

# The mystery of the missing world trade growth after the global financial crisis

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*After the financial crisis in 2008, there was a sharp drop in world trade and, following an initial recovery, its growth rate has been unusually low relative to growth in world GDP. Alternative explanations for this mystery of missing world trade growth after the crisis provided in the literature are: (i) financial distress affecting trade credits and trade-reliant investment; (ii) heightened uncertainty affecting trade negatively; and (iii) “murky” protectionism. We use an econometric error-correction model to estimate how global trade may have been affected by these different factors by adding indicators of financial stress, and the Economic Policy Uncertainty Index of Baker, Bloom and Davis (2012), respectively. An important conclusion is that heightened uncertainty may be the key explanation for the weak trade growth. An alternative explanation is that there has been a weakening in the decades-long globalization trend after the crisis, which will be of a more permanent nature.*

## Introduction

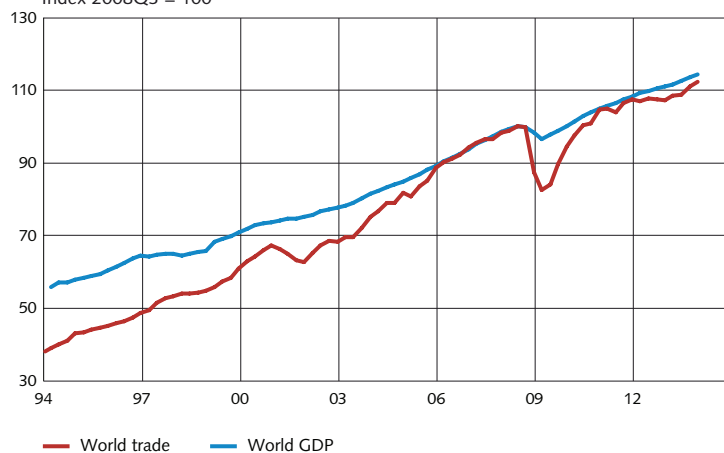
In the decades preceding the global financial crisis, world trade grew at about twice the rate of world GDP. After the large decline in 2008-2009 and a brief recovery in 2009-2010, trade has grown at about the same rate as GDP (see Figure 1). In other words, world trade growth has halved relative to GDP growth, and this has puzzled many observers, giving rise to titles such as “The Great Trade Collapse”.<sup>1</sup>

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<sup>1</sup> Novy and Taylor (2014), see also OECD (2013).

**Figure 1. World trade and world GDP**

Index 2008Q3 = 100



Sources: CPB Netherlands Bureau for Economic Policy Analysis and data from the IMF's global forecasting model (GPM)

One possible explanation for the slowdown in trade growth could be lingering effects of the crisis that are likely to affect trade to a greater extent than GDP. More restrictive lending standards and increased economic policy uncertainty are possible factors of that kind.<sup>2</sup> Another explanation is that trade growth has slowed down because the protracted trend towards more liberal trade was broken at the time of the global financial crisis. This may be related to an increase in *murky protectionism* or *financial protectionism*.<sup>3</sup>

In this paper, we use a global trade model developed by Gruber et al. (2011) in an attempt to explore the alternative explanations mentioned above. We extend on their work by including the post financial crisis period in the estimation, which also enables us to examine whether a structural break occurred at the time of the crisis. Furthermore, we include a variable that captures economic policy uncertainty in the form of an index developed by Baker, Bloom and Davis (2012), which is of importance to trade at the firm level according to Novy and Taylor (2014).

We also perform a counterfactual analysis in which we compare the projections for world trade associated with the alternative explanations to the actual development of world trade since mid-2010. We find a possible explanation for the weak world trade growth to be economic policy uncertainty. Financial stress, on the other hand, only seems to be of importance to world trade in its most acute state. An alternative conclusion could be that an increase in less tangible forms of protectionism has caused a structural break in the globalisation trend. As only a short period of time has passed since the acute phase of the crisis, it difficult to use statistical methods to determine which factor is the most important.

<sup>2</sup> See for instance Gruber et al. (2011) and Novy and Taylor (2014).

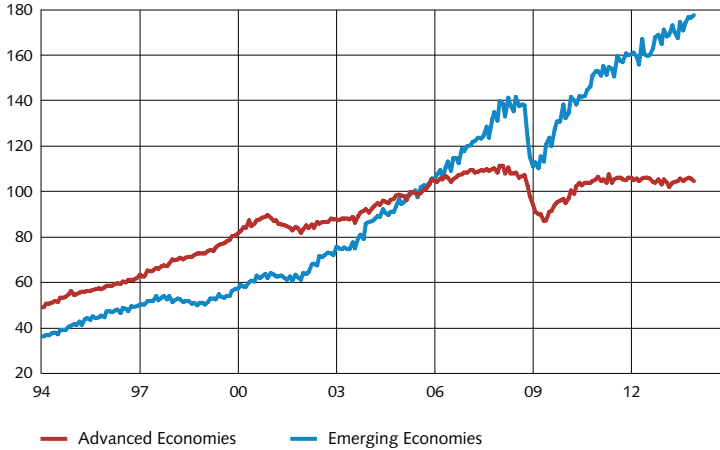
<sup>3</sup> See Baldwin and Evenett (2009), Evenett and Wermelinger (2010), Cernat and Madsen (2011), and Georgiadis and Gräb (2013).

Both can explain the slowdown in world trade growth, but have broadly diverging implications for the development of world trade going forward.

## Background: global trade and GDP

It is a well-known fact that growth in world trade is closely related to, but more volatile than, growth in world GDP (see Figure 1). However, the collapse in world trade that occurred during the financial crisis in 2008-2009 was exceptional; trade volumes fell 19 per cent from peak to trough.<sup>4</sup> Following a brief recovery in 2010, growth in world trade has been somewhat lower than that of world GDP, which has been relatively weak in itself. As shown in Figure 2, it is primarily imports of advanced economies that have been sluggish.

**Figure 2. Import volumes of goods in advanced and emerging economies**  
Index 2005 = 100



Source: CPB Netherlands Bureau for Economic Policy Analysis

The diminished effect of world GDP on world trade has given rise to speculation about increased protectionism, or about a wave of globalisation now reaching its ebb. There have been two major waves of globalisation in the past. The first wave occurred between the mid-19th century and World War I, with the developments of the railroad, the steamship and the telegraph. The second wave began after World War II, when advanced economies began pursuing policies to increase international trade. This second wave of globalisation has, in the past two decades, been underpinned by advances in information technology and expansion of regional and global trading arrangements. For instance, Mercosur and NAFTA were established, while European integration was advanced through the formation of the European Union. At the global level, the transformation of GATT into the WTO, and China joining in 2001 were significant steps.

<sup>4</sup> Gruber et al. (2011), Baldwin (2009).

In recessions, governments have sometimes attempted to protect their domestic industries from foreign competition through protectionist policies. In the aftermath of the Great Depression, for instance, there was an increase in protectionism in the form of tariffs and import quotas. After the financial crisis of 2008-2009, many feared that the trade policy developments of the 1930s would be repeated. However, with help of the establishment of the G20<sup>5</sup>, such traditional forms of protectionism were largely avoided. While the initial fears of heightened protectionism turned out to be exaggerated, some argue that it has indeed increased and is partly to blame for the slowdown in global trade growth.<sup>6</sup> According to that view, this new wave of protectionism has involved less tangible measures, such as safety regulations, or buy-local clauses in bailout packages. This has given rise to the term “murky protectionism”.<sup>7</sup> Another form of “murky” protectionism is a (sometimes unintended) consequence of renewed financial regulation, called “financial protectionism”.<sup>8</sup> The less tangible nature of these new types of protectionism makes them harder to detect and measure than more conventional forms of trade barriers, and there are few empirical studies available.<sup>9</sup> An indication could be found in the Global Trade Alert reports on measures affecting trade that have been published since 2009. They do, however, lack information on the share of trade that is affected by individual measures, as well as a historical time series that could be used in our estimations. In order to be able to investigate the possible contribution of trade barriers to the mystery of the weak growth of world trade after the crisis, more indirect means must thus be employed.

## Model and data description

In order to analyse the relationship between global trade and GDP after the crisis in 2008-2009, we use an error-correction model developed by Gruber, di Mauro, Schnatz, and Zorell (2011), henceforth referred to as GMSZ. The model rests on the assumption that all deviations from a long-run equilibrium relationship between global trade and GDP will be corrected.

GMSZ estimate their model for the period 1981Q1-2008Q3. They did not include the crisis years in their estimations, since these years were considered outliers. We have the advantage of being able to extend the analysis to also include the years following the

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5 The G20 consists of representatives of 20 large economies that comprise the lion's share of world GDP and trade. Since the global financial crisis, the G20 has had a prominent role in global economic policy coordination.

6 Hufbauer et al. (2013).

7 Baldwin and Evenett (2009), Evenett and Wermelinger (2010), and Cernat and Madsen (2011).

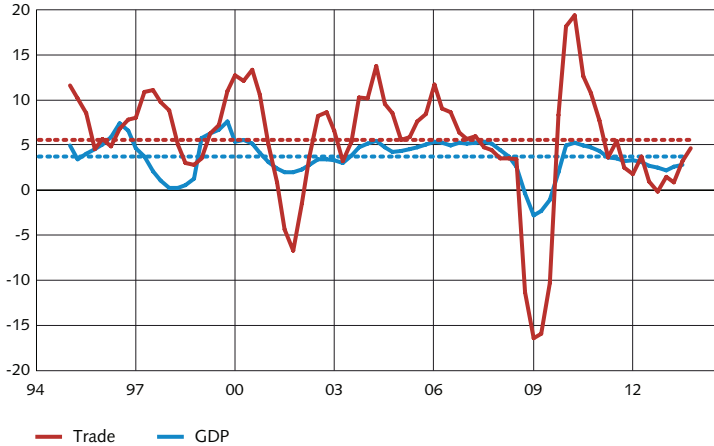
8 Georgiadis and Gräß (2013).

9 Rose and Wieladek (2011).

acute phase of the crisis.<sup>10, 11</sup> During the period 1994-2013, global GDP rose at an average annual rate of 3.7 per cent while trade grew considerably faster, at a rate of 5.6 per cent, see Figure 3. This is possible in a world in which production is increasingly fragmented into global supply chains. Production in an individual country marks one step in the production process, and the products are then exported to the country with the next link in the global supply chain. While the trade figures represent the total export values, only the domestic value added is included in national GDP. Like GMSZ, we include a linear globalisation trend in our model to capture not directly measurable factors that are of importance to the relationship between trade and GDP. This includes increasingly integrated global supply chains, increased outsourcing, dismantling of trade barriers and declining transportation costs.

Another feature of global trade during the period 1994-2013 (and most likely in earlier periods too) is that it varied with global GDP, but that the variations in trade were greater than those in global GDP. This is because, during economic up- and downturns, the relatively trade-intensive parts of aggregate demand, such as private investments and consumption of durable goods, tend to vary the most.

**Figure 3. Trade and GDP growth**  
Annual percentage change



Note. The dotted lines show the averages for the period.

Sources: CPB Netherlands Bureau for Economic Policy Analysis and CEPREMAP

First, we perform tests which confirm that the necessary conditions for the error-correction

<sup>10</sup> We also estimate the model for 1962-2013 using OECD export data as a proxy for world trade and OECD GDP data. Using annual data severely reduces the fit of the model.

<sup>11</sup> The global trade data we use is a seasonally adjusted, quarterly index from CPB World Trade Monitor and covers the period 1994Q1-2013Q4. Our global GDP data is a Purchasing Power Parity-weighted, seasonally adjusted, quarterly index for the countries included in the IMF's global macroeconomic forecasting model GPM described by Carabenciov et al. (2013). GDP statistics refer to the period 1994Q1-2013Q3. Our sample therefore starts in 1994Q1 and the forecast period for global trade is 2013Q4-2016Q4. While the PPP weighting and the incomplete country coverage makes this data less than ideal for our purposes, readily available quarterly world GDP series are unfortunately rare.

formulation of the model are present, i.e. that global trade and GDP are non-stationary, integrated of the same order and cointegrated.<sup>12</sup> We subsequently estimate in one step the error correction model

$$(1) \quad \Delta trade_t = ect(trade_{t-1} - \beta GDP_{t-1} - \delta t) + \lambda_1 \Delta trade_{t-1} + \lambda_2 \Delta GDP_t + \varepsilon_t$$

where *trade* is (the log of) global trade, *GDP* is (the log of) global GDP and  $\varepsilon_t$  represents white noise residuals. The estimated parameters are the error correction parameter *ect*, the long-term income elasticity of world trade  $\beta$ , the effect of the globalisation trend, *t*, on the trade volume  $\delta$ , and the  $\lambda$  which represent short-term dynamics.

The terms in parentheses thus capture the long-run relationship between trade and GDP and the estimated error correction parameter captures the “speed of adjustment” of trade to that long-run relationship after a deviation from it has occurred. We expect  $\beta$  to be close to 1, since the ratio between trade and GDP ought to be more or less constant in the long run. A positive value of the trend parameter  $\delta$  captures the growth of global supply chains, removals of trade barriers, decreasing transportation costs and other factors which may allow trade to grow faster than GDP during a wave of globalisation.

## Results

### BASELINE MODEL

The results of our estimation of the baseline model are reported in Table 1. Our parameter estimates are generally significant at the 1 per cent level and they resemble those of GMSZ. The long-run elasticity of trade to GDP is close to 1, as discussed above. The differences from GMSZ in other parameter values probably reflect the difference in estimation period and in particular that we include the years after the financial crisis. Our estimate suggests a slower globalisation trend, with about 0.4 percentage points of quarterly growth in world trade being attributed to the globalisation process, rather than the 0.8 percentage points found by GMSZ.

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<sup>12</sup> Using a Johansen cointegration test.

**Table 1. Estimation results for the baseline model**

Dependent variabel:  $\Delta trade_t$   
 Sample period: 1994Q3-2013Q4

	Baseline model	Gruber et al. (2011)
<b>Long-term relationship</b>		
$GDP_{t-1}$	0.99***	0.98
$t$	0.004**	0.008
<b>Speed of adjustment (ect)</b>	-0.14***	-0.085***
<b>Short-term dynamics</b>		
$\Delta trade_{t-1}$	0.23**	0.35***
$\Delta GDP_t$	1.93***	1.23***
Adjusted R-squared	0.45	0.54
Autocorrelation test		
LM(1) p-value	0.56	0.58
LM(4) p-value	0.47	0.23
Heteroskedasticity test		
ARCH(1) p-value	0.62	0.63
ARCH(4) p-value	0.98	0.72

\*\*\* Significant at the 1 per cent level. \*\* Significant at the 5 per cent level.

We also tested other model specifications than the baseline model and alternatives involving financial stress and uncertainty variables, which are discussed in more detail below. First and foremost, we have investigated the effects of including oil prices and the global output gap in the estimated equation to see whether they have explanatory power, and to check the robustness of the model. Global oil prices can affect trade through, for example, transportation costs, and the West Texas Intermediate (WTI) oil price is included in the estimation both in level and first differences, but proves insignificant. The coefficients and significance levels on the other variables remain stable, implying model robustness. It is also possible that GDP affects trade differently in economic upturns than in downturns. We therefore test including an estimate of the global output gap. It turns out to be insignificant, however, while the other parameters in the model remain stable and significant.

#### INCLUDING FINANCIAL STRESS AS AN EXPLANATORY VARIABLE

It has been suggested that trade is likely to be more sensitive to changes in financial conditions than overall GDP.<sup>13</sup> A drying-up of credit channels can be expected to affect trade finance as well as trade intensive activities such as investment.

GMSZ test if financial stress is important to trade using the VIX (Chicago Board Options Exchange Volatility Index, see Figure 4) which measures implied volatility of the S&P 500 index. They find that the VIX is not statistically significant when included in levels or first differences, but is significant when represented by a dummy, taking on the value of 1 during substantial deviations from the mean. Our results (shown in Table 2) line up with theirs.

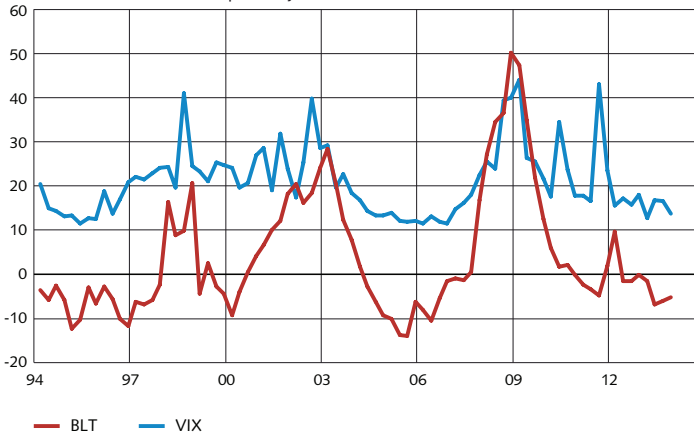
Another measure of financial conditions is the credit restrictiveness variable BLT (for Bank Lending Tightness), which is derived from central bank surveys. It has the potential to

13 Amiti and Weinstein (2009).

better capture global credit conditions than the VIX as it measures credit standards and the terms of banks' lending to businesses and households, see Figure 4. We add an unweighted average of BLT indices for the United States, euro area and Japan to the baseline model. However this BLT variable turns out to be insignificant both in level and difference form.<sup>14</sup>

In an alternative model specification we use a dummy for BLT that differentiates between periods of "normal" bank lending and periods of particularly restrictive credit conditions (the dummy takes the value one when BLT is at least 2 standard deviations greater than its mean for the period 1994-2014). Introduced in the model with such a dummy variable, the influence of BLT is significant at the 10 per cent level and, as expected, has a negative coefficient (of -0.02). It is worth noting however, that the particularly restrictive credit conditions captured by the BLT dummy only arose during the period 2008Q2-2009Q2, implying that the variable can in practice be interpreted as a dummy for the financial crisis.

**Figure 4. Bank Lending Tightness (BLT) and VIX**  
Net values and index, respectively



Note. The BLT index is an unweighted mean of BLT in the United States, euro area and Japan. Sources: Bank of Japan, European Central Bank, Federal Reserve and Chicago Board Options Exchange (CBOE)

<sup>14</sup> We also add a European and US index separately, with the same insignificant result.



**Table 2. Estimation results with financial distress added as explanatory variable**

Dependent variabel:  $\Delta trade_t$   
 Sample period: 1994Q3-2013Q4

	Baseline model	BLT dummy	VIX dummy
<b>Long-term relationship</b>			
$GDP_{t-1}$	0.99***	0.99***	1.00***
$t$	0.004**	0.004**	0.004**
<b>Speed of adjustment (ect)</b>	-0.14***	-0.14***	-0.13***
<b>Short-term dynamics</b>			
$\Delta trade_{t-1}$	0.23**	0.17	0.15
$\Delta GDP_t$	1.93***	1.73***	1.69***
BLT dummy		-0.02**	
VIX dummy			-0.03**
Adjusted R-squared	0.45	0.47	0.49
Autocorrelation test			
LM(1) p-value	0.56	0.6	0.55
LM(4) p-value	0.47	0.78	0.46
Heteroskedasticity test			
ARCH(1) p-value	0.62	0.65	0.67
ARCH(4) p-value	0.98	0.98	0.98

\*\*\* Significant at the 1 per cent level. \*\* Significant at the 5 per cent level.

All in all, we conclude that trade seems to be affected by severe financial stress, but that this effect could probably be captured by including a dummy for times of financial crises, as neither bank lending tightness nor stock market volatility in levels or first differences appear to have any effect on trade. In other words, they do not seem to contain any information regarding the puzzling slowdown in trade after the acute phase of the crisis had passed.

### Estimations with uncertainty as an explanatory variable

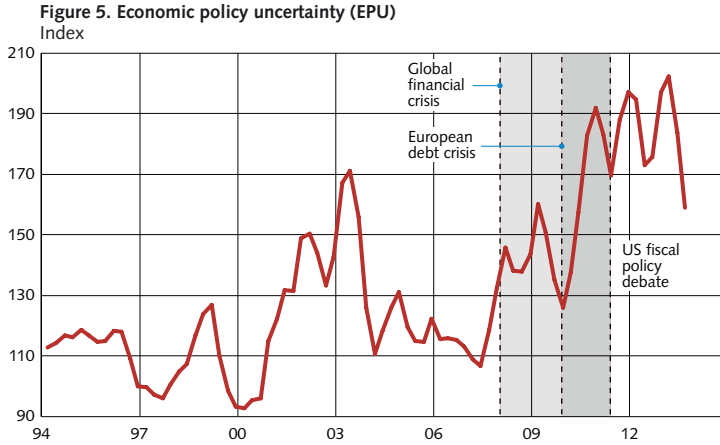
Another potential explanation for the relative slowdown in global trade growth is increased uncertainty. According to economic theory, uncertainty has adverse effects on the demand from firms and households. Bernanke (1983) and Dixit and Pindyck (1994) show that, in times of uncertainty, high reversal costs for investments lead firms to delay investments. Households likewise respond to uncertainty by means of lessening their durable goods consumption.<sup>15</sup> Therefore, the adverse effects of uncertainty, due to increased value of waiting to invest and consume, primarily affect the trade-intensive GDP components. This implies that uncertainty potentially affects trade over and above those captured purely by aggregate GDP.

In terms of more direct effects of uncertainty on trade, Novy and Taylor (2014) show that heightened uncertainty leads to firms altering their inventory policies by reducing foreign orders more than domestic orders. There is thus reason to believe that uncertainty may affect international trade.

To explore the hypothesis that trade is affected by uncertainty, we use an alternative, new measure of total economic policy uncertainty developed by Baker, Bloom and Davis

<sup>15</sup> IMF (2012).

(2012). This Economic Policy Uncertainty Index (EPU), which indicates uncertainty in the United States economy, has three components: the first is the number of major newspaper references to uncertainty; the second is the Congressional Budget Office's (CBO) list of revenue effects of federal tax code provisions bound to expire in the coming years and their projections according to the CBO; and the third component is the forecast dispersion among US forecasters.<sup>16</sup>



Source: Baker, Bloom and Davis (2013)

As can be seen in Figure 5, the EPU index has remained elevated since the financial crisis of 2008-2009. As opposed to the VIX index which has returned to more normal levels in recent years as financial stress has diminished (see Figure 4), the economic policy uncertainty index has remained elevated due to factors such as the US debt ceiling debate in 2011, general headwinds in reaching political unity regarding fiscal policy in the US, as well as the sovereign debt crisis in Europe.

<sup>16</sup> The index is highly volatile and we have therefore used a three-quarter moving average of the series. We have used the US EPU index, since the time series is longer than the China and EU indexes which begin in 1995 and 1997 respectively. The US index is highly correlated to the China and EU indexes (with correlation coefficients of 0.5 and 0.7 respectively).

**Table 3. Estimation results with uncertainty added as an explanatory variable**

Dependent variabel:  $\Delta trade_t$   
 Sample period: 1994Q3-2013Q4

	Including uncertainty
<b>Long-term relationship</b>	
$GDP_{t-1}$	1.19***
$t$	0.003***
<b>Speed of adjustment (ect)</b>	-0.19***
<b>Short-term dynamics</b>	
$\Delta trade_{t-1}$	0.19**
$\Delta GDP_t$	1.94***
EPU	-0.04**
Adjusted R-squared	0.48
Autocorrelation test	
LM(1) p-value	0.56
LM(4) p-value	0.77
Heteroskedasticity test	
ARCH(1) p-value	0.64
ARCH(4) p-value	0.97

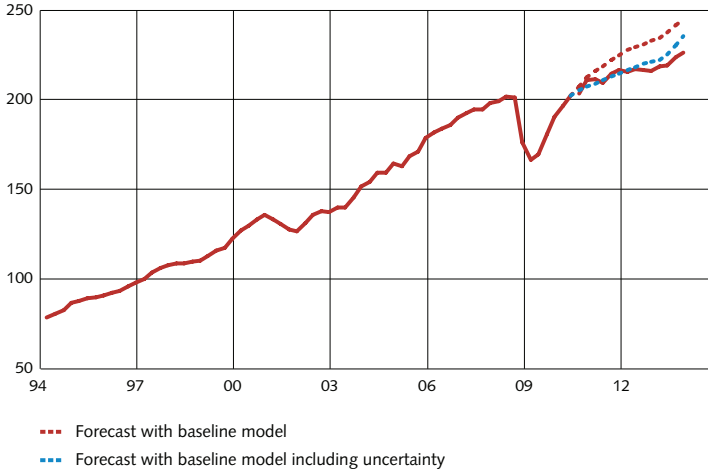
\*\*\* Significant at the 1 per cent level. \*\* Significant at the 5 per cent level.

Table 3 exhibits the effects of including the EPU index in the estimation of global trade specified in equation (1). First, the coefficient on the uncertainty variable is negative, as expected, and significant at the 5 per cent level when the EPU index is included in log-level form. Since the EPU is significant in level form, this implies that, unlike the case of financial stress, it is not solely in times of extreme values being reached, but also in normal periods, that uncertainty is important to global trade (see Table 3).

In order to investigate whether increased uncertainty after the 2008-2009 financial crisis has affected world trade growth, we perform a counterfactual analysis<sup>17</sup> of global trade for the period of interest to us (2010Q3-2013Q4). The actual world trade outcome is shown by the solid red line in Figure 6. The dotted red line shows the forecast produced by the baseline model if the estimation procedure is stopped in the second quarter of 2010 (after the initial rebound in trade had taken place). To produce the forecast, we have used the actual GDP outcomes during the forecast period. The dotted blue line shows the forecast produced by the baseline model that includes the uncertainty variable using the actual outcomes of both GDP and the uncertainty index EPU. As can be seen in the figure, the dotted blue line almost coincides with the actual global trade outcome in this period. It thus appears that the increase in uncertainty since the financial crisis has had a profound impact on global trade, and consequently that much of the slowdown in trade could be explained by the elevated levels of uncertainty in recent years.

<sup>17</sup> A counterfactual analysis involves an examination of what would have happened if an historical event had been different.

**Figure 6. Counterfactual forecast for global trade based on the historical globalisation trend and including uncertainty in the model**  
Index 1997Q1 = 100



Note. The forecast period in the counterfactual forecast simulation is 2010Q3-2013Q4. The dotted red line is the forecast produced by the baseline model in equation (1). The dotted blue line is a forecast that includes the uncertainty index. The solid red line shows the actual outcomes.

## Structural break in the globalisation trend

As we mentioned in the introduction, a break in the globalisation trend may be an alternative explanation for the slowdown in trade growth in relation to GDP growth since the financial crisis. The WTO (2012) has noted an increase in the use of non-tariff trade barriers in the wake of the financial crisis, and has therefore called for better monitoring of such measures in the future. As mentioned above, it is possible that protectionism has taken on a new form since traditional forms of protectionism are inhibited by trade agreements.<sup>18</sup> Some examples are government crisis support for domestic industries, redirection of bank lending towards domestic uses, regulation aimed at favouring domestic industries, domestic agriculture, and so on. Another reason why a break may have occurred in the globalisation trend could be that the longstanding trend towards more liberal trade has slowed or halted. Yet another reason is that transportation costs have not continued to decline.

Obviously, there may be many other reasons for a possible slowdown in the globalisation trend. For example, the Japanese earthquake in March 2011 exposed vulnerabilities in global supply chains, as the shutdown of some factories producing automotive engine parts had repercussions for the auto industry worldwide. A few months later, events were repeated on a smaller scale after flooding and a consequent temporary production shut-down in Thailand. These types of events could have given rise to a reversal of the trend towards greater specialisation and global industry outsourcing.

<sup>18</sup> Hufbauer et al. (2013).

It is also possible that deleveraging or revaluations of future income after the crisis has affected relatively trade-intensive parts of consumption and investment. For instance, households might have decided to replace their cars every five instead of every four years. We test for structural breaks in the globalisation trend in the baseline model using a breakpoint test.<sup>19</sup> Since we are only interested in testing for a break in the globalisation trend, we do not allow the other coefficients to change. Using a 5 per cent level of significance, the test identifies a single break in 2008Q4. When we allow a break in the globalisation trend at that point in time, the overall fit (in the form of adjusted R-squared) increases from 0.48 to 0.55. Not surprisingly, the globalisation coefficient drops after the crisis (from 0.006 to 0.004), implying a slowdown in globalisation at that point. We would like to caution against attaching too much importance to the point estimates for the period after the structural break, however, because it is very short. It also features substantial swings in trade during, and in the immediate aftermath of the crisis; pinning down the right parameters will have to be a subject for future research.

All in all, the data thus far indicates that some form of break in the trend occurred during the crisis and has still not been reversed. It is possible that at least part of this break is due to an increase in “murky” or financial protectionism. The EPU uncertainty index becomes insignificant when included in the model with a structural break. Also, the weakening of the globalisation trend thus appears to be a possible explanation for the slowdown in world trade growth. However, we consider the increase in uncertainty to be a more appealing explanation since it rests on the inclusion of a variable with some support in the literature, while the model with a structural break in the globalisation trend involves letting the estimation procedure make an adjustment to an arbitrary trend, so that over-fitting becomes a relevant concern. A way of testing the structural break model would be to conduct an out of sample forecast and see how well it fits the actual outcomes. However, we do not have enough data after the break for such an exercise. We thus keep both specifications as different plausible explanations for the slowdown in global trade growth.

## Implications for global trade forecasts

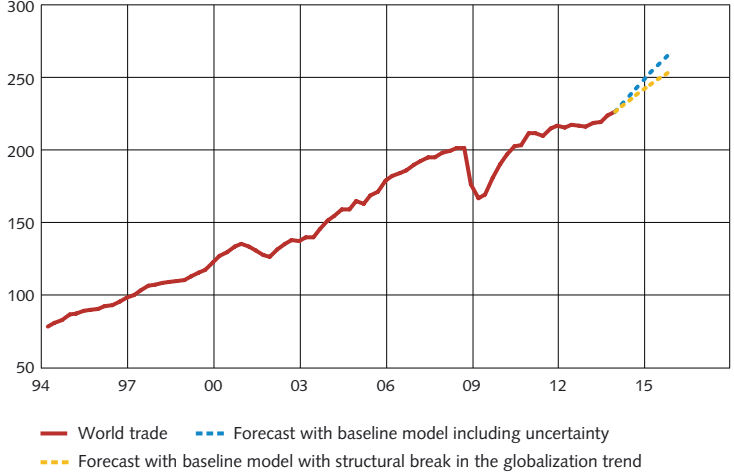
We have now found some support for two alternative explanations for the slow growth in global trade in relation to GDP since the financial crisis in 2008; it may either be a matter of increased uncertainty or a structural break in the globalisation trend. Although the implications from the two competing stories thus far have been quite similar, they have completely different implications for global trade forecasts going forward. It seems reasonable to believe that the uncertainty will eventually dissipate and return to its historical mean. According to our model, such a normalisation process would yield a rebound in trade since the error-correction mechanism, as well as the globalisation trend, are the same before and after the crisis. This is illustrated by a world trade forecast given by the blue line in Figure 7, which rests on the assumptions that world GDP develops in

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<sup>19</sup> Bai, Perron (1998, 2003).

line with the IMF's forecast and a smooth return of the uncertainty index to its historical average. In contrast, the model with a structural break in the globalisation trend continues on a slower trend, providing a world trade forecast shown by the dotted yellow line in Figure 7.

**Figure 7. Global trade forecasts for 2014Q1-2016Q4**  
Index 1997Q1 = 100



Note. The dotted lines refer to forecasts.

Sources: Netherlands Bureau for Economic Policy Analysis CPB and own calculations

The economic interpretations of the two scenarios illustrated in Figure 7 also differ. In the case of dissipating uncertainty, consumers and firms will have some pent up demand for investment and consumer durable goods and the world will revert to a situation similar to that prevailing prior to the crisis. In the other scenario, the world is in a state of “new normal” after the crisis, in which trade growth is much slower. Interestingly, when we compare the forecasts of the two different models with forecasts for global trade from the OECD and the IMF, the latter seem to coincide more with the forecasts from the model with a structural break in the globalisation trend.

## Conclusions

We have used the simple model of global trade developed by Gruber et al. (2011) to test some possible explanations for the slowdown in trade relative to GDP since the financial crisis. We find that financial stress variables are important for trade only during times of acute financial crisis, while general economic policy uncertainty can help explain trade growth during more normal times as well. When we add an index of overall economic policy uncertainty we find in a counterfactual exercise that it could explain much of the sluggishness of trade since the financial crisis.

An alternative conclusion could be that a structural break in the globalisation trend occurred in connection with the crisis. The globalisation trend might potentially have been weakened due to e.g. an increase in protectionist measures of a less visible nature than traditional trade barriers. However, other factors probably also play a role.

These two alternative explanations for the slowdown in global trade growth would both have generated the sluggish outcome witnessed in the last few years. However, they have different implications for world trade forecasts. If the first explanation is correct, we will see an increase in trade growth (relative to GDP growth) as the uncertainty dissipates. If instead the other explanation is correct, there is a risk that we will see permanently lower trade growth (relative to GDP growth) in the future, compared to before the crisis.

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