

Global Economic Policy Lab

Where are Global Companies Manufacturing Their Electronics? Vietnam as the World's New Cost Centre

Analysts

Weijia Chen
wjasper.chen@mail.utoronto.ca

Kulsoom Khalid
kulsoom.khalid@mail.utoronto.ca

Jiaying Li
jyirene.li@mail.utoronto.ca

Alimah Rehan
alimah.rehan@mail.utoronto.ca

Lab Director

Professor Mark Manger
mark.manger@utoronto.ca



munk school
OF GLOBAL AFFAIRS & PUBLIC POLICY



UNIVERSITY OF
TORONTO

Overview – From Made in China to Made in China Plus

It is naïve to posit that [Vietnam can replace China in the production of electronic goods](#). Much superior in technology, supply chain integration, trade and the availability of skilled labor – in absolute and relative terms – China continues to hold its place as the largest producer, consumer and exporter of consumer electronics. However, the era of ‘Made in China’ is being supplanted by a new age of ‘Made in China plus’, where destinations like Taiwan, Malaysia and Vietnam are claiming subsections of production being moved from China. Following this trend, Vietnam has been quick to offer ready services to global companies looking for cheaper production centers. Government and business enthusiasm has gained momentum in the country, especially in consumer electronics production. A high priority industry, electronics manufacturing is performing exceptionally well in Vietnam, with [the production index of electronic products growing by 117.5 per cent](#) in 2020. Foreign companies are of course lured by such capabilities, and tax exemptions and low minimum wage have only made the investment environment more conducive. LG, for example, moved its [smartphone production from South Korea to Vietnam](#), adding the country to a list of production destinations including China, Brazil and India. Likewise, with its total investment in the country reaching \$17 billion, [Samsung is not only the largest foreign investor in Vietnam](#), it has also brought in more demand for Vietnamese electronics, by shifting most of its display production from China to Vietnam.

Further, Vietnam has reaped the benefits of the U.S.- China trade tensions which have forced Western manufacturers to move their production out of China, since 2018. Vietnam scaled up its position as a key electronics exporter to the [12th place in 2019](#), from a modest 47th place in 2001. Moreover, Vietnam has signed over a dozen Free Trade Agreements (FTAs) and Investment Protection Agreements (IPAs) to expand and diversify its export market. For example, it signed the [Comprehensive and Progressive Agreement for Trans-Pacific Partnership \(CPTPP\)](#) and the [EU-Vietnam FTA \(EVFTA\)](#), which entered into force in January 2019 and August 2020 respectively. Given such developments, market enthusiasm about Vietnam emerging as an electronics manufacturing hub is high. We analyze this sentiment and look at the following indicators to answer the question – to what extent does moving electronics production to Vietnam benefit global companies?

Section One: Indicators

Indicator One: Overheads - Labor Rates and Electricity

China has been the world's largest manufacturing center for decades. Therefore, the rapid development of Vietnam's manufacturing industry implies two things - one, that the position held by the Chinese manufacturing industry has gradually weakened, and second, that there are benefits in relocating factories to Vietnam. From the microeconomic perspective, labor cost is one of the most appealing factors for global companies to shift their production to Vietnam. Data from the past five years shows us that in

both, China and Vietnam, hourly labor costs (for manufacturing) have increased. However, China's labor costs are rising at a much faster pace than Vietnam's. In absolute terms, in 2020, the wages per hour in Vietnam were more than 50 per cent lower than the wages per hour in China (Figure 1).

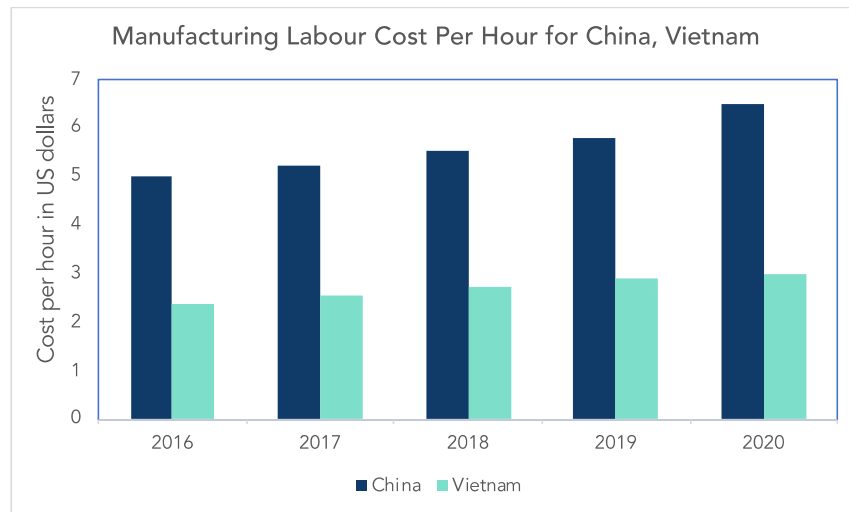


Figure 1: Manufacturing Labor Cost per Hour in China and Vietnam | Source: [Source Today](#)

Other overheads costs in manufacturing are lower in Vietnam than in China, as well. As a proxy for overheads, we compared the commercial electricity rates for the Ho Chi Minh City in Vietnam and Shanghai in China – both centers of consumer electronics production. In 2020, [Ho Chi Minh City's commercial electricity rate was 12.5 US cents per kWh](#), which is [0.3 cents less than the rate in Shanghai](#). While having a slight advantage on electricity rates, the time required to complete the procedures to obtain an electricity connection is [one day faster in Ho Chi Minh City](#) than in [Shanghai](#). For Ho Chi Minh City, this time has, in fact, [reduced by 15 days](#) in the last two years.

Indicator Two: Exchange Rate

Vietnam has long-term currency advantages regionally and compared to China. It's currency (the Dong) is consistently depreciating, which have made exports cheaper. In contrast, the Chinese RMB is more volatile, and the currency advantage that China once enjoyed has declined with the Yuan's appreciation (Figure 2). Further, comparing the Purchasing Power Parity over GDP for these two countries with the U.S.', we find that the Vietnamese Dong is highly undervalued against the Dollar. The actual exchange rate for the Dong is 310% higher than its PPP over GDP, while for the Chinese Yuan, it is only higher by around 150% (Figure 3). Therefore, firms in Vietnam can benefit from the low exchange rates, especially in exports.

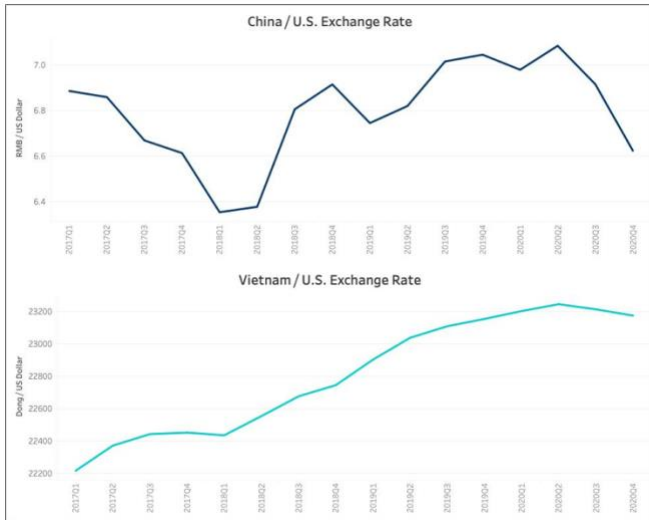


Figure 2: China/U.S. and Vietnam/U.S. Exchange Rates | Source: FRED, IMF and GEPL Calculations

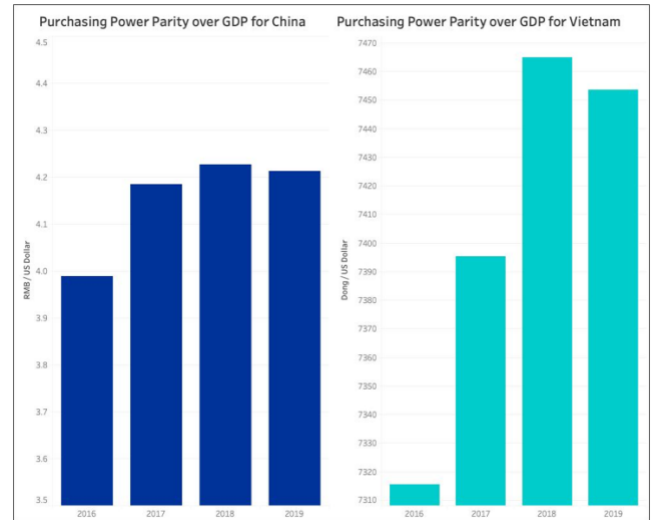


Figure 3: Purchasing Power Parity over GDP for China and Vietnam in US Dollars | Source: IMF and GEPL Calculations

Indicator Three: Tax

Other attractions in moving electronics production to Vietnam are in the tax policy reforms for manufacturing industries in the country and the tax advantage over China. These indicators have a high correlation with the growth rate of industrial production in Vietnam – which is five times higher than China’s (Figure 4). According to the World Bank, five major tax reforms in the last few years in Vietnam have not only reduced the total tax rate by 2 per cent, but also brought down the time spent on filing taxes by 80 per cent (Table 1). The tax advantage is even greater for foreign large-scale and high-tech corporations, like consumer electronic companies, who get up-to 4 years of corporate tax exemptions. The only major tax these companies must pay is the Corporate Income Tax (CIT), which in Vietnam is 5-7 per cent lower than in China (Table 2).

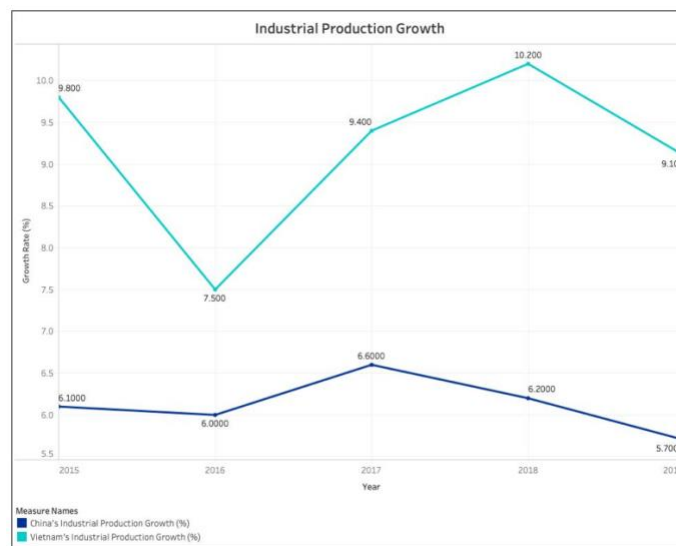


Figure 4: Industrial Production Growth Rate in China and Vietnam | Source: General Statistics Office of Vietnam, National Bureau of Statistics of China and GEPL Calculations

Tax Payments and Rate in Vietnam				
	2020	2019	2018	2017
Tax Payments per Year	6	10	14	31
Time Spent on Tax Payment Procedures per Year (in hours)	384	498	498	540
Tax Rate for Manufacturing - General (%)	37.6	37.8	8.1	39.4

Table 1: Tax Procedures and Rate in Vietnam | Source: World Bank

Corporate Income Tax in China and Vietnam		
	China	Vietnam
CIT (General)	25%	20%
CIT (Preferential)	15%	10%

Table 2: Corporate Income Tax in Vietnam and China | Source: Avalara, PWC, General Statistics Office of Vietnam and GEPL Calculations

Indicator Four: Ease of Getting Loans (in Local Currency)

The final benefit in making electronics in Vietnam over China is the accessibility to domestic loans for foreign firms. When compared to its regional competitors, Vietnam performs much better on indicators such as the depth of credit information available, credit bureau coverage and credit registry coverage, according to a [report by the World Bank](#). Moreover, besides China, it also outperforms countries like Indonesia and Malaysia in claims on the private sector (as a percentage of Broad Money), which indicates the gross credits from financial institutions to businesses and non-financial public entities which do not fall under net domestic credit. Further, in the last five years, domestic credit (through loans, purchases of non-equity securities, and trade credits and other accounts receivable) to the private sector has increased in Vietnam (see Figure 5). This confirms that access to capital through the financial system is unconstrained in the country.

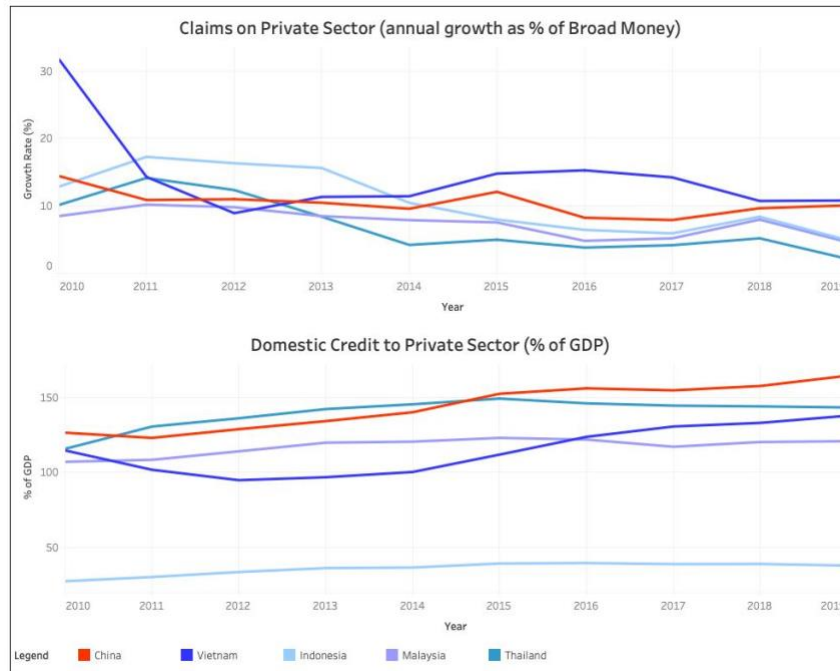


Figure 5: Credit Availability Indicators in Selected Countries | Source: World Bank and GEPL Calculation

Section Two: Evaluation

In Table 3 we evaluate the intensity of benefit for the indicators assessed above.

Key Investment Indicators – Electronics Production in Vietnam			
Indicator	Category	Benefit	Intensity
Labour Cost	Micro-economic	High. Minimum wage lower than other ASEAN countries and China	10
Loans in Local Currency	Macro-economic	High. Accessible financial institutions and getting loans is easy.	9
Tax and Government Support	Macro-economic	High. Low tax rates for foreign firms, and a 4 year corporate tax exemption for high tech firms. Main tax - CIT - is 5-7% lower than their Chinese equivalents.	8.5
Manufacturing Overheads	Micro-economic	High benefit against China; comparable to other alternatives.	7.5
Exchange Rate	Macro-economic	High in the short run. Frequent depreciation has sustained a momentum which makes exports cheaper in the short run.	7
Manufacturing Capacity	Business	Moderate. Basic capacity; reluctance and low readiness to manufacture newer innovative products.	6
Trade	Business	Medium. FTAs have made exports cheaper, however heavy reliance on China.	5
Value Add	Business	Moderate. Only 55% value added to product before export. Other ASEAN countries have a higher contribution.	5
Self-sufficient Supply Chain	Business	Low. Excessive reliance on China for imports of electronic components and export of final products.	4
Skilled Labour	Business and Training	Low. Lack of educated and trained personnel to manufacture sophisticated electronics	3



Table 3: Key Investment Indicators – Benefit Intensity Analysis | Source: GEPL Calculations

Labor

The real benefit in moving electronics production to Vietnam is in the low labor cost. As demonstrated in the section above, the difference in the wages per hour in China and Vietnam is that of almost double. However, other than wages, in absolute terms, the total labor force in Vietnam makes up only **7 per cent of the size in China**. What further undermines the low-cost advantage is the lack of skilled labor –

investments in IT and advanced education relevant to the needs of new foreign firms are insignificant. As the demand for production by multinational firms will rise, an already small pool of trained workers will fall short in Vietnam. Further, the period of its “golden population” (for every two or more working people, there is only one dependent person), which began in 2010, is predicted to end by 2040. This means that after the next 20 years, the dependent population in Vietnam will surpass the working population, a problem faced in most developed countries and now even in China. Therefore, as demand will rise and supply of (especially skilled) labor will become constrained, wages will rise in the long run. For companies looking at benefitting off the current low labor costs in Vietnam, now is the time to relocate. The low wage benefit in Vietnam will only sustain in the medium run.

Trade

Vietnam is the second south East Asian country after Singapore to have a Free Trade Agreement with the European Union. The Agreement makes **71 per cent of total exports** from Vietnam to the EU duty-free, and in turn 65 per cent imports from EU to Vietnam. For electronics from Vietnam, the Agreement goes a step up, and eliminates **74 percent of import tariff lines**. The government is certain that this strategic partnership and low tariffs will attract more investment in the industry from foreign firms. However, we do not see the same advantage here. While the FTA may benefit industries like textile and apparel, it will not have the same impact for electronics. In 2019, the top export destinations for electronics manufactured in Vietnam were China (19.3 percent), the US (18.2 percent), South Korea (9.1 percent), Hong Kong (4.9 percent), and Japan (4.89 percent). Further, **more exports were made by foreign firms** than domestic firms in the industry. Even if following the FTA, exports of electronics to the EU are likely to expand, we must bring to your attention that Vietnam is a cost center for foreign firms, a link in the vertical supply chain of consumer electronics in Asia. It produces more intermediate goods than finished products ready for final sale. Vietnam’s **contribution to the value of a product is only 55 percent**, which is much lower than eight other Asian economies of similar size. Once the value is added, half-done products are returned to destinations like China for value completion. Therefore, foreign companies will not enjoy the Free Trade Agreement with the EU, at anticipated levels.

Supply Chain

While Vietnam is benefitting from the trade tensions between the United States and China, its **electronics production is extremely dependent upon Chinese imports**. In 2019, it imported 33 percent of the machinery and components needed for electronic goods manufacturing from China, further 31 percent from South Korea, 8 percent from Japan and 6 percent from the U.S. There is no question that Vietnam is a good location for imports, however it lacks an integrated supply chain as in China. The **Chinese component eco-system** has reduced the ‘time to market’, with most electronic components available from multiple local factories within an hour’s drive. In contrast, a highly delocalized supply chain in Vietnam explains the low trade in value added. Further, manufacturing is not only import dependent, but it is also difficult to convince manufacturers in Vietnam to make new products. The lack of an integrated system and expertise to produce components locally make it difficult to develop new devices, unless a kit of these components is imported with an instruction manual from China. The focus in the country is **on simple assemblies using minimal technology**, without an input into design or tool developments. This, however, is also their competitive advantage – where automation cannot offer low-cost manufacturing, the Vietnamese fill in with their exceptional hand assemblies.

Conclusion

So, is moving production to Vietnam a good strategy, or have Samsung and LG made wrong investment decisions? Vietnam is a cost center that has very smoothly integrated into a vertical Asian supply chain of electronics manufacturing. There are some clear advantages that the country offers – low labor costs, tax exemptions and government support through investment policies, and a low exchange rate momentum. However, with a small skilled labor force, heavy dependence on Chinese imports for components, reluctance to upgrade and the absence of a self-sufficient local supply chain, Vietnam will continue to be seen as a ‘China-plus’ production destination.

No forwarding, reprinting, republication or any other redistribution of this content is permissible without expressed consent of the author(s). All rights reserved.

The Global Economic Policy Lab at the Munk School of Global Affairs & Public Policy is not a certified investment advisory service. It aims to create an intellectual framework for informed decisions by its clients. The document is based upon information obtained from sources the author(s) believe(s) to be reliable but which it has not been independently verified. Opinions, data and other information expressed in this document are based upon publicly available information at the moment of publication and/or distribution and may be amended without notice. This content is for informational purposes only and does not constitute, and may not be relied on as, investment advice or a recommendation of any investment or policy strategy. It does not represent a statement on behalf of the Munk School of Global Affairs & Public Policy at the University of Toronto. You may refer to this document in publications by directly linking to it at its source address.