Policy Brief #2017/09

How Hidden Protectionism Impacts International Trade

Tariffs impede trade. They are the most visible instrument for protecting domestic companies against foreign competition. So-called non-tariff barriers to trade (NTBs) are less visible. NTBs include restricting import quantities, registration formalities for imports or state aid for domestic suppliers. Our study shows that NTBs implemented worldwide between 2010 and 2015 have been responsible for roughly 16 percent of missing global trade in 2015, amounting to about USD 512 billion. German exports could have been at least USD 43 billion higher in 2015 if these NTBs had not existed. The value of German imports in 2015 would have been at least USD 34 billion higher than the actual volume of imports.

Non-tariff barriers to trade (NTBs) are significantly more difficult to measure than tariff-based barriers to trade, i.e. tariffs on imported products. The spectrum of NTBs ranges from restrictions on the quantity of permitted imports to special technological requirements through to state aid for domestic companies (tab. 1).

The "Global Trade Alert" (GTA) Database, which was established after the financial and economic crisis broke out in 2008, records newly implemented NTBs worldwide. The Database documents the following information for each NTB introduced since the beginning of 2009: the country implementing the NTB; the trading partners and products affected by the trade restrictions; and the date on which the NTB was introduced.

The 151 countries monitored adopted a total of more than 5,600 new protectionist measures between the beginning of 2009 and July 2017. More than 3,000 of them were NTBs. Since many of these policies are no longer in force at the present time, the number of NTBs still enforced in 2016 was roughly 2,400. In 2015, the year for which we estimate NTB-related trade reduction below, 2,212 NTBs were in force. In 2009, the first year covered here, there were just under 390 NTBs.

TABLE 1: **Types of Protectionist Policies**

Tariff changes	Non-tariff barriers	
Trade defense measures	**Import controls**	**Localisation policy**
Anti-circumvention	Import ban	Local operations
Anti-dumping	Import incentive	Local sourcing
Anti-subsidy	Import licensing requirement	Localisation incentive
Safeguard	Import monitoring	**Capital controls and exchange rate policy**
	Import quota	Competitive depreciation
	Import tariff quota	Price stabilisation
	Import-related non-tariff measure, nes	**Other instruments**
	Internal taxation of imports	Instrument unclear
	Trade balancing measure	Sanitary and phytosanitary measure
	Trade payment measure	Technical barrier to trade
	State aid and subsidies	**Export controls**
	Bailout (capital injection or equity participation)	(not included in estimation sample, only descriptives)
	Financial assistance in foreign market	Export subsidy
	Financial grant	Other export incentive
	In-kind grant	Tax-based export incentive
	Interest payment subsidy	Trade finance
	Loan guarantee	Export ban
	Production subsidy	Export licensing requirement
	State aid, nes	Export quota
	State loan	Export tax
	Tax or social insurance relief	Export-related non-tariff measure, nes
	Public procurement policy	
	Public procurement access	
	Public procurement localisation	
	Public procurement preference margin	

Source: Yalcin, Kinzius and Felbermayr 2017: 11.

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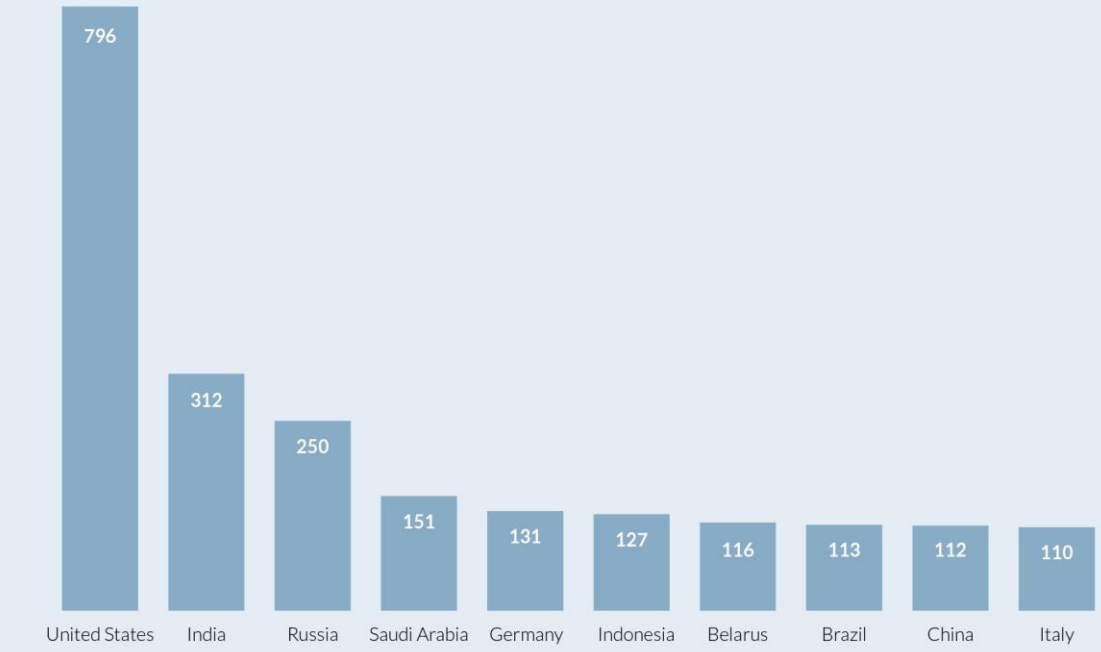
Who implements NTBs and whom do these policies affect?

The United States implemented by far the most NTBs between the beginning of 2009 and July 2017. That is not an exemplary performance for the number one in global trade, which presented itself as the leading advocate of free trade and open markets until recently. This becomes even clearer if one considers the distance between the United States and India: with 312 measures, India introduced the second highest number of NTBs. The United States introduced about 800 NTBs, nearly twice the number of India. It should also be noted here that the United States largely adopted these protectionist policies long before the inauguration of the Trump administration. China – the number two in global trade, just behind the United States – implemented only 112 measures and lands in 9th place as a result. Germany, which has implemented roughly 130 individual measures, occupies 5th place (fig. 1).

It can also be seen that largely developing and emerging economies make up the countries that have introduced the most NTBs (7 of 10). These countries are catching up in terms of development and therefore may be trying to protect domestic producers against international competitive pressure by implementing NTBs. At the same time, it should be stressed that the United States and Germany, the largest export and import nations in the world, are among the countries increasingly introducing NTBs. On closer analysis, it also becomes clear that industrialized nations are implementing more and more NTBs, in particular against other industrialized nations, to make imports more expensive.

FIGURE 1: **Top 10 countries implementing NTBs, 2009 – 2017**



Note: Number of NTBs that were implemented in the respective country each year.
Source: Global Trade Alert Database; Yalcin, Kinzius and Felbermayr 2017: 39.

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It is also possible to calculate how frequently a country was affected by the NTBs introduced between 2009 and 2017 because the NTB policy was directed at imports from this country. This shows that Germany is the country whose exports were affected the most by the NTBs implemented between 2009 and 2017. With the exception of China, exclusively industrialized nations are among the ten economies that are the target of most of these instruments (fig. 2).

On the one hand, this reflects the dominance of industrialized nations in global trade: Countries that trade a lot are also the focus of the other trading partners' NTBs. On the other hand, four countries are in both top 10 rankings: three industrialized nations – the United States, Germany and Itfaly – and China as the only developing or emerging economy. This shows that at least some of the countries introducing many NTBs are also strongly affected by such NTBs themselves. It is certainly going too far to interpret this as systematic retaliatory measures. Nonetheless, this could be a sign that protectionism can end in a vicious circle of action and reaction damaging all participants over the long term.

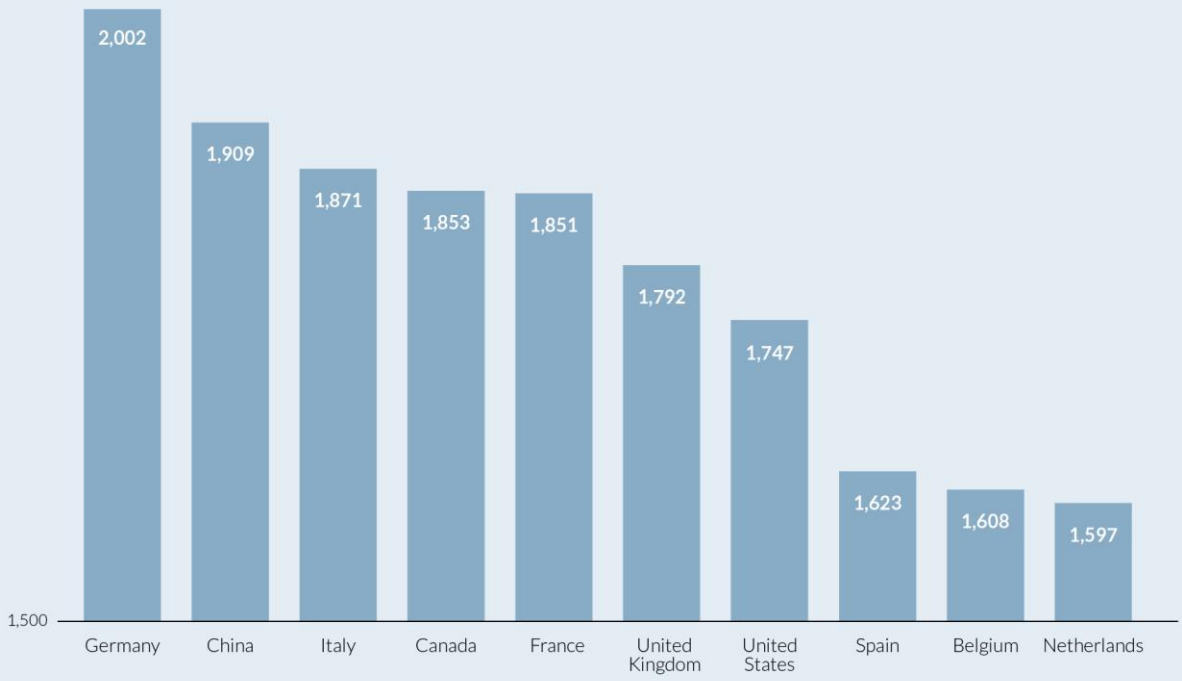
How much do NTBs restrict international trade?

Methodology

The critical issue in regard to the economic impact of NTBs is the question of whether – and if yes: how much – these trade barriers restrict international trade. It is very difficult to answer this question methodologically. Among others, this is due to the fact that the NTBs identified here are very different in nature. Therefore the strength of their impact can also be very different. For example, a newly introduced documentation obligation with regard to technical quality requirements for an imported electric shaver has a different economic impact than a policy where the quantity of permitted automobile imports is restricted to just 70 percent of the import volume in the previous year.

Therefore, the effects of newly introduced NTBs on international exports and imports discussed below are only a rough approximation of the economic impact of these protectionist policies.

FIGURE 2: **Top 10 countries affected by NTBs, 2009 –2017**



Note: Number of cases in which the respective country was affected by newly introduced NTBs each year.
Source: Global Trade Alert Database; Yalcin, Kinzius and Felbermayr 2017: 39.

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The data on NTBs from the GTA database as well as a dataset on the bilateral trade relations between 152 countries in the period between 2010 and 2015 serve as the starting point for the estimates on the impact of NTBs on trade. The trade data used here differs between 177 products and product groups. The inclusion of these many products makes it possible to take account of the importance of different import and export structures for the individual countries. Econometric estimates examine the impact that introducing trade restriction policies will have on the volume of trade for the affected countries. Specifically, the impact of the three overarching protectionist policies – changing import duties, introducing protective trade policy measures and implementing NTBs – is analyzed to start with. The next step in the analysis is to examine the effects of introducing NTBs in a differentiated manner. To this end, the influence of four types of NTBs is studied (import controls, state aid and subsidies, public procurement and local economic policy, other NTBs, see tab. 1). These econometric estimates include a total of slightly more than 4.4 million individual observations (see Yalcin, Kinzius and Felbermayr, 2017: 18 – 21 for methodological details).

Empirical results

The introduction of at least one NTB on average for all countries and products leads to a decline of up to 12% in imports between the countries affected (i.e. the country adopting the policy and the country whose exports to the policy-adopting country are affected) over the analyzed period (2010 to 2015).

If the effects on trade are broken down by sector, there are sectoral differences. The trade-reducing effect of NTBs is particularly great in the commodity sector (incl. ores, minerals, electricity, gas and water). The introduction of at least one NTB leads to an average decline of just under 26 percent in the corresponding bilateral trade. In the agricultural sector, including forestry and fishing, the average drop in trade was roughly 8.4 percent. The calculated effect on trade here was the lowest in all the examined sectors. The declines in trade for the other analyzed sectors are between these amounts (metals and machinery: -14%; consumer goods and non-durable goods: -10%).

If the empirically estimated trade impact resulting from the introduction of NTBs is used to project the associated changes in global exports and imports, it is possible to arrive at the following approximative calculations for international trade, defined as the total of all imports worldwide (see Yalcin, Kinzius and Felbermayr 2017: 31 et seqq.):

- According to estimates by experts at the International Monetary Fund and the World Bank, the global volume of all imports could have grown by 4.4 percent in 2015 if there had not been any policies restricting trade (see Constantinescu, Mattoo and Ruta 2015: 47).
- Based on international trade data from the World Bank, the global volume of imports could have reached USD 19.9 trillion in 2015.
- In fact, the volume of imports in the global economy reached only USD 16.7 trillion in 2015, i.e. USD 3.2 trillion less than the expected amount.
- If the average effect of NTBs of 12%, as calculated above, is transferred to those imports affected by NTBs, this produces the following estimated amounts: the volume of global imports in 2015 was reduced by 3.1% or about 512 billion USD due to the NTBs newly implemented worldwide between 2010 and 2015. This corresponds to about 16 percent of the estimated loss of USD 3.2 trillion in imports in 2015.

In other words: the NTBs implemented between 2010 and 2015 are responsible for roughly 16 percent of missing global trade according to this approximative calculation.

This approach can also be applied to the exports and imports of individual countries (tab. 2). It should be stressed that this involves so-called partial estimates. They can lead to an over- or underestimate in this linear projection since the empirical analysis involves the average effects across all countries in the world. The NTB-induced effects for individual countries are therefore higher or lower than the average. If the NTB-based global declines in imports of USD 500 billion are calculated back to all countries in the world relative to their global share of trading, a conservative projection produces the values for the EU, China and the US listed in table 2.

The results of the calculations in table 2 can be interpreted in the case of Germany as follows:

- If all the NTBs implemented worldwide between 2010 and 2015 had not been introduced, German exports in 2015 would have been about USD 43 billion higher than they actually were. This amount corresponds to roughly 1.2 percent of Germany's GDP in 2015.
- German imports would have been roughly USD 34 billion higher if these trade barriers had not been introduced (roughly 0.9 percent of German GDP in 2015).

It should be stressed that the figures for Germany are conservative estimates since German companies are confronted by NTBs more often than other countries due to their high export activity.

In absolute terms, the calculated declines in exports are only higher than Germany in the United States and China, at just over USD 49 and 73 billion respectively. In percentage terms, the declines in exports due to NTBs are the greatest in Belgium, Czechia, Hungary and Slovakia, each at more than 2 percent. In particular, small open countries such as Belgium or Slovakia, whose imports and exports account for a significant share of the gross domestic product, are affected more strongly by NTBs since these countries trade a wide range of products and are therefore impacted much more frequently by protectionist policies. In the case of large countries such as the United States or Germany, their trading of a wide range of products also increases the likelihood of NTBs restricting trade. Furthermore, substantially more potential trade is hindered overall due to the existing higher absolute volume of trade.

A final look at the five sectors examined above shows clearly that the metals and machinery sector in Germany is affected the most in absolute terms by the NTBs introduced around the world between 2010 and 2015 (tab. 3). This is one of the most important German export sectors.

TABLE 2: **Potential impact of non-implemented NTBs on imports and exports of selected countries, 2015**

Country	Change of exports in billion US-Dollar	Change of imports in billion US-Dollar	Change of exports in percent of GDP	Change of imports in percent of GDP
EU-28	**170.05**	**164.57**	**1.04 %**	**1.01 %**
Austria	4.69	4.76	1.14 %	1.16%
Belgium	12.85	11.93	2.54%	2.36%
Bulgaria	0.83	0.94	1.55%	1.75%
Croatia	0.41	0.66	0.71%	1.13%
Cyprus	0.06	0.18	0.27%	0.79%
Czechia	5.08	4.53	2.30%	2.05%
Denmark	3.06	2.74	0.92%	0.83%
Estonia	0.45	0.51	1.93%	2.17%
Finland	1.93	1.94	0.78%	0.78%
France	15.95	18.12	0.58%	0.66%
Germany	42.91	34.02	1.16%	0.92%
Greece	0.91	1.52	0.37%	0.62%
Hungary	3.24	2.92	2.29%	2.06%
Ireland	4.03	2.50	1.55%	0.96%
Italy	14.76	13.22	0.72%	0.64%
Latvia	0.37	0.45	1.32%	1.58%
Lithuania	0.82	0.91	1.85%	2.05%
Luxembourg	0.41	0.62	0.67%	1.02%
Malta	0.13	0.22	1.23%	2.12%
Netherlands	15.30	13.67	1.77%	1.58%
Poland	6.28	6.10	1.13%	1.10%
Portugal	1.78	2.15	0.79%	0.95%
Romania	1.96	2.25	1.04%	1.19%
Slovakia	2.42	2.35	2.41%	2.34%
Slovenia	0.86	0.83	1.74%	1.69%
Spain	8.98	9.82	0.63%	0.69%
Sweden	4.52	4.45	0.84%	0.83%
United Kingdom	15.06	20.27	0.56%	0.76%
United States	**48.50**	**74.41**	**0.29%**	**0.45%**
China	**73.42**	**54.02**	**0.83%**	**0.61%**

Source: Yalcin. Kinzius and Felbermayr 2017: 31-32.

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TABLE 3: **Potential impact of non-implemented NTBs on sectoral imports and exports of Germany, 2015**

	Change of exports in billion US-Dollar	Change of imports in billion US-Dollar
Agriculture	0.34	0.62
Resources	1.25	6.32
Consumer goods	3.29	3.52
Transportable goods	8.22	6.19
Metals and machinery equipement	29.81	17.37

Source: Yalcin, Kinzius and Felbermayr 2017: 45.

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Economic Policy Conclusions

The importance of tariffs as barriers to trade has decreased in recent decades. This is due to the WTO's tariff reduction rounds in particular. At the same time, however, more and more countries are resorting to non-tariff barriers to trade. This trend has increased substantially since the financial and economic crisis. This is a worrying development since NTBs slow global trade just like tariffs. Our analysis has shown that NTBs can be held responsible for up to 16 percent of the decline in global trade. The resulting losses for Germany total 0.9 percent of GDP due to lower imports and 1.2 percent due to lower exports.

Since the WTO process has stalled, current bilateral Free Trade Agreements (FTAs) are an opportunity to reduce NTBs and boost trade between countries and regions. For example, the EU has reached a political agreement on an FTA with Japan this year and is negotiating other FTAs with major trading partners in Asia and Latin America (Jungbluth 2017). The elimination of NTBs plays an important role in the negotiations. This is a positive development from a trade policy perspective. In the future, however, it would be desirable to address NTBs – analogous to tariff reduction rounds – under the multilateral umbrella of the WTO again. The long-term goal should be uniform regulations and standards around the world in order to ensure fair framework conditions for international competition.

Particular attention should be paid to special economic relationships between industrialized countries on the one hand and developing and emerging countries on the other: So less developed countries can benefit more from the international division of labor, industrialized nations should open their markets, possibly also unilaterally, for products from these countries and roll back NTBs. This will require greater willingness to compromise on the part of developed countries.

Finally, it should be noted that the lion's share of missing global trade, namely 84%, is not due to NTBs, but rather other factors. These factors include:

- weak global growth worldwide since the bankruptcy of Lehmann Brothers in 2008;
- falling commodity prices;
- weaker economic growth in China due to the transformation toward more of a consumption- and service-driven growth model;
- the trend in the direction of a service society, which slows cross-border trade since many service providers are local by nature and therefore make trading difficult internationally.

The reduction in the NTBs is only one part of the economic policy challenges to be focused on. The aforementioned aspects should also be taken into account and addressed on a national and international level, if possible.

Further reading

- Constantinescu, Cristina, Aaditya Mattoo und Michele Ruta (2015). “The Global Trade Slowdown”. The Global Trade Slowdown: A New Normal. A VoxEU.org eBook. 33–53.
- Jungbluth, Cora (2017). Trump & Brexit – European-Asian Economic Relations under New Conditions. Bertelsmann Stiftung, Gütersloh.
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V.i.S.d.P

Bertelsmann Stiftung
Carl-Bertelsmann-Straße 256
D-33311 Gütersloh
www.bertelsmann-stiftung.de

Dr. Stefan Empter
Phone: +49 5241 81-81137
stefan.empter@bertelsmann-stiftung.de

Andreas Esche
Phone: +49 5241 81-81333
andreas.esche@bertelsmann-stiftung.de

Dr. Thieß Petersen
Phone: +49 5241 81-81218
thiess.petersen@bertelsmann-stiftung.de

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Authors | Contact

Dr. Cora Jungbluth
Program Shaping Sustainable Economies
Bertelsmann Stiftung
Phone: +49 5241 81-81482
cora.jungbluth@bertelsmann-stiftung.de

Dr. Thieß Petersen
Program Shaping Sustainable Economies
Bertelsmann Stiftung
Phone: +49 5241 81-81218
thiess.petersen@bertelsmann-stiftung.de

Dr. Erdal Yalcin
ifo Institute Munich and CESifo

Luisa Kinzius
ifo Institute Munich

Gabriel Felbermayr, PhD
ifo Institute Munich & LMU Munich

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