

Stagnation of Trade or Trade Reorganization? What Future for GVCs?



Author Gary Hawke

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Economics was once known as the dismal science, but it is now more often characterized by optimism. Strategic analysts find reason for gloom, while economists see a basis for optimism in interdependence promoted by economic integration. The human instinct to expect disaster — a nuclear holocaust, global warming — is powerful, and economic commentators are far from immune. One of the current manifestations is concern about trade stagnation.

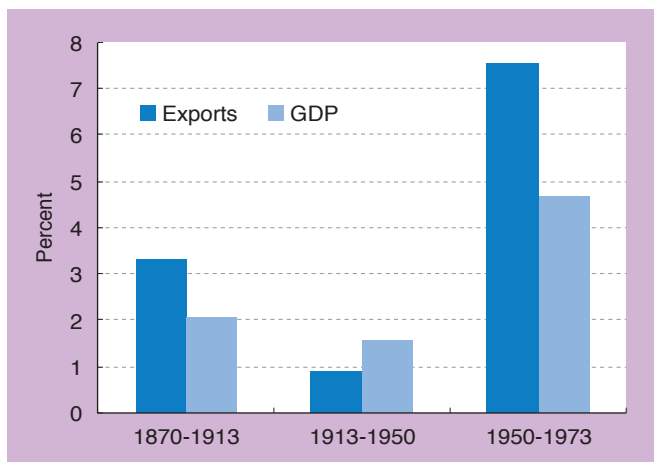
Trade-Income Ratios

Trade has not stopped growing, but in recent years it has not kept pace with the growth of world output. The ratio of trade to income has fallen.

This should not lead immediately to thoughts of disaster. Those who most worry about recent trends usually have limited historical perspective. There is no law that says that trade will grow faster than production and there have been periods in the past when it was not true, most recently in the 1930s (*Chart 1*). Trade will grow faster than output when restraints on trade are relaxed, as they were in the GATT years of the second half of the 20th century — or when new resources are introduced to the international economy, as with the geographic expansion of the international economy in the late 19th century, the opening of China after 1978, or the absorption into the international economy of Central and Eastern Europe after 1991.

Similar timing in the opening of China and the release of Central

CHART 1
Maddison data on world exports & GDP



Source: http://www.voxeu.org/sites/default/files/file/Global%20Trade%20Slowdown_no_cover.pdf; *The Global Trade Slowdown: A New Normal?*

and Eastern Europe from the constraints of Soviet planning and autarchy contributed to an especially rapid rise of the trade-income ratio at the end of the 20th century. What we are seeing now is greater reliance in China on domestic consumption and less reliance on net exports as the center of national growth strategy. (In Europe, resources have been realigned from Soviet planning to world markets, a process which has a more limited duration than what is happening in China.)

Trade studies often use a “gravity model” in which trade between pairs of countries depends (positively) on the size of their GDPs and (negatively) on the distance between them. An implication of the underlying model is that the trade-income ratio will be maximized when economies are of similar size. In the 1990s, the faster growth of emerging economies than of advanced economies, and the emergence of new distinct international traders, had the effect of income convergence and more equally-sized economies. It has been suggested that this contributed to the “supercharged” increase in trade-income ratios at that time. It is certainly salutary to be reminded that what needs explanation may be experiences in earlier times rather than any current stagnation, but this ingenious analysis is ultimately unconvincing. It is really a reminder that while the “gravity model” is very useful in some empirical work, it has distinct limitations; it has no place for comparative advantage or specialization which is at the heart of any explanation of international trade.

How Important Is Trade?

The Economist of Oct. 10, 2015 reported: “The slowing of the Chinese economy and a tepid global recovery from the financial crisis have led to a long-term slowdown in world trade... In terms of volume, trade is still growing, but by a fraction of the rates that prevailed before the financial crisis...the ever-broader range of goods manufactured within China, among other structural changes, seems to have slowed trade growth permanently. This is worrying because trade remains the most reliable way for poor countries to become richer...”

Trade has been and remains an important source of growth. But growth comes from utilizing resources to generate consumer satisfaction and welfare. Doing this within an economy is equally valuable as doing it through trade. There are “gains from trade”. Economies can specialize in what they are best able to produce, securing through trade more of what they want to consume than if they were forced to produce all their consumption from their own resources. Expressed less abstractly, goods and services which can attract international customers are more likely to be the best possible from the resources used; trade provides assurance of quality.

Nevertheless trade is a mechanism for generating welfare but it is not unique in that role. Furthermore, there are several arbitrary elements in what we count as trade. For historical reasons, trade among EU members is counted as international even though the EU conducts its trade diplomacy as a unit. Trade between different parts of the United States or China is not included. In addition, recent trends in the composition of trade have made even more complex the measurement of trade and therefore the calculation of trade-income ratios.

A “New Model” of International Trade?

The rise in the trade-income ratio at the end of the 20th century coincided with a marked change in the composition of world trade. More trade was “intermediate” in nature; that is, items which were traded were inputs to further processing before becoming products sold to final consumers, whether in the economy where they were eventually assembled or in world markets generally. Commentators wrote about “supply chains”, “global value chains” (GVCs), or “international production networks”, each of which captures part of the phenomenon. But the best characterization was a shift from “trade in goods” to “trade in tasks” which focuses on the way that different parts of a production process were located in different economies. For trade negotiators what was important was the shift in focus from reciprocal rights of market access for goods to agreements of the form, “my factories for your protection of intellectual property”. Spreading production processes among different economies required understandings among producers of how they related to one another and exactly how they should all benefit from the knowledge required to collaborate and service final markets which might be quite remote.

The extent of the change and the novelty of international production networks should not be exaggerated. Exporters have always needed shipping, insurance, and logistics providers to get their products to their destination and some local agents to service final consumers. Marketing boards evolved in several countries to link producers to their overseas customers. The notion of a supply chain is not a new “model” in the world of trade. The recent development has been the development of complex production

processes so that there is more trade in intermediate products between raw materials and final products.

But then, the boundary between intermediate products and final products has never been clear-cut. The same product may be intermediate or final depending on how it is used, such as a motor vehicle used for business purposes or for private pleasure. Customs officials cannot have more than an approximate knowledge of the ultimate use of a car as it crosses a border. If the boundary between intermediate and final is indistinct, so is membership of a “supply chain” or a “network”. Firms may contribute to more than one network, and they produce many products with different degrees of remoteness from final consumers. It is a mistake to identify “supply chain” (under whatever name) with a fixed, constant and exclusive organization of trade.

The “first unbundling” was the outsourcing of raw materials and food in the European (especially UK) industrialization of the late 19th century. The “second unbundling” is the organization of trade in intermediate goods so that components are made in various places, assembled into a final product, and distributed to final consumers in several national markets. In between, there were several other important developments which could have been distinguished as distinct “models”. John Bell Condliffe’s *Commerce of Nations*, a standard text on international trade in the mid-20th century, still wrote about the exchange of food and raw materials for manufactures as the typical trade, a clear descendant of David Ricardo’s discussion of the exchange of British textiles for Portuguese wine in the early 19th century. But the mid-20th century was characterized by an exchange of manufactures for manufactures, even an industrial product for the “same” industrial product — intra-industry trade — typified by one kind of car for another kind of car. That was initially discussed especially in the context of trans-Atlantic trade; what we have with the “second unbundling” is a description of the consequences of “flying geese” development in East Asia, extended to some North American and European trade. We still encounter suggestions that trade is especially appropriate between “complementary” economies but for over half a century trade has usually been most intensive among economies with a similar range of economic activities.

All of these trends are manifestations of comparative advantage even if business management writers have found it useful to focus on individual firms and investigate competitive advantage. Specialization provides gains from trade. Fundamentally, modern production networks derive from comparing the gains of exploiting specialization within the creation and assembly of complex products against the costs of co-ordinating distinct enterprises, although there is a case for recognizing a distinct impetus from the gains of just-in-time manufacturing — savings in inventory costs and gains from discipline on managements. The underlying processes which have made all this possible revolve around communications technology.

The relative growth of trade in intermediate goods first became

prominent in analysis of economic integration in East Asia and then in popular accounts of the manufacture of products like the iPhone (Chart 2). More systematic studies came with the creation of databases by the Asian Development Bank and Institute of Developing Economies and then with an even larger database (including more countries and more disaggregation) by the World Trade Organization and OECD (Chart 3). While the initial focus was industrial organization — how did firms come to be linked in an international production network including across national borders? — the databases directed attention to the misleading nature of conventional balance of payments statistics which rest on gross exports and imports rather than on the contribution of individual economies to what they trade.

The conventional measure of gross exports, for example, includes the value of imported components. When intermediate goods cross borders, and then cross borders again in a somewhat more processed state, there is double-counting towards world trade but not towards world output. By utilizing both trade flows and input-output tables, the modern databases give a better indication of the role of specific economies in world output. They also contribute to elucidating how international production functions are related to trade-income ratios.

Trade Stagnation in a World of “Trade in Tasks”

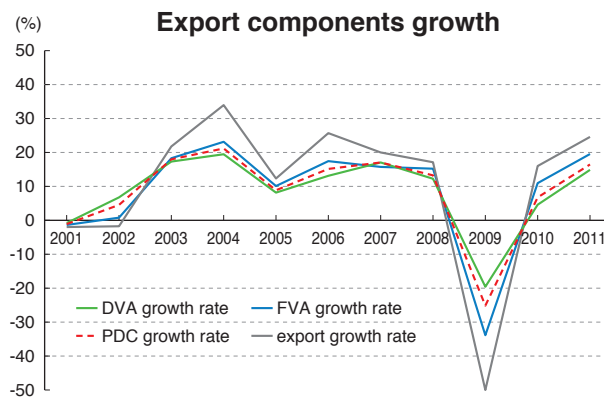
The growth of trade in intermediates had the same effects as trade in general. Economies and firms benefited from specialization. Firms with specific capabilities could collaborate with other firms, perhaps in different economies, so that both benefited. Studies of industrial organization showed how common standards facilitated the spread of production networks and relations among suppliers extended the possibilities of innovation. Just-in-time manufacturing not only economized on inventories but benefited firms where management could maintain production at high speeds while maintaining quality standards. There were some risks; the impact of natural disasters spread through a network rather than being confined geographically, but the appropriate response to that was to permit mobility of the expertise such as engineering knowledge needed to rectify interruptions to production.

Familiar worries about domination by multinational corporations were easily transferred to production networks. But the dominant research result is that small and medium enterprises (SMEs) which become members of production networks increase their productivity through innovation — mostly process innovation whereby they achieve common standards more efficiently. At an aggregate level, production networks allow economies to benefit from comparative

advantage without waiting for the development of complementary domestic activity to generate demand for their products. The high-technology manufacturing and knowledge-intensive service sectors in New Zealand, for example, developed on the basis of (highly varied) international networks and are not limited by the small domestic market. In the 1950s and 1960s, development economists debated “balanced versus unbalanced growth”; did all sectors have to grow at similar rates so as to provide markets for one another’s products? Reality provided the answer that international trade precluded any need for balanced growth, while the temporary bottlenecks of unbalanced growth provided incentives to find new markets and to generate new technology. Experience with production networks extends the experience of earlier times.

Production networks are more important in some industries than others and therefore in some economies more than others. Complex production networks have been most fully described in industries like textiles, motor vehicles, and electronics. The value-added databases, however, which identify production networks through tracing intermediate inputs into exports have revealed that production networks are widespread although the number of

Carlo Altomonte, Elena Zaurino, and Italo Colantone in “Has globalisation ‘peaked’? Trade and GDP growth in the post-crisis context” divide a large database of world trade into domestic value added, foreign value added, and pure double counting from multiple border crossings. All fell dramatically in 2008-2009 and foreign value added and pure double counting took longer to recover. The recent “stagnation” of world trade owes a lot to accounting conventions.



Domestic value added (DVA): it is the value added generated in the exporting home country which is finally absorbed abroad. This accounts on average for 77% of gross exports.
Foreign value added (FVA): it is the foreign value added embodied in domestic exports, both in final goods and in intermediates. This makes up on average 16% of gross exports.
Pure double counting (PDC): it is the portion of gross exports accounted for by intermediates crossing borders several times before being finally absorbed. PDC may include value added generated both in the home country and abroad, and can be considered as a sort of indicator for the extent of production sharing across countries (Wang et al., 2013). PDC accounts on average for 6% of gross exports.

Source: <http://bruegel.org/2015/09/has-globalization-peaked-trade-and-gdp-growth-in-the-post-crisis-context/>; Carlo Altomonte, Elena Zaurino, and Italo Colantone in “Has globalisation ‘peaked’? Trade and GDP growth in the post-crisis context”

CHART 2

Apple iPhone component suppliers



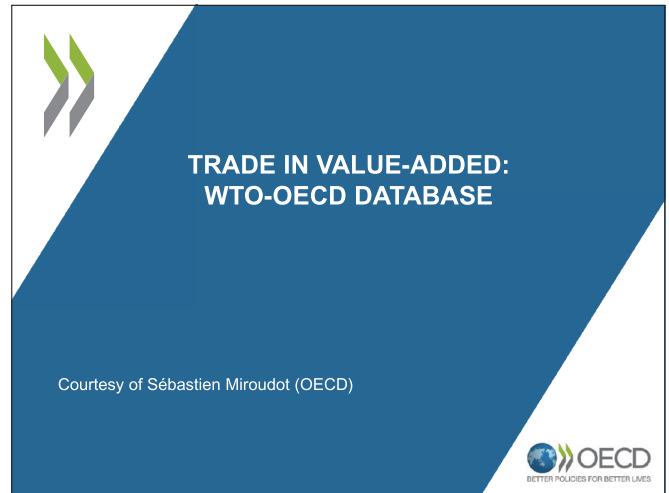
Source: Nomura; HSBC; company sources 2015; “Asian component makers take slice of Apple’s iPhone spoils”, FT.com May 17. Used under licence from The Financial Times. All rights reserved.

identifiable steps from raw materials to final output, and the number of crossings of international borders in the course of production, are both highly varied. Changes in the composition of trade and the related relatively slow growth of industries with especially complex production networks have contributed to the decline in average trade-income ratios in recent years, although it is not yet clear just how important a role they have played. We can be sure that the average trade intensity of consumer goods is less than the average trade intensity of investment goods and changes in the composition of trade away from investment goods contributes to a decline in the average trade-income ratio. Economies also participate in production networks to different extents so that differential growth among economies will affect the average trade income ratio. In both of these respects, the role of China is crucial.

It has been suggested that perhaps the impetus to trade from production networks is becoming exhausted. Such suggestions are mostly confined to verbal discussions or to commentators’ immediate reflections on anecdotes and casual observations the significance of which has yet to be established. Thus, the novelty of 3D-printing is offered as an example of innovation which generates output but does not rely on trade. What this really shows is the power of traditional thinking which sees trade as movement of goods from one economy to another. As soon as we think of trade in

CHART 3

Trade in value-added: WTO-OECD database



Source: <http://artnet.unescap.org/rid/artnet/mgt/cbr9-sebastien.pdf>

services, such as industrial design or ICT management, we would no longer link 3D-printing to an automatic decline in the trade-income ratio. On the contrary, we would begin to explore the role of e-commerce in the growth of trade.

There are, however, serious studies of the role of production networks in the declining trade-income ratio. Particularly useful studies are “The Global Trade Slowdown: Cyclical or Structural” by Cristina Constantinescu, Aaditya Mattoo, and Michele Ruta (*World Bank Policy Research Working Paper 7158*, January 2015) and *The Global Trade Slowdown: A New Normal?* edited by Bernard Hoekman (CEPR/VoxEU eBook, 2015).

Such studies acknowledge uncertainty. They tend to conclude with emphasis on the potential for further growth of production networks. Hoekman, for example, concludes “there is great potential for trade to grow faster than income looking forward because technology is enhancing the ability of small firms to engage in international trade. The Internet, digitization, more efficient logistics, e-payment systems, translation software, and so on are all potential drivers of the internationalization of SMEs.” More simply, we can observe that there is still a gap between textiles, vehicles and electronics on the one hand, and food processing and other sectors on the other, and there is room for much more integration of Africa and Latin America into the Asian and European markets.

A China Story?

The element in recent trade history which most supports the idea of exhaustion in the expansion of “trade in tasks” is found in China-US interactions. For example, Constantinescu *et al.* write about “the

increasing production fragmentation driven primarily by the United States and China” in the 1990s and say “that particular engine appears to have exhausted its propulsive energy in the 2000s”. The White House press release as President Barack Obama departed on an international journey that would include APEC and ASEAN meetings included, “We are encouraging China to move away from a growth model driven by exports and construction to one more reliant on household consumption.”

China needed no such encouragement, let alone pressure, since its own strategizing recognized that the size of its economy, not to mention its prospective size if growth continued at recent rates, made it necessary to rely less on external markets. There are still human and other resources in central and western China which have yet to be integrated into the world economy but the Chinese domestic market is a large and increasing fraction of that global economy. More of the process of integration will occur within China and it will have an impact on trade-income ratios.

China plays a central role in several streams of economic commentary. One is about the “Lewis turning point” within China, essentially the change from ability to absorb rural labor into urban activities without diminished agricultural output and rising wages, the end of “unlimited supplies of labor”. Another is discussion of the “middle income trap”, which in China is mostly the same phenomenon, along with removing administrative controls on investment projects and the financial sector, giving priority in resource allocation to market signals. These are seldom related to the “stagnation of international trade” or the decline in the trade-income ratio. But they are all part of the same phenomena. And there is good reason to find cause for optimism about the future rather than revive the “dismal science”. It is not long since fears for the international economy were based on “international imbalances”, the Chinese current account surpluses which resulted from China’s export orientation.

Future Trends

Given the size of the Chinese economy, and the strength of Chinese strategic decisions, it is unlikely that economic diplomacy can have a strong impact on the broad trends in international trade. International production networks pose challenges to trade negotiators. Ironically, they revive the most traditional topic for trade negotiations, tariffs as barriers to market access for goods. Tariff levels have been greatly reduced and are now thought of as a major element in economic diplomacy only for a few islands of continued high tariffs as with agricultural produce. But “trade in tasks” means that in the course of processing, products may cross national boundaries several times and even small tariffs can become considerable barriers to trade. Other elements of trade negotiations such as sanitary and phytosanitary requirements, rules of origin,

standards, etc. all apply to trade in intermediates with at least as much intensity as to trade in final goods. And production networks bring even more importance to trade in services, e-commerce, investment and movement of natural persons. So modern international trade both revives the most traditional of trade negotiation challenges and focuses attention on the most recent elements of the international agenda. Indeed, the same multiple crossing of borders draws attention to the importance of trade facilitation at those borders.

Thus, the focus of WTO negotiations on trade facilitation, the various plurilateral negotiations such as the Information Technology Agreement and the Trade in Services Agreement, and the mega-regionals, especially the Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership, all have important implications for the future of trade in intermediates and the functioning of international production networks. While their effect is unlikely to dominate what emerges from China’s strategic directions, they will have an impact on how networks widen their coverage of sectors and of participating economies.

More fundamentally, the balance between gains from specialization and management discipline relative to the costs of coordination is not fixed for all time. Again, a historical perspective is useful. In the middle of the 19th century, the cotton industry was moving in the direction of firms which specialized in particular processes such as spinning and weaving and which were linked by market transactions with agents who were informed about particular markets. In the later 19th century, changes in technology shifted the advantage to integrated firms who directly connected all the manufacturing processes and marketed their own complete products. With some variations similar stories can be told for several industries. No such technical change is on the horizon now; on the contrary, the future seems likely to be dominated by information and communication technology and customization. It is nevertheless possible that there will be change in the future.

In the meantime, we can expect the course of the trade-income ratio to be governed by competing pressures of a reorientation of the Chinese economy versus continued exploitation of the “trade in tasks” model, modestly assisted by progress in economic diplomacy which facilitates or promotes economic interdependence.

The likely changes in trade-income ratios do not amount to trade stagnation, and even less preclude continued achievement of innovative, inclusive and sustainable growth. **JS**

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