

Multinational enterprises, the current account and US-China decoupling

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Introduction

US-based multinationals were among the chief proponents of China's accession to WTO¹. It should perhaps not be a surprise, therefore, that in the debate pertaining to the decoupling of the US and Chinese economies, some US-based multinationals have been among the most vocal of interest groups in arguing that the economic costs of disruption to the economic relationship are high and unnecessary.

This paper examines the activities of US-based multinational enterprises² (MNEs) and the development of global value chains (GVCs), and the impact of these on the balance of payments, the US economy and hence the sustainability of trade. The paper then looks at MNE activity in China within the context of both their domestic and other foreign activity and therefore the degree to which disruption to – or a dialing back of – the US-China economic relationship has the potential to damage both the MNE and the US economy more generally.

The growth in foreign direct investment, cross-border trade and global value chains

Between 1990 and the global financial crisis in 2008, world FDI flows increased dramatically but have leveled off in the past decade.

During the 1990s and early 2000s, the quantity of foreign direct investment (FDI) rose dramatically. From a level of US\$205 billion in 1990, global FDI flows rose to over US\$1.3 trillion in 2000. The recession of 2001-2002 interrupted this growth but the secular trend remained intact and by 2007 flows had risen to US\$1.8 trillion³. Since the global financial crisis (GFC) the trend has plateaued somewhat. A new high of US\$2 trillion was set in 2015 and in 2019 FDI flows totaled US\$1.54 trillion or 1.8% of global GDP. At its various peaks – 2000, 2007 and 2015 for example – FDI flows accounted for more than 10% of global fixed capital formation.

The stock of global FDI has grown to US\$36.4 trillion or 40% of global GDP. The US has been a leader in overseas direct investment.

As a result of an elongated period of large flows, the stock of FDI has grown from under 10% of global GDP in 1990 to over 40% now, or US\$36.5 trillion dollars. As with exports and imports there is a measurement discrepancy between outward and inward FDI, that at a global level should sum to the same number. On an inward measure FDI stock is US\$36.5 trillion while on an outward measure it is US\$34.6 trillion according to UNCTAD. In terms of sources of FDI, the US has been at the forefront of this global trend. Using international investment position data, at the end of 2019 the US held about US\$8.9 trillion of overseas assets in the form of FDI – accounting for about 25% of the global total⁴.

US MNEs have expansive operations around the world, employing 14.4 million people outside the United States in 2018 and creating US\$1.5 trillion of value added offshore.

The growth in FDI during this period of globalization reflects the rise of the MNEs. According to the Bureau of Economic Analysis, US-based MNEs employed 43 million people worldwide in 2018: 28.6 million in the US (accounting for 22% of total private industry employment) and 14.4 million elsewhere. In terms of value added – contribution to GDP – US parent companies contributed US\$4.2 trillion to the US economy (about 25% of total US GDP) and US\$1.5 trillion to the rest of the world economy (2.3% of the rest of the world economy and 26% of MNEs' total value added).

The rise of MNEs and GVCs calls into question the utility of traditional balance of payments measures of international economic engagement.

The underlying motivation behind this growth in FDI has been three-fold:

1. The search for cost advantage
2. Access to foreign markets
3. The search for comparative advantage through specialization, which has given rise to GVCs

A fourth reason has been to lower tax rates by offshoring intangible assets such as brands and intellectual property to enable profits to be booked in low-tax jurisdictions. The rise of multinational overseas investment, the increased level of specialization at the country level, and the consequent complexity as to the origin of value added in a final product, has led some commentators to call into question the utility of traditional measures of trade levels and imbalances. Such complexity has also made analysis of the importance of any particular economic relationship between countries extremely difficult to accurately measure, even if there is theoretical agreement as to what to analyze.

Apple as the personification of the new trend

Apple and the iPhone have been held up as an illustration of the complexity of the modern international economy.

Apple Inc's profile, size and business model has made it emblematic of how a growing portion of trade has worked in recent decades, and as such the international operations of the company have attracted much attention. Dedrick, Linden and Kraemer have explored the question of who captures value in global innovation networks by examining the manufacture of Apple products in China since the late 2000s⁵. In a more recent article, they estimate that just US\$8.46 of the US\$237 factory cost of the iPhone 7 accrued to China in 2016⁶. The point being that the import content of China's iPhone exports is so high that the export number from China, and thus the import number in the US, is grossly misleading. US\$68 of the cost is components from the United States itself, whereas most of the other attributable costs are components from Japan, Korea and Taiwan, for example.

The iPhone is made in China from parts made around the region, to designs from America.

There are three points worth making here. First, the US component share is of course captured in the US exports to China data, and so is not unrecorded in terms of the traditional trade data. Second, what the example does illustrate very clearly is that Korea and Japan's merchandise trade surpluses with China are, to some extent, effectively surpluses with the United States with China acting as a transit point. This highlights the flaw in using the bilateral trade position (measured in the traditional way) as evidence of anything very much purely economic, although that has long been true even where gross trade was a more complete measure of exchange. The bilateral position does, however, remain useful for accessing the geo-economic consequences of engagement and the potential to weaponize economic interdependence. Finally, what the well-studied example of the iPhone does not in anyway alter is that in totality, China remains a big net exporter of merchandised trade and the US remains a large net importer; the bilateral position is red-herring. This is at least in part a function of the asymmetric attitude towards trade.

A more updated version of the Apple iPhone analysis by Yuqing Xing⁷, using the iPhone X and comparing it to the situation when the iPhone 3 was launched, is illustrative of how things have changed in recent years. Xing demonstrates

that Chinese companies now provide about 25% of the Bill of Materials (BoM) versus less than 4% a decade or so ago. This is testimony to the power of China's industrial policy in terms of moving China up the value chain and also a reflection of the advantage of being the assembly hub in terms of the cluster effect stemming from industry location. Nevertheless, the key point that the bilateral trade position is exaggerated by China's role as an assembly hub, and therefore the last point of departure before a product reaches the US market, remains valid. The iPhone, however illustrative, is an extreme example. According to the WTO, the foreign value-added component in China's exports shrunk from 26.3% in 2005 to 17.3% in 2015.

The economic and geo-economic spillover effects of processing exports

There are, of course, other benefits to China than just the growing share of the BoM being met by domestic companies as a result of being the assembly hub. China's rise to become the largest trading nation has bred an industrial complex around transportation, logistics and stevedoring. Furthermore, each manufacturing job has a multiplier effect in other industries as manufacturing workers spend their wages and manufacturing companies consume business services. The outsized impact of FDI into export-orientated industries in China has been well documented⁸.

Perhaps the least recognized benefit, however, is the geo-economic power that comes with becoming the monopoly supplier (albeit with foreign content) to the global market. From a geo-economic perspective, China's processing or assembly exports are not dissimilar to transit trade, although the costs of relocating assembly are higher than diverting pure transit trade. The similarity comes about from the potential power to disrupt supply for a relatively low level of economic cost incurred by the host country. As Albert Hirschman put it in *National Power and the Structure of Foreign Trade*: "...the economy of the country handling this trade is only superficially affected by the trade: whereas it acquires the influence normally derived from both exports and imports both in the country of origin and the country of final destination..."⁹.

Hence, as China has gained market share in both exports and global manufacturing value added, there has been a commensurate acquisition of national power – something China has not been shy of using in an effort to change the behavior and policies of its trading partners.

Trade in value added

The high level of foreign content in exports (and potentially domestic content in imports such as an iPhone imported into the United States) has led economists at the OCED and WTO to develop a dataset for trade based not on gross imports and exports but rather on the value-added component of the exports and imports. This data is available in the Trade in Value Added (TIVA) database. While the data has undergone revision and is not without its critics, it offers some potentially interesting insights.

The TIVA database enables us to examine trade in value added.

The importance of overseas demand to domestic manufacturing in China remains high, particularly in ICT and electronics despite those industries having higher foreign content than average.

The gap between gross and value-added measures of China trade is closing.

As the overseas activities of MNE's has expanded, the services and income accounts of the current account have increased in importance.

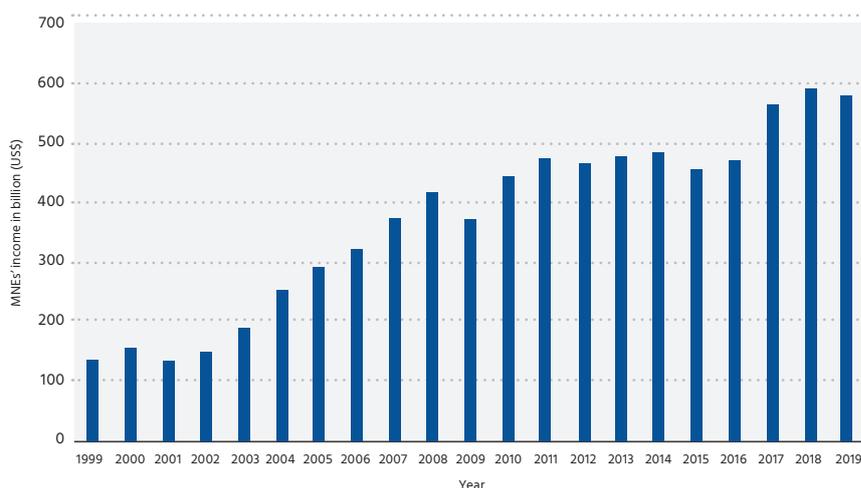
The overall importance of exports to China's economy, when measured on a value-added basis, has fallen over time from 23.5% (of total value added being exported) to 16.7% between 2005 and 2015. Within manufacturing, however, the importance of exports is much higher at about 30% of value added down from 40% over the same period, and within that ICT and electronics remains above 55% down from 70%. The reliance on overseas demand for ICT and electronics for driving domestic value creation is high despite the fact that these industries have higher than average foreign content embedded in the exports. This reflects China's growing ability to provide domestically produced components and content as the economy has developed around the assembly industry, capturing more value added at home.

The TIVA data therefore suggest that even as gross exports from China have fallen as a percentage of GDP, the rise in local content has somewhat offset this trend. Foreign demand remains a big driver of manufacturing. As local content has risen, the difference between the importance of gross exports and value-added exports has diminished.

MNE's and the balance of payments

One impact of the role of MNEs and the globalization of capital through FDI has been to diminish the importance of the trade account and to make the services and income accounts of the current account position more important. The income streams that flow from the overseas investment come through the income account, whereas services provided to overseas subsidiaries show up as exports of services. Sales, some of which would otherwise have been exports in the trade account, are now generated by overseas affiliates.

Figure 1 – MNEs income flows from direct investment



Source: Federal Reserve Economic Data, <https://fred.stlouisfed.org>

The overseas earnings of US MNE's are extensive and have grown rapidly.

As figure 1 shows, income associated with overseas direct investment has grown during the period of what might be termed "hyper-globalization" – post China's accession to WTO. From the cyclical high in 2000, when income receipts from direct investment overseas were US\$56 billion, receipts grew 166% or 13% per year compound, to reach US\$415 billion in 2008, the peak of the next cycle. In the ten

years from 2008 to 2019, however, they have grown much more sedately at a 3% (CAGR) to total US\$578 billion¹⁰. To be clear, these receipts include profits that are not repatriated and continue to be held offshore. Therefore the quantity is not impacted by changes to tax laws regarding repatriation.

On a net basis, the earnings associated with FDI accounted for 1.6% of GDP in 2019 offsetting 57% of the goods and services deficit.

The equivalent flow out of the US associated with FDI into the US has also grown. From a low base in 2000 of US\$62 billion, it grew at 11.4% (CAGR) through to 2008, and then at 5.4% to reach US\$249 billion in 2019. The net flow (i.e. the inflow associated with US direct investment overseas minus the outflow associated with FDI into the US) has therefore grown from US\$94 billion in 2000 to US\$329 billion in 2019. For context, US GDP was US\$20 trillion in 2019, so the surplus of FDI related flows was the equivalent of 1.6% of GDP. Furthermore, FDI related income surplus offset 57% of the deficit in goods and services which totaled US\$577 billion in 2019.

The net flow of income derived from FDI is all the more surprising given the fact that in both 2018 and 2019 the stock of US overseas FDI was smaller (at market value) than the stock of foreign direct investment in the US itself. The US stock of FDI yielded an income flow equivalent to 7.1% of its value, while the foreign stock in America yielded an outflow of just 2.6%. This return gap has averaged 386 bps since 1999 and is the cause of the fact that, despite the United States running a negative net international investment position of US\$11 trillion in 2018 – equivalent to about 55% of US GDP – the US income account remains in positive territory.

The high return on US FDI overseas could be down to tax related transferring of profitability offshore.

Why are the foreign affiliates of US MNEs so much more profitable than the US-based affiliates of foreign MNEs? While there could be many reasons including management quality, lower offshore costs and relative competitive environments, taxation is an important factor. Large quantities of intangible assets have been passed from US parents to offshore subsidiaries allowing profits to be booked in low tax jurisdictions outside the US. It is noticeable, for example, that of the US\$1.4 trillion in net income (this includes double counting through consolidating effects) booked by foreign affiliates of US-based parents, nearly 60% was booked in five jurisdictions: Ireland, the Netherlands, Singapore, British Caribbean Islands, and Bermuda¹¹. This implies the US could be losing tax dollars.

The importance of MNE activity to the United States and China

The Bureau of Economic Analysis produce annual survey-based data on the activities of both foreign affiliates of US based multinational enterprises and on the American based affiliates of foreign multinational enterprises.

As figure 2 shows, the operations of the foreign affiliates of US-based multinationals are extensive. The domestic value-added created by this sample of companies accounts for about one quarter of US GDP with combined sales of US\$21 trillion (although this includes intra-group sales) and profits amounting to US\$2 trillion.

While MNEs have extensive overseas operations, China and Hong Kong account for just 1.7% of total US MNE value added.

What stands out from the table, however, is how relatively small the China operation of these MNEs is. Bear in mind that, from a US perspective, China's economy represents 20% of the overseas opportunity, measure by its proportion of world GDP excluding the United States itself. Taking the domestic and foreign

Figure 2 – Key MNE activity measures: Domestic, overseas, and Hong Kong/China

	Total assets (USD billion)	Sales (USD billion)	Value added (USD billion)	Employees (million)	Wages (USD billion)	Profit-type return (USD billion)
Domestic (parent)	43,373	14,328	4,208	28.56	2,338	1,451
All foreign countries	27,379	6,773	1,474	14	627	570
Total	70,752	21,101	5,682	43	2,965	2,021
Overseas % of total	39%	32%	26%	34%	21%	28%
China	466	393	78	1.69	32	30.6
Hong Kong	427	156	21	0.14	11	8.6
Sub total	893	549	99	1.8	43	39
China & HK as % of overseas	3.3%	8.1%	6.7%	12.7%	6.9%	6.9%
China & HK as % of total	1.3%	2.6%	1.7%	4.3%	1.5%	1.9%

Source: Bureau of Economic Analysis

Note: "Profit-type return" for foreign affiliates strips out double counting of profits through consolidation of different affiliates and is pre-tax. The USD 1,451bn for domestic parents is a "net income" number as defined by the BEA. The two are not directly comparable but no "profit-type return" for the domestic operations is calculated to my knowledge.

businesses combined, China accounts for just 1.7% of the total value added and less than 3% of sales. The large number of employees partly is reflective of lower productivity, but China only accounts for 1.5% of the total wage bill and around 2% of overall corporate profits.

China and Hong Kong operations account for 6% to 8% of US MNE overseas activity.

Taking the overseas operations of the MNEs, on most metrics, China & Hong Kong combined account for between 6% and 8% of MNE activity. The value to the economy of the United States from MNE activity overseas comes from three sources: 1) The exports from the United States to MNE overseas operations; 2) the profits earned on the overseas operations, and 3) the lower cost of imports from MNEs re-exporting back to the US.

In each case the numbers pertaining to the China and Hong Kong activities are low. Of the US\$390 billion of goods and services supplied (sales) of US majority

owned affiliates operating in China, only US\$27 billion is exported back to the United States, US\$316 billion worth are sold in China with US\$47 billion going elsewhere. Similarly, only US\$14 billion of US goods exports are to Chinese-based affiliates of US MNEs. As we have seen, the profits made in China – US\$30 billion or so – represent about 7% of the total profit-type income of overseas MNE affiliates and less than 2% of overall corporate profits including domestic operations. Furthermore, the lack of exporting from these MNE operations implies there is limited scope for the profits in China to be understated through transfer pricing and therefore the US\$30 billion number is probably a real reflection of the profitability of these operations.

The high ratio of sales by value-to-value added suggests much value accrues to Chinese supplier or companies in third countries.

The important value to China is high paid jobs, and the value created by supplying US MNEs in China.

Only about 15% of the sales value from MNEs in China flows back to the US and that is already captured in the traditional balance of payments data.

Most MNE activity in China is for the domestic market, creating limited value for the US economy and a lot of value for other economies.

The high ratio of sales to value added strongly suggests that the vast majority of value of US affiliates' sales in China accrues to local or third country suppliers of components or raw materials to those sales. This would be the case for example, where a US affiliate uses a contract manufacturer for example in the way that Apple use Foxconn.

From a Chinese perspective, affiliates of US based MNEs directly add about US\$77 billion (0.5% of GDP) of value through their activities in China. Of this they pay wages of US\$32 billion to 1.7 million employees (about 0.2% of total employment). This works out at US\$18K per year per head or about an 80% premium to per capita GDP. China also has a tax claim over the US\$30 billion in profits these companies make. The more important value to China though comes from the supply of materials and components to the products made by affiliates in China for sale in China.

Simply adding the China sales of US MNEs to US exports to China therefore, in no way reflects the true size of US economic benefit of engagement with China. No more than 15% of the revenue from these sales flows back to the United States in terms of demand for intermediate goods (already captured in US export numbers) or as profits (already captured in the income account).

Conclusions

This report has looked at data on US MNE activity and the balance of payments data to show how the changing nature of trade and investment has impacted traditional measures of international economic activity. It has also attempted to ascertain the degree to which economic entanglement between the US and China is being under or overstated by such measures and to determine the asymmetry of the relationship.

The much-cited example of Apple, though illustrative of the complexities of modern trade is atypical, it appears, of the majority of economic activity. The majority of MNE activity in China consists of "made in China for sale in China", arguably in large part because market access is restricted, with a relatively low proportion of the value added coming either from exports of intermediate goods from the US or from value addition by US MNEs in China. Much of the value added accrues to other suppliers of goods and services to the China based affiliates of US parent companies – mainly local.

China accounts for just 6-8% of US MNE overseas activity and 2-3% of total activity.

Furthermore, the level of activity by affiliates of US based parents in China is very low in proportion to their combined domestic and international operations (2-3% is the range) as well as their international operations on a stand-alone basis (6-8%). With China accounting for 16% of world GDP and 20% of the world GDP excluding the US, the data suggest that MNE operations in China fall well short of where one might expect them to be in terms of size, especially given the supposed growth premium that is attached to China operations.

Sales made in China by US MNEs have no equivalence, in terms of value accruing to the US economy, with exports from the US to China: they should not be conflated in an attempt to hide the asymmetric nature of the relationship. Exports from the US to China contain almost exclusively US value added, whereas sales by affiliates of US based parent contain mostly foreign value added.

As local content of Chinese exports has risen, so the over statement of China's bilateral deficit has diminished.

While the bilateral trade balance is an inaccurate measure of the asymmetry of the relationship between the US and China, the size, consistency, and polarity of the two economies overall trade positions is demonstrative of the unbalanced nature of the relationship. The data on trade in value added from the OECD shows that China's gross exports overstate the true importance of exports to its economy, but far less so than in the past as additional value add is taking place onshore.

China's policy of attracting final assembly business, building unprecedented scale and expertise in this field, and then developing indigenous industries around the assembly business to capture share in the value added has been a tremendous success. However, this success and the asymmetric nature of the economic relationship, also makes China vulnerable to geo-economic policies.

The overall importance of the China-US economic relationship tends to be exaggerated.

The overall importance of China to the US economy remains modest in both absolute terms and especially relative to China's proportion of the world opportunity set. In large part this is a function of China's relatively closed market coupled with the large size of the US domestic market which accommodates a relatively high degree of autarky. This does not however, mean that there are not some US-based companies for which China is an extremely important part of their business. Such companies will continue to advocate for normal economic relations with China, irrespective of the broader national and economic interest.

Footnotes

- ¹ See *China, Trade and Power: Why the West's Economic Engagement Has Failed*, London Publishing Partnership 2018, Stewart Paterson, <https://www.hinrichfoundation.com/research/book/china-trade-and-power/>
- ² Multinational enterprises as defined as “an enterprise producing goods or delivering services in more than one country”, Eurostat
- ³ FDI data is taken from the UNCTAD database, https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en
- ⁴ BEA International Investment Position of the United States 2019
- ⁵ “Who Captures Value in a Global Innovation Network? The Case of Apple’s iPod”, Greg Linden, Kenneth Kraemer, Jason Dedrick, Research Gate, 2009, https://www.researchgate.net/publication/220424061_Who_Captures_Value_in_a_Global_Innovation_Network_The_Case_of_Apple's_iPod
- ⁶ “We estimate China only makes \$8.46 from an iPhone – and that’s why Trump’s trade war is futile”, Greg Linden, Kenneth Kraemer, Jason Dedrick, *The Conversation*, 7 July 2018, <https://theconversation.com/we-estimate-china-only-makes-8-46-from-an-iphone-and-thats-why-trumps-trade-war-is-futile-99258#:~:text=Of%20the%20factory%2Dcost%20estimate,The%20other%20%24228.99%20goes%20elsewhere>
- ⁷ “How the iPhone widens the US trade deficit with China”, Yuqing Xing, *Vox EU*, 10 April 2011, <https://voxeu.org/article/how-iphone-widens-us-trade-deficit-china>
- ⁸ See *Developing China: The Remarkable Impact of Foreign Direct Investment*, Routledge, Michael Enright, <https://www.hinrichfoundation.com/research/book/developing-china-impact-of-foreign-direct-investment/>
- ⁹ *National Power and the Structure of Foreign Trade*, Albert Hirschman, 1945, pp. 33-34
- ¹⁰ BEA: International transactions report
- ¹¹ All data on the activities of MNEs abroad comes from the BEA report into operations of US affiliates abroad, available here: <https://www.bea.gov/data/intl-trade-investment/activities-us-multinational-enterprises-mne>

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