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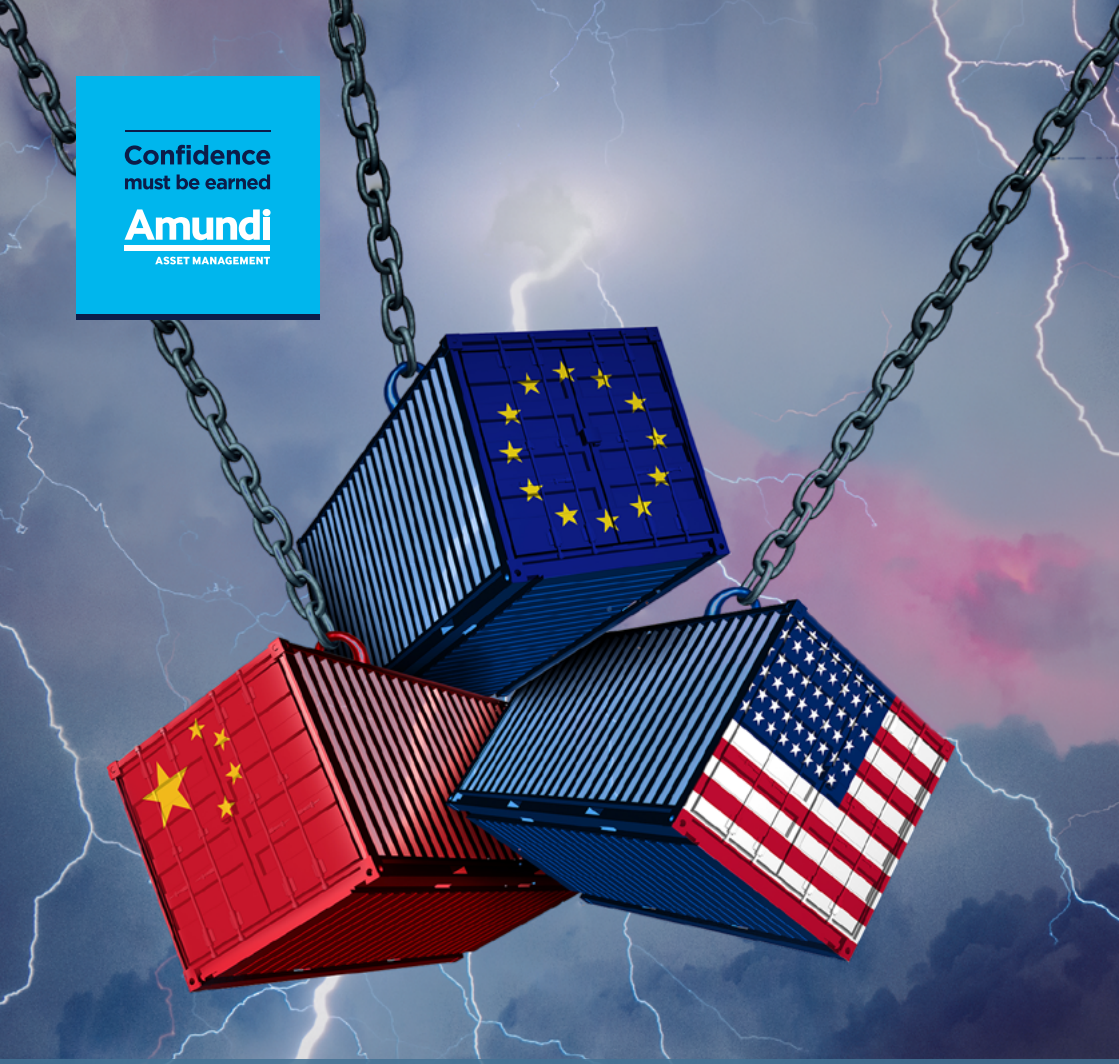

Discussion Paper | CROSS ASSET Investment Strategy

DP-35-2018

Global Trade War: Where Do we Stand Now? What Impacts?

Research & Macro Strategy

Global Trade War: Where Do we Stand Now? What Impacts?

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First version: October 2018 (*) - This version: November 2018

Abstract

2018 will remain a landmark year, one that goes hand in hand with an increase in trade tariff measures and that marks the intensification of the trade dispute between the United States and countries such as China, Mexico and Canada in particular. It could also be the year that marks the beginning of a real trade war. We are not there yet, if we consider the current situation as being rather a war "United States against the rest of the world", but also if one relies on the level of the increases of the tariffs, far removed from those prevailing in previous trade wars. Nevertheless, given the increased importance over the decades of the indirect effects of tariff increases (impacts on risk aversion, perception of the risk of a global trade recession but also of global growth, wealth effects

> "With a "classical" trade war, the impact would be similar to the damages during the Great Recession of 2008-2009, and it could be much worse for the very open economies."

(*) The first version of this article had been prepared for an Amundi Advisory Board meeting (24 October 2018). The author would like to thank all participants for their valuable comments

Keywords: trade war, protectionism, Trump, retaliation, tariffs

linked the potential impact on the financial markets, lower confidence indices and therefore consumption and investment ...), there is already something to worry about, and all the more so that dominates the impression that D. Trump is not going to stop there.

With a 10% increase in all tariffs in the world, global growth would be cut by 1%, US growth by 2%, and global trade by 2.5%. The losses could amount to 3 to 4 points of GDP (in the United States, China and Europe) if the current situation evolve to a "classical" trade war (a sharp rise in all tariffs similar to the previous trade wars) with a significant impact on financial markets and confidence. The impact would be similar to the damages during the Great Recession of 2008-2009, and it could be much worse for the very open economies. One can even fear until the disappearance of the WTO, a potential collateral damage of an intense trade war.

Some people think that the world of free trade may be in the process of switching, considering the new context of protectionism as a major disruption. This is not totally surprising. Will Trump continue his current strategy, or will he do like G. Bush in 2002, who had retreated in the face of Europe's retaliation and the sanctions announced by the WTO? The time will tell us very quickly...

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Executive Summary

1. Non-cooperative behaviour (use of protectionism, tariffs and non-tariffs measures) is very common in the phases of economic stagnation and stagnation of world trade*: one of the ways to gain market shares in stagnant markets is to curb the exchanges… of the partners. It is precisely the environment all countries currently face.*

2. As regard protectionism, 2018 will certainly be considered as a landmark year*. In the past decade, namely since the Great Financial Crisis of 2008, non-tariff measures proliferate especially in China, in Russia and in the US. However, in 2018, the US went one step further: US tariffs on some goods have increased significantly, and are now averaging 3% (a very low level in historical standards, though), twice that of Canada or Australia, and a similar level to that of some emerging countries such as Russia, Indonesia and Turkey… They are no longer very far from that of China. The average tariffs in the European Union are 2% while Korea and Brazil have the highest average tariffs (8% and beyond). It is not a real trade war… so far. But many observers tend to consider the recent tensions represent the beginning of a new era of protectionism, retaliation, and trade war.*

3. How to define a trade war? *Four elements are crucial. First, in a trade war, countries have to face attacks and ripostes, i.e. tariffs and retaliation. Second, the magnitude of measures is also important: they have to be large enough to seriously impact exports, global trade and GDP growth. Third, the measures implemented have to be in line with the ones which prevailed in the previous trade wars. It is not the case so far. And fourth, for a trade dispute to become a war, it has to be global: until now, the trade war is still bilateral (between the US and part of the world) – not multilateral. For example, The European Union and Japan (one third of the world economy), have a free trade agreement. Until now, there is still a widespread desire for free trade.*

4. How to define the impacts on growth? *The direct effects are relatively easy to calculate they depend on the volumes affected by tariffs, magnitude of tariffs, price-sensitivity of exports and imports). Indirect effects are in some cases much more important and damaging: impacts on confidence (consumption and investment), risk aversion, financial markets reaction and potential wealth effect, capacity to substitute these products by alternative sources (other countries).*

5. US imports and US deficit: a matter of cars and China*. The US face the tremendous explosion of Mexican exports of vehicles since the mid-1990s, the logical result of the signing of the NAFTA treaty. Imports of vehicles (cars, trucks, buses and auto parts) are crucial in US trade, and for its deficit. It is the flagship product of many trading partners, such as Mexico, Germany,*

Japan, Korea and Canada. The automotive sector is also a key sector in the political arena: Swing States, which are crucial in elections, have a significant portion of the sector-related electorate (above average), making it a prime mock for protectionist measures.

***6. The new NAFTA: D. Trump had a successful strategy**. The goal of modernising NAFTA was twofold: (i) Change the terms of the agreement to encourage manufacturing firms to invest more in the United States and less in Mexico; ii) Make the North American zone more homogeneous so as to discourage China from using Mexico as a platform for assembling goods made from Chinese inputs. It's done.*

***7. The current US – China trade war is worrying.** It is often perceived as the first step of a global trade war. The direct effect is relatively marginal, but indirect effects can be major: expectations of a global slowdown, a downfall of financial markets, impacts on confidence, consumption and investment… For central banks also, it is a concern: a scenario of "trade war" would add to the global uncertainty at a time when some central banks have just abandoned the unconventional measures. A further structural shock to productivity may cause the central bank (given the already low rates) to resort to unconventional measures again.*

***8. The current US-China trade war is not necessarily efficient.** This is due to the low price-sensitivity of US exports to China and US imports from China. In other words, would it not be more "reasonable" and effective to force China to open its markets to be able to export more? Instead of setting up tariffs (towards China and the rest of the world), would not it be better to have allies (Europe, Japan…) and to intervene via the WTO? There will probably be no winners at the end. The measures call for retaliation… and disinhibit some leaders of emerging countries who may no longer hesitate to wave the commercial weapon as a bargaining tool.*

***9. The China-US trade dispute is a long-term issue, with huge collateral risks.** It might represent the trigger for a broader change in the bilateral relationship. Note that, despite the rivalry and the ambitions of China and the defensive attitude of the US, and considering the complementarity of the two economies, there is still an important potential for trade and investment cooperation. Moreover, due to their size, role and influence, these two countries have major responsibility to maintain the stability of the global trade order (functioning, agreements…). Solving trade conflicts through multilateral mechanisms would be collectively more efficient.*

***10. Will Europe benefit from the US-China trade dispute or will it be the next target for the US?** China was far from being the only supplier of the United States for many of the products to be impacted by the new tariffs. If the US consumers decide to switch from Chinese products to other exporters,*

then the regions that should benefit the most from the US-China trade war are the three that are already exporting the most to the United States after China: Canada, Mexico and the Eurozone. However, an increase in US tariffs on cars imported from Europe (from their current level of 2.5% to 20% or 25%) would have very unequal consequences for Eurozone countries, but in net terms, the trade war would have negative consequences for European growth.

11. Exports are vital for the EU, but much of the trade is intra-EU trade, protecting many countries from an external trade war (from direct impacts only though). *Even if one-third of EU trade is with the US and China, intra-EU trade is largely dominant for the Member States. And Germany's role is major in EU trade : Germany is indeed the main export and import market for a majority of Member States. When this is not the case, it is most often another member of the European Union which plays this role. The risk for all these countries, and for the EU as a whole, is essentially that Germany is strongly weakened by trade disputes or intensified fears of trade war: indirect impacts of a trade war would represent, by far, the major driver for a decline in GDP growth, trade and employment.*

12. Will Trump continue on the path of protectionism? *If one refers to its commitments and declarations, the trade war should be amplified, with regard to China and especially to Europe. The results of mid-term elections will not suffice to calm Trump's protectionist ambitions. Yet, if we refer to history, blockages may well appear soon. In 2002, Bush had retreated from fears of retaliation from trading partners, the first signs of the negative effects of protectionist measures on the US economy, and also from a heavy penalty promised by the WTO.*

13. The history and the US trade wars shows that the risks of retaliation and the negative effects of protectionism have each time pushed back the protectionist waves... but that did not prevent damages in terms of growth and jobs*. All major trade war episodes (the "Tariff of 1828" – also known as the "Tariff of Abominations", the "Morrill Tariff" of 1861, the "Fordney – McCumber Tariff" of 1922, the "Smoot – Hawley Tariff Act" of 1930, the "US – Japan Trade War" of the 1980s, the "US steel tariff" of 2002) point to the same conclusions. The US – Japan trade war of the 1980s, for example, which highly resembles to the current trade war with China, illustrates the inefficacy of the "get tough" strategy of the 1980s and early 1990s: the effort to negotiate the trade deficit down through trade policy did not really work.*

14. In the current world with deep supply chains, a trade war would be much more costly than in a conventional world. *In a conventional world (in the "ancient" world), a tariff only reduced efficiency at the margin as it relocated production from foreign to domestic firms who in the initial equilibrium have equal costs. In a deep supply chain world (as it is the case*

nowadays), a tariff does not have to be considered as a "simple" tax on imports: tariffs also raise the costs of production of domestic firms.

***15. The "get tough" strategy of D. Trump is highly questionable**. If we refer to recent periods only, it did not work in the 1980s (with R. Reagan), and it did not work in 2002 (with G.W. Bush), and it should not be more successful at present, for at least four reasons: 1) since the end of the Cold War, the power is shared and the US power has declined (it was not the case in the 1980s); 2) the supremacy of the US over Japan was much higher at that time than its supremacy over China at present; 3) The share of the US in most of their trading partners'exports has declined sharply; and 4) as a member of the WTO - should it is still of some importance for the US - the US ability to apply unilateral trade sanctions to individual trading partners appears fairly limited. In other words, it would have been more "reasonable" and more efficient to force China to open its markets - to be able to export more – via the WTO. Instead of setting up unilateral tariffs, it would have been better to have allies (Europe, Japan…) and to intervene via the WTO.*

***16. Trade war and impact on GDP growth: one can identify different transmission channels**: the dependency on trade; the ability to substitute for countries whose exports are subject to tariffs; the importance of imports as inputs on exports; the intensity of the trade war; the impact on the confidence indicators (consumers and businesses) that determine the dynamics of economic activities (consumption and investment); the impact on the financial markets: a trade war is a common factor to numerous economies, it is not a specific factor. It is therefore an ideal element for generating widespread declines in the financial markets, with potential impacts on the economic activity.*

***17. Trade war and impact on GDP growth:** The current dispute (US – China, US – Mexico/Canada, US – Europe) is not a real trade war… so far. Direct impact of current US tariffs on China is not expected to have dramatic consequences but indirect effects should not be underestimated. Our calculations and other studies mention the losses following a trade war depending on its intensity: Tariffs on autos against Europe could force to cut growth prospects in Europe by 0.3-0.5%: Germany and Slovakia would be hurt the most, and France would not be hurt. A 10% tariffs on all goods (at the world level) would cut global growth by 1%, US growth by 2%, and global trade by 2.5%. The losses could amount to 3 to 4 points of GDP (in the United States, in China and Europe) if the current situation evolve to a "classical" trade war (i.e. a sharp rise in all tariffs) with a significant impact on financial markets and confidence. The impact could then be similar to the damages following the Great Recession of 2008-2009, and it could be much worse for the very open economies.*

***18. Trade war: no winner(s), only losers.** All the simulations completely call into question the US assertion that the EU and China would be the only losers in a trade war.*

19. The tariffs adopted so far should have little impact on global growth unless sudden major risk aversion. *The new US trade policy undoubtedly entails downside risks to economic growth and inflation, to name a few impacts, but the magnitude of the risks depends on the intensity of the trade war. The risks are also limited as long as the "trade war" is kept bilateral – i.e. between the US and the rest of the world – not multilateral. Free trade is not rejected in most countries: the EU and Japan, for example, have a free trade agreement that covers one third of the world economy. History recalls that one should ever underestimate the impact of public opinion on governments when negative impact of protectionism surfaces.*

20. Multiple scenarios are possible, but four distinct scenarios seem to emerge. *A total, global trade war affecting all countries, the most dangerous for global growth and trade (scenario # 1: probability 5%); a scenario of trade war between the United States and a large part of the rest of the world, which preserves the free trade that prevails between them (scenario # 2: probability 15%); as R. Reagan did in the early 80s and G. W. Bush did in 2002, the abandonment of Trump's protectionist temptations (inefficient measures, first negative impact on US growth, WTO sanction, retaliation form partners...) and a return to calm (scenario # 3: probability 30%); and finally a scenario in which the next wave of protectionism would almost exclusively affect Europe, especially the automobile sector. Such a scenario would impact Euro zone growth (a drain of 0.3% for the zone), with a stronger impact on Germany, Slovakia and Czech Republic (scenario # 4: probability 50%). Note that different scenarios may succeed one another: scenario # 3 could occur in a second step, following scenario # 4, which seems to be at present the most probable immediate step.*

21. The end of WTO? *D. Trump is in favour of bilateralism and not a fan of multilateralism (UN, NATO, WTO are systematically criticized...). The existence of WTO is at risk at present and could be a collateral victim of the current trade dispute between the US and China (US and potentially the rest of the world). Without necessarily leaving the WTO, by "simply" bypassing normal operating procedures, blocking the appointment of judges in charge of conflict resolution, or continuing to criticize its operation and challenge its credibility and usefulness, the United States has very clearly the capacity to permanently weaken the WTO... or to change its operating rules. On the other hand, a real trade war would probably mean the end of the WTO.*

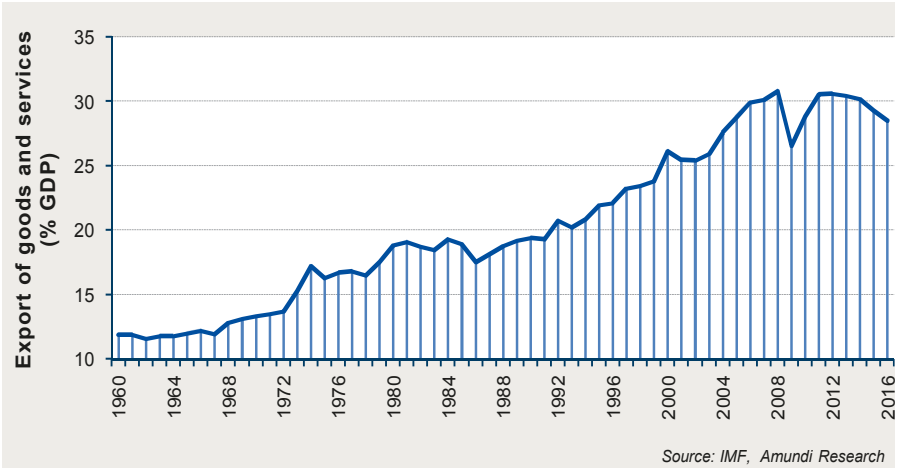
Introduction

History recalls several facts:

- **Free trade waves have most often been accompanied by phases of economic expansion and progress**;
- **Non-cooperative behaviour (use of protectionism, tariffs and non-tariffs) is very common in the phases of economic stagnation and stagnation of world trade**: one of the ways to gain market shares in stagnant markets is to curb the exchanges... of the partners;
- **In protectionist phases, there are rarely winners; there are usually only losers**. Protectionist measures have a negative impact on the global economy, including the country imposing them. In the worst-case scenario, when countries engage in a total trade war, and protectionism eventually becomes an instrument of economic policy used by all, it still creates recessionary pressure on the world economy;
- In other words, **if the interdependence that flows from trade (goods, services, capital, human capital) has undoubtedly led to greater opportunities, it also implies greater vulnerability**.

Since the great financial crisis of 2008, the world has entered a new phase of protectionism. First, via non-tariff measures, which have proliferated in countries such as China, Russia or the United States. And secondly, the current period, with the introduction of direct and targeted tariff measures, the renegotiation of existing trade agreements, customs duties on specific products and towards well-identified countries, retaliatory measures... As a consequence, global trade plateaued (Exhibit 1).

Exhibit 1:
World Exports (% of GDP) since the 1960s



Source: IMF, Amundi Research

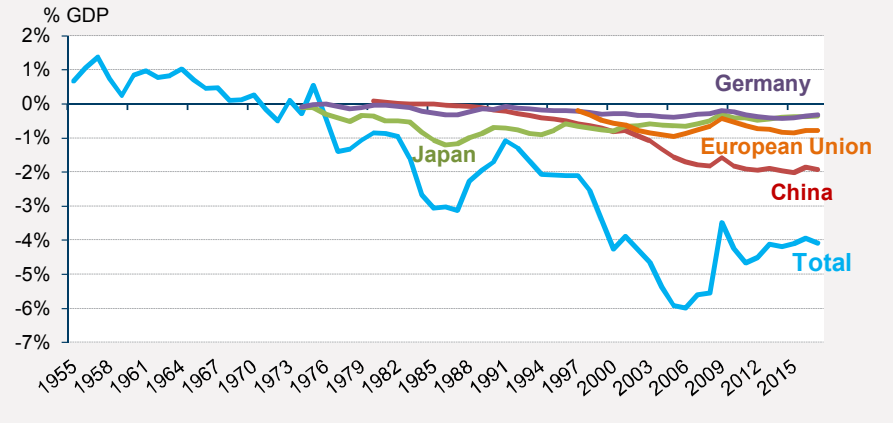
In 2017, however, global trade has shown timid signs of renewed vigour. Last year, world trade in goods grew by more than 5%, the highest rate in seven years, but was still weaker than global GDP (4%). However, the nascent resumption of trade is in danger again. The anti-globalisation sentiment that has become more pervasive since the crisis has begun to translate into concrete policy measures. Note that the public opinions back at least partially protectionist temptations: according to recent polls, 60% of French people have a negative opinion of globalisation and only 13% are favourable to a deeper trade openness. 75% of the French and 57% of Germans are favourable to greater protection against foreign competition. 47% of Americans and 36% of French people want more to be done to protect them from today's world. At the same time, 68% of the French and 55% of Germans consider that globalisation increases social inequalities. Some good reason for protectionism to be invited in the menu of electoral campaigns.

In short, protectionism is back, and with it the fears and risks of total trade war, severe diplomatic frictions, growing withdrawal, and a major decline in global growth. Where do we stand now?

I. The US trade deficit: a quick refresher

The US face a trade deficit since the early 1970s, and deteriorated gradually to 6% of GDP (for goods only) just before the Great Financial Crisis of 2008. Since then, thanks to the economic recovery in Europe and in the rest of the world, the trade deficit has been reduced to 4% of GDP (Exhibit 2). Note that the US goods trade deficit with China accounts for half of the US's overall deficit.

Exhibit 2:
The US goods trade balance (in % of GDP)

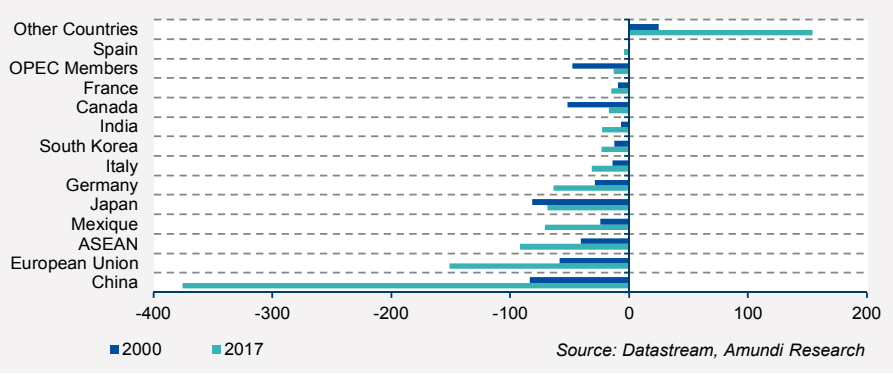


Source: Datastream, Amundi Research

The US deficit with China is almost twice as large as with the EU, while Germany (half of the EU surplus) is similar to Japan (8%-9% of the US deficit). The annual goods and services deficit is around 650 bln dollars at present.

In terms of contribution the US trade deficit, China is the main contributor, followed by the European Union, Mexico, Japan and Germany. In the recent years, the deficit with China, Mexico and Germany has exploded (Exhibit 3). Both US and China have substantial trade exposures: US' total trade with China is 16.9% of its total trade with the rest of the world; China's total trade with the US is at 14.3%.

Exhibit 3:
US Goods Trade Balance (USD Billion)... China and EU "guilty"

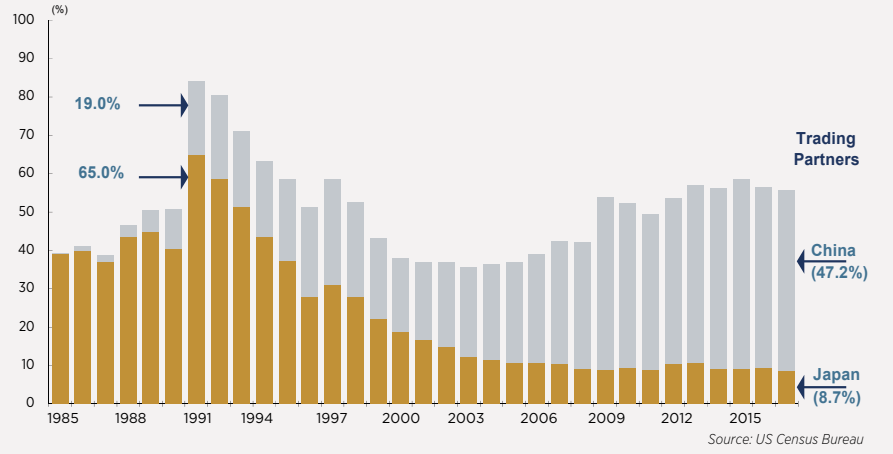


By no surprise, when the Trump Administration has decided to address this issue, it complained first against China, Mexico and Europe. Japan has massively reduced its surplus vis-à-vis the US in the past 25 years: it represented 65% of the US deficit in 1991. As Exhibit 4 points out, Japan (65% of the US deficit in 1991, less than 9% in 2017) has been "replaced" by China (47% of the US deficit in 2017). Exhibit 2 also shows that additional countries have emerged as contributors to the US trade deficit: Spain, Italy, India and South Korea, to name a few.

The US has had a large trade deficit for long, and D. Trump announced during the presidential campaign he would address this issue. He considered the structural trade deficit is the best way to prove that global trade is not fair. He also mentioned it can be reduced by increasing the cost of imports through tariffs and / or renegotiating existing agreements, if not eliminating some of them. D. Trump is not an ardent defender of protectionism, he does not advocate the end of all Treaties and agreements; in sum, he must not be considered as an isolationist. Unlike Europeans, for example, he gives little credibility to multilateral agreements (such as UN, NATO, WTO, trade agreements, etc.) that seem to him all too restrictive, too constraining. He prefers by far bilateral

agreements and discussions that allow him to better express the power of the United States in particular. He prefers national laws to international treaties, a better way, according to him, to regulate and manage international relations and trade. These are the reasons why he systematically complains against international organisations and why he considers necessary the rejection of global agreements (the Paris climate agreement as a good example) and why all trade agreements have to be renegotiated or abandoned. According to figures, the US has also comparatively low trade barriers, particularly relative to China. It was therefore easy for D. Trump to justify additional tariffs on the basis of perceived "fair trade". Last but not least, the US administration could fix new trade restrictions on China in response to the results of the Section 301 investigations of alleged intellectual property theft by China. The US could implement any measure without WTO views or authorization because they contest the legitimacy and efficiency of the multilateral institution.

Exhibit 4:
China and Japan in US trade deficit: an opposite direction



Source: US Census Bureau

II. The rise of protectionism: 2018, a landmark year

Trump's election platform was quite clear: to renegotiate existing contracts and trade agreements deemed unfavourable to the United States (like NAFTA, adopted in 1994 under Bill Clinton's administration between the United States, Canada and Mexico), challenging multilateralism and international organizations such as the UN, NATO and the WTO, forcing some countries like China to better treat its trading partners and return to "fair trade" (less opacity, better protection of companies and intellectual property...).

This part of the electoral program was quickly popular, and it was to be expected that this theme would resurface in 2018, a mid-term election year. No surprise, therefore, and all the more so since the trend towards protectionism had already begun, and not only in the United States. The last decade is indeed a time of protectionism, with the implementation of numerous non-tariff measures. Tariffs and retaliation resurfaced this year (see insert below): many countries were concerned, as well as many products. The most spectacular measures (scope of measures, renegotiation of existing agreements, threats and projects ...) are undoubtedly from the United States, but fears of a real "trade war" have intensified in recent months.

The protectionist measures of 2018: an inventory of fixtures

US tariff measures

- **January 2018**: Adoption of tariffs for washing machines and solar panels (20% on the first 1.2 million units of washing machines, 50% on the following units).
- **March 2018**: Tariffs of 25% on imported steel and 10% on imported aluminum.
- **May 2018**: Draft tariffs of 25% on car imports. Project suspended with Europe during the negotiations.
- **July 2018**: Tariffs of 25% on some Chinese imports (for a total of $ 50bn, with a first tranche of $ 34bn) and plans to impose tariffs on all Chinese imports (for a value more than $ 500 billion worth of goods).
- **August 2018**: Implementation of the second tranche of tariffs against China ($ 16 billion) and proposed tariff increase of 10% to 25% on $ 200 billion of Chinese imports. Project to double customs duties towards Turkey.
- **September 2018**: New series of measures on Chinese imports of $ 200 billion (40% of Chinese exports, or 25% of US imports).

Trade retaliation

- **Mexico**: Mexican tariffs increase from 20% to 25% on $ 3bn of US products such as cheese, steel, Tennessee whiskey, pork, apples and potatoes.
- **Canada**: Tariffs of 10% to 25% on $ 12.8 billion of Canadian goods subject to steel and aluminum tariffs.
- **European Union**: The EU plans to set a 25% tariff on about 200 US products (value $ 3.3bn)
- **China**: In response to tariffs on steel and aluminum, tariffs of about $ 3 billion for US products (wine, nuts and steel pipes, recycled aluminum and pork). Then China announced new tariffs on imports from the United States worth $ 50bn.

  After Donald Trump ordered his administration to carry the threat of tariffs from 10% to $ 200bn to 25%, China has announced tariffs of up to 25% for an additional $ 60bn worth of goods.
- Further retaliatory measures announced by **India**, **Turkey** and **Russia**.

US actions have been implemented in two waves:

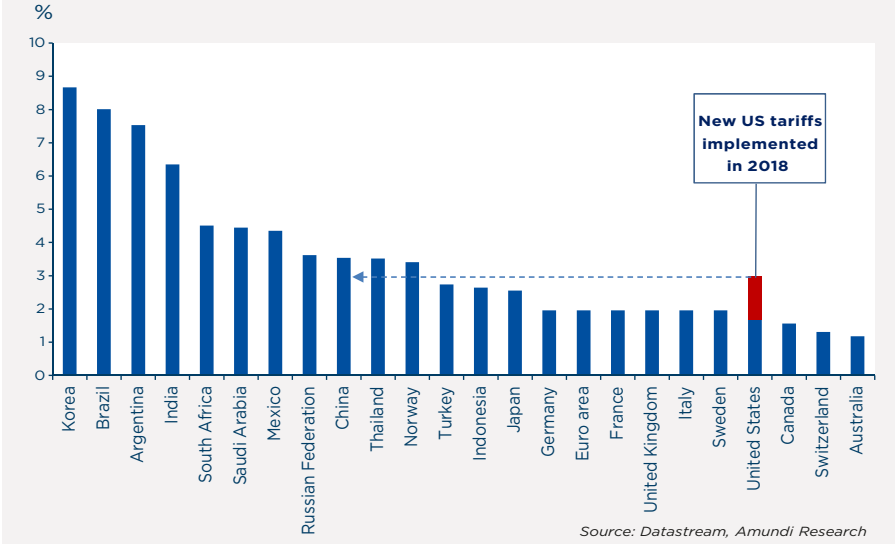
- First, a broad-based increase in tariffs on steel, aluminium, washing machines, and solar panels. A fairly modest amount in dollars terms
- Second, higher tariffs on goods imported from China.

The US justified these actions according domestic trade laws, including the Trade Expansion Act of 1962 (Section 232) and the Trade Act of 1974 (Sections 201 and 301). These trade laws are independent of WTO rules.

In total, **US tariffs on some goods have increased significantly, and are now averaging 3% (Exhibit 5), twice that of Canada or Australia, and a similar level to that of some emerging countries such as Russia, Indonesia and Turkey... They are no longer very far from that of China, on average terms only (see section 3 for a more detailed analysis)**. Remember that the average tariffs in the European Union are 2%... and that Korea and Brazil have the highest average tariffs (8% and beyond).

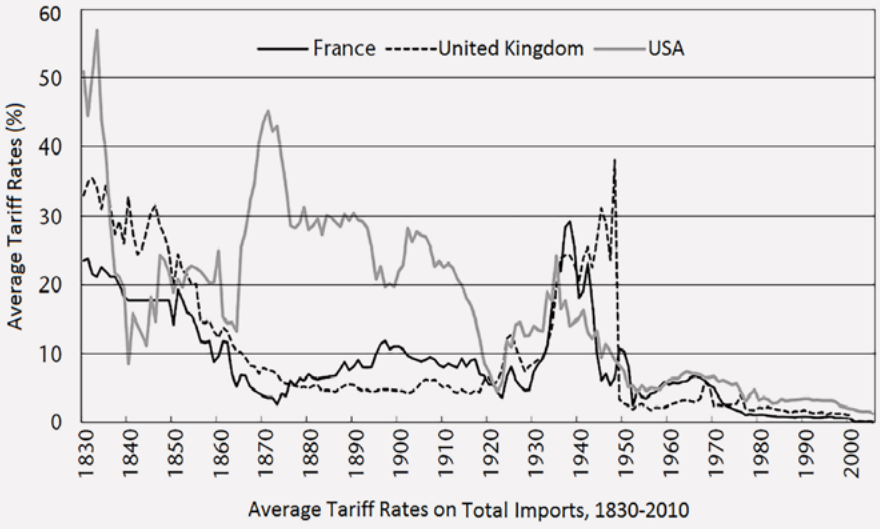
Exhibit 6 illustrates the level of US, French and British tariffs in history. Compared to the past, US tariffs remain at low levels, with an effective trade war in the 1820s, during the secession war (1860s), and in the 1930s, following the stock market crash. Europe has a long history of free-trade, except during the war periods. The least we can say is that **the current period of rising US tariffs, although soft, is, to some extent, a reversal of a long-term trend**. Another characteristic is that tariffs in developed countries are historically much lower than those prevailing in emerging countries (Exhibit 7).

Exhibit 5: G20 - Effective tariff rate
(Applied Weighted Mean, all products, in %)



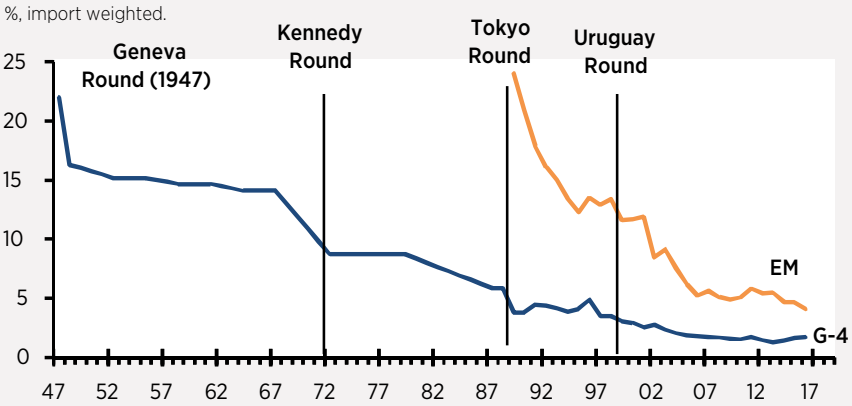
Source: Datastream, Amundi Research

Exhibit 6:
Average tariffs on total imports (1830-2010) – France, UK and the US



Sources: Imlah, Economic Elements

Exhibit 7:
Global applied tariff rates in history



Note: Data interpolated between trade rounds until 1989.

Source: J.P. Morgan, WTO, Bown and Irwin.

III. Is global trade fair... or unfair? How to measure it?

"Average" tariffs do not reflect the entire reality, and we need to compare the countries (and especially China and the US) with different angles. By no surprise, China has regional trade agreements on many goods with many Asian countries and on commodity-exporters like Australia, New Zealand, Chile, and Peru. China preserve its trade on commodities (China is the biggest commodity-consumer in the world, on many products) and preserves also all products serving as inputs on its own exports. But on the other hand, China charges high Most Favoured Nation tariffs (MFN) on Developed countries' exports, such as machinery, agricultural products, transport equipment (Table 1). Here lies the "unfair trade", should we use the D. Trump wording.

Table 1:
MFN tariff rates, US and China

	US	China
Simple average MFN	3.4	9.9
Agricultural products	5.3	15.6
Non-agricultural products	3.1	8.8
Minerals and metals	1.7	7.8
Petroleum	1.8	5.3
Chemicals	2.8	6.6
Wood, paper...	0.5	4.1
Textiles	7.9	9.6
Clothing	11.6	16.0
Leather, footwear...	3.9	13.3
Non-electrical machinery	1.2	8.1
Electrical machinery	1.5	8.6
Transport equipment	2.9	12.3
Other manufacturers	2.2	11.7

Source: WTO, Hensley – Borichevska – Kasman (2018),

We indeed do need to be even more precise, and three different measures of aggregate national tariffs can be presented (Hensley – Borichevska – Kasman (2018), hereafter referred as H-B-K).

- **A simple average of the product-level (MFN) tariff rates**. It is the highest tariff measure, because it represents what countries promise to impose on imports from another member of the WTO unless there is a preferential trade arrangement between the two countries.
- **An import-weighted average of the product-level MFN tariff rates**. Tariffs are usually lower on products imported the most, and with this method, aggregate tariff rates are lower compared to the first method.
- **The import-weighted averages of the product-level "applied" tariff rates** is even more precise, because they take into account preferential tariffs when they exist. With this method, the aggregate tariff rate moves even lower.

Some conclusions from H–B–K study (Table 2):

- The rankings of the tariff rates are very similar across the three concepts measured. Specifically, whatever the metric used, tariff rates are much lower in the developed economies than the Emerging countries;
- Within the developed world, tariff rates are clustered in a narrow range (with Japan at the high end, and Australia and New Zealand at the low end);
- For each tariff measure, the dispersion of national rates is much wider within the emerging world;
- China, India, Brazil, South Korea, Turkey, and Thailand have the highest tariff rates, no matter the metric used;
- Singapore and Hong Kong are tariff-free.

Table 2: Global tariff rates				
	MFN (Simple Average) (1)	MFN (Import Weighted) (2)	Applied (Import Weighted) (3)	(1)-(3)
Global	6.2	3.7	2.6	3.7
Developed Countries	4.0	2.8	1.7	2.2
United States	3.6	2.8	1.7	1.9
European Union	4.4	2.6	1.6	2.8
Japan	4.8	3.1	2.6	2.3
Canada	3.3	3.2	1.6	1.7
Australia	2.5	2.7	1.2	1.3
New Zealand	2.1	2.7	1.3	0.8
Emerging Countries	10.3	5.4	4.1	6.2
China	9.9	4.3	3.5	6.4
India	13.7	7.6	6.3	7.4
South Korea	13.9	8.4	5.7	8.2
Indonesia	7.2	4.7	2.4	4.9
Malaysia	5.1	3.5	1.3	3.8
Hong Kong	0.0	0.0	0.0	0.0
Singapore	0.1	0.2	0.1	0.0
Thailand	11.0	6.9	3.5	7.5
Philippines	6.3	6.5	2.3	4.0
Brazil	13.6	10.2	8.0	5.6
Mexico	7.0	4.5	4.5	2.6
Colombia	5.7	6.5	6.5	-0.8
Chile	6.0	5.9	0.6	5.3
Peru	2.4	1.8	1.8	0.6
Russia	6.8	4.6	3.6	3.2
South Africa	7.7	6.5	4.5	3.2
Turkey	10.8	5.4	2.7	8.1
Israel	4.6	3.4	2.8	1.8

Source: WTO, Hensley – Borichevska – Kasman (2018),

The tables below present some tariff rates (US and EU) on specific products, a clear indication that average tariff rates are not necessarily a good way to compare countries.

Table 3:
Some US protectionist tariffs

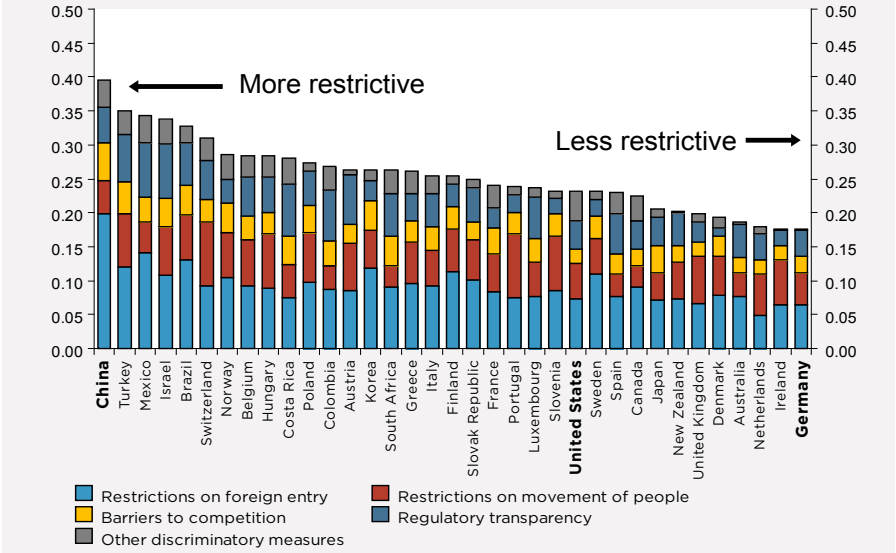
Products	Amounts of imports (in USD billion)	Amounts of customs duties (in USD billion)
Solar cells	8.5	2.5
Canadian Wood	6.0	1.2
Steel (2018)	18.5	4.6
Aluminum (2018)	19.6	2.0
Washing machines (2018)	1.8	0.4
Chinese products (July 2018)	50.0	12.6
Chinese products (Sept. 2018)	200.0	20.0... then 50.0

Table 4:
EU tariffs on China

Products	Import surcharges (in%)
Solar panels	0%
Steels	17.2% - 28.5%
Pipes and tubes	58.6%
Aluminum wheels	22.0%
Fluorescent lamps	8.4% - 66.1%
Bags and plastic bags	4.8% - 28.8%

Protectionism also affects the service sector. China, Turkey, Mexico and Brazil in particular are very protectionist (relative to other countries), while Germany and Europe in general (except Switzerland, Belgium and Austria) are quite favourable to trade. They may be barriers to competition, discriminatory measures, regulatory measures including lack of regulatory transparency, restrictions on the movement of people).

Exhibit 8:
Service trade restrictiveness index, 2017



Note: OECD Services Trade Restrictiveness Index (STRI) catalogues barriers to services trade and identifies potential scope to unlock growth through regulatory reform. The STRI composite indices are derived by quantifying the qualitative information as binary scores. The resulting sectoral indices take values between zero (complete openness to trade and investment) and one (total market closure to foreign services providers).

Source: OECD, DB Global Research

Protectionism does not stop with tariffs and services either. The universe of non-tariff measures is vast, and can impact FDI flows also. It is worth remembering that China's direct investment flows to OECD countries have been also in sharp decline since 2016, mainly due to the highest frequency of rejection of acquisition projects (by Chinese investors), whether in Italy, Norway, Australia, Russia, Canada, Germany, Israel, Singapore, Hong Kong, the Netherlands, in South Korea or, of course, in the United States. Recall that the United States prevents any company owned at least 25% by Chinese capital to acquire a US company whose production processes use a high level of technology. France has increased the number of sectors for which any foreign acquisition is subject to prior authorization from the State, while the EU wants to be able to better control Chinese investments.

In total, China's direct investment flows are in free fall: by nearly $ 300 billion in 2016 (Table 5), they would have fallen to about $ 70 billion in 2018 (year-to-date).

Table 5: China's direct investment abroad in 2016	
Country or zone Direct investment stock	**Direct Investment in 2016, USD Bln**
Europe	87.20
United States	60.58
Asia excl. Japan	47.20
Africa	39.88
Australia	33.35
Russia	12.98
Canada	12.73
Japan	3.18

IV. US imports? The American deficit? A matter of cars ... and China

The US have a trade deficit since the early 70s, with China being now the most important contributor (around 45%), as the graphs below clearly show. They also explain why the Trump administration has focused on China at first.

Exhibit 9: US Trade Deficit by Country Contribution (%)

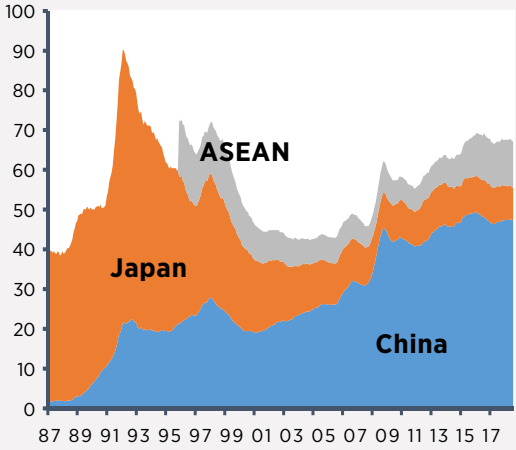
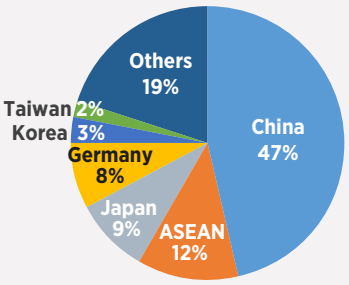


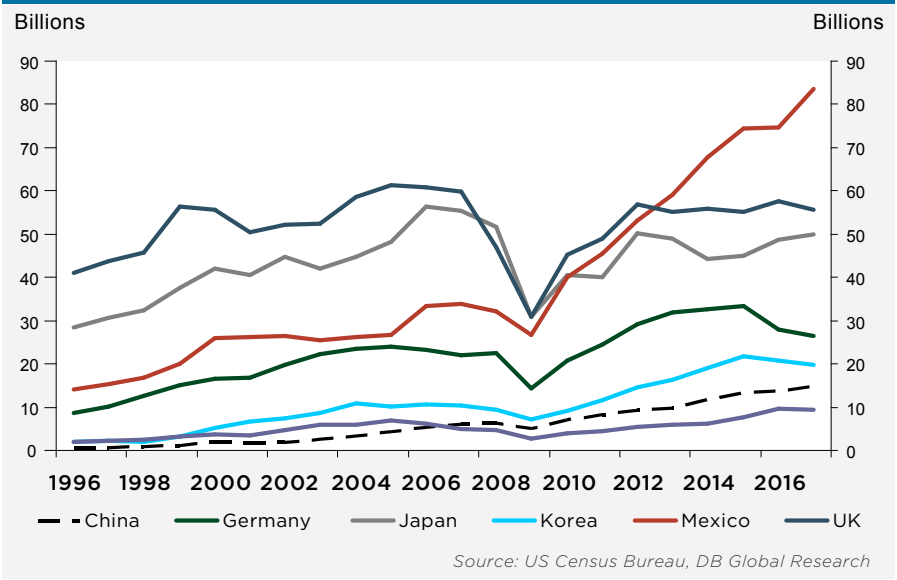
Exhibit 10: US Trade Deficit by Partner (% of total) (2017)



Sources: CEIC, OECD/WTO TiVA, Ministry of Commerce of China, Amundi Research. Based on data available as of 15th June 2018.

Reducing imports is a prerequisite to reduce trade deficits when global trade stagnates. Automobiles represent an interesting case. The graph below shows the tremendous explosion of Mexican exports of vehicles to the United States since the mid-1990s, the logical result of the signing of the NAFTA treaty: Mexican exports of automobiles thus went from about 10 bln to the signing of the Treaty at nearly 90 bln in 2017. This is by far the largest increase among the partners of the US.

Exhibit 11:
Imports of cars by the United States



Source: US Census Bureau, DB Global Research

The table 6 also shows the extent to which **imports of vehicles (cars, trucks, buses and auto parts) are crucial in US trade, and for its deficit. It is the flagship product of many trading partners, including Mexico, Germany, Japan, Korea and Canada.** Just over 30% of the cars sold in the United States are American models, and more than 25% are produced in the US by foreign companies. Nearly 40% are imported: Mexico, Canada and Japan each represent about 10%, Germany and Korea each represent about 3%. Note that Germany "consumes" 30% of its production of vehicles only (20% are exported to Europe, and 50% to the rest of the world).

The table 6 provides a better understanding of why the Trump Administration has been heavily focused on the motor vehicle sector during the renegotiation of NAFTA with Mexico in particular. And it also helps to understand why Europe is not immune from further protectionist measures. And this is all the more true as the automotive sector is a key sector in the political arena.

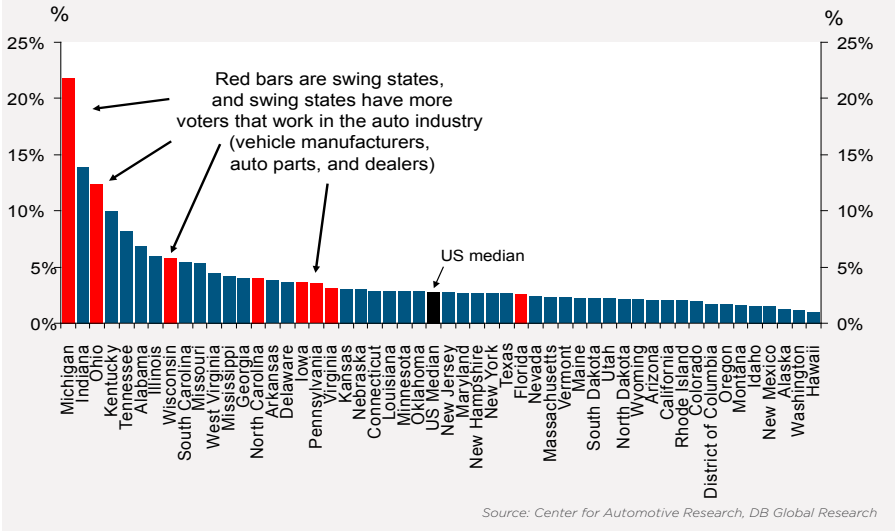
Swing States, which are crucial in elections, almost all have a significant portion of the sector-related electorate (Exhibit 12), making it a prime mock for protectionist measures.

Table 6:
Imported products and country of origin imports

	Imported Product # 1	Imported Product # 2	Imported Product # 3	Imported Product # 4
Mexico	Automobile Parts	Trucks and Buses	Automobiles	Computers
Germany	Automobiles	Pharma. Products	Aircrafts	Automobile Parts
Japan	Automobiles	Automobile Parts	Machinery	Aircrafts
Korea	Automobiles	Cell Phones	Automobile Parts	Petroleum Products
Canada	Oil	Automobiles	Re-Imports	Automobile Parts
United Kingdom	Pharma. Products	Automobiles	Re-Imports	Aircrafts
China	Cell Phones	Apparels/ accessories	Computers	Computer Accessories

Source: Census bureau, T. Slok (2018)

Exhibit 12:
Auto contribution as a % of labour force



Source: Center for Automotive Research, DB Global Research

The renegotiation of NAFTA was not a big surprise, the way D. Trump started the negotiation was unusual, though. The brutality vis-à-vis Mexico was miles away from the usual diplomacy. F. Roosevelt used to say (a reference to a West African proverb): "*speak softly, carry a big stick: you will go far*". The least we can say is that D. Trump is not of his followers. The goal of modernising NAFTA was twofold:

- Change the terms of the agreement to encourage manufacturing firms to invest more in the United States and less in Mexico;
- Make the North American zone more homogeneous so as to discourage China from using Mexico as a platform for assembling goods made from Chinese coins. It's done.

The objectives of D. Trump are fulfilled. The new NAFTA agreement (now called USMCA for United States – Mexico – Canada Agreement) requires that at least 75% of the value of a vehicle be manufactured in North America to evade tariffs, compared to a rate of 62.5% currently (74% in 2014, see table 7). Manufacturers must also ensure that 40% to 45% of the vehicle is manufactured by people earning at least $ 16 an hour, a move to bring a larger share of production to the United States to boost employment further. The agreement caps annual imports of vehicles from Canada and Mexico to 5.2 million, significantly more than the 4.1 million vehicles imported into the US from these two countries last year. Vehicles that do not comply with these new rules will be subject to a 2.5% tariff.

Note that the agreement would shield the first 2.6 million Canadian car exports to the U.S. from any tariffs. This is significantly higher than the current 1.8 million cars that Canada on average exports to the U.S. annually. This represents the compromise D. Trump accepted to renegotiate the NAFTA.

In the current world with deep supply chains, a trade war would be much more costly than in a conventional world. In a conventional world (in the "ancient" world), a tariff only reduced efficiency at the margin as it relocated production from foreign to domestic firms who in the initial equilibrium have equal costs. In a deep supply chain world (as it is the case nowadays), a tariff does not have to be considered as a "simple" tax on imports: tariffs also raise the costs of production of domestic firms. In a deep supply chain world, for example, a tariff on car imports from Mexico raises the cost of US auto production ... that is the reason why the USMCA / new NAFTA focused on requirements (at least 75% of the value of a vehicle be manufactured in North America), tariffs as sanctions only (if trading partners do not respect the constraints), and (higher) quotas... not on tariffs implementation. Another reason to consider the negotiation as a success.

The table 7 gives very interesting and pretty unknown information: the firms exporting vehicles from Mexico to the US and to Germany have set up very deep and extremely different supply chains between the two countries: about 75% (respectively 18%) of all the foreign parts used by vehicle assemblers in Mexico that export to the US (respectively Germany) are imported from the US. In the same way, 38% of the imported parts used by Mexican firms exporting to Germany (respectively the US) come from Germany.

Table 7:
Source of foreign inputs used in Mexican vehicle imports to the US and to Germany in 2014

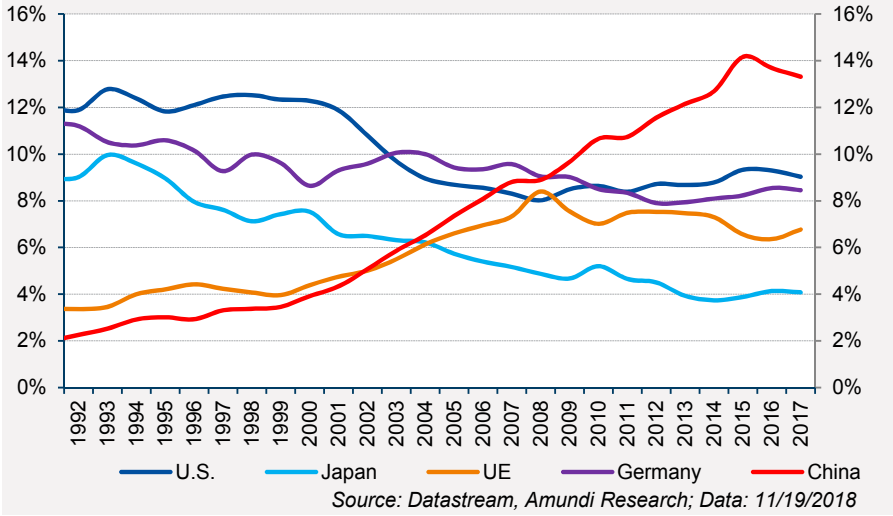
	Source of foreign inputs used in Mexican vehicles exported to the US	Source of foreign inputs used in Mexican vehicles exported to Germany
US	74%	18%
Germany	4%	38%
China	9%	11%
Canada	6%	12%
Taiwan	1%	16%
Other countries	6%	5%

Source: de Gortari (2017)

V. The China-US trade war: is it worrying?

On 11 December 2001, 15 years after its first application (July 10, 1986), the World Trade Organisation (WTO) welcomed China as its 143rd member. President Jiang Zemin promised China would "strike a carefully thought out balance between honouring its commitments and enjoying its rights." As Orlik – Jimenez recently mentioned, "In the years that followed, as China's trade surplus with the rest of the world ballooned (Exhibit 13), it seemed the balance was more toward the latter". It could not go further that way for long. The 2008 Great financial crisis has changed the tone.

Exhibit 13:
Chinese exports as part of world exports



Source: Datastream, Amundi Research; Data: 11/19/2018

The background of China-US trade conflict is well-identified:

First, the US released the 'Status of Non-Market Economy' report on China questioning China's economic system (note that many countries have, in fact, recognized China as a market economy). Several reasons were mentioned (J. Ha (2018)):

- "The government controls fundamental economic factors like land and other resources either directly or indirectly, and state-owned enterprises have control over many economic resources through administrative monopoly.
- Pricing mechanism is still limited in many sectors.
- Effectiveness of protection on private property rights is still insufficient.
- The government is taking various industrial policies as measures to realize diversified goals such as technology upgrade".

Second, China promoted in 2015 the "Made in China 2025" program (MIC 2025), described as largely inspired by Industry 4.0's German Plan. The "Made in China 2025" plan encompasses the entire production process and not just advanced technologies. At the same time, it no longer specifically supports high-tech industries (robotics, biotechnologies), but includes among the priority sectors more traditional industries (marine, train, agriculture). The emphasis on strengthening intellectual property law as well as the incentives for publication and patenting illustrate the Chinese government's renewed interest in SMEs and mid-cap companies.

But the position of foreign companies in this plan remains unclear. At the same time, the scope of industrial activities related to national security is not explicit.

Third, the US called China its "strategic rival" in its National Security Strategy report in December 2017. The target is to promote free, fair and reciprocal economic relationships. As the report said, "for decades, the United States has allowed unfair trading practices to grow. Other countries have used dumping, discriminatory non-tariff barriers, forced technology transfers, non-economic capacity, industrial subsidies, and other support from governments and state-owned enterprises to gain economic advantages. Today we must meet the challenge. We will address persistent trade imbalances, break down trade barriers, and provide Americans new opportunities to increase their exports". (...). "The United States distinguishes between economic competition with countries that follow fair and free market principles and competition with those that act with little regard for those principles". A good introduction to the current trade disputes of D. Trump.

Fourth, creating trade conflicts with China could benefit the Republican in mid-term election. A large part of the US voters is sensitive to the topic and back Trump policy. Protectionism was a key part of the electoral programme and all surveys indicate that it is positively perceived... so far.

The rise of non-tariff protectionism since 2008 and Trump's threats to China, Mexico, Japan and Europe in particular have changed the face of the perception of world trade (see document "*World trade: towards a new normal?*" prepared for the March 2017 Advisory Board). To say that the Fed is also worried about protectionism is obvious. To be more precise, **the word "trade war" appeared 20 times in the Beige book between 1996 and 2017, and 89 times for the year 2018 alone.**

B. Coeuré, board member of the ECB is more explicit: according to him, **protectionism is important for the central banks** first, because a scenario of "trade war" would add to the global uncertainty at a time when some central banks have just abandoned the unconventional measures put in place following the global financial crisis. And secondly, because a further structural shock to productivity may cause the central bank (given the already low rates) to resort to unconventional measures again.

Whether it is respect for intellectual property, technology transfers imposed on foreign investors, access to public procurement or transparency, Trump's criticisms are justified, no doubt. All this is not entirely new: the advanced countries had experienced the same problems with direct investment in Korea a few decades ago, but what is changing is at least three things:

- First, the size (the amounts at stake with China have nothing to do with those of Korea in the 80s),
- Then, the size of the deficit and the inability of the United States to reduce them to more sustainable levels,
- Finally, the struggle between the United States and China for world supremacy, and trade and economic power (including rare-earth elements) are part of this issue.

One can question the US strategy. By adopting a very protectionist and extensive approach, Trump probably takes the risk of losing his natural allies, the Europeans. A rapprochement between Washington and Brussels to roll back Beijing could have been a good strategy. There will probably be no winners at the end. The measures call for retaliation... and disinhibit some leaders of emerging countries who may no longer hesitate to wave the commercial weapon as a bargaining tool.

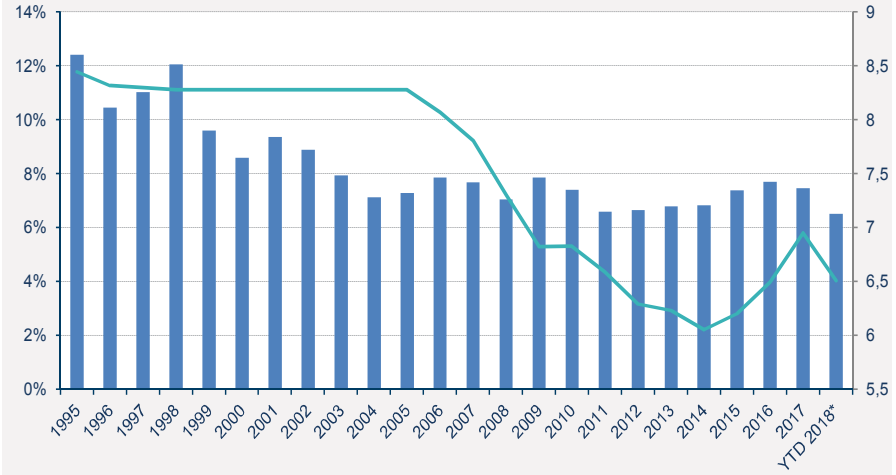
One can also question the strategy as regards the economic consequences. The United States complains of its heavy trade deficit with China. Yet, in the 1990s, it is the behaviour of US companies - not Chinese companies - of the 1990s that should be blamed: distributors and consumers pushed prices down and replaced US suppliers by Chinese suppliers, which has pushed American companies to produce in China. All this contributed to the appearance of a large trade deficit. Exhibits 14 and 15 present the current situation of imports both for China and for the US. Tables 8 and 9 (see Appendix 1) give details on US imports from China and on Chinese imports from the US, by product.

How to evaluate the impact on Chinese and American growth? Many elements can come into play and the answer to the question will depend on the response of American consumers and Chinese producers:

- **1st element of answer**: Is it possible to replace Chinese products with American products or other foreign origin other than Chinese? Is it reasonable to forgo products made in China, but at a lower price? Can we reorganize a production radically transformed for more than 20 years? This seems unlikely, except to accept an increase in inflation and a loss of purchasing power of US consumers
- **2nd element of answer**: Will consumers continue to consume Chinese products (at a higher price)? If this is the case, imports (by volume) will not be affected by the new set of tariffs (there would be a direct impact on prices, not on volumes). Are there still substitutable productions in the US for imports from China?
- **3rd element of answer**: Will the tariffs taken by the American administration be returned to the economic agents? If this is the case, the impact on the real income of the agents will be limited;
- **4th element of answer**: Will Chinese producers be able to cut their margins further to reduce the impact of tariffs?

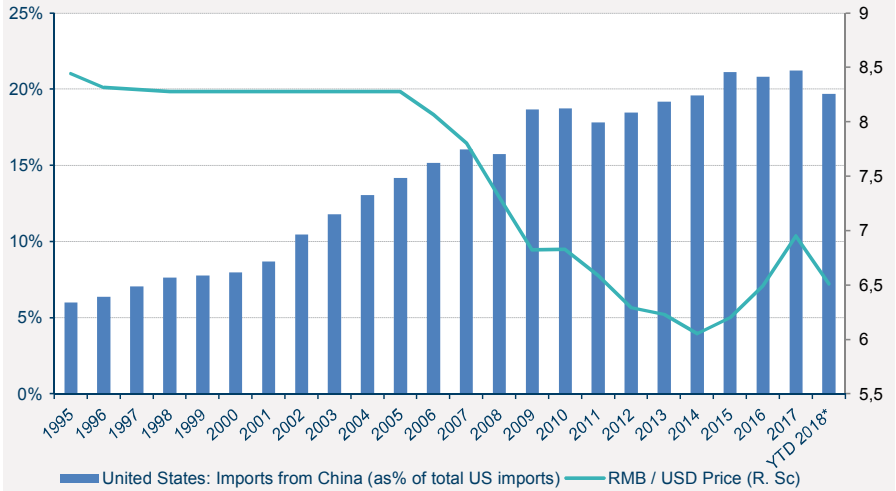
According to the last decades' data, trade flows do not seem highly sensitive to the exchange rate (Exhibits 14 and 15), which means that tariffs are unlikely to reduce Chinese imports, but simply raise the cost.

Exhibit 14:
US exports to China and RMB vs. USD



*Source: Datastream, Amundi Research, *(Q1+Q2) 2018*

Exhibit 15:
US imports from China and RMB vs. USD



Source: Datastream, Amundi Research,(Q1+Q2) 2018*

In the worst case (no substitution, no impact on the volume of imports, redistribution…), the impact on GDP would be as follows: 0.25% of GDP in the United States (a levy of 50 billion (25% of 200 billion) and 0.04% of GDP in China (a levy of 6 billion (10% of 60 billion)).

In sum, there is no need to worry too much about the tariffs put in place in China and the United States for at least two reasons:

- The first reason is the **low price-sensitivity of US exports to China and US imports from China**;
- The second reason is linked to the **weak impact of tariffs**: even if tariffs are not redistributed to economic agents, the reduction in the real income of each country would be low (0.25% of US GDP) and 0.04% of GDP. Chinese GDP). Note that, however, the US might plan to tax another 265bln dollars imports.

In other words, would it not be more "reasonable" and effective to force China to open its markets to be able to export more? Instead of setting up tariffs (towards China and the rest of the world), would not it be better to have allies (Europe, Japan…) and to intervene via the WTO?

Let's mention that it is not "reasonable" to take the risk of depriving oneself of Chinese savings, considering the US savings deficit and the Chinese savings surplus, when invested in China is strongly focused on construction and real estate in general, due to the lack of sufficient alternative products.

VI. Europe, a big beneficiary… or the next target?

The trade war between China and the United States has little direct impact on many economies:

- Those that are or have become heavily dependent on their own internal market,
- Those that have benefited from the recent period of global expansion to adjust their imbalances and increase the most productive public expenditures,
- Those that have implemented reforms to improve the environment of their businesses (at the domestic and external levels)
- Those that are less vulnerable to outside with an effective combination of policies (monetary and fiscal).

But a trade war has potentially significant indirect impacts:

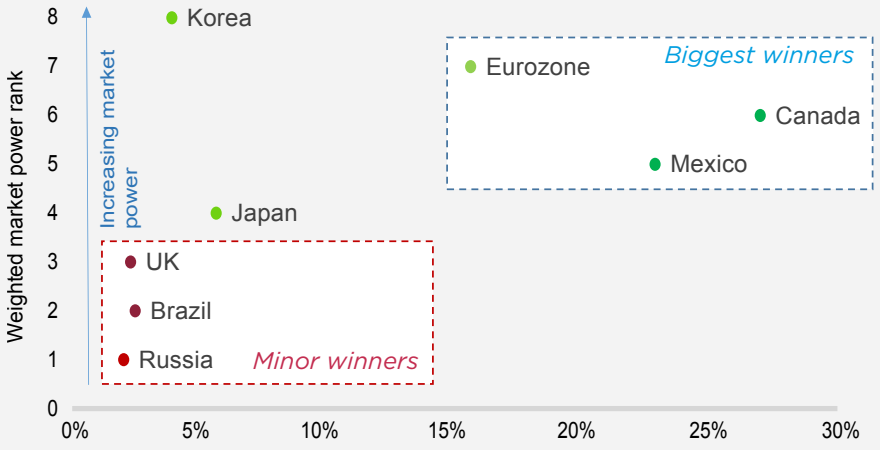
- A negative impact via the possible deterioration of the confidence indices and investment projects;
- A negative impact through a wealth effect in case of excessive financial market reaction;
- A positive impact via substitution effects. Can Europe benefit from the China-US trade war?

6 .1. Europe, a winner in the China-US trade war?

The imposition of unilateral tariffs by the United States on China amounts to a positive shock to the terms of trade for the rest of the world: imports outside China suddenly become relatively cheaper for the US consumer.

DB research (2018) analysed detailed trade data at the micro level to assess the potential for US consumers to trade Chinese products against imports from the rest of the world. In 2017, China was far from the only supplier of the United States for many of the products to be impacted by the new US tariffs. In fact, while China exported $ 200 billion worth of these products to the United States, the rest of the world sent an additional $ 600 billion. If the US consumers decide to switch from Chinese products to other exporters, and according to the market power of the companies of the exporting countries, then **the regions that should benefit the most from the US-China trade war are the three that are already exporting the most to the United States after China: Canada, Mexico and the Eurozone** (Exhibit 16). All in all, if a trade war between the United States and China can have adverse effects on global growth, the consequences of the "shift in exports" to Canada, Mexico and the eurozone could be significant. All of this will probably be true if Europe, Mexico and Canada are not hit with harsh protectionist measures.

Exhibit 16:
Who could be the winners from a US-China trade war?



Source: Deutsche Bank (2018), USITC, Soderbery (2018)

6.2. Europe, next target of the United States?

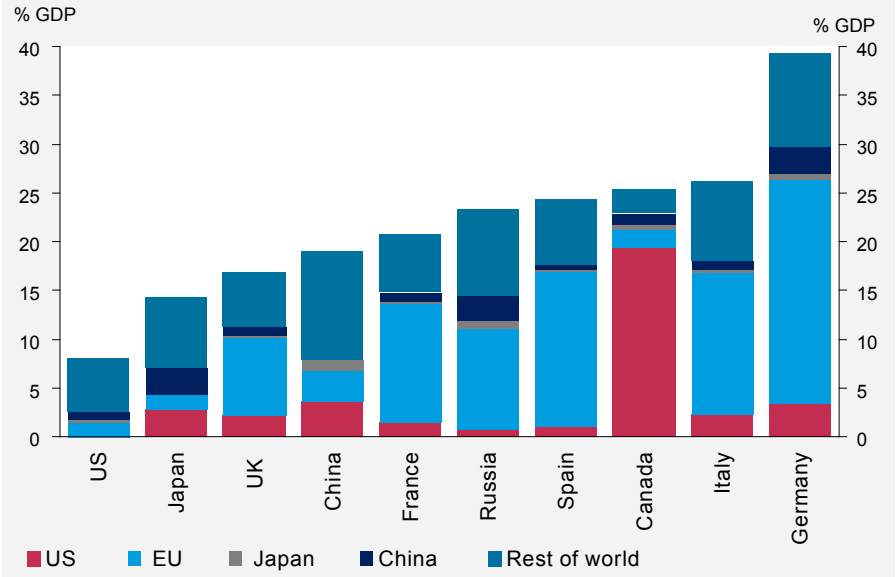
The next step in US action could be an increase in US tariffs on cars imported from Europe from their current level of 2.5% to 20% or 25%. It is a pending issue for several months now. In this case, the effect on confidence and growth would be significant. This would, however, have very **unequal consequences for eurozone countries**, disproportionately hitting Germany (around 15% of car exports to the United States, i.e. 20 billion Euros, or 0.6% of GDP, against 0.01% for France, 0.05% for Spain and 0.25% for Italy (27% of car exports to the United States) and small countries (notably Slovakia and Czech Republic, but also some number of non-EU countries) that play a key role in German supply chains. **This would be an asymmetric shock that could complicate the response at European level** (trade policy answers). **Trade negotiations are done at the level of the EU, not the Eurozone**. If US tariffs of such a magnitude (20% or 25%) on European cars were actually applied, we would reduce our Euro area GDP forecast by 0.2 pp 2019, most of the losses on German GDP. The escalation of another series of retaliation by the Eurozone would obviously have a bigger impact, but we are not there yet. Gross exports of goods to the United States are between 1.5% and 3% of GDP for the largest countries, with Germany being the most affected and Spain the least.

European stock markets clearly point out these fears. While US markets are benefiting from stronger growth and corporate results on one hand, and on stronger share buyback policies on the other hand, European markets have an advantage: lower long-term and short-term interest rates. The current weakness of Europe compared to the US market depends on several criteria:

- Eurozone links with emerging countries currently in difficulty, such as Turkey;
- The risk of a new crisis returning in the footsteps of the periphery of the eurozone, a crisis that would start this time from Italy;
- The degree of openness of the European economies, much higher than that of the United States, which makes it a bigger victim as soon as the global growth outlook gets a little confused;
- The protectionist threats of the United States vis-à-vis Europe.

It must be recognized that in terms of exports, the consequences of a trade war are very different. Exports are vital for the German GDP, while much less so for the US GDP (Exhibit 17): German exports account for 40% of GDP (3% to the US) compared with less than 10% for the United States (15% in Japan, less than 20% in UK, less than 20% in China, over 20% in France and Spain, around 25% in Italy).

Exhibit 17:
Exports as a % of GDP, by destination



Note: Here exports data refers to goods only. *Source: IMF, National sources, Haver Analytics, DB Global Research*

Exports are vital for the EU, but much of the trade is intra-EU trade, protecting many countries from an external trade war (from direct impacts only though). Exhibit 17 shows the importance of intra-European trade, but it should be noted that **one-third of EU trade is with the United States and China. For the Member States, however, intra-EU trade is largely dominant.** According to Eurostat data (2018), in 2017, the United States (631 billion euros, or 16.9% of total EU goods trade) and China (573 billion euros, 3%) were the two main trading partners of the EU, far ahead of Switzerland (261 billion euros, or 7.0%), Russia (231 billion euros, or 6.2%), Turkey (154 billion euros, or 4.1%) and Japan (129 billion euros, or 3.5%). While the US share of total EU trade in goods has tended to stagnate between 16% and 18% in recent years, China's share has almost tripled since 2000 (5% in 2000, 15.3% in 2017).

Germany's role is major in EU trade. Germany is indeed the main export market for a majority of Member States (Appendix 2, Exhibit 18). When this is not the case, it is most often another member of the European Union. In the case of Germany, Ireland and the United Kingdom, the United States is the main destination for their exports, which explains their greater vulnerability in the event of a trade war with the US. On

the other hand, many Member States export mass to the EU (Appendix 2, Exhibit 19): Slovakia (86% of its exports), Luxemburg and the Czech Republic (84%), Hungary (81%), Poland (80%), Romania and Slovenia (76%) as well as the Netherlands (75%). These countries are protected by the fact that there can be no lifting of tariffs within the EU, between member States. Germany is also the largest source of imports for more than half of the EU Member States (Appendix 2, Exhibit 20). And as for exports, when this is not the case, it is most often another member-State of the EU (Appendix 2, Exhibit 21). As a result, more than three-quarters of imports of goods came from another EU member State in Luxemburg (83%), Estonia (81%), Slovakia (80%), Latvia (79%), the Czech Republic and Croatia (78%), Austria (77%) and Portugal, Hungary and Romania (76%).

The risk for all these countries, and for the EU as a whole, is essentially that Germany is strongly weakened by trade disputes or intensified fears of trade war: indirect impacts of a trade war would represent, by far, the major driver for a decline in GDP growth, trade and employment.

So far, we have simply referred to the direct impact of tariffs, without integrating the impact on risk perception and confidence indicators, or even the possibility that the United States will do not want a "simple" trade war with China. What would be the impacts of an effective multilateral "trade war"?

VII. Trade war: impact on growth and trade

Two questions arise:

- How much can world tariffs increase if we move from the current cooperative environment to a non-cooperative equilibrium of a trade war?
- What can be the impacts on growth and trade?

Retaliation from trading partners and potential escalation largely determine, along with the financial markets reaction, the extent to which global trade and GDP are under pressure. But if a trade war were to eventuate, what would the likely effects be and can history provide any guide?

7.1. Lessons from theory

Economic theory has focused heavily on protectionism, and the impact will depend heavily on the nature of the measures adopted.

- **Protectionism can be offensive** (or "educative" should we refer to Friedrich List, an economist of the 19th century), with the ambition of

creating "champions", initially protected from foreign competition. In history, protectionism was temporary and used at the beginning of the industrialization phase of a country. Commercial protection allowed the fledgling industry to grow to become competitive. Free trade was then established.

- **Protectionism can also be defensive** (N. Kaldor has theorised this concept in the middle of the 20th century), and the idea there is to protect aging industries, troubled and uncompetitive sectors by lifting import barriers; this does not make the industry concerned competitive and the protectionist measures employed are generally not temporary. **Protectionism is also multifaceted**: it may include tariff measures, non-tariff measures, laws limiting foreign (direct) investment, procedures that encourage local production, manipulations of the exchange rate, subsidies ... the impact on trade growth and employment will depend on the type of measure adopted and its transitory or permanent nature.

The perception of protectionism has evolved over the years. The mercantilists (from the 16th century to the middle of the 18th century) tended to consider that State must intervene in the economy by favouring exports over imports. It is the appropriate way to encourage the development of national industries and to favour a trade balance surplus, and as a consequence to favour the enrichment of the nation. Marx and Marxist-inspired authors opposed free trade, considering the exchange is unequal, being a way for the developed countries to dominate the poor countries. It has been shown, however, that under certain conditions, world trade favours the development of less developed countries and regions. Trade agreements and international organizations such as the GATT / WTO have made a significant contribution to this development.

We do not want to enter too much into theoretical details, but economic theory would suggest that protectionism (and a trade war) may have several impacts:

- It boosts inflation by directly increasing import price, with has potential impacts on monetary policies;
- It deteriorates global trade, which usually represents one growth engine;
- It can be harmful for sentiment (consumer confidence and business confidence), with consequences on GDP growth, the level of employment, and equity prices;
- Its impact on financial markets can create negative wealth effects and deteriorate consumption further;
- The effects can be disproportionate, with countries more-heavily exposed to global trade being more adversely affected.

7.2. Lessons from history

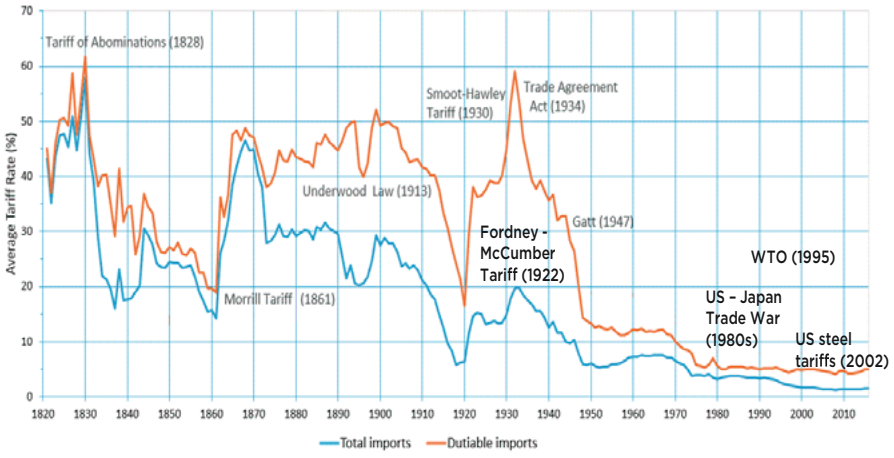
In the past two centuries, the world faced different periods of mounting protectionism, especially in time of war. As regard the US, six examples can be highlighted (see table 10 for a recap table):

- The "Tariff of 1828" – also known as the "Tariff of Abominations"
- The "Morrill Tariff" of 1861
- The "Fordney – McCumber Tariff" of 1922
- The "Smoot – Hawley Tariff Act" of 1930
- The "US – Japan Trade War" of the 1980s
- The "US steel tariff" of 2002

Example # 1: The "Tariff of 1828" – also known as the "Tariff of Abominations"

To protect Northern US industries from low-priced imported goods from Europe, particularly Britain, the US raised tariffs to their highest ever level. Average tariffs surged to above 60%. But import prices rose sharply, too, and farmers from the south of the US faced the threat of British purchasers finding alternatives. Massive opponents to the tariffs of 1828 and then to the tariffs of 1832 emerged. This opposition led to the 'Nullification Crisis' and the passing of The Tariff of 1833, which resulted in a gradual reduction in tariffs. This wave of protectionism is often considered as one of the triggers of the secession war.

Exhibit 22:
US average tariffs (1821 – 2016)



Source: US Departement of Commerce, Bureau of the Census, Historical Statistics of the United States 1789-1945, U.S. International Trade Commission, dataweb.usitc.gov

Example # 2: The Morrill Tariff of 1861

The Morrill tariff inaugurated a period of continuous trade protection in the United States, which started in 1842. In 1846 (Walker Tariff) and in 1857, the Democrats cut tariffs substantially. The Panic of 1857 (with stock market decline, bankruptcies…) led to calls for protectionist tariff revision. Note that in 1860, US tariff rates were among the lowest in the world and at historical lows by 19th century standards: the average rate for 1857 through 1860 being around 17% overall *(ad valorem*), or 21% on dutiable items only. President James Buchanan favoured the Morrill tariff: he signed the bill into a law (one of his last acts while in office). In its first year, the Morrill Tariff increased the effective rate collected on dutiable imports by approximately 70%.

Because of the Civil war and the necessity to pay for the armies and fleets, the US decided to increase tariff rates further in 1861 (another 10 points) to generate additional revenues. But in reality, the tariff played a modest role (around 10%) in financing the Secession war. The bulk of the financing came from bond sales and Greenbacks' printing.

Example # 3: The Fordney – McCumber Tariff of 1922

The Fordney – McCumber Tariff was a law that raised US tariffs on many imported goods to protect factories and farms. It was signed by President Warren Harding. The tariff law raised the US average tariff rate to around 38.5% for dutiable imports and to 14% overall. The tariff was defensive, rather than offensive. Trading partners complained immediately. Five years after the implementation of the Fordney – McCumber Tariff, US trading partners had significantly raised their own tariffs: France raised its tariffs on automobiles from 45% to 100%, Spain raised its tariffs on US goods by 40%, and Germany and Italy raised their tariffs on wheat. US farmers opposed the tariff, and they even blamed it for the agricultural depression. Globally net exporters, the farmers did not need protection and they depended on foreign countries to sell their surplus. During the first year of the tariff, the cost of living climbed higher than any other year in time of peace.

Example # 4: The" Smoot – Hawley Tariff Act", which became law in 1930

The 1930s represent a decade with high protectionism, while economists and important businessmen were largely opposed to it. The Smoot – Hawley Tariff represented the first wave. The peak of tariff rates on dutiable imports (20,000 products) peaked in 1932 at 59.1%, (to be compared with the historical high of 61.7% in 1830. Henry Ford called it "an economic stupidity." Franklin D. Roosevelt criticised this tariff act while he was ruling for the presidential elections of 1933. Canada and many European countries retaliated with higher tariffs on imports from the US. Global trade declined significantly as a

direct consequence. Note that tariffs rose sharply with equivalent magnitude in 1861 (from 18.61% to 36.2%), between 1863 and 1866 (from 32.62% to 48.33%), and between 1920 and 1922 (from 16.4% to 38.1%), without producing global depressions. However, most economists and historians consider that the Smoot – Hawley Tariff exacerbated the Great Depression, but there is no consensus on the magnitude of its impacts though.

Example # 5: The US – Japan Trade War of the 1980s

From the early 80s to the early 90s, US and Japan were engaged in a small-scale trade war. The US administration considered that trade with Japan was unfair: Japan subsidized its companies, erected non-tariff barriers to US imports and manipulated its currency. The Reagan administration thus decide to implement 100% tariffs on electronics, Voluntary Export Restraints (VERs) on steel and autos (VER on Japanese autos were equivalent to a tariff rate exceeding 60%), steel, and machine industries, Voluntary Import Expansions (VIEs) on Semiconductors ... The 1985 Plaza Accord, forcing Japan to abandon the fixed exchange rates was an important step: the price of U.S. imports declined sharply with the USD/JPY. By 1995, the yen had approximately tripled in strength against the dollar. But despite the trade restrictions, the bilateral trade deficit with Japan has not been reduced: the bilateral trade deficit peaked in the early 1990s (see Exhibit 4). Sometimes, there are winners in trade wars: US could export more to Japan and Japan invested in the US and created plants ad jobs ... But it was not costless though. To give an example, VER on autos led to an increase of the price of cars, and US companies also increase prices while they were able to cut production (profits went to a record high at that time). They did not fear losing customers to Japanese car companies because of tariffs. Higher prices (the average car price rose by about $1,000) and lower production meant also fewer workers: according to Crandall (1987), the US lost over 60,000 jobs in the automobile sector between 1982 and 1984 due to the trade restrictions. Consumers got hit hard.

Example # 6: George Bush's tariffs of up to 30% on imported steel (March 2002)

On March 5, 2002, US President George W. Bush implemented tariffs on imported steel. The temporary tariffs of 8–30% (compared to the usual tariff on steel between 0% and 1%) were originally scheduled to remain in effect until 2005. As D. Trump recently did with his steel and aluminium tariffs, Bush exempted Canada and Mexico (the US would have to pay penalties under the NAFTA agreement). Some developing countries such as Argentina, Thailand, and Turkey were also exempt. The EU and Japan, threatened retaliatory actions, which reinforced the risk of a global trade

war. These threats were confirmed when the US refused to remove the tariffs despite the WTO decision (explaining in November 2003 that the US tariffs were illegal). The WTO even envisaged to sanction the US (a $2 billion penalty, the largest penalty ever imposed by the WTO against a member state), if the US did not remove the tariffs. After receiving the verdict, Bush declared that he would preserve the tariffs. The European Union threatened to retaliate with targeted measures (in States managed by Republican party (oranges in Florida, cars in Michigan...), as the Chinese recently did). The US administration retreated and withdrew the tariffs on December 2003. The threats of a trade war disappeared. To conclude, the US tariffs had a negative impact on US growth and employment, although limited due to the absence of retaliation and due to the fact that tariffs were short-lived. However, steel-consuming companies considered steel tariffs ended up wiping out 200,000 jobs in the US.

Table 10: Trade wars: lessons from the past	
# 1 **The "Tariff of 1828" (the "Tariff of Abominations")**	**The measures** The US raised tariffs to their highest ever level, to protect Northern US industries from low-priced imported goods from Europe, especially Britain. **The impacts** The tariffs were strongly opposed by the South, where import prices increased sharply and farmers faced the threat of British purchasers finding alternatives. Protectionism is often considered as one of the triggers of the secession war.
# 2 **The Morrill Tariff of 1861**	**The measures** In its first year of operation, the Morrill Tariff increased the effective rate collected on dutiable imports by approximately 70%. In 1860, US tariff rates were among the lowest in the world and at historical lows by 19th century standards: the average rate for 1857 through 1860 being around 17% overall, or 21% on dutiable items only. The Morrill Tariff raised these averages to about 26% overall or 36% on dutiable goods. Further increases of tariffs by 1865 rose the tariffs rates, respectively at 38% and 48%. **The impacts** It is difficult to assess the precise impact of tariffs on growth and trade during the Secession War. The tariffs played nevertheless a modest role in financing the war compared to the $2.8 billion in bond sales and the printing of Greenbacks.
# 3 **The Fordney – McCumber Tariff of 1922**	**The measures** The tariff law raised the US tariff rate to an average of about 38.5% for dutiable imports and an average of 14% overall. **The impacts** It is east to show the negative impacts on growth, trade and inflation. During the first year of the tariff, the cost of living climbed higher than any other year except during the war. Retaliation actions were significant: 5 years after the implementation of the Fordney - McCumber tariff, France raised its tariffs on automobiles from 45% to 100%, Spain raised its tariffs on US goods by 40%, and Germany and Italy raised their tariffs on wheat.

# 4 **The" Smoot – Hawley Tariff Act" of 1930**	**The measures** This Tariff Act of 1930 impacted more than 20,000 imported goods. The average tariff rate on dutiable imports increased from 40.1% in 1929 to 59.1% in 1932. **The impacts** The consensus view among economists and economic historians is that the implementation of the Smoot – Hawley Tariff exacerbated the Great Depression, although there is disagreement as to how much. Note that tariffs rose sharply with equivalent magnitude in 1861 (from 18.61% to 36.2%), between 1863 and 1866 (from 32.62% to 48.33%), and between 1920 and 1922 (from 16.4% to 38.1%), without producing global depressions.
# 5 **The US – Japan Trade War of the 1980s**	**The measures** The Reagan administration thus decide to implement 100% tariffs on electronics, Voluntary Export Restraints (VERs) on autos (equivalent to a tariff rate above 60%), steel, and machine industries, Voluntary Import Expansions (VIEs) on Semiconductors… **The impacts** US could export more to Japan and Japan invested in the US and created plants ad jobs. However, the bilateral trade deficit continued to expand until the early 1990s. Moreover, it was not costless: the US consumer had to face a sharp increase in the price of cars (due to tariffs and to the behaviour of US companies), and 60,000 jobs were lost in the auto industry between 1982 and 1984…
# 6 **The US steel tariff of 2002**	**The measures** In March 2002, George W. Bush decided to increase tariffs of up to 30% on imported steel. The US suppressed tariffs at the end of the year, due to a WTO potential $2 billion in sanctions (the largest penalty ever imposed by the WTO to a WTO member) and because of retaliation fears. **The impacts** There was no global impact (a limited list of products, a short period of time…), but steel-consuming companies said steel tariffs ended up wiping out 200,000 US jobs.

7.3. Lessons from recent studies

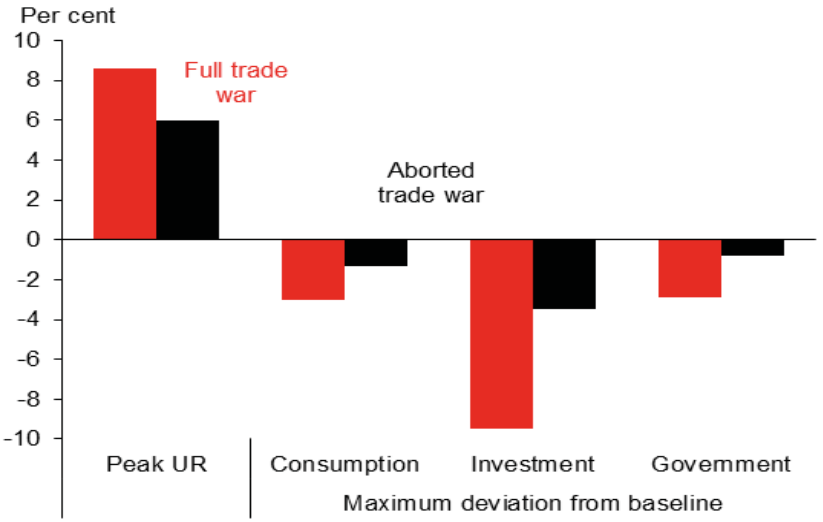
To quantify the impacts of trade war on GDP and trade is not easy when tariffs and retaliation concern a few countries and when indirect impacts are the most important ones. But attempts to quantify these impacts are full of lessons. We have selected six studies, published by the Noland, Robinson, and Moran (2016), McKibbin and Stoeckel (2017), the ECB (2018), the Bank of England (2018), the Conseil d'Analyse Economique / French Economic Analysis Council (2018) and Bloomberg Economics (2018). All conclusions converge, but the magnitude of the impacts might differ, though, depending on the assumptions of the studies.

7.3.1. Noland, Robinson, and Moran (2016) analysed the effects on the US of trade-war scenarios based on Trump's pre-election programme.

They estimate the impact of a 45% tariff on non-oil imports from China and a 35% tariff on non-oil imports from Mexico. Two major scenarios are developed:

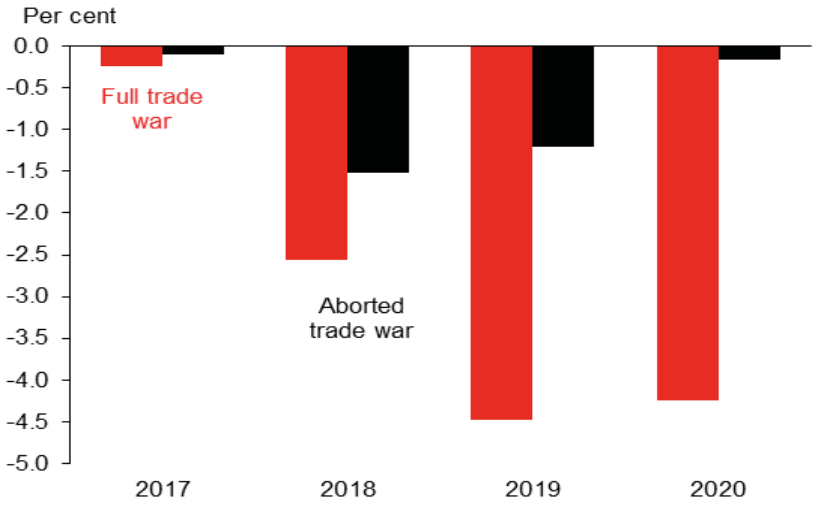
- **A "full trade war" scenario**, in which China and Mexico impose the same tariffs to the US. In such a case, inflationary pressures in the US would have forced the Fed to tighten its monetary policy. The global uncertainty would have dampened consumption and investment, and the US economy would have **entered a recession in 2019, while the unemployment rate would have peaked at 8.6% in 2020** (Exhibit 23);
- **An "aborted trade war" scenario**, in which the US tariffs are imposed temporarily, for only one year. In this case, even if the direction of the effects is similar, their magnitude is much lower: US GDP growth would have troughed at 1.2% in 2018, while the unemployment rate would have peaked at 6% in 2019. Note that all effect would have disappeared after the second year (Exhibit 24).

Exhibit 23:
Estimated trade-war effects on the US



Source: Noland et al. (2016), Macquarie Research, March 2018.

Exhibit 24:
Estimated trade war effects on US GDP (level relative to baseline)

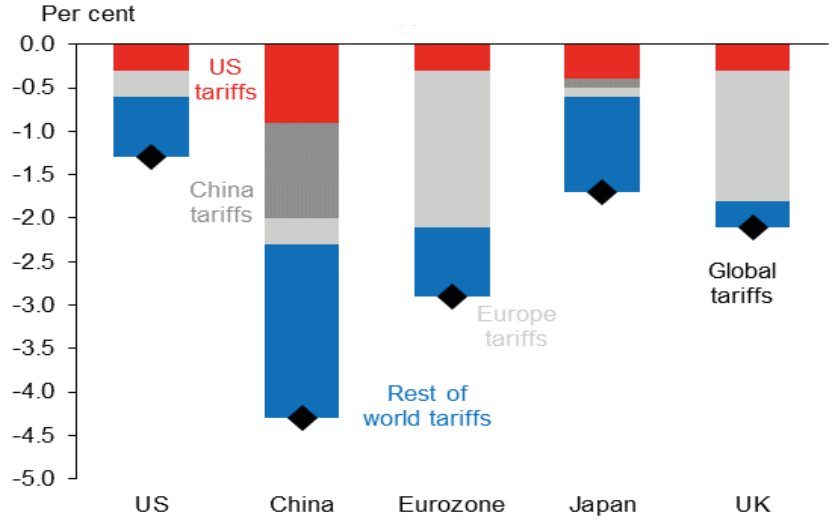


Source: Noland et al. (2016), Macquarie Research, March 2018.

7.3.2. W. J. McKibbin and A. Stoeckel (2017) estimate the impact of a 40% tariff on US imports of manufactured goods from China.

They assume first that China does not retaliate. According to their model, the impact is relatively neutral for the US. The reason is that substitution to Chinese tariffed products is at play. As regard China, such a trade policy from the US would be painful for GDP and for investment. **They also consider a trade war scenario, with all the countries deciding to increase all import tariffs by 10 percentage points** (Exhibit 25). In that case, UK and Europe would be severely hurt by the European tariff, while the Chinese GDP would be cut by 4.5%, a quite massive drop. The US, as a relatively closed economy, would be hurt the least (-1.3%).

Exhibit 25:
Tariffs effect on GDP after one year (effect of ppts increase in tariffs)

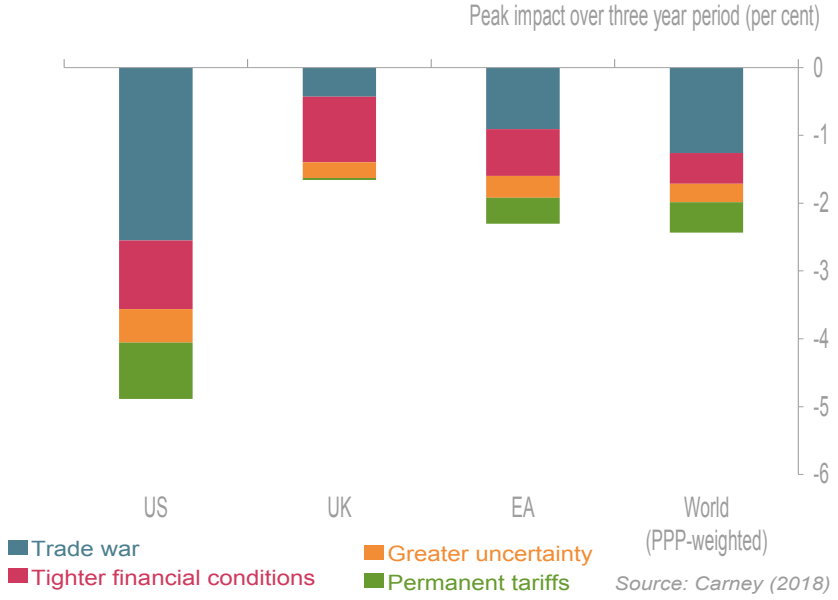


Source: McKibbin and Stoeckel (2017), Macquarie Research, March 2018.

7.3.3. A recent **Bank of England** study, relayed by M. Carney (2018), the Governor of this central bank, tried to define the peak impacts following a 10 percentage points increase in tariffs that persists for three years. The study considers an additional impact from tighter financial conditions (based on a 75bp increase in term premia and 50bp increase in equity risk premia globally), and an uncertainty impact proxied by assuming agents anticipate a further 10pp increase in tariffs the following year. Global monetary policy is held fixed for five years. Under these assumptions, the

BoE study suggests that the impacts on GDP growth of narrow, bilateral tariff increases would be small (and particularly if the countries are not very open economies), and contagion effects would also be limited. In the case of a larger and global tariffs increases (say 10 percentage points between the US and all trading partners), the damages would be much more important: the US could be reduced directly (through trade channels) by 2.5% (1% for the world GDP). Exhibit 26 presents the total effects of tariffs, tighter financial conditions (resulting from higher inflation) and higher uncertainty. The US would be hurt the most: the trade war would take 4.5% off US GDP and about 2.5% off world GDP.

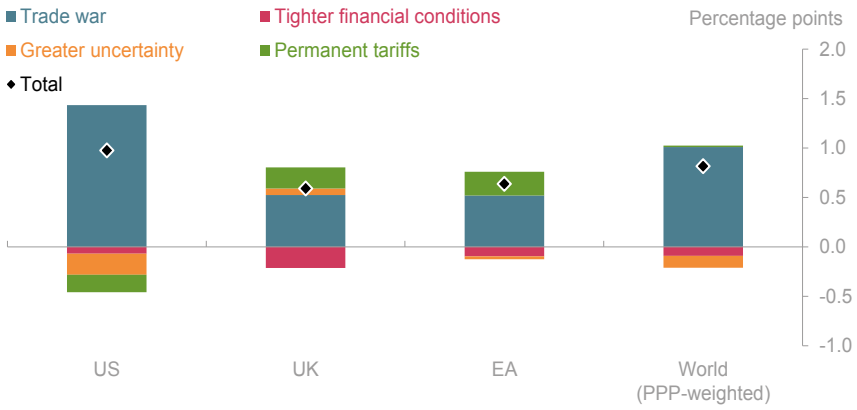
Exhibit 26:
Substantial GDP losses from a 10 percentage point increase in tariffs on US trade



Source: Carney (2018)

As BoE mentions, this scenario would put monetary policymakers in a difficult position: on one hand, the trade war would reduce growth and growth expectations (and thus inflation expectations), but on the other hand, higher tariffs would be inflationary, especially for the country at the centre of the trade dispute, namely the US (Exhibit 27). In net terms, inflation rate would rise around 1.5% in the US, and 1% in the world.

Exhibit 27:
Sharp rise in inflation would confront monetary policy makers with trade



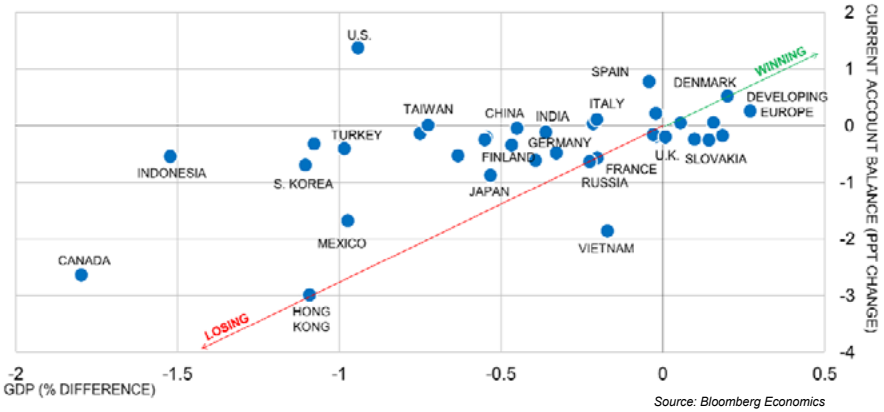
Source: Carney (2018)

These simulations consider only direct impacts of tariff increases, and do not include those via business confidence and financial conditions. In total, the impacts are supposed to be worse than the one mentioned in the study.

7.3.4. What happens to global growth, inflation and central banks if there's a trade war? These are the questions addressed in a recent **Bloomberg** study (2018). Based on their estimates, a 10% increase in US tariff rates with similar retaliation on U.S. exports, would cost by 2020 the equivalent of 0.5% of global GDP (i.e. $470 billion — roughly the size of Thailand's GDP). By 2020, world trade could be 3.7% lower relative to the baseline of no change in tariffs. As BOE mentioned (see above), central banks would face "a tough choice between tackling the threat to inflation expectations from higher headline inflation and providing support to offset weaker demand in the economy".

The study analyses the impacts, country per country, and Exhibit 28 shows the few winners and the large number of losers. Europe would be hurt the least, thanks to intra-European trade while (and it is not a big surprise), the major trading partners of the US would be hurt the most.

Exhibit 28:
Winners and losers from 10% tariffs

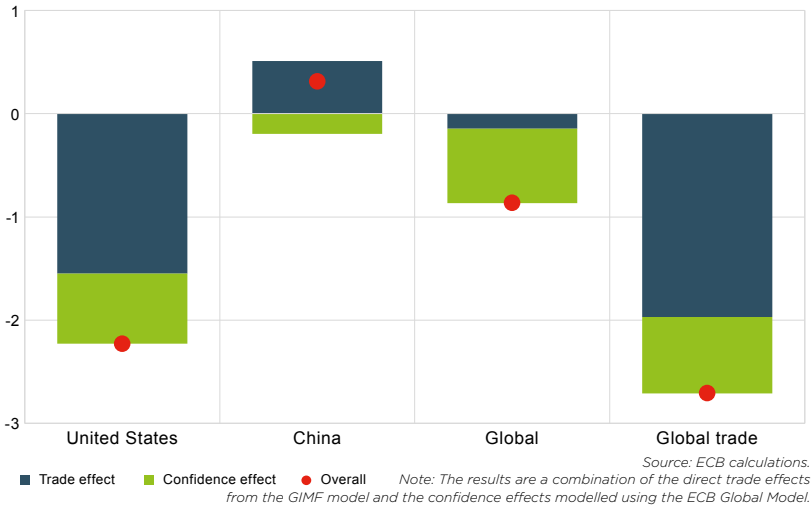


Source: Bloomberg Economics

7.3.5. The ECB tried also to quantify a generalized trade war

Like Bloomberg Economics and Bank of England, the ECB study simulated the effect of 10% reciprocal tariffs on the United States and its trading partners, a much darker scenario than suggested by D. Trump so far. The shock would be very significant (Exhibit 29): economic growth in the US could fall by more than 2% the first year after a trade war sparked by Washington. It would affect international trade and confidence indicators, leading to higher borrowing costs for the countries and a decline in the stock markets. This worse-case scenario takes also into account a contraction of nearly 3% of world trade, a contraction of the level of employment and a loss of standard of living for consumers, which would discourage consumption and investment. On the positive side, however, the shift of internal demand from foreign products to domestic production would reduce imports. The world economy would be significantly dragged down: the trade war would take 0.75% off world GDP in the first year.

Exhibit 29:
Estimated impact of an escalation in trade tensions – first year effects (GDP response in 2018, deviation from baseline levels, percentages)



Source: ECB calculations.
Note: The results are a combination of the direct trade effects from the GIMF model and the confidence effects modelled using the ECB Global Model.

7.3.6. The French Conseil d'Analyse Economique (CAE) / Council of Economic Analysis (an independent, non-partisan advisory body reporting to the French Prime Minister) **went several steps further**, analysing two different - and extreme – scenarios:

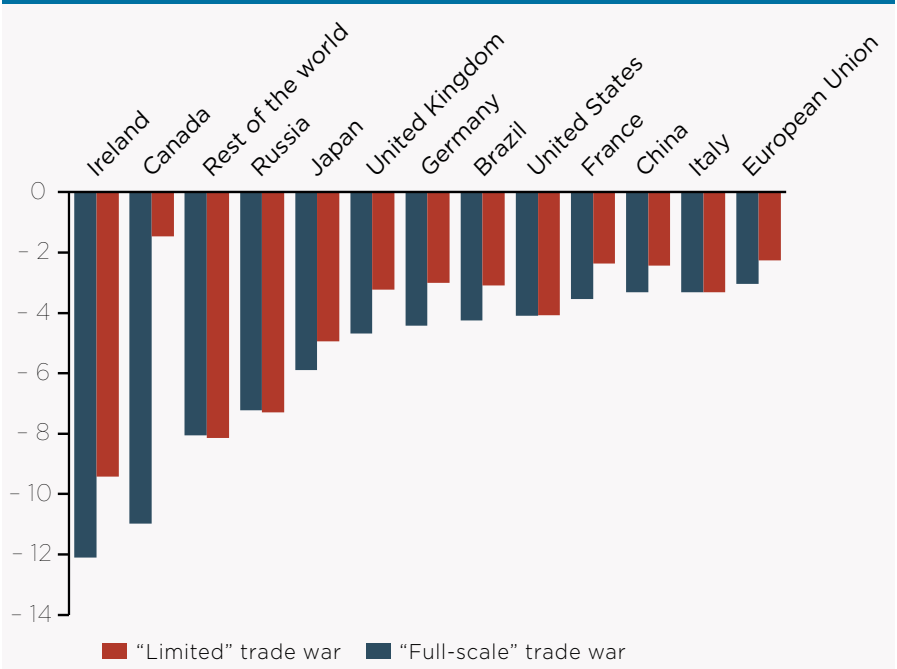
- A "full scale" trade war, i.e. a rise of all tariffs to 60%, apart from EU countries, where the zero-tariffs agreement is maintained. 60% tariffs might be perceived as an extreme scenario, but the section 7.2. stressed that tariffs between 30% and 60% were "normal" level of tariffs in time of real trade wars.
- A "limited scale" trade war, i.e. a rise of tariffs to 60%, except for countries which have specific bilateral agreement and except for EU countries (still at zero tariffs).

Exhibit 30 summarizes the consequences. According to this study, the "full-scale war" case (tariffs at 60%) shows that the permanent loss of GDP would be more than 4% for the European Union, more than 3% for France, close to 4.5% in Germany and 12% in Ireland. "*These losses are the direct consequence of a sharp fall in trade. For example, France's trade outside the EU would fall by about 42%". The smaller and more open the countries are and the more they are affected with larger losses by the increase in production costs (through the destruction of value chains) and consumer prices as well as by the loss of markets*". EU countries are partly

protected by their EU membership but the decline in GDP is comparable to the losses following the Great Recession of 2008-2009. Note that a "Limited scale" trade war would have a limited impact on Canada due to the bilateral agreement with the US, its main trading partner.

A "full scale" trade war would have a permanent effect of similar magnitude on the three major global powers (EU, US and China), to that of the Great Recession of 2008-2009. This completely calls into question the US assertion that the EU and China would be the only losers in a trade war. In that sense, the study is very interesting: the losses of the three major trading powers (the United States, China and the European Union) are roughly equivalent (around 3% for China and the US and around 4% for the EU). **For very open countries, the losses would even be much bigger (more than 10% for Ireland, Canada, Switzerland, Mexico and Korea**.

Exhibit 30:
The consequences of a global trade war, in percentage of GDP



Source : Jean – Martin – Sapir (2018)

Table 11: A summary table on the impacts of a trade war		
Study	Framework of the study	Estimated impacts (vs. a base scenario)
Noland – Robinson – Moran (2016)	Potential effects of three trade-war scenarios based on Trump's pre-election rhetoric. They estimate the impact on the US of a 45% tariff on non-oil imports from China and a 35% tariff on non-oil imports from Mexico, based on differing retaliatory actions.	In a full trade war scenario, in which China and Mexico impose identical tariffs on the US, inflationary pressure in the US increases alongside rising import prices, prompting the Fed to raise interest rates. Activity is further dampened by greater uncertainty, which pushes up spreads and the cost of capital, dragging on consumption and investment. As a result, the US enters a recession in 2019, and the unemployment rate peaks at 8.6% in 2020.
McKibbin – Stoeckel (2017)	They estimate the impact of a 40% tariff imposed by the US on imports of manufactured goods from China (assuming no retaliation).	The effect is relatively neutral for the US (if substitution to lower priced products from elsewhere occurs), but harmful for China, in terms of GDP and investment.
McKibbin – Stoeckel (2017)	They estimate how the level of GDP would be affected in one year if all countries were to increase import tariffs by 10% points.	Considering the average effects across countries suggests that a trade war that took this form could reduce global GDP by around 2% within a year.
Bloomberg (2018)	A 10% increase in the cost of US imports followed by an equivalent response on the part of the Rest of the world.	A decline in global GDP of 0.5% after two years: 0.9% in the US, 0.5% in China, 1.8% in Canada, 1.0% in Mexico.
Amundi (2018)	We have estimated the impact of US tariffs on autos on Europe from their current level of 2.5% to 25%.	A stronger impact on Germany (around 15% of car exports to the US, i.e. 20 bln euros, or 0.6% of GDP, vs. 0.01% for France, 0.05% for Spain and 0.25% for Italy (27% of car exports to the US), on Czech Republic, and on countries that play a key role in German supply chains. In such a case, we would reduce our euro area GDP forecast by 0.2 pp in 2019, most of the losses on German GDP.

World Bank (2018)	Maximum global tariff increase allowed by the WTO (consolidated tariff rates), i.e. 2.7% to 10.2% on average.	After 3 years: a drop in global trade of 9.0%, and a decline in global real income of 0.8%.
International Monetary Fund (2018)	Widespread increase of 10% in the cost of imports for all countries; it also adds an indirect effect (confidence shock).	A decline in global real GDP of 1.75% after 5 years and roughly 2% in the longer term. Drop in global trade of 15% after 5 years.
Bank of England (2018)	The BoE assumes that the US will triple import tariffs on all trade partners, i.e. raise them by 10% points.	The estimated direct effect would be a 1.2% lower global GDP through 2021. The effect on the US would be -2.5%. Adding indirect effects would double the adverse impact. The world and the US would see accumulated price hikes of 1.1% and 0.8%, respectively, by 2021. A policy dilemma for central banks.
ECB (2018)	10% reciprocal tariffs on the US and its trading partners.	US GDP could fall by more than 2% the first year, and global GDP by 0.75%. World trade contraction by 3% and US GDP down 2%.
Conseil d'Analyse Economique (2018)	Widespread increase in tariffs of 60% (except against members of regional trade agreements).	Real GDP would decline: a 2.4% decline in the US, 3.3% in China, 1.5% in Canada, 3.1% in the EU, and a 0.8% decline in Mexico.

VIII. Which scenarios for the coming months?

A lot of scenarios are possible, depending on initial measures and triggers, depending on the number and importance of countries impacted, depending on the level of retaliation, depending on the magnitude of indirect impacts of tariffs… As regard the impacts, there are massive differences between a limited-scale trade war and a full-scale trade war, between direct impacts and indirect impacts, and between global measures and targeted measures (to a limited number of countries)… nevertheless, four distinct scenarios seem to emerge at present.

- **Scenario # 1: A total, global trade war** would affect all countries, and would represent by far the most dangerous scenario for global growth and trade. There would not be any winners at the end, only losers (*probability 5%*);
- **Scenario # 2: US vs. the Rest of the World**. The damages would certainly be less severe in a scenario where the trade war focuses on

fights between the United States and a large part of the rest of the world. The rest of the world would decide to preserve (or even to consolidate) the free trade that prevails between them. In other words, instead of having the US, Japan and Europe working together through the WTO to obtain, from China, more transparency, less "unfair" trade, more protection of intellectual property for example (should we consider all Trump's complaints have to be addressed), we would have China, Japan and Europe getting closer and retaliating together (as allies) vs. the US (*probability 15%*);

- **Scenario # 3**: **Trump retreats.** As R. Reagan did in the early 80s and G. W. Bush did in 2002, one can also envisage that, at one point, D. Trump abandons any further protectionist temptations, and the calm would return. Different reasons could force such a decision: i) the inefficiency of implemented tariffs measures (no impact on trade deficit, inflationary pressures, negative impacts on US growth and employment…), ii) a dissuasive sanction announced by the WTO against the US, and iii) significant and painful measures of retaliation from the major US trading partners…). This situation would be similar to recent - and less recent - history (*probability 30%*);
- **Scenario # 4: Europe (automobiles) as the next target**. In this scenario, the next wave of protectionism would almost exclusively affect Europe, especially the automobile sector (the US trade deficit is combined story of imports of Chinese products and imports of automobiles and automobiles parts). Such a scenario would impact Euro zone growth: the economic activity (GDP) in the zone could fall by more than 0.3% the first year after, with a stronger impact on Germany, Slovakia and Czech Republic (*probability 50%*).

Note that different scenarios may succeed one another: scenario # 3 could occur in a second step, following scenario # 4, which seems to be the most probable immediate step.

IX. Can the WTO survive a trade war?

In all wars, there are collateral damages, and trade wars are not exception. In the beginning of the current trade war, an institution is already in danger: the World Trade Organization (WTO). Since 2005, the WTO regulates the rules of international trade for all its member states (164 member-States at present). It replaced the General Agreement on Tariffs and Trade (GATT), which was implemented after World War II. Both the GATT and the WTO have contributed to the reduction of tariffs (first on advanced countries, and then on emerging countries) and the settlement of any trade dispute, but also to the development of world trade and the

reduction of inequalities between countries. It is clear that the current rise in protectionism contravenes the mission of the WTO and the risk to present is to see the WTO become obsolete. To summarize, the WTO is in danger for many reasons:

The opinion - negative - of D. Trump on the WTO is well-established: since his election, D. Trump continues to refer to the conditions of "unfair trade" that would suffer the United States, and to mention impotence, even the complicity of the WTO in this state of affairs. The idea that the WTO may be unfair to the United States, however, does not stand up to the facts. In fact, WTO decisions against the United States are similar to those made to other States. As a plaintiff, the United States brought 123 cases before the WTO and was successful in 91% of the cases, a percentage slightly higher than the average of the other member-States. As a defendant, the United States has "suffered" 151 plaints from its trading partners to date and the institution has wronged them in almost 89% of cases, a percentage that is also in line with average of the other member-States which have been appealed. There is therefore no indication of special and negative treatment of the United States. Consideration of cases in which the United States appears as a third party (144 cases to date) also shows no particular anomaly. Trump is "unfair" when he accuses the WTO of being unfair... but he will not change his mind and will not help the WTO.

The functioning of the WTO is in danger. The institution is asked to judge the "legality" of commercial relations and has for it a committee of judges who analyse the requests of countries that feel cheated by the behaviour of other countries. This committee, composed of 7 judges, has the power to judge and punish any illegal behaviour. This committee can only work if there are at least 3 judges: below this number, the WTO stops working. Since the United States currently refuses to validate any appointment, the committee is left with just 3 judges (one Indian representative, one Chinese representative and one US representative) and the terms of two of them end during the fourth quarter of 2019. In other words, if the United States continues to refuse any appointment, the WTO will cease its conflict resolution activities (its core business) in about a year. At that time, technically, the WTO will cease to exist.

The WTO seems powerless to counter the rise in protection since the great financial crisis of 2008. The proliferation of non-tariff measures between 2008 and 2017, and then the use of tariff measures by the United States (and China's retaliation in particular) have all showed how free trade could be in danger as soon as World Trade no longer progressed. It is even a negative spiral: protectionism weakens global trade, leading to additional uncooperative behaviour that further weakens it. Even if the US carefully implemented recent measures in a way appearing to comply with the letter

of WTO rules, and if they continuously refer to national laws that would give legitimacy to increase tariffs, these behaviours and national laws are not recognized by the WTO. Are we going to a tug of war between the WTO and the United States? Can an institution like the WTO (which is a forum, not a power) really fight against a power like the United States? How will other member countries behave? These are the questions that will partly determine the survival of the WTO.

Can the United States exit the WTO? This is technically possible, but the implicit or explicit withdrawal of the United States would undoubtedly be a retreat for free trade, the regulation of commercial disputes, and more generally for the global economic order. Nothing would hinder life to a real trade war, made of tariffs and retaliation .... No country would be protected from recourse to a sharp rise in US tariffs ... not even the United States itself. It would include the protection of US exporters or the protection of intellectual property, both of which being currently regulated by the WTO. The United States is obviously aware of this, but that did not prevent the White House from preparing, a few months ago, a bill giving the President the right to go beyond two basic WTO rules: the « most favoured nation » rule (which edicts that, aside from free trade agreements and a few exceptions, a country cannot impose different tariffs on different countries), and the « consolidated tariff rates » (the maximum tariff that a country can impose under multilateral trade agreements negotiated in the past). Adopting this bill is a way to go out of the WTO. However, it seems unlikely that this bill will be passed in Congress and become official at this stage.

In conclusion, the WTO is clearly in danger. According to S. Mnuchin (the U.S. Treasury Secretary), it would be exaggerated to consider that D. Trump wants to pull the US out of the WTO, but "*it is true that he has concerns about the WTO. He thinks there's aspects of it that are not fair.*" While remaining in the fold of the WTO, but "simply" freeing themselves from normal operating procedures, by blocking the appointment of judges in charge of conflict resolution, or by continuing to criticize its operation and to challenge its credibility and usefulness, the United States has a very clear capacity to weaken the WTO in the long run... or to change its operating rules. On the other hand, **a real trade war would probably mean the end of the WTO.**

Conclusion
EU and China would not be the only losers in a trade war

The rise of protectionism is not a brand-new phenomenon: the very last wave dates from the financial crisis of 2008: non-tariff measures from 2008 to 20017, tariffs measures in 2018. The stagnation of world trade for 7 years has also encouraged non-cooperative behaviour, and the decision of the United States to carry outright tariffs increases will have lasting consequences in relations between countries, but also on global growth and on the WTO.

Do they sound the end of trade multilateralism? We can think of it at this point. Is this the best way to push China to be more transparent and open its markets? Nothing is less sure.

It should also be noted that the Trump administration still considers that China conducts a mercantilist growth. However, consider Chinese growth is at present an export-led growth is a mistake. It was certainly true when China joined the GATT / WTO, but it is not true anymore. China has achieved another step, in line with all the recommendations (and WTO constraints) and in line with is development: see the appreciation of the CNY in real terms, see the low trade surplus (as regard the huge level of savings), see the strength of internal demand, see the strength of the service sector, see the steps for the internationalisation of the yuan since 2001 ... In sum, the Chinese growth is now more an internal demand-led growth that an export-led growth. Let's recall that, for years (with G. Bush notably), the US also complained about the so-called huge undervaluation of the yuan ... it was correct in the early days, but it was not true anymore at that time. And D. Trump was right when he changed his mind in April 2017, considering that China did not manipulate FX markets, despite the trade surplus with the US (however, the United States has changed its mind – again – on the subject).

The current trade dispute (US – China, US – Mexico/Canada, US – Europe) is not a real trade war... so far. To define a trade war, four elements are crucial.

1. First, in a trade war, countries have to face attacks and ripostes, i.e. tariffs and retaliation;
2. Second, the magnitude of measures is also important: they have to be large enough to seriously impact exports, global trade and GDP growth;
3. Third, the measures implemented have to be in line with the ones which prevailed in the previous trade wars. It is not the case so far;
4. And fourth, for a trade dispute to become a war, it has to be global: until now, the trade war is still bilateral (between the US and part of the world) – not multilateral. For example, The European Union and

Japan (one third of the world economy), have a free trade agreement. Until now, there is still a widespread desire for free trade.

Economic theory would suggest that protectionism (and a trade war) may have several impacts:

1. It boosts inflation by directly increasing import price, with has potential impacts on monetary policies;
2. It deteriorates global trade, which usually represents one growth engine;
3. It can be harmful for sentiment (consumer confidence and business confidence), with consequences on GDP growth, the level of employment, and equity prices;
4. Its impact on financial markets can create negative wealth effects and deteriorate consumption further; the effects can be disproportionate, with countries more-heavily exposed to global trade being more adversely affected.

The direct impact of the current US tariffs on China is not expected to be dramatic, but indirect effects must not be underestimated. One can identify different transmission channels, and they determine the total impact of tariffs on growth:

1. The dependency on trade;
2. The ability to substitute for countries whose exports are subject to tariffs;
3. The importance of imports as inputs on exports;
4. The intensity of the trade war;
5. The impact on the confidence indicators (consumers and businesses) that determine the dynamics of economic activities (consumption and investment);
6. The impact on the financial markets and the potential wealth effect.

Trade disputes might represent a specific factor / risk for the countries concerned (China at present, for example), but a full trade war would be a common / systemic factor to numerous economies: it would not be a specific factor. It is therefore an ideal element for generating widespread declines in the financial markets, with potential impacts on economic activity. **As already mentioned, the current trade dispute is not a real trade war… so far**. **Direct impact of current US tariffs on China is not expected to have dramatic consequences but indirect effects should not be underestimated**. Our calculations and other studies mention the losses following a trade war depending on its intensity: Tariffs on autos against Europe could force to cut growth prospects in Europe by 0.3-0.5%: Germany and Slovakia would be hurt the most, and France would not be hurt. A 10% tariffs on all goods (at the world level) would cut global growth by 1%, US

growth by 2%, and global trade by 2.5%. The losses could amount to 3 to 4 points of GDP (in the United States, in China and Europe) if the current situation evolve to a "classical" trade war (i.e. a sharp rise in all tariffs) with a significant impact on financial markets and confidence. The impact could then be similar to the damages following the Great Recession of 2008-2009, and it could be much worse for the very open economies. **To sum up, all studies converge to the conclusion that with an effective trade war, all countries would be impacted: there would not be any winner(s), only losers**. Same observation from the WTO: "*The scenario of a global trade war will have a dramatic effect*", recalled recently the Director General of the WTO, Roberto Azevedo. While D. Trump considers that "*Trade wars are good and easy to win*", the IMF tends to consider that "*trade wars do not only hurt global growth, they are also unwinnable*. **All the simulations completely call into question the US assertion that the EU and China would be the only losers in a trade war**.

The tariffs adopted so far by the US and the current retaliation actions should have little impact on global growth unless sudden major risk aversion. The new US trade policy undoubtedly entails downside risks to economic growth and inflation, to name a few impacts, but the magnitude of the risks depends on the intensity of the trade war. The risks are also limited as long as the "trade war" is kept bilateral – i.e. between the US and the rest of the world – not multilateral. Free trade is not rejected in most countries: the EU and Japan, for example, have a free trade agreement that covers one third of the world economy. History recalls that one should ever underestimate the impact of public opinion on governments when negative impact of protectionism surfaces.

So, will Trump continue on the path of protectionism? If one refers to its commitments and declarations, the trade war should be amplified, with regard to China and especially to Europe. The mid-term elections will not suffice to calm Trump's protectionist ambitions. Yet, if we refer to history, blockages may well appear soon. In 2002, Bush had retreated from fears of retaliation from trading partners, the first signs of the negative effects of protectionist measures on the US economy, and also from a heavy penalty promised by the WTO. **A global trade war represents only a tail-risk scenario at this stage**: tariffs still at low levels so far... and as long as escalation is limited, the impact will remain limited. But the fears are not expected to disappear soon.

History and US trade wars recall that the risks of retaliation and the negative effects of protectionism have each time pushed back the protectionist waves ... but that did not prevent damages in terms of growth and jobs. All major trade war episodes (the "Tariff of 1828" – also known as the "Tariff of Abominations", the "Morrill Tariff" of 1861, the "Fordney – McCumber Tariff" of 1922, the "Smoot – Hawley Tariff Act"

of 1930, the "US – Japan Trade War" of the 1980s, the "US steel tariff" of 2002) point to the same conclusions. The US – Japan trade war of the 1980s, for example, which highly resembles to the current trade war with China, illustrates the inefficacy of the "get tough" strategy of the 1980s and early 1990s: the effort to negotiate the trade deficit down through trade policy did not really work. **The "get tough" strategy of D. Trump is therefore highly questionable**. If we refer to recent periods only, it did not work in the 1980s (with R. Reagan), and it did not work in 2002 (with G.W. Bush), and it should not be more successful at present, for at least four reasons:

1. Since the end of the Cold War, the power is shared and the US power has declined (it was not the case in the 1980s);
2. The supremacy of the US over Japan was much higher at that time than its supremacy over China at present;
3. The share of the US in most of their trading partners' exports has declined sharply;
4. As a member of the WTO - should it is still of some importance for the US - the US ability to apply unilateral trade sanctions to individual trading partners appears fairly limited.

In other words, it would have been more "reasonable" and more efficient to force China to open its markets - to be able to export more – via the WTO. Instead of setting up unilateral tariffs, it would have been better to have allies (Europe, Japan ...) and to intervene via the WTO. **The current rise in protectionism (which contravenes the mission of the WTO) and the attitude of D. Trump feed the risk to see the WTO becoming obsolete**. D. Trump is in favour of bilateralism and not a fan of multilateralism (UN, NATO, WTO are systematically criticized...). The existence of WTO is at risk at present and could be a collateral victim of the current trade dispute between the US and China (and potentially the rest of the world). While remaining in the fold of the WTO, but "simply" freeing themselves from normal operating procedures, by blocking the appointment of judges in charge of conflict resolution, or by continuing to criticize its operation and to challenge its credibility and usefulness, **the United States has a very clear capacity to weaken the WTO in the long run... or to change its operating rules. On the other hand, a real trade war would probably mean the end of the WTO.**

To say the least, whether one is referring to economic theory, the history of US trade wars, or the various empirical studies that have attempted to evaluate the impact of a trade war on trade, growth, or employment, we can see the damage that would be caused by such a scenario. This is not new: Henry George, economist of the 19th century considered that "what protection teaches us, is to do to ourselves in time of peace what enemies seek to do to us in time of war".

Appendix 1
US – China trade, by product

Table 8: US imports from China, by product				
	Imports (USD Bln)	Share in China's total exports to the US (%)	Share in the US total imports of the same product (%)	Share in China's total exports of the same product (%)
Cellphone	47	11	59	19
Furniture	30	7	52	33
Toy product	19	4	80	34
Knitwear	16	4	33	22
Plastic Product	16	4	32	22
Automobile	15	4	5	22
Non-Knitwear	14	3	36	19
Footgear	12	3	56	25
Monitor & Projector	10	2	48	33
Steel product	10	2	32	18
Optical machine	10	2	14	13
Organic chemicals	8	2	17	15
Electronic heating equipment	6	1	66	28
Motor device	5	1	42	25

Source: UN Comtrade, Ha (2018)

Table 9: China's imports from the US, by product				
	Imports (USD Bln)	Share in Chinese imports from the US (%)	Share in US exports of the same product (%)	Share in China's imports of the same product (%)
Machinery	19	12	7	8
Automobile	15	10	10	19
Aircraft	14	9	11	54
Soybean	14	9	57	35
Optical product	13	8	11	11
Plastic product	7	5	9	7
Paper pulp	4	3	38	21
Medical product	4	2	5	15
Organic chemicals	4	2	8	7
Other chemicals	3	2	9	20
Petroleum	3	2	20	2
Wood product	3	2	33	13
Natural gas	3	2	11	6
Copper product	2	1	27	4

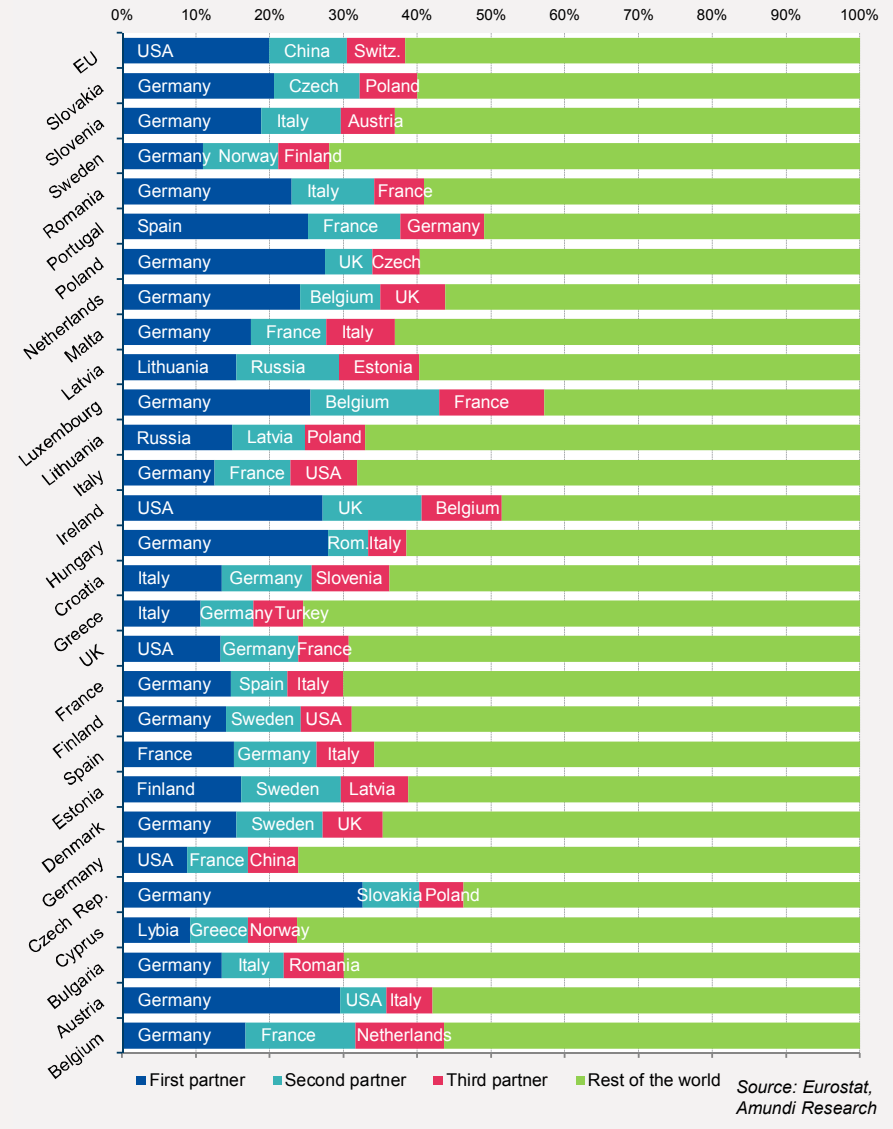
Source: UN Comtrade, Ha (2018)

Appendix 2

Who are the trading partners of EU?

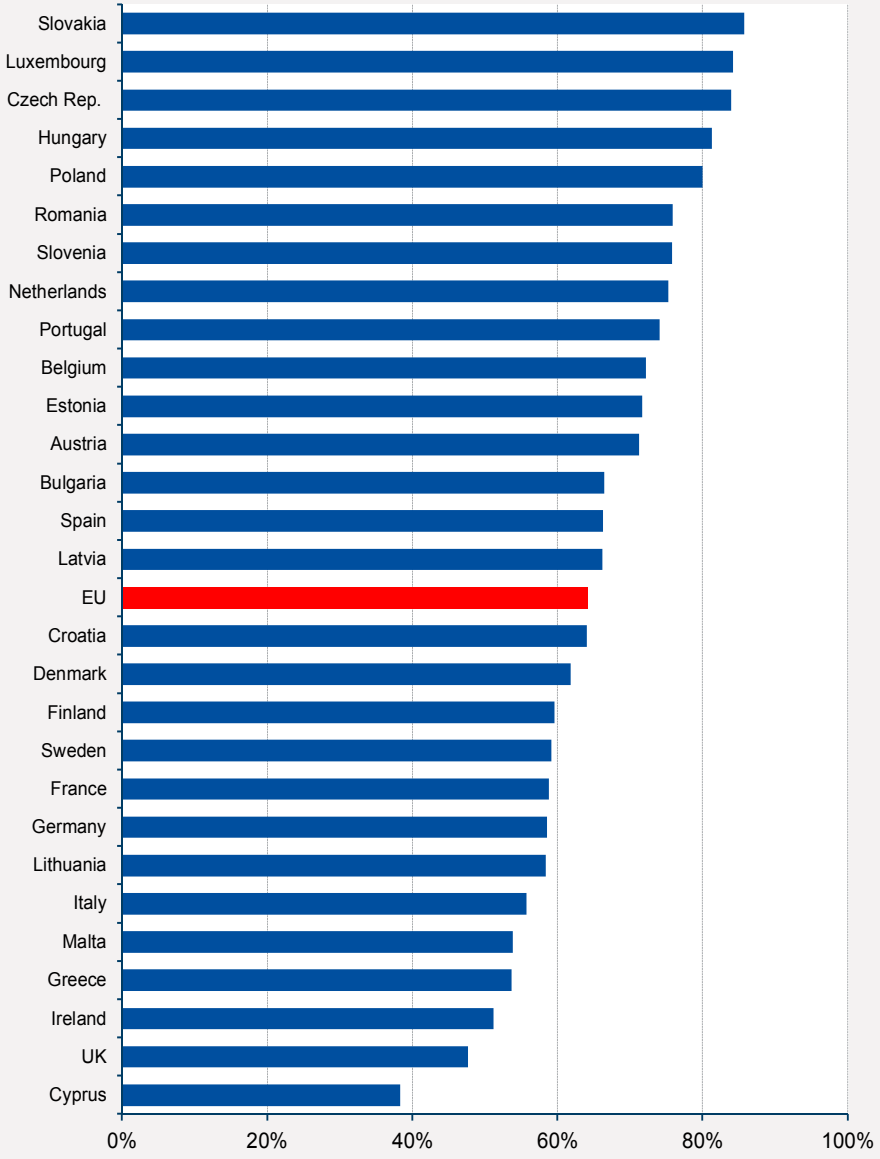
Intra-EU trade is predominant, but one-third of EU trade is done with the US and China

Exhibit 18:
Exports of goods of EU member-States: the major partners in 2017



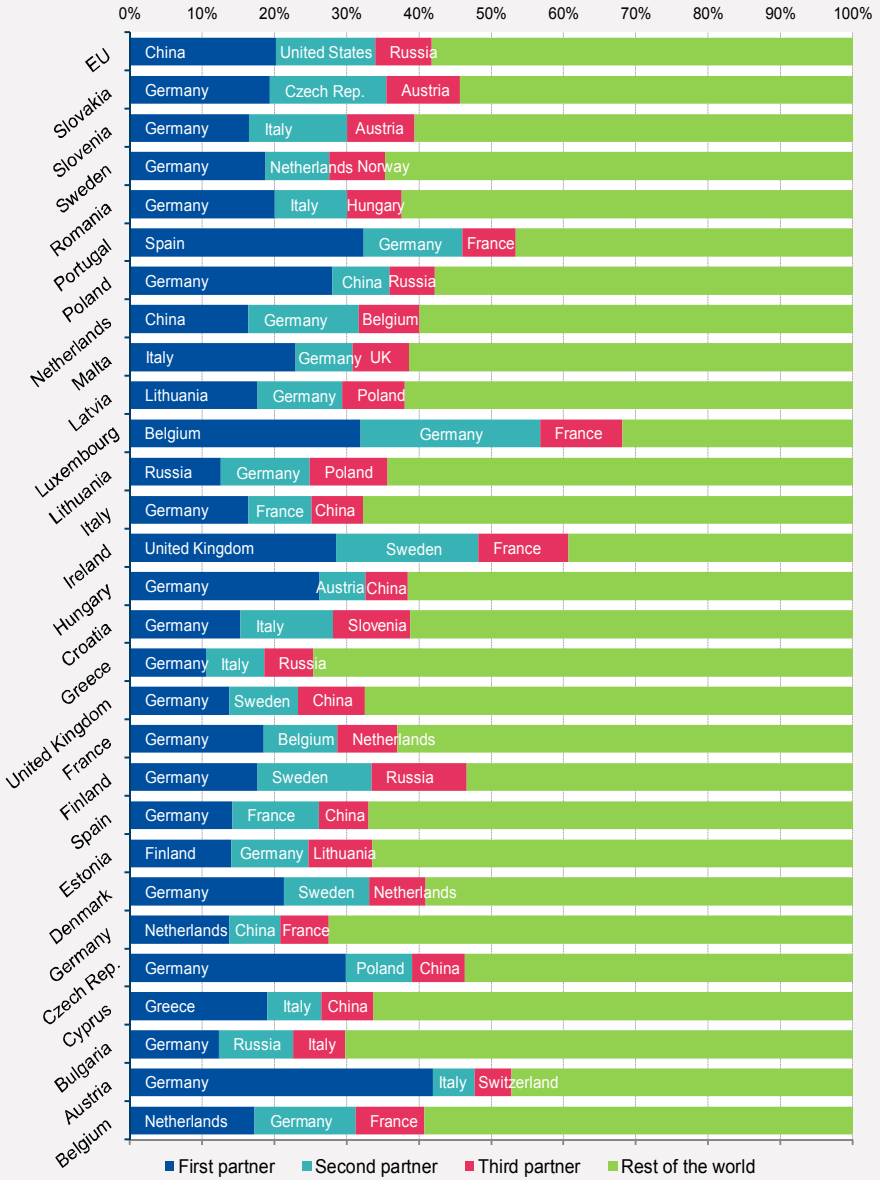
Source: Eurostat, Amundi Research

Exhibit 19:
Share of intra-UE exports, 2017



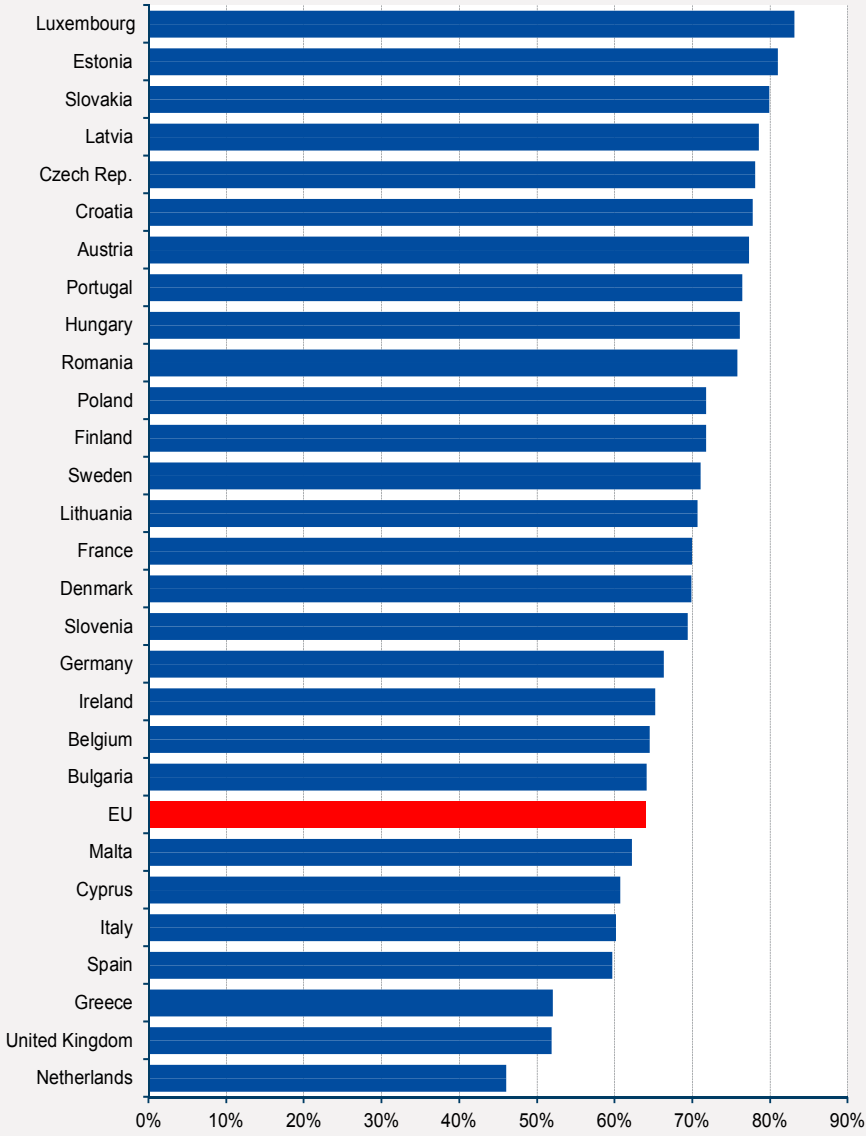
Source Eurostat,

Exhibit 20:
Imports of goods of EU member-States: the major partners in 2017



Source: Eurostat, Amundi Research

Exhibit 21:
Share of intra-UE imports, 2017



Source: Eurostat, Amundi Research

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