreign locales in which some business can be conducted, foreign sites that might be tempting because of lower tax rates and/or looser degrees of regulation than would be faced at home. That is, private firms may wish to "flee the jurisdiction". One possible response of governments is to try to make arrangements with other governments in order to obtain information or to "harmonize" regulations and taxation. A prime example is found in the European Union's attempts to harmonize tax and competition policy.

Where is globalization leading? Economists who focus on the "distortions" existing when individuals and firms in the world face different relative prices, may look to a multilateral dismantling of these barriers to trade, perhaps also barriers to international factor mobility. On the other hand, the same focus may lead to encouragement of regional associations, with the argument that countries are more apt to surrender some degree of sovereignty in a grouping of other countries that share many of their views or are close neighbors geographically. (Examples: Of the former, the old British Commonwealth where geographical proximity is not relevant; of the latter, the European Union or NAFTA.) However, economic issues are not the only ones. Countries are countries for a reason, often behaving like clubs, wanting deliberately to set their own rules and regulations, including barriers to immigration and setting their own social agenda. These desires, of course, do not preclude any trade and investment with other countries – the classical gains from trade are a tempting reward. But there usually are limits. As a consequence the idealistic vision that the future progress of globalization will lead to world-wide harmonization of markets with easy access to all participants may prove illusory. Just as within some countries federal forms of government provide a degree of separation between regions for certain activities, so also on the world stage more widespread regional associations could allow a high degree of diversity without surrendering many of the mutual gains to be obtained from greater levels of international trade and investment.

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Figure 1.

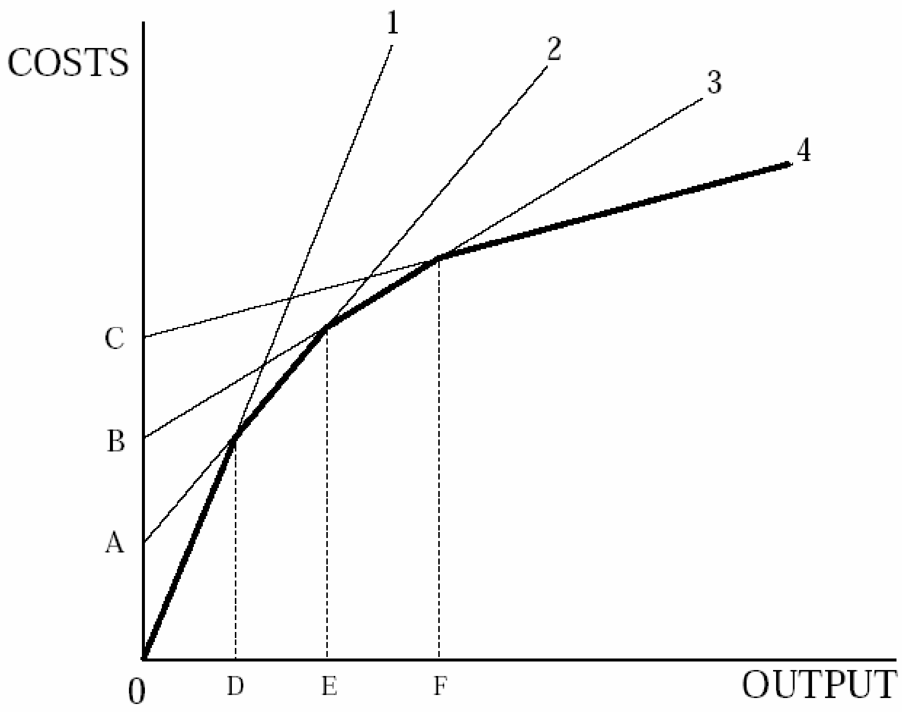

FIGURE 1

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