

EU Exit Analysis Cross Whitehall Briefing

January 2018

House of Commons Exiting the European Union Committee

Official - Market Sensitive - Draft Analytical Thinking with Preliminary Results

1. Context

A range of analysis will support robust, timely assessment of options for the future economic partnership

- **Robust analysis will inform decision making on potential end states and support negotiations to deliver on the Florence speech.**
- **Economic analysis is a key tool, deployed alongside wider policy analysis to assess options and trade-offs.**
 - Results for different scenarios are always assumption-dependent but provide useful indicators of the broad range of potential outcomes.
 - HMG's new analysis provides an evidence-based framework to consider upsides and downsides of scenarios overall and by sector, and supports development of policies in response.
 - Analysis is made more difficult by the lack of precedents for both the individual elements and overall deal we are seeking to agree with the EU, as set out in the Florence speech, which means we have to necessarily simplify our assumptions.
 - Excessive weight should not be given to single-point estimates, given uncertainties, ranges of opinion on assumptions, global and sector trends and a variety of potential end states.
 - Instead, we highlight the key factors likely to impact UK economic performance and use the analysis to explore assumptions and sensitivities around these when comparing options.
- **It is useful to consider what analysis government may need at different points in the process and what information is likely to be public (from UK and EU side).**
 - This needs to balance negotiating requirements and tactics, increasing expectations about sharing analysis, and need to preserve confidentiality. Careful handling will be crucial.
 - While this negotiation is unprecedented for the EU as well, the Commission will almost certainly take a very analytical approach to negotiations, including likely publication of analysis (as is routine for all FTAs).
- **This summary presentation sets out the overarching principles underpinning the analysis, the distinct building blocks of the work and some emerging initial results.**

2. The Analytical Challenge

Our challenge is to provide useful analysis to Ministers, recognising significant uncertainties

We need to base our exit negotiations and preparations on the best possible evidence and analysis. Analysing the potential impact of different exit scenarios is an unprecedented challenge.

A number of factors make any analysis highly uncertain

- Economies anyway face an unusually uncertain path:
 - Ongoing adjustment from financial crisis;
 - New technologies and sectors;
 - Next phases of globalisation.
- The exact nature of any future exit scenario is difficult to predict.
- Uncertainty around the impact and timing of any given policy scenario is compounded by no precedent of leaving a major trading block.

Analysis can nevertheless play a role in supporting decisions

- Using a *variety* of analytical tools will, in aggregate, provide a *directional* picture of overall impacts across different partnership models.
- We seek to identify the main factors which materially impact outcomes between end state options:
 - Exploring the key assumptions driving estimates and the uncertainties around these;
 - Approaching these assumptions through multiple methodologies;
 - Actively testing these assumptions against the full range of external views.

There is no single model or analysis which can provide a definitive assessment of all potential outcomes, but economic analysis nevertheless provides us with the best available evidence base on which to draw a “broad” directional picture (and illustrate the importance of key uncertainties).

3. Key principles of the future economic partnership

The Florence speech sets out our target for a new, deep and special partnership with the EU

Market Access

- Freest possible trade for goods and services between the UK and the EU's member states
- New balance of rights and obligations, with consequences for market access
- Zero tariff trade in goods and minimise barriers to trade in goods and services

Sovereignty

- Independent trade policy
- Control over UK borders
- Control over domestic laws and regulation
- End to CJEU jurisdiction and a strong and appropriate dispute resolution mechanism

Not a model already enjoyed by others

- Not in Single Market or Customs Union
- Not EEA – would mean accepting rules over which little influence and no vote
- Not Canada FTA - not enough mutual market access

Comprehensive and ambitious partnership

- Unique starting point - convergence, trust, shared values and ambition
- Shared commitment to high regulatory standards
- Support prosperity for EU and UK citizens
- Committed to avoiding a hard land border between Northern Ireland and Ireland

Practical approach to regulation

- Underpinned by high standards
- And a practical approach to regulation

This would form an unprecedented, comprehensive and ambitious economic partnership.

- To that end, it is difficult to assess the economic impacts at this stage.
- We therefore position this model against a range of existing EU trade arrangements, where the economic outcome of a preferred model should seek upside from new trade deals and UK regulatory optimisation compared to these existing 'EEA' and 'standard FTA' precedents.

4. Scenario definitions underpinning analysis

We use three “existing” simplified trade arrangements, where good data is available, to frame scenarios for the possible economic impact of a preferred partnership approach and “mitigated” no-deal



	Status Quo	EEA-type precedent (high access) as proxy (ruled out)	Florence Model (with a range of policy choices)	Average FTA-type precedent (low access) as proxy (ruled out)	Strongly Mitigated No Deal	Smooth No Deal (any disruptive no deal would have short and long term impacts)
Customs NTBs (EU)	None	High	None ¹ -High	High	High	High
Behind Border NTBs (EU)	None	Low	Some-Medium	Material	High	High
Tariffs (EU)	None	None	None-Low	Low-Material for agri-food	High	High
Rest of World Trade	Constrained	Material potential	Seek maximum flexibility	Material potential	Material potential	Material potential
Regulation Divergence (UK choice)	Constrained	Limited potential	Seek maximum flexibility	Material potential	Material potential	Material potential
EU Migration (UK choice: illustrative, see Slide 13)	Continued labour mobility	Continued labour mobility	Range of policy choices	‘Flexible’ labour mobility	Range of policy choices	‘Strict’ labour mobility

¹In the New Customs Partnership, there would likely be no customs NTBs

²Potential for non-EU trade deals will depend on the nature of the agreement but in the modelling of the EEA-type scenario – as in the FTA and WTO scenarios – we assume we have material potential to strike new trade deals.

5. Core drivers of economic change

A number of key factors drive the economic effects

Direct effects

Macroeconomic adjustment

There are four broad (inter-related) drivers of economic effects from exit:

- **Reduced EU market access** may prevent, or increase the costs of, and hence reduce **our trade with the EU** due to:
 - Non-Tariff Barriers (at and behind the border) – which we assess as the most material factor
 - Tariffs (if present in any new FTA, or where no FTA)
- **Trade with non-EU countries** would increase via new trade deals
- **Regulatory and other domestic policy optimisation** could improve competitiveness
- **Migration** could change as a result of changes in government policy

We need to consider how the overall economy reacts *dynamically* to these impacts, including any knock-on impacts on FDI.

We also want to consider sectoral, distributional and consumer impacts and are also prioritising the variation in regional impact across the UK.

Wider global and technology trends will have impacts independent of EU exit.

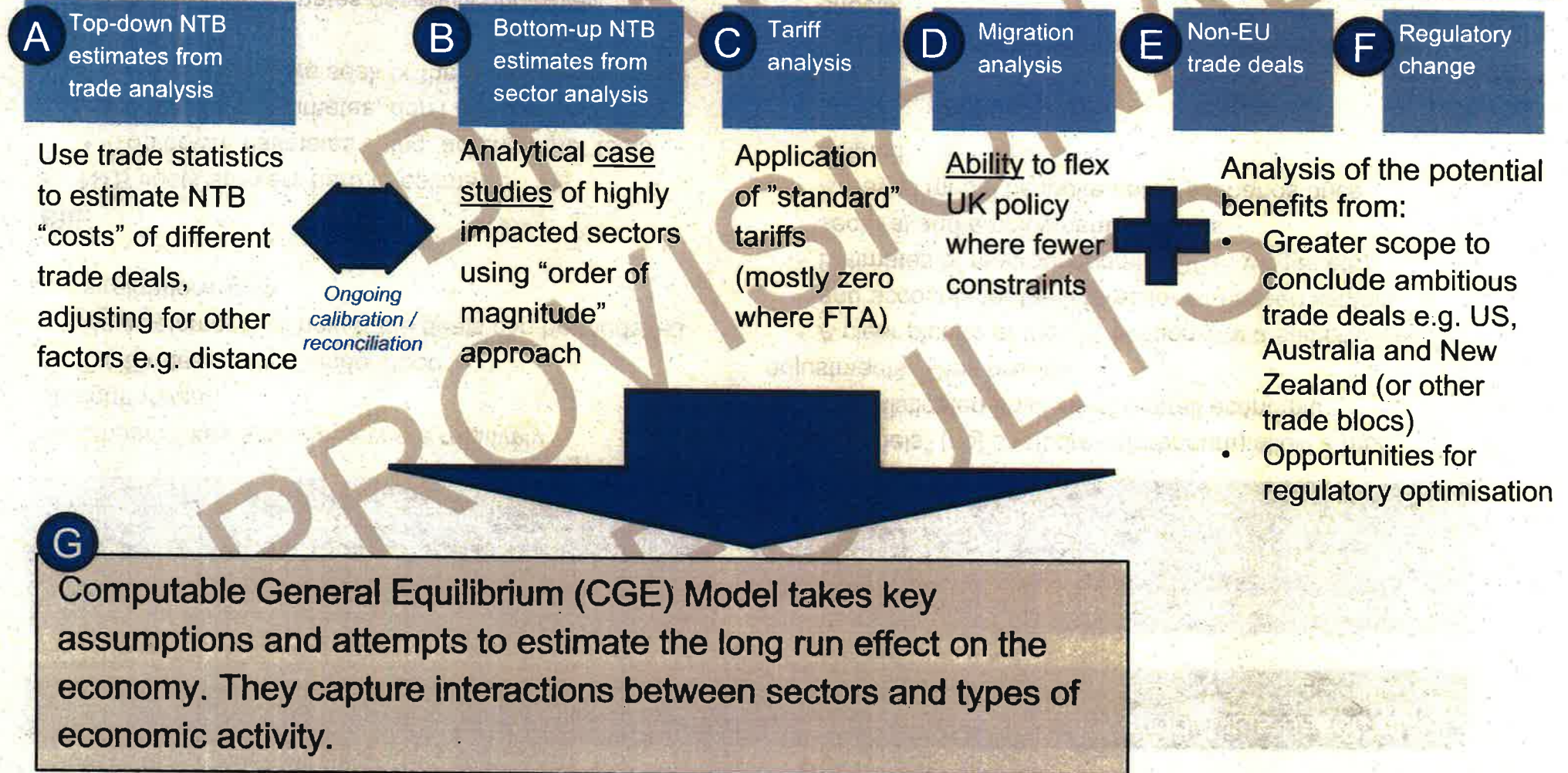
This analysis focuses on the long-run impacts and opportunities of EU exit, and does not yet consider the transitional pathway or short-term impacts.

6. Broad building blocks of exit analysis

A number of key assumptions are combined to illustrate overall estimates.

Non-Tariff-Barrier (NTB) estimates for new EU partnership represent the most critical assumptions

Add-on “bottom-up” estimates



7. Key considerations in economic modelling of scenarios

We are using a state of the art structural model of the economy, but like any model it is based on the key assumptions fed into it and the underpinning evidence

Key assumptions reflect comprehensive analysis, but we recognise the spectrum of opinion and significant uncertainty

Models which then combine these assumptions are sophisticated, but necessarily simplify how the economy might adjust

A number of key assumptions are relatively straightforward:

- Tariff rates are well understood.
- Basic elements of new trade deals can be modelled straightforwardly.

But:

- NTB costs are very hard to estimate:
 - “Top down” estimates using, among other tools “gravity” type estimates, don’t necessarily reflect the partnership we seek or the future mix of global trade
 - “Bottom-up” estimates generally underplay potential impacts
- Estimating regulatory opportunities is particularly difficult.

“CGE models” (not used pre-referendum) allow a much more sophisticated analysis of overall economic adjustments. They provide:

- A clear picture of the UK economy at a sectoral level and accounts for the interactions between sectors.
- Estimates of macroeconomic (GDP, wages etc), sectoral and employment variables.
- A way to model bespoke policy scenarios once defined.

But:

- No model can capture all of the dynamic economic effects.
- Estimates are long term; different modelling required for shorter term adjustments.
- Other effects, such as the changing nature of global trade towards digital and services, are not captured so need to be assessed separately.

8. Difference in modelling approach from HMG pre-referendum analysis

There are two main modelling approaches for analysing the impacts of trade policy. HMG now use a CGE model that allows us to explore different scenarios and their implications.

The HMT pre-referendum long-run analysis used the widely-adopted ‘**gravity modelling**’ approach to determine the long-term economic effects of three alternative existing relationships to the EU. **HMT’s central estimates were within a range of external estimates** – e.g. OECD, LSE and NIESR.

Since the referendum we have **substantially expanded the analytical toolkit across Government**, including building a cross-Whitehall international trade model – a **CGE model** – the best available framework for estimating long-run GDP impacts of bespoke scenarios. The model allows us to analyse:

- 140 countries and 57 sectors separately
- Trade and migration scenarios within the same framework
- The effect of mitigating actions, e.g. new trade deals and deregulation.
- Estimation of other variables e.g. sectoral GVA, employment, exports and wages

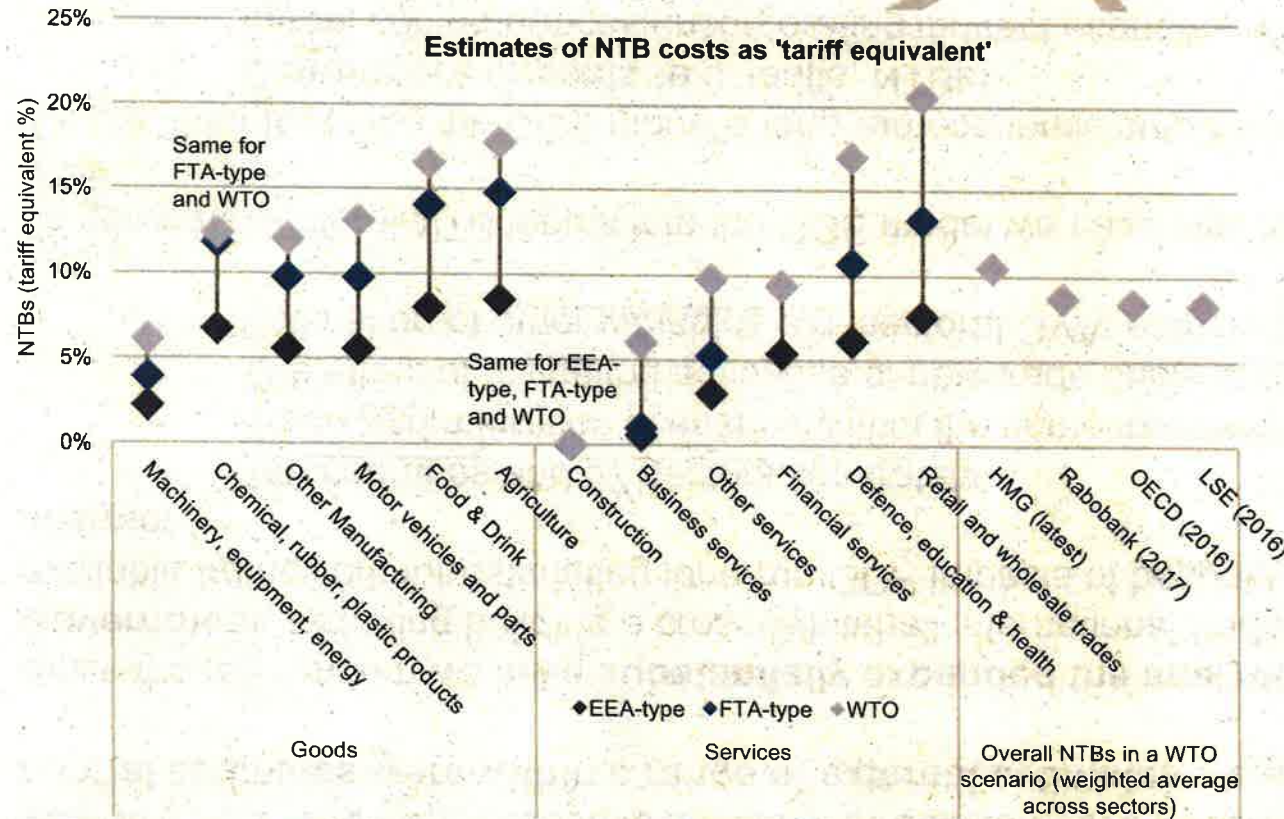
To generate sectoral NTB inputs into the CGE model we have also applied **gravity modelling at a sector level**.

We can then translate the CGE model’s long-run economic outputs into:

- **Component impacts** (e.g. tariffs, NTBs)
- **Fiscal** consequences (incorporating indirect economy effects and direct fiscal effects)
- **Regional** consequences
- **GDP per capita estimates**

9. Assumptions on potential Non-Tariff Barriers with the EU

Non tariff barriers are the most important driver of trade impacts. We have used a variety of top-down analysis to begin to calculate their potential magnitude, but work is ongoing.



Estimates of long-run NTBs have initially been derived for the three proxy scenarios.

These reflect key barriers that might impact on given sectors, such as customs costs, other border costs and regulatory costs.

In most cases the equivalent costs of NTBs in a "standard FTA" are higher than any tariffs.

As there is no precedent for estimating the increase to trade barriers from leaving a trade bloc, we have used estimates on the effect of joining one (with a modest reduction to account for this).

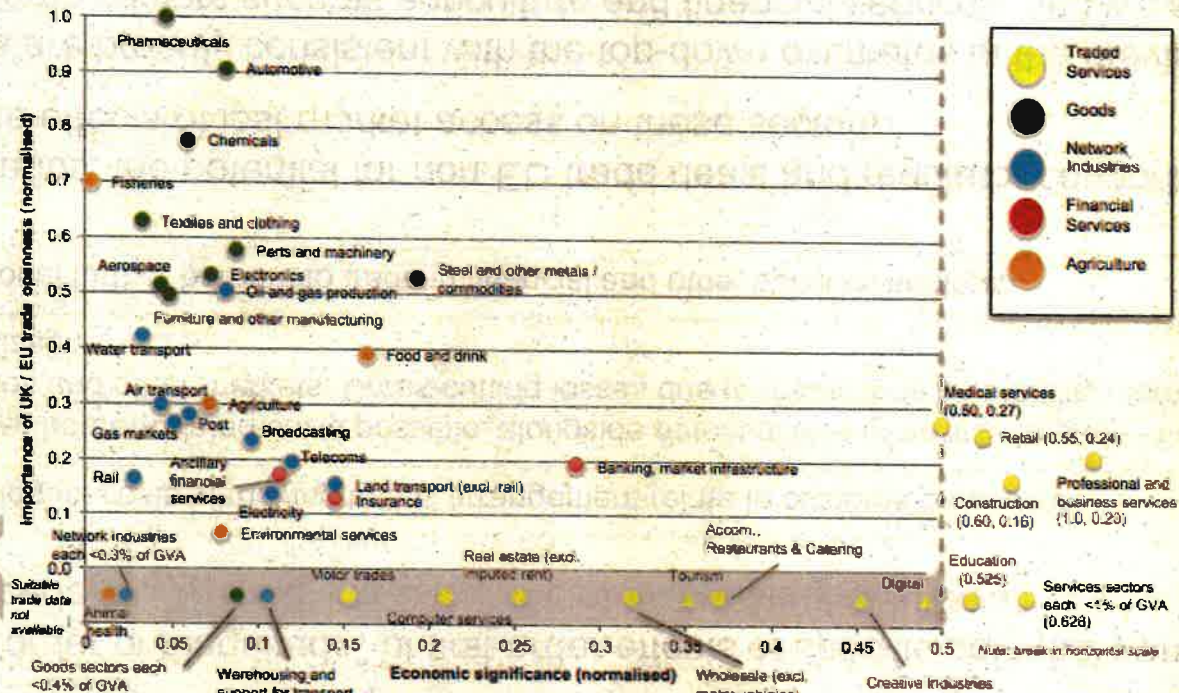
These initial estimates are consistent with external academic literature. However, we recognise a range of external opinion and that the Florence model may support different NTBs than these average estimates. Additionally, NTBs in new disruptive industries are more difficult to project. We are therefore undertaking cross-government work to challenge and refine these estimates, with a particular focus on the automotive, business and financial services, and aviation sectors.

10. Assumptions on non-tariff barriers: bottom-up sectoral analysis

Earlier analysis focused on assessing which sectors could be more or less affected by EU exit.

The following chart highlights the relative importance of sectors to the overall economy and EU-EU trade. It was produced as part of a Cabinet Committee discussion in November 2016, and illustrates the drivers of key effects in our analysis.

Ranks the importance of UK/EU market access to each sector



Ranks sectors on their relative importance to the UK economy as a whole.

We would expect sectors dependent on trade with the EU (including automotive, chemicals and pharmaceuticals) to see the biggest effect on economic activity in EU exit scenarios. However, the overall economic impact will depend on the tariffs and NTBs that those sectors would be exposed to and the indirect effects of any trade related reductions in their output on the rest of the economy.

The CGE model allows us to capture these inter-linkages and slide 19 contains these provisional sectoral effects.

11. Assumptions on non-tariff barriers: bottom-up sectoral analysis

Sectoral case-studies complement and inform top-down non-tariff barrier estimates.

As an alternative to CGE modeling, Departments have carried out a number of bottom-up case studies, which we are using to further-refine the top-down NTB estimates. Details are set out in Annex B.

These estimated the "order of magnitude" of first-order effects of specific potential non-tariff barriers based on existing precedents. The table sets out the most substantial effects.

"EEA" Type	The biggest costs of moving to this arrangement relate to customs processes.
"Average FTA" Type	Further border-related costs possible, alongside potential loss of access to parts of digital, financial services and other markets. Cross-cutting losses due to restrictions on mobility, commercial association.
"WTO" Type	Additional further barriers to trade in financial and other services sectors.

- In all of these scenarios, the potential for non-EU trade deals and regulatory opportunities could help to offset some of the effects of lost market access on these sectors.
- These case studies are broadly consistent with the top-down estimates in the previous slide, with more deviation in some sectors such as agriculture and financial services, and we are continuing work to refine both.
- Slides 20-22 illustrate the effect of the (tariff and) NTBs on sectors and explore potential implications of different scenarios on a few important sectors. Annex B contains further broad sectoral detail.

A key priority is now to consider the NTBs for each sector in different approaches to the Florence model



12. Assumptions on EU-UK Tariff Rates

We have assessed potential tariffs for three precedent scenarios

There are some limited (but high) tariffs associated with agriculture and food and full MFN tariffs for the WTO scenario.

Any tariffs imposed on goods trade between the UK and the EU would have significant economic consequences.

	EEA-like Proxy	Average FTA-like Proxy	WTO (no deal)
Beverages, Tobacco and Food	0.0%	12.7%	12.7%
Agriculture	0.0%	26.1%	26.1%
Motor Vehicles and parts	0.0%	0.0%	4.0%
Chemicals, Rubber and Plastic	0.0%	0.0%	2.0%
Manufacturing	0.0%	0.0%	2.3%
Machinery, Equipment and Energy	0.0%	0.0%	1.4%

13. Assumptions on migration scenarios

We highlight illustrative potential EU migration policies and overlay these to our modelling. This analysis remains work in progress and is subject to continuing model developments.

The Treasury believes that a relevant factor to be considered when appraising the economic impact of various end states is the interaction with migratory flows. There are a number of possible policy scenarios - on which the Home Secretary has been consulted:

- The “WTO” scenario assumes that a relatively demanding income threshold would apply to both EEA and non-EEA migrants, on the grounds that it could be legally difficult to maintain entirely separate systems from the rest of the world in this scenario.
- For the “FTA” scenario, the model adopts a preferential lower minimum income for EEA migration relative to non-EEA migration, as part of that deal.
- The “EEA” option assumed broadly similar policies to today for economic migration.

	Illustrative EU migration policy scenarios	Indicative change in annual EU migration levels	In line with text above, assumption included in
Continued Labour Mobility	Baseline assumption	Status Quo	EEA-Type
Flexible Migration Scenario	Modelled as midway between strict policy and continued labour mobility (equivalent to £20,500 salary threshold)	-40,000 EU Workers	FTA-Type
Strict Migration Scenario	In-line with non-EU: Degree level (NQF6+) skill threshold for workers + Job Offer requirement + £30k salary threshold.	-90,000 EU Workers	WTO

14. Non-EU trade deals

Leaving the EU will provide the UK with an independent trade policy allowing the UK to negotiate its own FTAs with non-EU countries which account for 57% of UK exports.

Under EEA-type arrangements, countries have some flexibility to reach agreements with other countries but the scope and depth is constrained. Our aspiration is for broad and deep agreements with many countries, as set out in the Florence speech.

In each scenario, our modelling assumes transitional adoption of all existing EU FTAs and includes the effects of a bilateral UK-US trade deal, reflecting the importance of the US as the UK's largest single trading partner, making up 28% of the UK's non-EU trade and 15% of the UK's total trade.

- The **modelled US deal** takes a central view of what could be achieved, providing a benefit to UK GDP of 0.2% in the long-term, within a range of 0.1 to 0.3%. This is a long-run estimate independent of the timing of any deal.
- In practice, the UK will seek agreements with **many more countries**. Initial estimates from a sensitivity analysis of an ambitious FTA agenda, including with TPP countries, ASEAN, the GCC, China, India, Australia and New Zealand, would add a further 0.1% to 0.4% of GDP.
- Overall, new trade deals could therefore provide a total long-term increase of 0.2% to 0.7% of GDP.
- With greater flexibility in the economic relationship with the EU we might expect to secure greater depth and breadth in agreements we reach with other countries, including in areas such as data and services.

Unilateral Tariff Liberalisation – In a WTO scenario, we would have freedom to set our import tariffs to zero. Initial analysis suggests that this may *mitigate* the WTO results by up to 0.2% of GDP.

15. Regulatory opportunities

We are seeking to assess potential benefit from optimising UK regulation across multiple scenarios

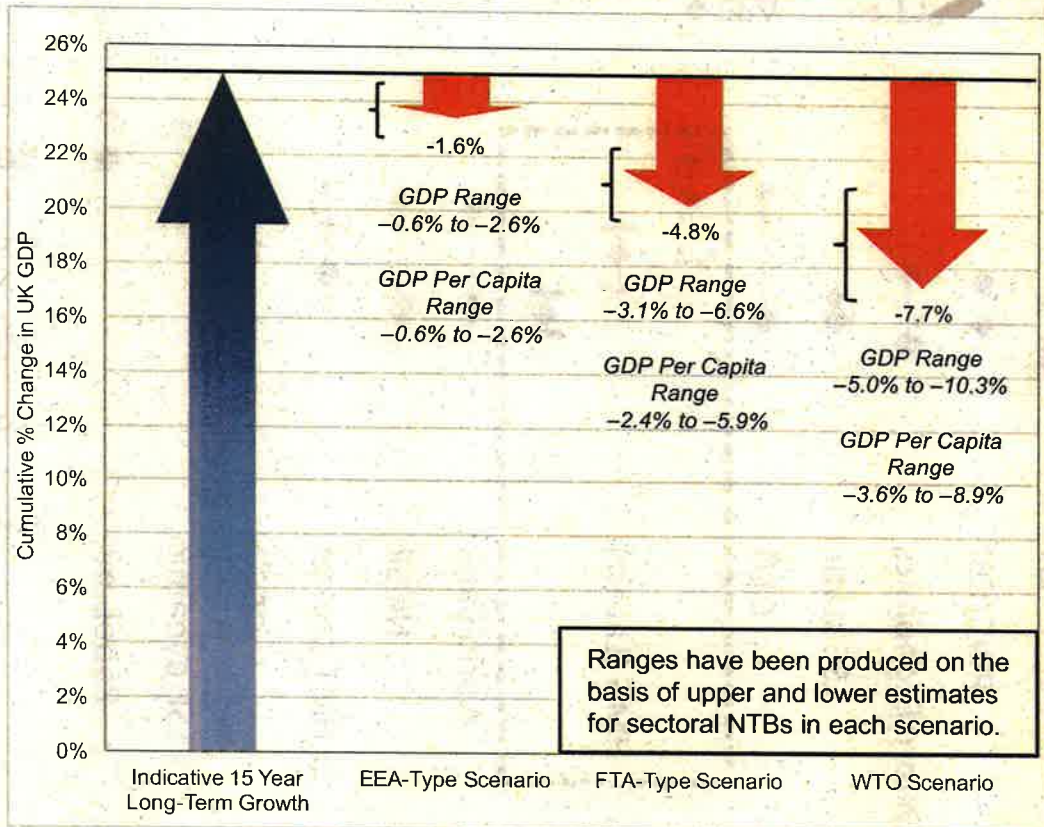
- We have a shared commitment to **high regulatory standards**. However, leaving the EU could provide the UK with the **opportunity to regulate differently**, across a range of social, environment, energy, consumer and product standards.
- A **cross-Whitehall work-stream** is working through these opportunities (and seeking to quantify them):
 - Some existing external estimates of this are shown in the table.
 - The highest estimated gains where the evidence base is clear (eg +0.7% of GDP by Open Europe) rely upon policy changes in areas of high sensitivity like employment, consumer protection and environment and where the government has made a commitment to uphold standards or is already exceeding the EU minimum requirements (e.g. in the case of bank capital requirements). More generally, aspects of the OE estimate are outdated, partial or have methodological issues.
 - The estimated gains from other areas of regulation are smaller.
- Separately we are assessing **potential future costs** of remaining aligned with the EU acquis as it changes where we might expect the EU to become more protectionist after we leave. For example, BEIS is coordinating analysis of the impacts of a potential loss of 48 hour working week opt-out. UKREP is helping us map out a range of possible future scenarios for the acquis which we can then also try to model. These are necessarily highly uncertain.
- Modelling the impacts of regulatory changes needs to take into account the impact on trade deals and resultant non-tariff barriers with the EU and rest of the world, for example due to regulatory divergence or convergence.

External study	Regulation impacts	Cause of Impact
CER (2017) LSE/CEP (2016)	Assume none.	Regulation also both positive and negative impacts and so net outcome of changing is unclear
Oxford Economics (2016)	0% to 0.13% of GDP	Assumes movement toward best performers across the OECD based on OECD reg. indicators
Open Europe (2016) [used also by PwC/ CBI (2016)]	0.7% (feasible) 1.3% (highly ambitious) of GDP	Repeal of elements across social, environment, energy, consumer protection and product standards. High end of the range include changing climate change policies, air safety and banker bonus caps.
Economists for Free Trade (2017)	2% of GDP	Not stated



16. Preliminary results from HMG modeling

The three “existing” trade models illustrate a range of potential economic outcomes, while the UK will target a more ambitious deal, as set out in the Florence speech.



The chart shows an illustrative profile of cumulative UK growth over 15 years, and how this could be affected by a range of possible trade scenarios, relative to this baseline.

The path of growth is uncertain and will be affected by a variety of factors for example global environment, EU’s policy outlook, and sectoral issues. The value of HMG’s analysis is to compare scenarios on a consistent basis, *not* to forecast these trends.

This modelling does not estimate the short term impacts of EU exit. Adjustments may manifest as reduced growth rates over several years and could be gradual, front-loaded (if there is any short-term disruption) or back-loaded (if supply chains take a long time to unwind).

Analysis continues, with a priority focus on improving estimates of NTBs, regulatory opportunities and rest of world trade opportunities.

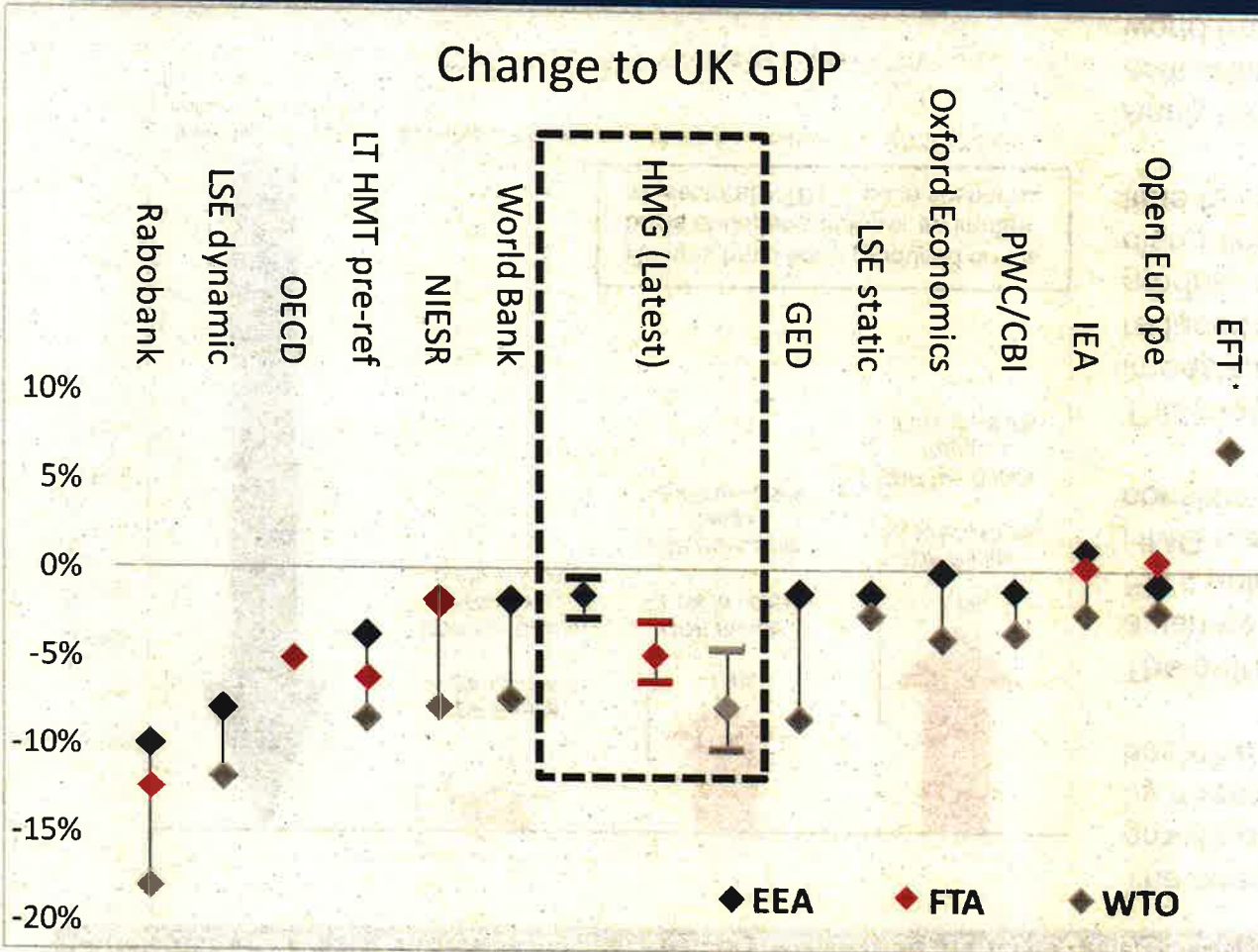
GDP per capita effects are similar in magnitude to headline GDP in the EEA-type scenario. However, illustrative tighter migration policy in FTA-type and WTO scenarios results in a modest difference in GDP per capita.

*Indicative growth rated calculated as an extrapolation of OBR economic forecast up to 2023 over 15 years

Whilst acknowledging the uncertainty, this initial modelling indicates that **the FTA-type and the WTO scenarios will have a greater impact on GDP than the EEA-type scenario**. The additional impact of moving from the EEA-type to FTA-type scenario is around 3.2 ppt and from the FTA-type to WTO scenario is a further 2.9 ppt.

17. Emerging HMG estimates compared to external studies

External estimates vary, reflecting uncertainties around exit. Emerging HMG estimates of the illustrative "existing" trade models sit broadly in the middle of this range, and are in line with the consensus of the relative costs incurred between the different scenarios



External estimates of the impact of an **EEA-type scenario** range from an increase of 1.1% to GDP to a reduction of 10% - relative to underlying growth - with a number of estimates clustered close to a 2% reduction, averaging just over 2.5%.

External estimates of a **basic FTA-type scenario** range from a reduction to GDP of just under 1% to 12.5% - relative to underlying growth, with the average around 4%.

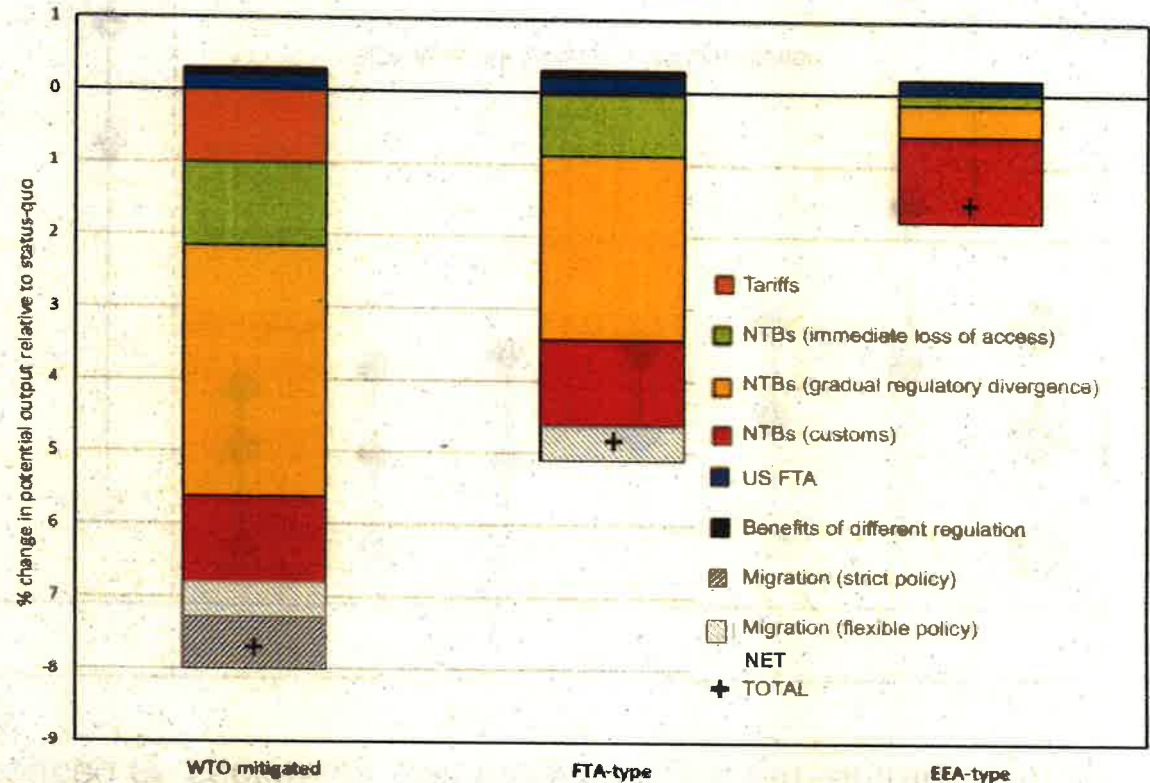
18. Illustrative provisional decomposition of scenarios

We illustrate the potential drivers of the headline long-run HMG estimates

Estimates show potential impact on GDP relative to long run underlying growth. Estimates are long-term and do not consider short-term impacts – for example a transitional arrangement, disruptive exit or bespoke timing arrangements.

Current estimates only include a US trade deal, though initial indicative estimates suggest that a more ambitious FTA agenda could add a further 0.1 to 0.4% of GDP.

The most important driver of the GDP estimates is the change in NTBs in each scenario. There are three NTB components (customs, immediate, gradual), with the effect of leaving the customs union showing a consistent effect across the three scenarios in our analysis. Further work is on-going to explore the policies that contribute to these changes in more detail. **Given that that highest effects stem from these NTBs, a key objective from any future partnership is therefore to minimise these, although some will be very difficult to eliminate entirely.**

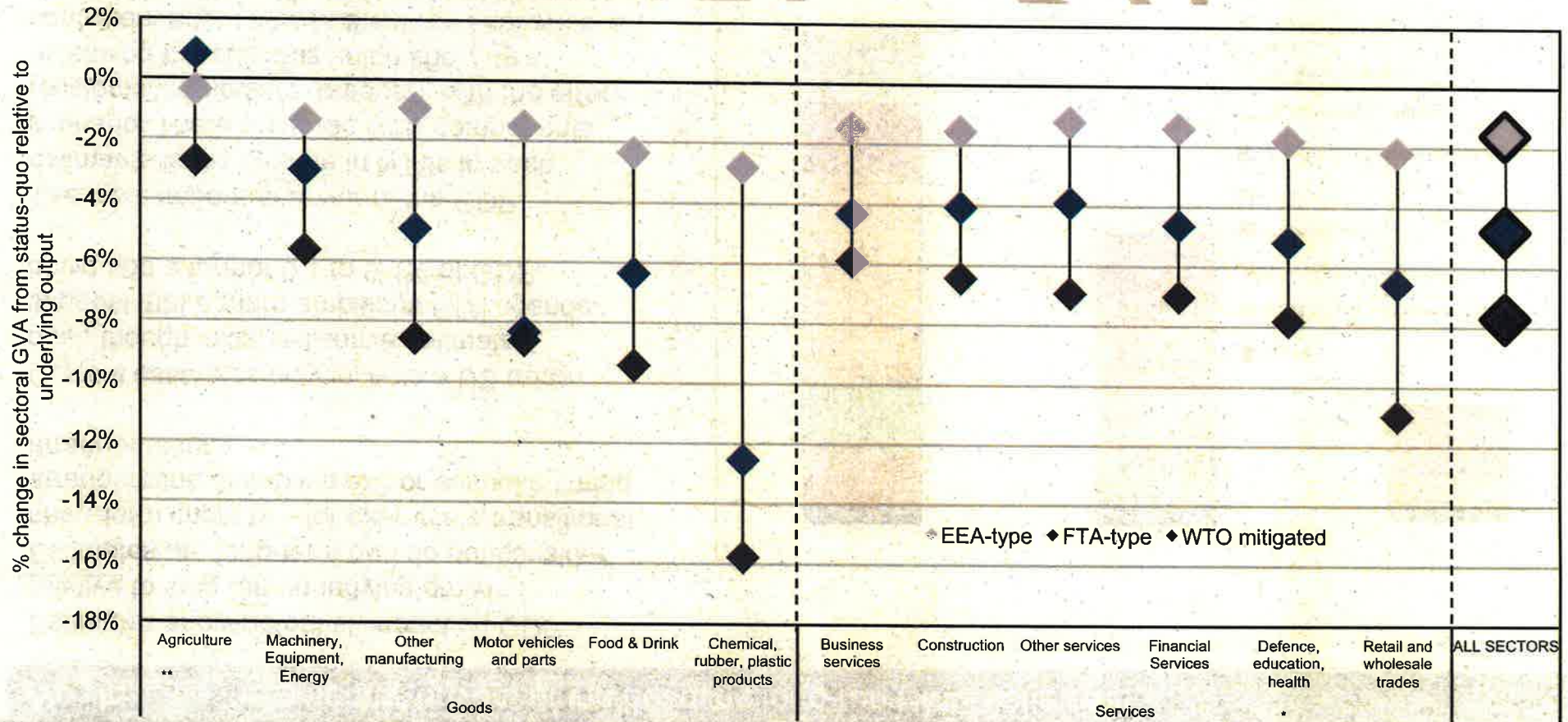


The grey blocks highlight the modelled impact on output as a result of **illustrative** changes to migration policy. In all scenarios there is also a reduction in migration as a result of weaker UK output.

19. Provisional sectoral results

We have begun to consider provisional results by sector of the UK economy, with the modelling capturing more complex second and third order impacts on each sector

- Emerging findings suggest the largest effects would be on chemicals, food and drink, clothes, manufacturing, cars, and retail.
- This reflects different trade barriers introduced on sectors by exit; their relative share of trade with the EU; and the trade intensity of their inputs.



*GVA decreases in the government sector reflect the broader economic impacts of a smaller economy

** Partial-equilibrium modelling offers a more detailed analysis of the agriculture sector and Defra's PE model results suggests more significant positive impacts on the domestic agricultural sector (at the expense of consumers) than this analysis in a WTO scenario

20. Sector narrative – Chemicals

Illustration of the types of non-tariff barriers that might be introduced

The chemicals sector is a diverse sector covering both speciality chemicals and bulk chemicals. It is also an important foundation industry for other sectors. For example, chemicals contribute 84% of inputs to make medicines.

EEA-type scenario

- Customs declarations on leaving the customs union are expected to lead to significant non-tariff barriers across all manufactured goods sectors. The chemicals sector is highly reliant on EU supply chains for intermediate inputs, with products crossing the border multiple times during the production process.

FTA-type scenario

- Chemical manufacturers and/or importers would have to transfer registrations for over 9000 chemical products to appointed representatives in the EU before they can continue selling in the EU. New chemicals would likely have to be registered twice, once in the UK and once in the EU. Standard registration fees vary between €1,700 and €34,000. There could be additional costs of data gathering of the order of €100,000.

WTO scenario

- EU tariffs on chemicals are an average of 4.0%. This would increase first order export costs by around £500 million, which would be additional to non-tariff barriers set out above.

21. Sector narrative – Professional and Business services (PBS)

Illustration of the types of non-tariff barriers that might be introduced

The PBS sector includes legal services, accountancy, audit, advertising, architecture, consultancy, HR and recruitment, and other administrative services.

EEA-type scenario

- Using EEA as a precedent, there are limited additional barriers.

FTA-type scenario

- Existing FTAs such as CETA do not remove over 550 individual restrictions on services trade. For legal services, for example, this includes EU nationality and commercial presence requirements for service provision in some Member States.
- There could be additional restrictions on data localisation, requiring UK companies to store their data on the EU servers.

WTO scenario

- Additional member state restrictions on services trade in the absence of an FTA include foreign equity restrictions, no visa waiver scheme and nationality restrictions for business services.

22. Sector narrative – Financial services

Illustration of the types of non-tariff barriers that might be introduced

Financial services includes banking (retail, corporate and investment banking), asset management, insurance and financial markets infrastructure.

EEA-type scenario

- Using EEA as a precedent, there are limited additional barriers as firms based in EEA countries can provide financial services across the EU.

FTA-type scenario

- Under an FTA-type scenario (i.e CETA) market access would be hampered almost to the same extent as in a WTO scenario. These scenarios would prohibit firms from providing regulated financial services to the EU from the UK outside of certain exemptions, for example, the EU's equivalency regimes. However, the limitations of the current equivalency regimes (which are only available for certain areas of EU regulation and can be withdrawn by the EU authorities) would lead to firms relocating substantial amounts of activity from the UK to the EU.
- In addition to trade barriers, EU exit could impede the sector as:
 - i) there is a risk that the EU undertakes measures which would be harmful to the UK financial sector
 - ii) the relocation of EU-facing business into the EU could have knock-on implications for rest of world business currently carried out in the UK – due to a loss of economies of scale for UK-based institutions.
- As a result of these factors, London's status as a financial centre could be severely eroded.

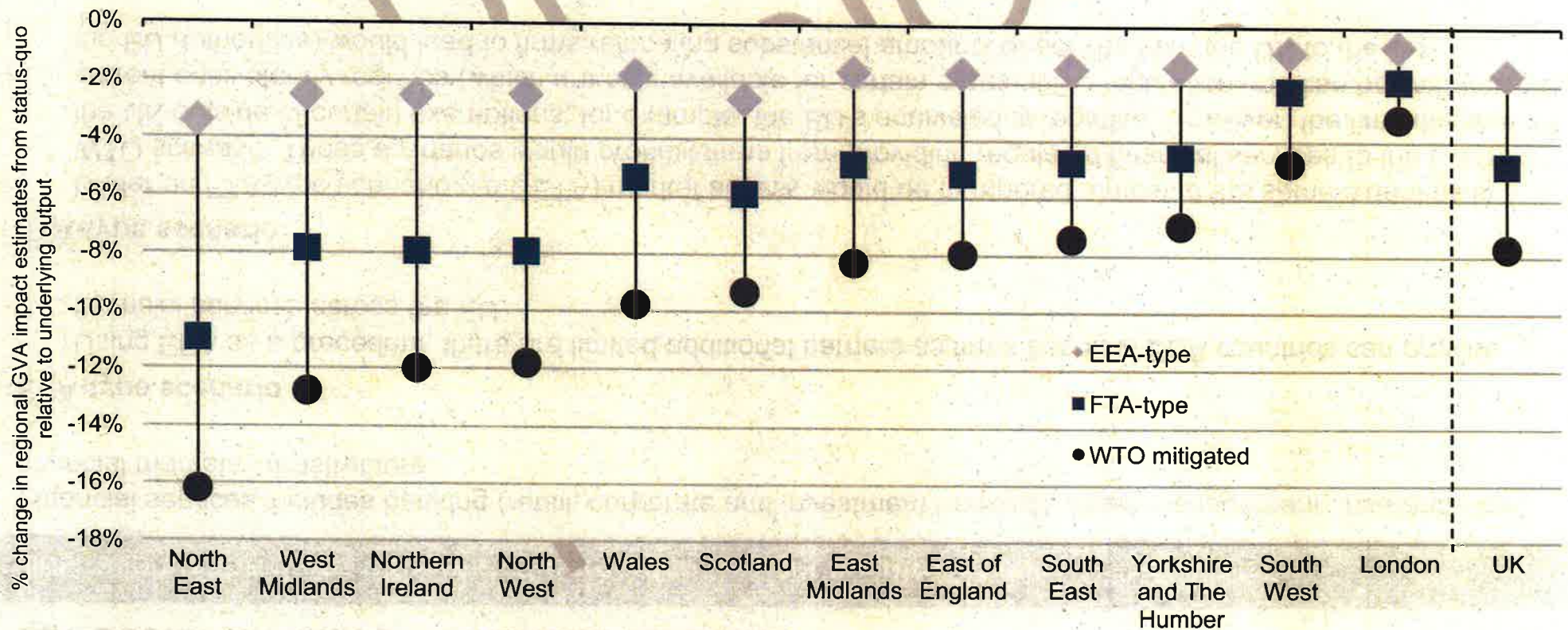
WTO-type scenario

- In addition to the above, in a strict migration scenario (an option in a WTO scenario) the sector's access to talent could be limited.

23. Provisional regional and national results

We can begin to consider initial estimates of how these findings differ across regions and nations of the UK

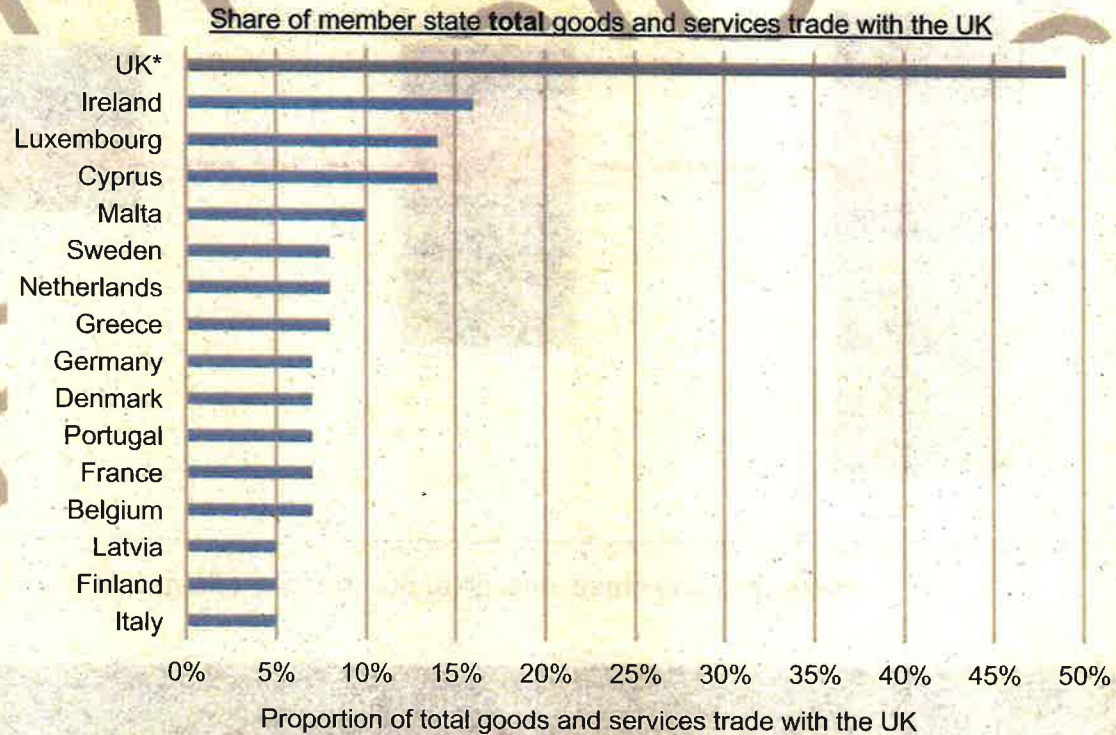
- Geographical effects may be likely to be greater in regions and nations that are i) more exposed to the change in trade barriers by nature of their export composition (e.g. good barriers relative to services) and ii) have a higher dependence on exports as a proportion of the regional economy.
- Our regional analysis is still developing; it does not yet consider region-specific effects of customs and the impact on the Republic of Ireland economy, including any scenarios including a 'hard border' (which the government has committed to avoid) all of which would be expected to affect Northern Ireland more than the rest of the UK.



24. Impact on EU Member States

Changes to the UK and EU trading relationship would have economic implications for other member states.

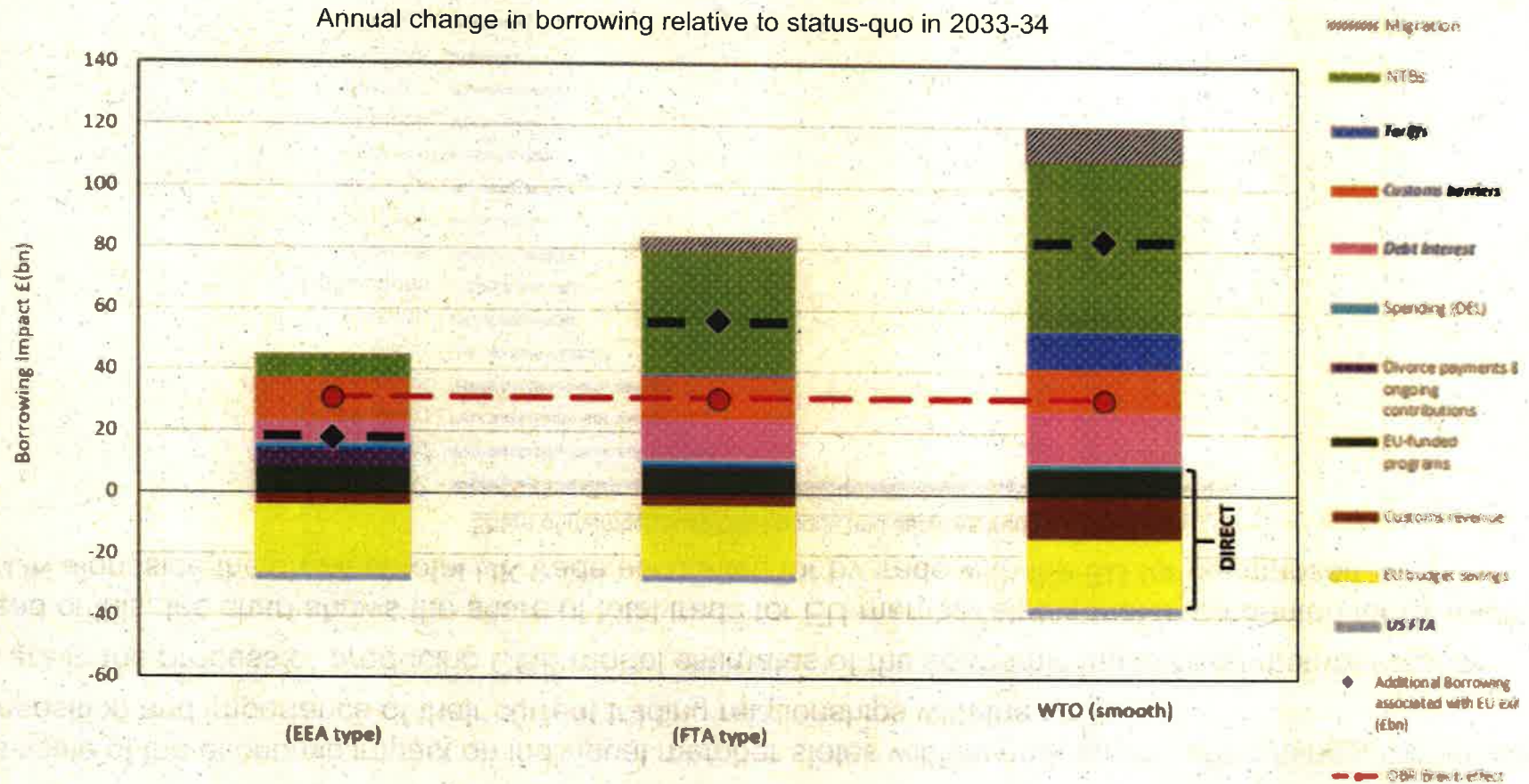
- A Future Economic Partnership scenario that results in lower market access and higher costs of trade for the UK would also have economic implications for the rest of the EU and the individual member states.
- The scale of the economic impact on individual member states will depend, among other things, on the size, composition and importance of their current trading relationships with the UK.
- We are in the process of producing CGE model estimates of the economic impacts on member states.
- Ahead of this, the chart shows the share of total trade for EU member states that is accounted for by trade with the UK alongside the share of total UK trade accounted for by trade with the EU for comparison.



*For the UK, this chart shows the proportion of goods and services that is with the EU 27.

25. Fiscal implications

We have illustrated the net fiscal impact of existing precedents



Fiscal Assumptions	EEA-type	FTA-type	WTO
Ongoing contributions to EU	Norway style	Swiss style	None
Customs revenue retained?	On non-EU imports	On non-EU imports	All imports
Migration Policy	Continued labour mobility	'Flexible' labour mobility	'Strict' labour mobility

26. Stress testing and sensitising our results

We are stress testing our analysis to explore a full range of factors that influence the projections

UK Modelling Capability

Current Priority Workstreams

Analyse the potential for more/deeper FTAs

Analyse the potential benefits/costs of regulatory change

Refine NTBs and reconcile with bottom-up analysis

Upcoming Work

Assess alternative policy scenarios and use these to identify maximum upside and minimum downside.

Test alternate model specifications

Assess distributional impacts

Refine regional impacts

Plurilateral service trade liberalisation

Run sensitivity analysis around specific model parameters

Unilateral non-tariff barrier liberalisation

Impact of joining wider FTA trade blocs

Speed at which impacts are felt / transition pathway

Sensitivity analysis on future global developments

Future developments

Changing contributions to EU programme budgets

Further analysis of migration policy options

Further incorporation of FDI

Commission Modelling

We expect the EU to ramp up its analytical capability around UK exit, both in inputting to negotiations and where some of this is likely to reach the public domain. We need to be ready to respond to this appropriately.

ANNEX

DRAFT
PROVISIONAL
RESULTS

Annex A. Key differences between external analyses

Differences between external models are driven by a number of key assumptions.

	Highest <u>Positive</u> Approach	Highest <u>Negative</u> Approach
Trade Barriers	<ul style="list-style-type: none"> • Unilateral reduction in NTBs (EFT) • UK able to access 20% cheaper imports of same quality (EFT) 	<ul style="list-style-type: none"> • Trade reduction with EU up to 55% (World Bank)
FDI Impacts	<ul style="list-style-type: none"> • No FDI reduction assumed (LSE static) 	<ul style="list-style-type: none"> • Decline in inward FDI up to 45% (OECD)
Productivity	<ul style="list-style-type: none"> • No wider impacts on firm productivity (Open Europe) 	<ul style="list-style-type: none"> • Lower openness, R&D spend and domestic competition reduce productivity and lower UK growth rate by 40% (Rabobank)
Non-EU trade deals	<ul style="list-style-type: none"> • Maintain existing FTAs and new trade deals with USA, China, Brazil, Russia, Australia and India (IEA) 	<ul style="list-style-type: none"> • UK is assumed to lose access to all existing FTAs (GED, PWC)
Deregulation	<ul style="list-style-type: none"> • Up to 2% GDP gain from deregulation (EFT, Open Europe) 	<ul style="list-style-type: none"> • No gains from deregulation (LSE, NIESR)

Key differences in approaches include estimates of:

- Trade Barriers;
- FDI Impacts;
- Impacts on productivity;
- Non-EU Trade Deals;
- Deregulation.

Most analysts use econometric (e.g. 'gravity' models) or structural (e.g. Computable General Equilibrium) models of the economy, or a combination of the two (as we do in HMG).