Vietnam’s currency management: theory, practice and reality

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Abstract

Purpose – The purpose of this paper is to explain why Vietnam has been charged as a currency manipulator by the USA, and why those charges are less than conclusive, as of May 2021, no immediate tariffs were imposed.

Design/methodology/approach – A comparative approach is applied using economic data on trade balances, inflation, exchange rates, and foreign exchange reserves from Vietnam, other Asian nations, and the USA. Currency regime theories are briefly reviewed, and USA. Treasury statements about Vietnam’s currency are referred to, which then are analyzed. Further explanations are based on the context of the economic situation and bilateral relations.

Findings – Since 2010, Vietnam’s currency has appreciated, and since 2015, the government has kept the Vietnamese dong (VND) stable in real terms against the dollar. The sharp improvement in Vietnam's bilateral and overall trade balance is due largely to rising labor costs in China and trade frictions between the USA and China. The resulting US tariffs on China’s exports redirected Foreign Direct Investment (FDI) exports to Vietnam. Even with these recent trade surpluses, Vietnam’s ratio of foreign exchange reserves to imports is lower than that of many other Asian nations. The USA’s recent decision not to impose punitive tariffs on Vietnam’s exports but continue to monitor and hold discussions reflects the reduced priority the new US administration puts on bilateral trade balances and the recognition that Vietnam is negotiating seriously and has significant value in a regional context.

Originality/value – The paper provides a comprehensive understanding from both theoretical and practical perspectives of the recent event. The implications are meaningful for the adjustment of national monetary strategy to avoid a similar situation in the future.

Keywords Vietnam, Currency management, Currency manipulation

Paper type Practitioner Paper

Introduction

Vietnam’s exports have grown rapidly and are now larger than its national output. Recently, Vietnam’s trade surplus has been increasing, particularly with the United States. This led the US Treasury to find that Vietnam is a “currency manipulator” and giving an unfair advantage to the country’s exports. That is, the Treasury argues that the Vietnamese dong has been held at “too low” a level to artificially boost Vietnam’s exports. However, the real value of the dong has been stable against the dollar since 2015, and in 2015, Vietnam had an overall trade deficit. The new Biden administration will not have the same focus on bilateral trade deficits as its predecessor but has appointed many officials associated with labor unions favoring protection and insisting on environmental and labor clauses in trade treaties. Ironically, these clauses are in the Trans-Pacific Partnership (TPP) that the US negotiated with other nations but then decided not to enter. Vietnam has to decide how to negotiate its trade relations with the US. Allowing the dong to appreciate (grow in value compared to the dollar) would hurt many farmers unless the Vietnamese government supported them through the central budget which is under strain. Currency appreciation would also have some, but
perhaps not a major, impact on exports of assembled products. In this paper, we review the
theory of currency management, discuss how Vietnam and other developing Asian nations
have recently managed their currencies and suggest alternatives for Vietnam for dealing with
the US, an important market.

Theory and some history
The market for a currency is much like any other. If supply grows relative to demand, the price
drops. If there is not enough, the price rises. In the 19th and early 20th centuries, many nations
were on the gold standard, and most nations fixed their currencies relative to gold. Much of the
money in circulation was gold, or paper currency backed directly by gold. If a nation had an
import surplus and no capital inflow to pay for surplus imports, the government literally
shipped chests of gold coins to the nations that it had to pay. That meant the money supply in
the country with high imports shrank, and the money supply in the nation with high exports
grew. Then, prices were more flexible. Therefore, instead of unemployment, prices in the
country with the shrinking money supply would fall, and prices and wages in the country with
high exports would rise. This situation tended to reduce trade imbalances. Thus, the gold
standard system was self-regulating. Industrialization increased, and prices became less
flexible. The gold standard mechanism led to more changes in output and employment than in
prices. As a result, many nations left the gold standard during the Great Depression of the 1930s.

The gold standard broke down after First World War as central banks increasingly issued
currency not tied to gold or changed the price of gold so more money could be created. Many
nations also raised tariffs and implemented currency controls. After Second World War, the
International Monetary Fund (IMF) was created, and the system that evolved was based on
the US dollar. At first, the dollar could be exchanged for gold but this changed in the 1970s.
Gold became less crucial as an instrument of international monetary policy, and most nations
held dollars or US Treasury securities for international reserves. Treasuries are easily bought
and sold in large amounts without changing their price, making them a convenient way to
hold foreign exchange reserves. The IMF would make loans available with conditions –
usually fiscal tightening – if a nation ran out of dollars. Although other currencies are
important, the dollar remains predominant.

Currency crises in the 1990s in Asia led to many nations desiring to hold relatively high
foreign exchange reserves as a kind of insurance against fluctuations in demand and supply
of their currency, not only from international speculators but also their own citizens. Central
banks bought and sold dollars to keep their currencies stable or to change slowly against the
dollar. This practice was called a managed float. Although the value of the currency was not
set exactly, it was relatively stable. Some nations opted for a tighter fixed exchange rate, such
as Hong Kong whose domestic money supply was tightly linked to its foreign exchange
reserves (Arslan & Cantù, 2019). This kind of intervention was widely accepted. However,
some nations used this system to keep their currency values low and along with other
policies, ran up huge trade surpluses [1]. A weak currency tends to boost exports and hamper
imports, although this issue is complicated with many variables and views [2]. Normally, if
there is a large export surplus, we would expect the exchange rate to strengthen. There are
lots of dollars relative to (say) yen, so the price or value of the dollar should drop compared to
the yen. But if the Japanese Central Bank buys dollars, the dollar relative to the yen will be
held above its value without that intervention.'

In the current global monetary system and situation, things are a bit confusing. Lowering
interest rates – something all central banks do routinely to boost domestic economic activity –
should also weaken a currency by making it less attractive for international investors to buy
assets based on that currency compared to others. However, trillions of dollars of government
debt now have negative real or even negative nominal interest rates [3]. In major economies,
private capital flows are being swamped by central banks creating money and buying bonds.
Nearly every major economy could be found “guilty” of driving down interest rates and thus weakening its currency. But not every economy has large and persistent surpluses, although some do. Switzerland, which uses the Swiss franc instead of the euro, is often viewed as a safe haven because of its conservative fiscal stance and political stability. But large inflows of foreign currency raised the value of the Swiss franc so much it hurt exporters. As a result, the Swiss Central Bank capped the value of the franc relative to the euro by buying foreign currencies and creating a large amount of Swiss francs to buy the euros. This is currency manipulation but in a defensive sense. Even so, the US Treasury listed Switzerland and Vietnam as currency manipulators because Switzerland has high overall trade surpluses and a bilateral trade surplus with the US (U.S. Census Bureau, 2021b).

A 1988 law instructs the US Treasury to identify countries with “unfair currency manipulation” if they have a sustained and substantial overall trade surplus and a large bilateral trade surplus with the US. The Treasury also looks at the increase in foreign exchange reserves, among other variables. In 2015, the review process was strengthened and mandated to occur every six months. Remedies include negotiations to resolve the findings with the US Treasury or the IMF. If no resolution is found, tariffs may be imposed on imports from that country into the US.

Another analytical approach is simply to see if the relative real value of a currency has changed compared to the dollar. Theory suggests that if one nation has a higher inflation rate than the US, then the nominal exchange rate of that nation’s currency will depreciate relative to the dollar to keep the real exchange rate the same. If nations traded only cloth, and a meter of cloth cost VND 10,000 or USD 1 in 2010, and prices doubled by 2020 in the VND country but remained level in the USD country, then an exchange rate of VND 20,000 to USD 1 in 2020 (up from VND 10,000 in 2010) leaves the real economy the same. If the real exchange rate stays the same, then the currency is not contributing to changes in trade flows. In reality, many things affect exchange rates: shifts in trading patterns, productivity growth, world prices of exports and imports, and changes in capital flows.

The real exchange rate of Vietnam and other Asian economies against the dollar
In this section, we look at the change in the real and nominal exchange rates of the dong and several other currencies against the dollar, as well as overall trade balances. We start at the end of 2010 as a base up to year-end 2019. The year 2020 does not have complete data and
in any case, is distorted by the coronavirus shock. The gross domestic product (GDP) deflator is used as a measure of inflation for all countries. The expected nominal rate in 2019 is the ratio of the Asian country GDP deflator divided by the US deflator multiplied by the initial exchange rate in 2010. All deflators are set with 2010 as the base year. In other words, we see whether the currency has adjusted for changes in relative inflation or whether the currency has differed from that expected level (see Figure 1).

The expected change in these exchange rates against the US dollar is based on the usually higher rate of inflation in Asian economies. An exception is Malaysia, which had a lower inflation rate than the US; therefore, Malaysia’s expected currency should have appreciated or strengthened. In fact, it depreciated by nearly 30%. Thailand had nearly the same inflation rate as the US and kept its currency fairly stable in nominal terms, about what theory would predict. India, Indonesia and the Philippines all had actual depreciation well above expected levels justified by inflation differences. Vietnam, in contrast, had nearly 40% higher relative inflation, but the currency depreciated by only 24%. Therefore, the dong appreciated in real terms, curbing exports. If this is currency manipulation, it is the opposite of giving exporters an unfair advantage. The VND exchange rate in 2020 fluctuated but changed very little, staying close to VND 23,170 for USD 1, although Vietnam’s inflation rate continued at a higher level in 2020 than that of the US. According to public exchange rate data, the dong appreciated again in late 2020 and early 2021.

If we focus on Vietnam, the trade balance by year starts in 2010 with many years in deficit or a near balance but moves to increasing surpluses after 2015, as shown in Figure 2. In 2020, the USD 20 billion trade surplus is nearly 6% of the GDP, which was USD 340 billion (International Monetary Fund, 2021a). This is a large surplus by most standards, which normally falls into a range of a few percent of the GDP. For example, China’s 2019 trade surplus was 3% of the GDP. On the other hand, Germany’s 2019 trade surplus was 6.7%, and the Netherlands was 8% of the GDP. However, Germany and the Netherlands use the euro that covers many countries. The Euro Zone as a whole has a surplus of less than 2%. In 2019,
Switzerland, also cited for currency manipulation, had a trade surplus equal to 5%. However, Vietnam’s 2020 current account balance was projected by the IMF to be only 2.2% of the GDP, down from 3.8% in 2019. The current account balance includes goods and services, as well as transfers and net income and asset payments flows. A surplus of 2% of the GDP is not normally regarded as excessive (International Monetary Fund, 2021b).

The US Treasury argues that the increasing overall trade surpluses since 2015 should have resulted in a stronger dong. In fact, the real dong to dollar exchange rate was roughly stable, as the data below indicate. Can this be justified, or is it due to operations by the State Bank of Vietnam? First, we have to know the real exchange rate of the dong against the dollar. It is shown in Table 1.

The table shows an essentially stable real exchange rate against the dollar, with the 2016 value and the 2020 value virtually the same [7]. Therefore, the real value of the dong did not cause big changes in the US trade surplus. However, the overall trade surplus, and especially the US bilateral deficit, grew substantially from 2015 to 2020. Clearly, the US’s move to impose tariffs on China’s exports, along with rising wages in China, [8] caused many exporters, especially but not only from Asia, to shift at least some of their production to Vietnam. Since 2015, FDI flows grew from about half a billion dollars a month to more than USD 1 billion a month. Many of these FDI exports were destined for US markets. As a result,
the bilateral trade deficit grew from USD 31–32 billion in 2015 and 2016 to USD 70 billion in 2020 (U.S. Census Bureau, 2021a).

A stable real exchange rate is not what theory predicts from growing trade surpluses. If more dollars and other foreign currencies are earned through exports and capital inflows than are spent on imports and capital outflows, the real dong exchange rate should appreciate. In fact, the State Bank of Vietnam has to effectively buy dollars (increase foreign exchange reserves) to keep the real exchange rate stable. This increases credit and money supply growth, adding to inflationary pressures and quite possibly lowering bank loan quality [9]. Therefore, allowing real appreciation in the dong might actually reduce macroeconomic management problems. Weaker laws and regulations could make it easier to save or invest abroad.

Vietnam, for its part, has to decide how to respond to charges of currency manipulation. The government could agree to buy US products that are competitively priced but will and should be reluctant to buy goods that are too expensive or unwanted. It is not likely that such “Buy American” campaigns will close the bilateral gap. But that could lead to tariffs imposed on Vietnam’s exports to the US. A temporary argument is that Vietnam foreign exchange reserves are not high relative to imports. Many nations hold foreign exchange reserves as a buffer or insurance against emergencies or falling export prices. Vietnam is on the low end of reserves relative to its imports, as shown in Figure 3.

Vietnam could argue that it too wants reserves worth 7–11 months of imports, but this will buy only a limited amount of time, especially if the country’s trade surplus keeps growing. Vietnamese exports increased by 22% and imports by 26% in the first quarter of 2021. Thus, the trade gap may begin to narrow this year if the trend holds up (General Statistics Office of Vietnam, 2021a). Vietnam has the following options:

1. Keep its real currency value stable and accept higher tariffs.
2. Keep its real currency value stable and try to import more from the US.
3. Allow its currency to appreciate to reduce the country’s trade surplus.
4. Have modest real appreciation and try to negotiate with the US to avoid tariffs.

![Figure 3](image_url)

**Note(s):** Data from Asian Development Bank is licensed under CC BY 3.0 IGO

**Source(s):** Asian Development Bank, 2020
The first option is unattractive. Exports are running at USD 24 billion a month and a quarter are to the US. Tariffs imposed on Vietnam by the US would reduce exports and make the country a less attractive destination for FDI. Unemployment would increase [10].

The second option is difficult to implement. In 2020, according to US data there were only USD 10 billion in US exports to Vietnam and USD 80 billion in exports (including freight and insurance) from Vietnam to the US (U.S. Census Bureau, 2021a). It is hard to imagine identifying a sufficient number of US exports to substantially close the nearly USD 70 billion gap. Some increased imports from the US might make negotiating easier, however.

The third option has advantages and disadvantages. The biggest advantage is that this option would reduce inflation as imports got cheaper and real wages rose due to lower import prices in dong. For instance, if the exchange rate strengthened from VND 23,000 to 21,000 per USD, import prices in dong should drop about 9%. If the goal of economic growth is to increase consumption, currency appreciation supported by a trade balance or a small surplus should be welcome. However, a stronger currency would mean farm incomes would suffer, as rice, fish and coffee are traded internationally. Farmers would get fewer dongs per dollar for their exports. Farmers have low incomes, and about a million workers a year are leaving agriculture as it is. Depressing the prices of farm products might cause either an even greater outflow of workers from agriculture or lower incomes for families with incomes that are already much lower than those of urban factory workers [11]. Large numbers of workers leaving farming each year would put heavy stress on urban infrastructure and could increase social instability. A stronger currency might also mean fewer urban factory jobs if productivity did not increase to offset higher wage costs in dollar terms. It would make it even harder for local firms to compete with competition from other member states of Association of Southeast Asian Nations (ASEAN) and China.

The fourth option is a compromise. Negotiating with the US might be desirable for economic and other reasons. Allowing modest appreciation while buying more US goods would show good faith. If the US wanted a strong and independent Vietnam, the US might agree to some deal without the deficit completely vanishing. However, the new US administration could push for labor or environmental concessions, such as less pollution or controls or carbon. It would be up to the Vietnamese government if the terms of any deal were worth the costs. An important additional consideration is that tariffs on Vietnam’s exports also hurt Vietnam’s suppliers. Many firms in Taiwan, South Korea and Japan provide inputs for exports to the US worth far more than Vietnam’s value added. The US might be reluctant to antagonize so many allies when it wants to balance China’s increasing assertiveness.

It seems that the US Treasury selected a version of the fourth option. On April 16, 2021, the U.S. Department of the Treasury (2021) announced that due to insufficient evidence of currency manipulation for unfair advantage, the US would not impose tariff. However, the monitoring and discussions will continue.

Value added and exports
Several studies have shown that the value added in the fast-growing electronic export sector is low, for instance, in the case of Intel where local value added mainly comes from other foreign firms (Huynh, Huynh, Nguyen & Do, 2018). Fewer physical inputs are produced in Vietnam compared to other exporting countries, and Vietnamese firms are rarely major providers of inputs to many assembled exports. A 2018 Japan External Trade Organization’s (JETRO) report stated that for all manufactured exports, Vietnam provided 34% of inputs locally compared to 57% for Thailand and 68% for China (Huynh, 2018). This leads to assembly investment that is less likely to remain in Vietnam and makes it more likely that if labor costs rise, the factories will move. This is recognized by the government which recently stated it hoped to increase value added in exports (Lan & Huy, 2021). Although the
government said the local value added was 37% in electronics, much of this comes from foreign companies that brought their suppliers to Vietnam rather than from Vietnamese firms. These suppliers tend to follow the major FDI exporters to any country they move to.

The question this raises for currency management is what strategy supports increasing the value added? First, the level of the dong within any likely range is not a primary driver of firms’ technical level. Investments in infrastructure, education and training, and research as well as access to capital, and administrative reform would all support local firms as they attempt to insert themselves more deeply into global value chains. Having said this, some real appreciation might discourage more simple assembly industries and spur local firms to raise productivity, if support policies helped the firms. In the 1980s, Singapore adopted a similar strategy to limit basic assembly and promote value (Macleod & McGee, 1995). With the slowing growth of the overall labor force, some modest real appreciation would also encourage younger farm workers to consider higher-productivity non-farm jobs and boost the non-farm labor supply. Reducing inflationary pressures and credit bubbles would also help overall macro-management. However, lower farm prices in dong from a stronger currency would hurt agricultural producers and accelerate movement out of the countryside into cities. Urban development policies and regional transfers would have to change to reflect such increased flows into urban areas.

The right policy mix depends on the pace of change – not only in the currency but also in the modernization of agriculture and Vietnamese firms that supply parts for exporters [12]. Vietnam should not mind if it is able to make changes in its real productivity and its currency strengthens as a result. For many years, the Japanese yen was held at JPY 360 to USD 1, but it has strengthened to JPY 105 to USD 1, reflecting Japan’s productivity growth. Similarly, the South Korean won was more than KRW 1800 won to USD 1 in the 1990s and more than KRW 1500 in the 2000–2010 period but is now close to KRW 1100. The real value of the Vietnamese dong has increased since 2010. The main challenge is to make improvements in the real economy and productivity, and to have the currency match those changes. If there is a trade or balance of payments surplus, it is not hard to let the currency appreciate. What requires skill is coordinating the real economy with such appreciation.

Conclusion
Vietnam has benefited from rising US-China trade tensions and growing costs of labor in China. As a result, Vietnam’s exports, as well as its trade surplus, have grown rapidly. The changes in the real exchange rate in the last several years have been very modest and could not have contributed much to this growth. However, by holding the real exchange rate stable against the dollar, Vietnam has attracted the attention of the US which is upset with the growing bilateral trade imbalances. Of course, the US largely caused these growing deficits by placing tariffs on Chinese exports, thus directing FDI into Vietnam and other countries. The US has threatened to impose tariffs on Vietnam’s exports due to what the US Treasury calls unfair currency manipulation. Heavy tariffs would damage Vietnam’s economy.

It is ironic that the Trans-Pacific Partnership, which Vietnam joined and the US withdrew from, has provisions for dealing with currency issues like this. Had the US joined, there would have been a structured way to deal with this complaint. When real interest rates on government bonds are below zero in the US, and nominal interest rates are negative in Europe, it is hard to argue what constitutes currency manipulation. After Vietnam achieves a comfortable level of foreign exchange reserves relative to its imports, the government will have to decide what combination of currency change and domestic structural reforms will be best. This will be a complex assessment. Larger foreign policy considerations and important economic groups will have to be weighed.
Notes

1. Germany has run surplus of 7–8% of their gross domestic product (GDP) year after year, and this is viewed by the European Commission as more than sustainable (Wagner, Seythal & Carrel, 2019). Of course, Germany uses the euro as its currency, and this is set to account for other economies with less impressive export records.

2. The International Economy (2016) surveyed 30 experts on the impact of currency devaluation. Most agreed it has some impact, often in the short and long run if the economy does not rely too much on commodity exports and if the real depreciation is not inflated away.

3. A negative real interest rate is when the interest rate is less than the inflation rate; a negative nominal interest rate is when you get back fewer units of currency than you pay to buy the bond.

4. This policy was adopted in 2011 and stopped in 2015, but the Swiss Central Bank continued to keep the Swiss franc weaker than it would be without intervention, earning the country the designation of currency manipulator in December 2020 (along with Vietnam). High trade surpluses and growing foreign exchange purchases were cited. This designation was removed in April 2021 (Yueh, 2015; Lawder, 2020). The Swiss currency intervention was 14% of the GDP, while the US Treasury threshold is 2%. For an explanation of the Swiss currency management, see Jordan (2016).

5. Switzerland has run trade surpluses of 5–10% of the GDP since 2010 (World Bank, 2020a).

6. Vietnam had trade deficits in 2010, 2011 and 2015 and virtually balanced trade in 2012 and 2013. The base year does not indicate an over-depreciated currency (World Bank, 2020b).

7. The real effective exchange rate takes into account the currencies of major trading partners, different inflation rates and other trade barriers. It is the best overall indicator of a currency’s total change in real terms.

8. Analysts argue that US-China trade tensions contributed to Vietnam’s exports to the US (Martin, 2021). Manufacturing wages in China rose from 30.7 thousand Yuan per year in 2010 to 78.1 thousand in 2019. In dollars, wages increased from USD 4637 to USD 11,180. In Vietnam in 2019, industrial wages were VND 5.76 million per month or about USD 3000 per year, rising to USD 3600 in 2020 (Trading Economics, 2021).

9. Broad money supply (M2) relative to the GDP grew 14 percentage points from 2010 to 2015 when trade surpluses were low or negative and added 44 percentage points from 2015 to 2019 when they grew (Asian Development Bank, 2020). When the money supply increases rapidly, there may be growing credit quality problems.

10. According to a Reuter’s story, in January 2021 the State Bank of Vietnam offered to buy dollars in the forward market to keep the dong from appreciating. This allows the State Bank to avoid triggering a US Treasury condition by not intervening in spot currency markets by buying dollars (Nguyen & Westbrook, 2021). However, such ingenious policies may not prevent tariff action.

11. Agricultural output per agricultural worker in 2019 was lower than non-farm output per non-farm worker in 1990. In 2019, agriculture accounted for 34% of active workers but only 14% of output, implying the income per worker was only a third of the non-farm average.

12. Looking further out, some Vietnamese firms will sell consumer products directly like Samsung does with smartphones. However, this will not likely be a major factor in the next five years.

References

Arslan, Y., & Cantú, C. (2019). The size of foreign exchange reserves, available at: https://papers.ssrn.com/abstract=3497858 (accessed 18 April 2021).

Asian Development Bank (2020). Key indicators for Asia and the Pacific 2020, available at: https://www.adb.org/publications/key-indicators-asia-and-pacific-2020 (accessed 18 April 2021).

General Statistics Office of Vietnam (2021a). Socio-economic situation in the first quarter of 2021, available at: https://www.gso.gov.vn/en/data-and-statistics/2021/04/socio-economic-situation-in-the-first-quarter-of-2021/ (accessed 18 April 2021).
General Statistics Office of Vietnam (2021b). Socio-economic situation in the fourth quarter and the whole year 2020, available at: https://www.gso.gov.vn/en/data-and-statistics/2021/01/socio-economic-situation-in-the-fourth-quarter-and-the-whole-year-2020/ (accessed 18 April 2021).

Huynh, B.-C. (2018). Supporting industries in Vietnam. Vietnam Briefing, available at: https://www.vietnam-briefing.com/news/supporting-industries-vietnam.html/ (accessed 18 April 2021).

Huynh, T.-D., Huynh, T.-D., Nguyen, X.-T., & Do, T.A.-T. (2018). Intel products Vietnam: 10-Year investment impact study report 2006-2016, available at: https://ispmm.fullbright.edu.vn/en/policy-papers/policy-research/intel-products-vietnam-10-year-investment-impact-study-report-2006-2016/ (accessed 18 April 2021).

International Economy (2016). Is currency devaluation overrated?. The International Economy Winter 2016, available at: http://www.international-economy.com/TIE_W16_CurrencyDevalSymp.pdf (accessed 18 April 2021).

International Monetary Fund (2021a). Vietnam: 2020 article IV consultation-press release; staff report; and statement by the executive director for Vietnam, available at: https://www.imf.org/en/Publications/CR/Issues/2021/02/24/Vietnam-2020-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-50121 (accessed 18 April 2021).

International Monetary Fund (2021b). World Economic and financial surveys, world economic outlook database, available at: https://www.imf.org/en/Publications/WEO/weo-database/2021/April/select-country-group (accessed 18 April 2021).

International Monetary Fund (2021). U.S. Treasury lists Switzerland and Vietnam as currency manipulators. Nasdaq, available at: https://www.nasdaq.com/articles/u.s.-treasury-lists-switzerland-and-vietnam-as-currency-manipulators-2020-12-16 (accessed 18 April 2021).

Macleod, S., & McGee, T.G. (1995). The Singapore-Johore-Riau growth triangle: An emerging extended metropolitan region. In Lo, F., & Yeung, Y. (Eds.). Emerging World Cities in Pacific Asia. United Nations University Press, available at: https://archive.unu.edu/unupress/unupbooks/uu11ee/uu11ee19.htm#the%20singapore%20johore%20riau%20growth%20triangle%20an%20emerging%20extended%20metropolitan%20reg (accessed 18 April 2021).

Martin, M.F. (2021). Vietnam’s economy and U.S. Trade: Key Issues in 2021, available at: https://crsreports.congress.gov/product/pdf/IP/IP11753 (accessed 18 April 2021).

Nguyen, P., & Westbrook, T. (2021). Exclusive: Vietnam intervened in currency markets weeks after U.S. Censure: Sources. Reuters, 11(February), available at: https://www.reuters.com/article/us-vietnam-forex-intervention-exclusive-idUSKBN2AB114 (accessed 18 April 2021).

Trading Economics (2021). Wages in manufacturing, available at: https://tradingeconomics.com/country-list/wages-in-manufacturing?continent=asia (accessed 18 April 2021).

U.S. Bureau of Economic Analysis (2021). Gross domestic product: Implicit price deflator, available at: https://fred.stlouisfed.org/series/GDPDEF/ (accessed 18 April 2021).

U.S. Census Bureau (2021a). Foreign trade - US trade with Vietnam, available at: https://www.census.gov/foreign-trade/balance/c5520.html (accessed 18 April 2021).

U.S. Census Bureau (2021b). Trade in goods with Switzerland, available at: https://www.census.gov/foreign-trade/balance/c4419.html (accessed 18 April 2021).

U.S. Department of the Treasury (2021). Treasury releases report on macroeconomic and foreign exchange policies of major trading partners of the United States, available at: https://home.treasury.gov/news/press-releases/jy0131 (accessed 18 April 2021).
Wagner, R., Seythal, T., & Carrel, P. (2019). Germany to run world’s largest current account surplus in 2019 – Ifo. *Reuters*, available at: https://www.reuters.com/article/germany-economy-trade-idUSL5N2641DF (accessed 18 April 2021).

World Bank (2020a). Switzerland trade, world integrated trade solution, available at: https://wits.worldbank.org/countrysnapshot/en/CHE (accessed 18 April 2021).

World Bank (2020b). Vietnam trade, world integrated trade solution, available at: https://wits.worldbank.org/countrysnapshot/en/VNM (accessed 18 April 2021).

Yueh, L. (2015). Swiss franc soars as Switzerland abandons euro cap. *BBC News*. available at: https://www.bbc.com/news/business-30829917 (accessed 18 April 2021).

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