

November 2019



Quarterly Economic Bulletin

Julian Hodge Institute of
Applied Macroeconomics





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Commercial Deposits

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The world economy is growing moderately, led by the Emerging Market Economies, with low raw material prices supporting ongoing growth. The UK continues to grow in spite of the uncertainty created by Parliamentary delays over Brexit. But with a new EU Deal now agreed, and an election agreed for December 12th, this uncertainty should soon be over. Of the contrasting Labour and Conservative election manifestos, the former looks likely to be most attractive to the electorate; but both envisage substantial fiscal expansion. This is necessary to push interest rates off the Zero Lower Bound and so to restore potency to monetary policy, which has become a damaging and busted flush due to serial central banking errors in the past two decades.

Brexit effects of the new EU Deal: A critique of the models and assumptions used in its evaluation 26

Patrick Minford

The usual anti-Brexit suspects are attacking Boris Johnson's EU Deal, by making unwarranted negative policy assumptions, even when the policy details of a trade agreement with the EU have yet to be negotiated. On the policies announced by Boris Johnson's government so far, it is reasonable to assume a) strongly liberalising trade agreements will be signed with our non-EU trade partners, while b) an EU trade agreement will maintain mutual access to goods markets on standard WTO terms, while there will be mutual recognition in services markets; c) a more pro-enterprise-and-innovation approach will be taken to regulation, d) immigration policy will encourage skilled immigration. This chapter explains why on these reasonable and attainable policies, there will be substantial welfare gains to the UK from Brexit, the opposite of the gloomy negatives promulgated by these hostile groups.

Executive Summary of this chapter follows on the next page



EXECUTIVE SUMMARY OF THIRD CHAPTER 'BREXIT EFFECTS OF THE NEW EU DEAL: A CRITIQUE OF THE MODELS AND ASSUMPTIONS USED IN ITS EVALUATION'

The usual anti-Brexit groups, including the LSE's Centre for Economic Performance, the IFS with its Green Budget Citibank partner, and the King's College economists who run the ESRC's The UK in a Changing Europe programme, are already attacking Boris Johnson's EU Deal, saying it will bring no benefits from free trade agreements with non-EU trade partners, but that it will create damage from new barriers that will spring up on UK-EU trade. In these views they echo the Treasury's Cross-Whitehall studies of Brexit, published when Philip Hammond was Chancellor and Theresa May Prime Minister. These groups also attack possible future moves to deregulation, and possible restrictions on immigration.

The first point to note in reply is that none of these policies is written into the EU Deal. This merely commits us to negotiate some future trade relationships with the EU in future. Essentially these debates belong to a future dialogue, not the current one on the current EU Deal.

Policy Assumptions about Brexit

However, these arguments about future policies under Brexit are being used to attack Brexit itself and effect strengthen the case for Remain or a Brexit in Name only deal keeping us in the EU customs union and Single Market. They can be rebutted on two levels. First, that of policy assumptions. Second, that of models being appealed to.

Take policy assumptions. Free trade agreements with non-EU countries have the capacity to sweep away high levels of EU protection, estimated generally at around 20% on food and manufacturing. When abolition on this scale is simulated in the GTAP model now being used by the Treasury it raises UK GDP by 4%. The mechanism by which it does so is to lower UK consumer prices and exert competitive pressure on home industries, forcing them to raise productivity. Some critics admit this but then go on to argue that it will sweep away home industry and jobs, and so is unacceptable: in effect they argue for continued protection. But notice that the two criticisms cannot be right at the same time: if free trade produces trivial benefits, it cannot also sweep away home industries and if it sweeps away home industries, it cannot be producing trivial effects. The truth is neither criticism is correct. Free trade does have big effects and by creating strong competition it does not destroy home industries, rather it strengthens their productivity; as jobs are reduced by this productivity surge in these sectors, jobs are created in other sectors favoured by the economy's restructuring. As always strong demand policies will support general job creation that will keep unemployment low as this supply-side policy goes to work.

Now turn to the criticism based on the supposed barriers to spring up on the UK-EU border if we leave the customs union and single market. These are a myth of the windiest sort. The EU's trade with non-EU countries of whom we will become one, actually thrives. In the past few decades its growth rate has been nearly double that of the EU's intra trade, as extensively documented by Michael Burrage in work published by Civitas. There are good reasons for this, in that this trade is protected by WTO rules that are embedded in EU law. These rules outlaw discrimination in product standards and enforce 'seamless' customs procedures, under which 98% of goods are pre-cleared by computer declaration and not inspected physically in port. Exporters of course make sure their goods are in line with EU export standards, and so meet no delays or other barriers. They pay the mandated tariffs through separate payment procedures. For UK firms that currently sell into the EU their products are already in line with EU standards, as they have been for many years. They will now switch into a new regime whereby they cross a seamless border; these crossings are repeated events and once the first has been arranged, at some small one-off cost in switching computer and other systems, the others will be costless repetitions. At the Swiss-EU border a leading Swiss ex-customs expert has put these costs at 0.1% of trade value. Notice that under an EU free trade deal no tariffs would be payable. So in short this great supposed new UK-EU trade barrier melts on inspection to virtually nothing.

Essentially this disposes of the two big critical arguments from policy assumptions. We can see that free trade with non-EU countries, contrary to criticism no 1, does indeed bring big gains and these will not cause job losses overall in the economy. We can also see that, contrary to criticism No 2, new border barriers between the UK and EU will under an EU-UK FTA be a big fat zero. When these revised assumptions are put into the models these critical groups use nicely exemplified by the GTAP model now being used by the Treasury, instead of giving large negative effects on the economy, they produce large positives.

When one turns from trade to regulation and immigration, again the assumptions of the critics are at variance with a reasonable interpretation of intended policy. UK policy's stated intention on regulation is to follow the advice of experts in the relevant sectors, such as cancer scientists over cancer regulation, and City experts over City regulation, to ensure regulation assists innovation and prosperity. It is hard to quarrel with such an approach; and there is much evidence that this has not been followed by the EU in setting the regulations we currently labour under. Finally, on immigration the Johnson government's stated policy is to

have a points-based system that prioritises skilled immigration, and ends the taxpayer costs created by uncontrolled unskilled EU immigration. Again, it is hard to see what can be quarrelled with on this; yet, amazingly, the Treasury itself assumed among its negative assumptions that EU skilled immigration would be totally stopped.

Modelling assumptions- implications for policy

This leaves the final questions about modelling. The critics do not in all cases use a full general equilibrium (CGE) model such as GTAP in assessing trade effects. Several such as LSE CEP use a mixture of a short cut CGE model of output and a host of microeconomic relationships, 'gravity equations', at the same time: this 'mix and match' approach does not ensure internal consistency in trade, output and factor markets, as for example GTAP does. This is why the Treasury, which originally followed this method, switched to using GTAP. The GTAP model can be described as a 'weak-form gravity' model, in that it assumes imperfect substitutability between and within all commodities; one of the key assumptions of gravity trade theory is this imperfect substitutability. Another key one, that GTAP does not have, is that trade itself raises productivity via mechanisms such as foreign direct investment that it encourages.

Hence the GTAP model itself is controversial; its very structure increases the influence of UK-EU trade relative to UK-non-EU trade. In Cardiff we have done research recently testing a smaller, more manageable CGE World Trade Model on its ability to match UK trade facts; one with gravity features and one without. We find that the one without ('classical') matches the facts well, the gravity one is statistically rejected.

The dominance of the classical model has implications for policy. It means that the key question is how quickly we conclude trade agreements with key wide-ranging trade partners like the US. For example if we did a US FTA tomorrow that meant US products could be freely bought here, then we would at a stroke enjoy the equivalent gains of complete free trade, given that the US is the world's most efficient supplier of almost all food and manufactured products.

If we were to do that, any FTA with the EU would essentially be irrelevant since it would not affect UK prices or output, dominated now by world prices. If we then traded with the EU under WTO rules, with mutual tariffs being levied, the burden of these would entirely fall on EU traders, since the prices EU exports could get in the UK would be world prices, so any UK tariffs would have to be absorbed by EU exporters; as for the prices of UK exports to the EU they would be also set by world prices, their alternative market at home and abroad; so any EU tariffs on them would be absorbed by EU importers and still the UK exports would sell as EU prices are higher not just by these tariffs but also by the non-tariff barriers they levy on non-UK products. The implications of this calculation are that WTO status with tariffs costs the EU £13 billion a year in tariff revenue, which is also a gain to the UK Treasury. Clearly this is a material factor in the EU's keenness on a trade deal in the future.



POLITICAL CHAOS AT WESTMINSTER STRAINS BUSINESS AND POPULAR SENTIMENT

The public at large and businesses large and small fume at the Westminster shenanigans. ‘Get it done!’ is heard across the land. Whichever political group is seen to have caused or prolonged the hold-up will suffer the most in the always-inevitable election that has now been agreed for December 12th.

With so many political interests clashing on a Parliamentary knife-edge, and two ‘top courts’- the Supreme Court and the European Court of Justice- with claims of ultimate jurisdiction, it required supreme boldness to forecast the political outcome for Brexit in that pre-decision period. But now the people will speak, and we must hope clarity will at last prevail.

An EU suddenly became negotiable as the dangers of No Deal to the EU and Ireland in particular hit home- they stood to lose a lot of money due to new tariff barriers. For the UK we calculate that No Deal would produce little if any disruption, while bringing agreeably more quickly the benefits of EU departure- free trade generally, UK-based regulation of business and borders, and zero EU budget contributions.

Again if the newly negotiated EU Deal is not eventually passed, No Deal is the next most likely outcome, reached in some way with an EU also anxious to see Brexit done. It could even be No Deal plus, with a side agreement to pursue a Free Trade Agreement under GATT Article 24, leaving all current trading relationships unchanged meanwhile. This would avoid the worst damage to the EU.

However, for now the focus must be on what the impending election will bring in the way of future dominant government policies from a new Parliament. What are the possibilities for policy?

If Labour won, and the UK stayed in the EU due to its referendum on Remain vs its renegotiated soft Brexit- effectively also staying under EU rule- (Leavers would widely abstain), it would find its programme of nationalisation via confiscation of shares and other property quite illegal under EU law. In effect it would be left as just a high-spending high-borrowing government.

If the Tories won, they too under Boris Johnson have committed to high spending and higher borrowing, though on a smaller scale. But they would do so under a full Brexit which they would have campaigned on. This would simultaneously push the economy to free trade, lower prices and more competition/productivity; accompanied by moves toward more pro-business/pro-innovation regulation; and a new immigration policy based on importing skills. This promises a new supply-side reform process, similar to the Thatcher revolution.

Table 1: Summary of Forecast

	2016	2017	2018	2019	2020	2021	2022
GDP Growth ¹	1.9	1.8	1.4	1.7	2.0	2.1	2.1
Inflation CPI	1.1	2.6	2.5	1.9	2.1	2.0	2.0
Wage Growth	2.4	2.8	3.1	3.6	3.1	3.1	3.1
Unemployment (Mill.) ²	0.8	0.8	0.9	0.9	0.8	0.7	0.7
Exchange Rate ³ has now	82.1	77.4	78.5	80.1	80.7	80.6	80.5
3 Month Interest Rate	0.5	0.4	0.7	0.9	1.3	2.4	3.1
5 Year Interest Rate	0.7	0.6	1.0	1.4	1.6	2.5	3.4
Current Balance (£bn)	-90.9	-68.3	-81.3	-86.4	-41.1	-31.2	-23.1
PSBR (£bn)	56.1	53.7	40.8	37.7	20.7	7.0	3.1

¹Expenditure estimate at factor cost

²U.K. Wholly unemployed excluding school leavers (new basis)

³Sterling effective exchange rate, Bank of England Index (2005 = 100)

We have argued in recent Bulletins that a burst of fiscal expansion is now needed to push interest rates well away from the Zero Bound, so that monetary policy can become effective again with normalised interest rates where financial markets cease to be badly distorted by the zero bound and massive QE. Later in this chapter we set out a budget programme that we think makes sense if and when Brexit occurs- this scenario could be enacted by a Johnson Tory government; as we have seen above, Labour policies are likely to stop Brexit, but lead to higher spending and borrowing anyway.

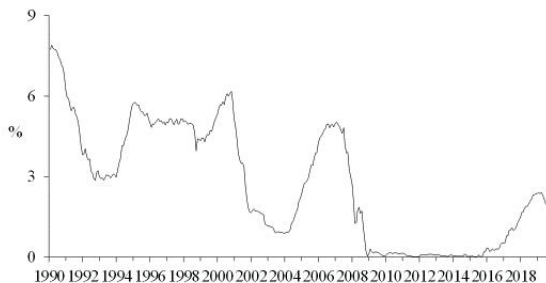
In the end UK democracy has tended to give the people what they wanted. As we look ahead, we should assume that once again they will get what they want. As we and they look at the two scenarios above, it seems most likely that they will prefer the Tory offering. Only time will tell us for sure but the current polls suggest it. More on the comparison below.

The macroeconomic background to the upcoming Brexit economy

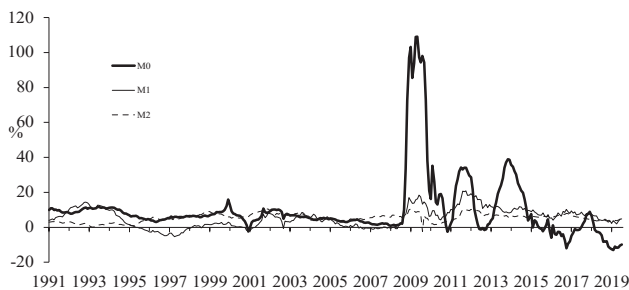
Assuming Boris Johnson’s government can win an election and succeed in getting Brexit done, it would be lucky with its timing. Fiscal policy, as we argue above, needs to take brutal advantage of the negative real interest rates on government borrowing to reform/bring down taxes and spend on necessary infrastructure. In the process it will drive up interest rates and restore power to monetary policy, currently a busted flush due to serial central bank mistakes since the beginning of the millennium. As the charts below chronicle, those central banks first allowed a major credit boom to take off in the 2000s, which in turn teed up the succeeding bank crisis. Central banks allowed the crisis itself to erupt suddenly and without monetary control when Lehman was allowed to go bankrupt in September 2008. They then damaged the recovery by instituting draconian bank regulation which prevented the necessary bounce-back in credit growth. Finally they embarked on a massive expansion of the monetary base via ‘Quantitative Easing’, which failed predictably to restart credit growth from hobbled banks, but instead made it easy for governments and large corporations to sell their debt, with central banks as

unlimited buyers of it. Given that small companies had no such borrowing capacity, this monetary splurge has undermined industrial competition widely as documented by Liu, Mian and Sufi in a Chicago Booth Business School working paper in 2019.

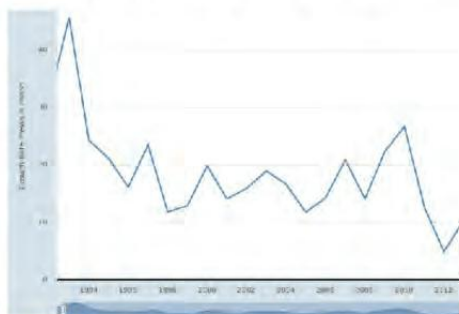
U.S. : 3-Month Treasury Bill



U.S.: Growth in Monetary Aggregates (Yr - on - Yr)



M1 growth for China

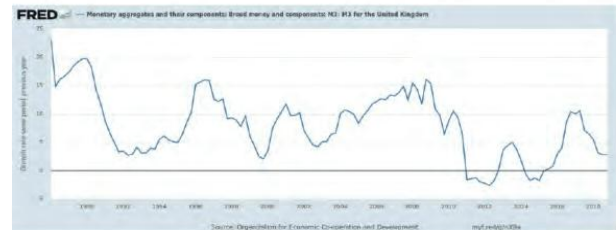


With interest rates now having been forced to the zero lower bound for a decade, monetary policy is now in a powerless state, in a direct parallel with the 1930s. It is left to fiscal policy alone to restore confidence in capitalism and revive the monetary policy instrument for keeping macro stability.

The policy challenge with monetary policy a busted flush

It is therefore no wonder that Andrew Bailey, head of the Financial Conduct Authority, has been making speeches about the need for continued Bank independence. Monetary policy has failed comprehensively both here and around the world.

Look at the record. First in the noughties western central banks allowed a big credit boom. Then when it predictably hit the buffers of resource constraints and caused big bank



losses, instead of injecting enough liquidity into the banks to make sure of their survival, they feebly- and apparently under political pressure- allowed Lehman to go under, and so caused the Financial Crisis. Then, just when they needed to get banks up on their feet, lending strongly for the recovery, they hit banks with a huge regulative whammy, requiring big rises in expensive equity capital. The recovery and credit growth duly stalled and the deflationary threat took over, with interest rates down to zero. Since then central banks have twisted and turned, rolling out QE, which has made it an easy financial world for governments and big companies, and a tough world for SMEs (loans to them force extra high capital needs) and savers. The result has been weak growth and rising monopoly power, with falling productivity growth.

It is a terrible mess and a dreadful record. Why indeed trust central banks after this? They have brought popular discontent and frustration onto the capitalist system, piling pressure on politicians who favour free markets to keep out the socialist Jeremy Corbyns and Elizabeth Warrens of this world, here and in the US.

How to get out of this mess? With monetary policy powerless until interest rates get back up to normal levels where world savings do not dwarf world investment, we need a period where fiscal policy is highly expansionary, to shift the world balance back towards a savings shortage and drive up rates. Fortunately this is the approach both of Donald Trump and Boris Johnson; so both the US and the UK are now embarking on sizeable deficits, with 'austerity' well buried. Unfortunately the EU is gripped by German fiscal orthodoxy- macroeconomics is barely understood by



German politicians, and where they do get some glimmerings, regarded as the work of the devil, and specially designed to transfer German money to foreigners. So the chances of fiscal expansion in the EU are nil. In Japan too, policy is inert- monetary policy powerless as here and fiscal policy hamstrung by a huge public debt/GDP ratio of 245%; as it is almost entirely domestically held by Japanese households happy to hold money and saving heavily due to ageing, this is not a problem, but the Abe government sees it as one.

So as so often, the world now depends on the Anglo-Saxons: this time pulling it out of the zero interest world with fiscal activism, so that monetary policy can rise from the ashes.

When this happens, there will need to be new leadership at central banks; and it will have to be in tune with popular opinion, after this terrible crisis debacle. It must be very doubtful that they will keep their independence. With so little demonstrated competence, why do they deserve to?

Whoever leads them, central banks will need to follow monetary rules that are guaranteed to stop future crises. We have done research on these rules. We think an effective one would both stabilise prices at some steady level and also react strongly to demand shocks, aiming to keep output too close to some steady growth path. In this new policy world interest rates would need to vary aggressively in response to boom and slump, much as they did over the long runs of history before the unusually quiet 1990s. Fiscal policy will need also to be at the ready to head off any Zero Lower Bound interest rate crisis if ever it threatens. With monetary policies like this, backed by such a fiscal backstop, crises such as we have just had should be relegated to the footnotes of history, instead of dominating history as in the recent decade.

Budgeting for Brexit

In the Table that follows we update our calculations for projected government borrowing post-Brexit, in the light of our latest forecasts. We build in assumptions about the government's projected additional post-Brexit spending plans, which we have called the 'Fiscal Fund'.

Our latest updated Budget for Brexit on the current post-Brexit forecast shows substantial scope for cuts in taxes and additional spending on infrastructure and vital public services. The projection in the Table above shows that additional measures costing £25 billion a year from 2020 and an extra £65 billion a year from 2025 are consistent with bringing public debt down to around 60% of GDP by 2027. This debt is counted free of any Bank monetary operations, on the assumption that the Bank of England unwinds all its operations in public debt, reversing QE; this is in line with the assumption that monetary policy would be normalised by then. This implies that all public debt is held outside the

public sector itself- at present about a third is held by the Bank and so is not public sector debt at all in theory.

Table: The Path of Public Borrowing and Debt with The Post-Brexit Fiscal Fund (£ Billion, Current Prices)

	<u>Brexit</u> <u>PSBR</u>	<u>+Fiscal</u> <u>Fund</u>	<u>Debt</u>	<u>GDP</u> <u>(Mkt</u> <u>Prices)</u>	<u>Debt/GDP %</u> <u>(ratio without</u> <u>Fund)</u>
2018	41.4		1559	2127	73.3
2019	37.4		1716	2215	77.5
2020	20.4	+25	1761	2310	76.2 (75.1)
2021	7	+25	1793	2410	74.4 (72.3)
2022	3	+25	1821	2514	72.4 (69.5)
2023	-10	+25	1836	2630	69.8 (63.4)
2024	-15.5	+25	1846	2753	67.0 (62.5)
2025	-25	+65	1885	2891	65.2 (58.8)
2026	-35	+65	1916	3035	63.1 (54.7)
2027	-45	+65	1936	3187	60.7 (50.7)

Note- Public sector net debt (excluding public sector banks) estimated at £1646 billion at end 2017-18 FY (in Sept 2017 £1638 billion, source ONS.)

The key point however at present is to note the overwhelming need, explained above, for fiscal policy to drive up interest rates. This could well call for far more borrowing than is pencilled in above; we cannot know how much is needed until we see how interest rates respond.

But to those who fear the government risks insolvency by being so aggressive in fiscal policy, we make two points. First, in the current market place government bond issues are being priced at extremely low interest rates because they are seen uniquely as entirely safe- the UK government has never defaulted and is backed by UK taxpayers, law-abiding people/firms who always pay up. Second, suppose the government for example issues £220 billion of debt over the coming decade as we assume and it does so at current rates (R) of around 2%. Then suppose in 2027 interest rates have risen to 5%. Make the simple assumption purely for ease of illustration that all this debt is perpetuities paying an annual coupon, whose price is therefore coupon/R. Then the £220 billion issue turns out in 2027 to be worth only £90 billion; the government makes a substantial capital gain, which plainly protects its solvency in a strong way. Effectively it will only have really borrowed £90 billion, and its debt/GDP ratio would be only 54% in 2027.

Most commentators, including the OBR, the IFS and most macro forecasters, and even it would seem the Treasury itself, have not caught up with these key facts of the macro situation, and hence are giving advice that is quite outdated. As Lord Keynes once said ‘If the facts change, I change my mind; what do you do?’.

The effects of using the post-Brexit Fiscal Fund

Matters do not end there. The fiscal Fund will have dynamic effects on the UK economy, by cutting taxes and boosting growth-friendly infrastructure. Our arithmetic above computes the debt evolution on the basis of £65 billion p.a. fiscal expansion by 2025, on the assumption that solvency concerns drive debt to a ‘safe’ 60% of GDP by 2027. As we have said fiscal policy should be more aggressive than this in order to drive up interest rates to reasonable levels at which monetary policy bites again. Such rates might be around 5%, and require a lot more borrowing than we have assumed in our safe arithmetic; indeed to drive UK rates up, if world rates remain mired around 2-3%, the UK has to look more risky and the pound be forced to strengthen by seriously aggressive borrowing. For illustrative purposes we will assume the extra borrowing reaches £100 billion pa by 2025.

This would make possible various tax cuts which could boost the UK’s competitiveness. Here is the current cost of such tax cuts- a 1% rate cut in

- Corporation tax would cost £3.2 billion by 2025
- The standard rate of income tax £5.6 billion
- The top rate of income tax £1.5 billion
- The very top (‘additional’) rate £0.2 billion.

So a cocktail of pro-entrepreneur tax cuts worth £100 billion could be :

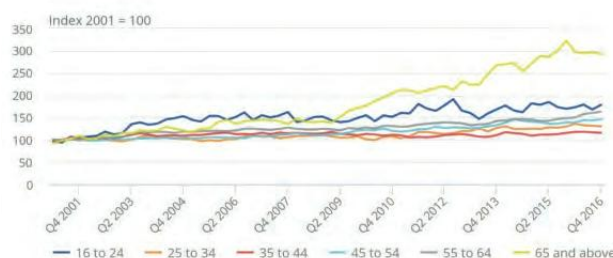
1. Cut corporation tax by 10% : £32 billion
2. Abolish the very top additional 5% rate : £1 billion
3. Cut the top rate of income tax to 30% : £15 billion.
4. Cut the standard rate of income tax by 5% : £28 billion.

This would give a total of £76 billion, representing a weighted average tax cut across all income of about 15%, leaving £24 billion extra (about 1% of GDP) for spending on public services and infrastructure. According to the Liverpool supply side model of the UK, every 1% off the average tax rate gains 1% on GDP in the long run by making the labour market more competitive. The second round effects of Brexit through the Fiscal Fund would therefore boost the economy by a further 15% over the two decades from 2025- or another 0.7% pa on growth from 2025-2045. How should we evaluate the effects of the remaining £24 billion extra spend on public services ? We know that these also boost growth by raising private productivity. On the basis that politicians will decide on these as opposed to the

same in tax cuts if they judge they will have the same effects on growth, we could assess that this spending would also raise growth proportionately- by about a third (23/77) of the taxcut programme, namely another 0.23% per annum.

On this basis we could project the whole post-Brexit programme from the new Fund could boost growth from 2025 by some 1% per annum.

Figure 11: The increase in self-employment by age
Quarter 1 (Jan to Mar) 2001 to Quarter 4 (Oct to Dec) 2016



How has the UK economy managed to keep growing in spite of all the Brexit uncertainty?

There can be little doubt that finally in the middle of 2019 the signs are that the economy is slowing. In the first quarter of the year heavy stocking led to a surge in growth, as businesses prepared for a possible WTO-based Brexit. In the second quarter that has been reversed; and the latest purchasing manager indices are close to the zero growth point on a quarterly basis. Yet even now growth is nearly 2% up on a year ago and retail spending remains strong.

With a new government after this election committed to clear new policies, Brexit uncertainty should end post-election; either we will have Brexit and Boris’ EU deal under the Tories or effectively no Brexit or close to it under Labour. Commonsense suggests that both the EU and the UK will wish to get some sort of Brexit deal over the line



rather than move to no deal. The EU now wants the UK out of the bloc, given the difficult decisions on euro-zone structure to be taken, decisions that a UK presence in the Council and the Parliament could complicate. Both sides would like a Free Trade Agreement as opposed to none. The Irish border, it is now well documented, can be 'soft' within an FTA because of numerous well-tried border procedures. Either with Boris' deal or with no real Brexit at all under Labour, it seems most likely there will be an EU Deal..

With the public finances strengthening and real interest rates negative, there are good reasons for the government to propose a strong fiscal expansion, as we have seen. The direct effects of tax cuts and infrastructure spending will stimulate growth if and when Brexit occurs; as important will be the effects on interest rates, pushing them away from the zero bound where monetary policy has become impotent and worse, distortionary, destroying industrial competition.

This will happen against the background of an economy that has kept growing in spite of dire Brexit uncertainty. With this uncertainty lifting, that negative will be lifted too.

How has it kept growing through it all?

First, two thirds of spending is consumption, responding to current needs; another 20% is government spending, responding similarly. Only 15% of the economy is investment, forward-looking and vulnerable to uncertainty, because of the option to defer. Investment has been hit by Brexit uncertainty; probably 5-10% off cumulatively. But this is at a maximum 1.5% of GDP. In the long run this investment will happen; it is just deferred.

Also, there will be more investment if/when Brexit occurs, because the growth prospects will be better, as pro-growth policies are pursued.

The growth we have seen over the past few years has come from a big labour supply expansion. The UK's flexible labour market and easy entry for small firms creates jobs and new products by wage movement. So rising labour supply has created labour market strength, with new jobs and new demand creation, as people with jobs have consumer confidence.

UK growth has been powered by a supply-side surge in labour market supply, especially by old, female and self-employed.

Here are some figures:

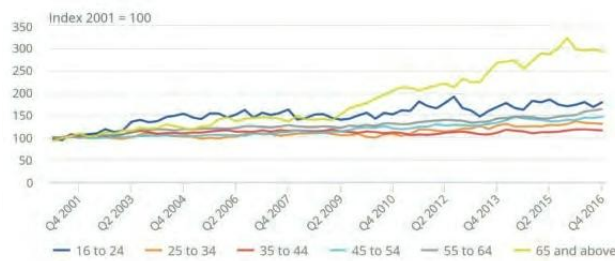
Table: Employment growth (thousands) over two years up to May-July 2019- (growth over past two years in brackets)

- Total Employment: 900 (+2.3%)
- Self-employment 124 (+2.7%)

- F/T: 650 (2.8%); P/T 141 (+1.7%)
- 50+: 572(+5.7%)
- Women: 504 (+3.4%)
- Share of P/T now: 26.2%
- Share of self-Employed now: 15%
- Share of 50+ now: 32.2%
- Share of women now: 47%

As the table shows, this supply surge has come from women, the self-employed and the old, over 50s, many over 65. The older self-employed have collateral in the form of housing and pension wealth; typically they are well educated. One can see underlying all this the rise in longevity (the 'hundred-year life') spurring the need for higher income to save for a longer old age and working longer to improve the assets in final retirement; the response includes women joining in the earning flow, and older people working longer, and using their experience to start new firms. A striking chart shows how old people dominate self-employment growth:

Figure 11: The increase in self-employment by age
Quarter 1 (Jan to Mar) 2001 to Quarter 4 (Oct to Dec) 2016



That No-Deal Brexit prospect has receded

Historians will be baffled in future years they read about the acute worries some Conservatives expressed over a 'No-Deal' Brexit. What, they will ask, could have so fazed them about a simple shift of UK status to 'third country' (i.e. no longer in the EU)? 'Chaos' at UK ports? How so? That would be quite illegal behaviour by UK and/or French customs officials. Just in recent weeks the two authorities held a dress rehearsal of how no chaos would occur. After all neither of them wanted to be impaled on thousands of civil court cases with businesses across the UK and the EU. This is the law of the land in both places.

The issue of No Deal has now receded, with the December election now taking place. Boris Johnson will fight on a platform of aiming to deliver the referendum result via his Deal with the EU, to be ratified by his new Parliamentary majority: that Deal will be deliver us into a third country status where we can sign our own trade deals, do a free trade agreement with the EU and set our own regulations. He looks highly likely to win that election, with a popular coalition between the Tory middle class and the whole

working class- an alliance that not even Mrs Thatcher could forge. For her the alliance was with the skilled working class only, who alone identified with her anti-union and anti-inflation agenda, along with the Tory middle class, who were more ambivalent. But today the Brexit alliance unites both groups in their entirety. For many years the Tory middle classes have quietly loathed rule by Brussels; some voted Remain on economic grounds but Boris Johnson's EU Deal will allay those economics fears, and most back the democratic authority of the referendum result. Meanwhile Brussels managed to unite the British working classes against them too by pushing mass unskilled immigration into the UK.

Boris Johnson is therefore now potentially cresting a wave which could well keep the Conservatives in power for two decades. He has had a baptism of fire but his opponents seem condemned to be consumed- divided- in the fiery furnace of post-Brexit politics. He is fortunate to inherit improving public finances and face a macro need for strong fiscal expansion, as set out above; and his free trade agenda will push up the growth rate for a decade and a half at least.

Our forecasts assume a Brexit occurring at the end of Q3, with an expansionary budget set for Q4. We have long now argued for strong budgetary expansion as a way to end the long deflation created by the Financial Crisis, and bringing to an end the Zero Lower Bound episode of monetary policy. 2019 should end on a positive note with interest rates and inflation rising at last; this tendency is likely to be strengthened by a further fall in the pound in the short term as the Brexit process gets going.



THE UK ECONOMY

Vo Phuong Mai Le

The economy contracted for the first time since Q4 2012. Real GDP shrank by 0.2% in Q2, down from a rise of 0.5% in Q1. A negative contribution came from a sharp decrease in fixed investment (-1.0% in Q2 after +1.2% in Q1). In contrast, private consumption's rise of 0.7% (after 0.8% in Q1) and net trade improvement (adding 3.5 percentage points to Q2 growth, after -3.0 percentage points in Q1) partly offset the fall in GDP.

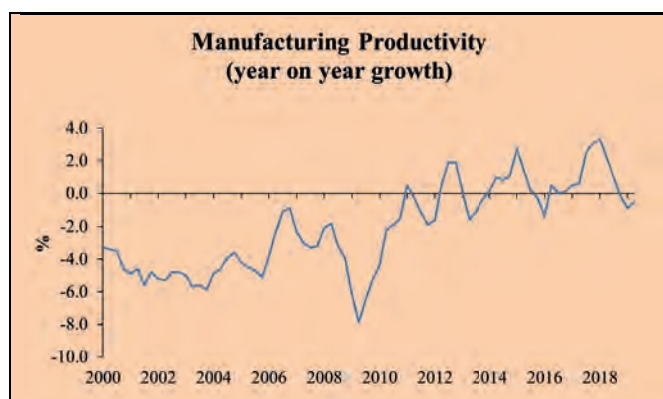
Production data also showed that the economy shrank in Q2. Industrial production output fell by 1.8% (compared to +1.1% in Q1). This was driven by a fall in manufacturing output (-2.8% after 1.5% in Q1) and in construction output (-1.2%, after +1.6% in Q1). Only service sector output increased to contribute positively to the quarterly growth, but its growth rate of 0.12% is the slowest rate in three years.

Recent data and surveys signal a further decline in output for Q3. Private sector output contracted for two consecutive months with a sharper decrease in September. The all sector Purchasing Managers' Index (PMI) was 48.8 in September, down from 49.7 in August. The falls in output expectations were registered in all three sectors. Construction and manufacturing growth are on a downward trend. The Markit Construction total activity index was 43.3 in September down from 45.00 in August, the fastest decline since April 2009. The manufacturing PMI was 48.3 in September compared to 47.4 in August, both are under the 50-mark threshold between expansion and contraction. Service sector output contracted for the first time in nearly 3 years (PMI of 49.5 in September from 50.6 in August). According to the Office for National Statistics, monthly economic output shrank by 0.1% in August after rising 0.3% in July.

Labour market, costs and prices

The labour market remained robust. The unemployment rate was 3.9% in Q2, compared to 3.8% in the previous quarter. It continued to be very low by historical standards. The employment rate was unchanged at a record high of 76.1%. Given such tight conditions, wage growth has now overtaken inflation. It rose at the ten-year high rate in Q2, with average weekly earnings growth excluding bonuses at 3.9% in Q2, compared to 3.6% in Q1.

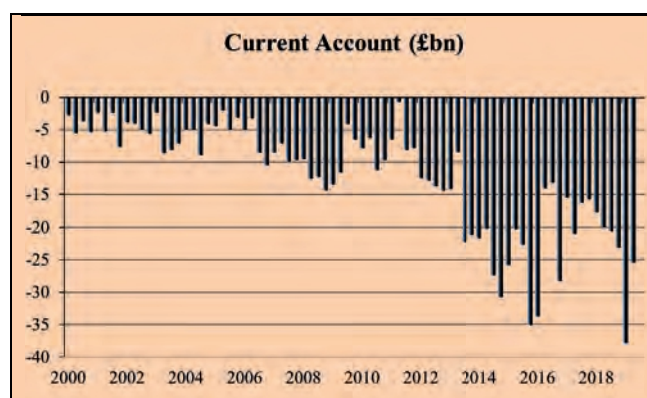
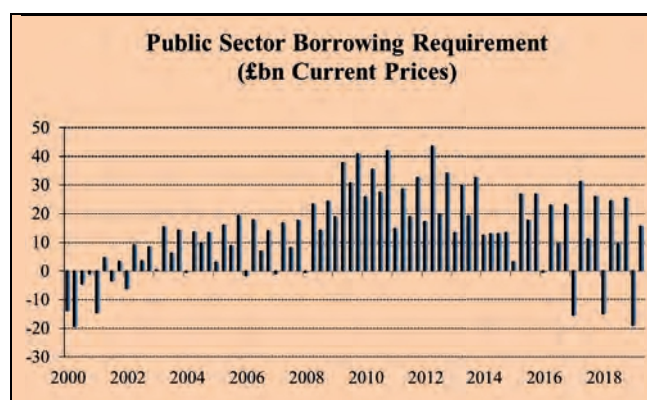
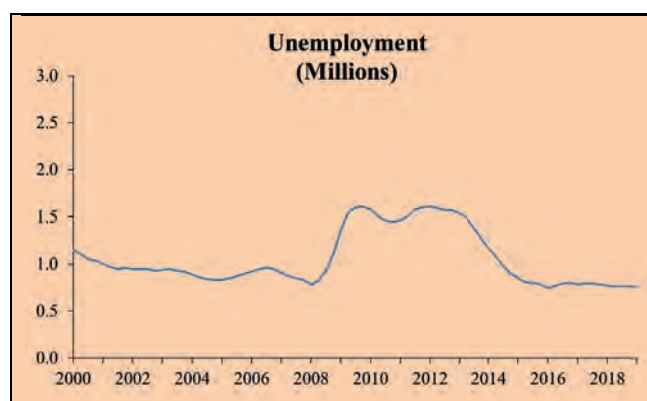
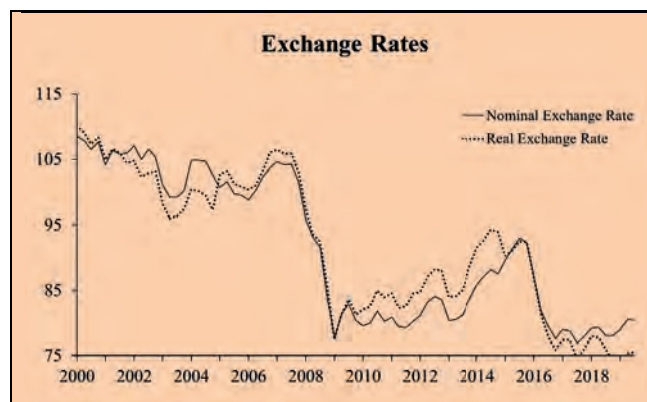
The annual CPI inflation rate fell to 1.7% in August from 2.1% in July. This reflected a more moderate core inflation rate that excludes food and energy costs, which was 1.5% down from 1.9% in July. Input price annual inflation was -2.8% in the year to September. Output price annual inflation for all manufactured products slowed to 1.7% from 2.2% in March.



Fiscal and Monetary Developments

Since the beginning of the financial year 2019/2020 the government has consistently required more public borrowing than in the previous financial year. In the fiscal year ending in August, the public sector borrowed £31.2 billion, compared to £24.4 billion in the previous fiscal year 2018/2019. A part of student loan debt issued was added to the PSBR this year, amounting to about £12 billion. But public debt as a percentage of GDP continued to decline. At the end of August, public sector net debt excluding Bank operations was 72.7% of GDP compared to 73.3% in August 2018.

The annual growth rate of broad money M4 lending (excluding deposits of other financial intermediary corporations, OFCs) — the credit growth rate — rose to 5.5% in August from 4.3% in July. This acceleration contributes to a faster growth in money supply. The year-on-year growth of M4 (excluding intermediate OFCs) rose to 3.3% in August from 3.1% in July.



UK FORECAST DETAIL

Prices, Wages, Interest Rates and Exchange Rate Forecast (Seasonally Adjusted)

	Inflation % ¹ (CPI)	Short Dated (5 Year) Interest Rates	3 Month Int. Rates	Nominal Exchange Rate (2005=100) ²	Real Exchange Rate ³	Real 3 Month Int. Rates % ⁴	Inflation (RPIX)	Real Short Dated Rate of Interest ⁵
2017	2.6	0.6	0.4	77.4	75.7	-1.7	3.8	-1.5
2018	2.5	1.0	0.7	78.6	76.5	-1.3	3.3	-0.5
2019	1.9	1.0	0.9	80.1	74.7	-1.0	2.6	0.5
2020	2.1	1.3	1.1	80.7	76.0	-1.1	2.9	1.4
2021	2.0	2.4	1.9	80.6	76.3	-1.0	2.7	0.9
2022	2.0	3.0	2.4	80.5	76.6	0.1	2.7	0.6
2017:1	2.2	0.6	0.3	76.8	75.3	-1.7	3.3	-1.5
2017:2	2.6	0.4	0.4	78.2	76.6	-1.5	3.8	-1.7
2017:3	2.7	0.6	0.3	76.7	74.6	-1.5	4.0	-1.5
2017:4	2.8	0.8	0.4	77.9	76.2	-1.7	4.1	-1.3
2018:1	2.5	1.0	0.5	79.2	78.1	-1.6	3.7	-1.1
2018:2	2.5	1.0	0.7	79.3	77.9	-1.9	3.4	-1.1
2018:3	2.5	1.0	0.8	78.0	75.9	-1.3	3.2	-1.1
2018:4	2.3	1.0	0.8	78.0	74.2	-0.5	3.0	-0.3
2019:1	1.9	0.9	0.8	79.0	72.8	-0.6	2.4	-1.1
2019:2	2.0	1.0	0.8	80.4	75.3	-1.2	2.7	-1.0
2019:3	1.9	1.1	1.0	80.4	75.3	-1.2	2.6	-0.9
2019:4	1.9	1.1	1.0	80.6	75.5	-1.0	2.6	-0.9
2020:1	2.1	1.1	1.0	80.7	75.5	-1.0	2.9	-0.9
2020:2	2.0	1.2	1.1	80.9	76.3	-1.0	2.8	-0.8
2020:3	2.0	1.3	1.1	80.7	76.2	-1.0	2.7	-0.7
2020:4	2.1	1.7	1.2	80.6	76.1	-1.4	3.0	-0.3
2021:1	2.0	2.3	1.8	80.7	76.0	-0.8	2.7	0.3
2021:2	2.0	2.5	1.9	80.7	76.5	-0.9	2.7	0.5
2021:3	2.0	2.4	2.0	80.6	76.5	-1.2	2.7	0.4
2021:4	2.0	2.5	2.0	80.5	76.3	-1.0	2.8	0.5
2022:1	1.9	2.9	2.1	80.6	76.2	-0.9	2.6	0.9
2022:2	2.0	2.9	2.1	80.6	76.8	-0.3	2.8	0.9
2022:3	2.0	3.1	2.1	80.5	76.7	0.1	2.7	1.1
2022:4	2.0	3.3	3.3	80.3	76.6	1.4	2.8	1.3

¹ Consumer's Expenditure Deflator

² Sterling Effective Exchange Rate Bank of England

³ Ratio of UK to other OECD consumer prices adjusted for nominal exchange rate

⁴ Treasury Bill Rate less one year forecast of inflation

⁵ Short Dated 5 Year Interest Rate less average of predicted 5 year ahead inflation rate

Labour Market and Supply Factors (Seasonally Adjusted)

	Average Earnings (1990=100) ¹	Wage Growth ²	Unemployment (New Basis) Percent ³	Millions	Real Wage Rate ⁴ (1990=100)
2017	259.1	2.8	2.2	0.8	141.9
2018	266.6	3.1	2.5	0.9	142.8
2019	275.7	3.6	2.4	0.9	145.2
2020	284.4	3.1	2.2	0.8	146.7
2021	293.2	3.1	1.9	0.7	148.4
2022	302.3	3.1	1.8	0.7	150.0
2017:1	258.1	2.2	2.1	0.8	141.9
2017:2	257.3	2.5	2.3	0.8	141.2
2017:3	260.2	2.8	2.2	0.8	142.6
2017:4	260.9	3.6	2.3	0.8	141.9
2018:1	264.6	3.0	2.3	0.8	142.6
2018:2	263.4	2.8	2.5	0.9	141.5
2018:3	268.0	3.0	2.5	0.9	143.2
2018:4	270.2	3.8	2.7	1.0	144.0
2019:1	273.4	3.9	2.9	1.0	145.4
2019:2	273.4	3.8	2.2	0.8	144.1
2019:3	276.9	3.3	2.2	0.8	145.2
2019:4	279.3	3.4	2.2	0.8	146.1
2020:1	282.1	3.2	2.3	0.9	147.0
2020:2	281.8	3.1	2.2	0.8	145.6
2020:3	285.4	3.1	2.2	0.8	146.7
2020:4	288.2	3.2	2.2	0.8	147.6
2021:1	290.7	3.1	2.0	0.8	148.6
2021:2	290.9	3.2	2.0	0.8	147.4
2021:3	294.5	3.2	1.9	0.7	148.5
2021:4	297.0	3.0	1.9	0.7	149.1
2022:1	299.6	3.1	1.9	0.7	150.3
2022:2	299.7	3.0	1.9	0.7	148.9
2022:3	303.6	3.1	1.7	0.7	150.1
2022:4	306.4	3.2	1.7	0.7	150.9

¹ Whole Economy

² Average Earnings

³ Wholly unemployed excluding school leavers as percentage of employed and unemployed, self employed and HM Forces

⁴ Wage rate deflated by CPI



Estimates and Projections of the Gross Domestic Product¹ (£ Million 1990 Prices)

	Expenditure Index	£ Million '90 prices	Non-Durable Consumption ²	Private Sector Gross Investment Expenditure ³	Public Authority Expenditure ⁴	Net Exports ⁵	AFC
2017	163.3	781822.0	441518.3	300818.9	200522.0	-60310.0	100727.2
2018	165.5	792730.9	445869.9	310567.1	201139.6	-41308.9	99536.9
2019	168.3	806031.5	451574.0	294378.8	204415.1	-52538.3	91648.8
2020	171.7	822255.3	457805.0	284319.5	205642.7	-30703.6	95003.4
2021	175.3	839667.4	464216.3	291654.9	206876.2	-25839.5	97212.8
2022	179.0	857300.8	470251.9	301062.7	208117.1	-22728.5	99398.9
2017/16	1.8		0.6	0.1	0.1		-6.3
2018/17	1.4		1.0	3.2	0.3		-1.0
2019/18	1.7		1.3	-4.8	1.6		-7.7
2020/19	2.0		1.4	-2.9	0.6		3.8
2021/20	2.1		1.4	2.6	0.6		2.3
2022/21	2.1		1.3	3.2	0.6		2.2
2017:1	162.4	194373.8	109767.4	74700.5	51127.5	-15869.2	25352.4
2017:2	162.8	194881.7	110608.6	74140.5	49460.4	-15733.0	23594.7
2017:3	163.6	195890.7	110362.8	75231.9	49951.2	-14679.9	24975.3
2017:4	164.3	196675.8	110779.5	76745.9	49982.9	-14027.9	26804.7
2018:1	164.4	196809.2	110809.6	73337.2	51591.3	-10814.1	24114.9
2018:2	165.1	197627.5	111248.1	78845.0	49253.6	-10094.0	25625.2
2018:3	166.1	198830.2	112094.9	76125.8	49822.6	-10001.3	23211.8
2018:4	166.6	199464.1	111717.3	82259.2	50472.1	-10399.5	26585.0
2019:1	167.6	200618.5	111589.5	85538.7	52691.8	-27678.5	21523.0
2019:2	167.5	200578.9	113662.7	72545.2	50827.1	-14023.4	22612.6
2019:3	168.8	202069.7	113170.0	67688.8	50122.1	-5107.9	23706.5
2019:4	169.4	202764.4	113151.8	68606.1	50774.1	-5728.5	23806.7
2020:1	170.7	204375.3	113061.1	76539.8	53007.9	-14821.8	23507.7
2020:2	170.6	204193.9	115140.9	68388.8	51132.9	-7013.6	23517.5
2020:3	172.3	206305.9	114754.0	69302.3	50422.3	-4284.8	23922.3
2020:4	173.2	207380.1	114849.0	70088.6	51079.6	-4583.4	24055.8
2021:1	174.4	208797.7	114530.9	77720.0	53326.0	-12598.6	24155.7
2021:2	174.2	208498.6	116753.2	69685.8	51439.4	-5259.5	24120.6
2021:3	176.0	210685.0	116475.3	71743.6	50724.8	-3856.3	24405.4
2021:4	176.8	211686.0	116456.9	72505.4	51386.1	-4125.1	24531.0
2022:1	178.1	213279.0	116019.8	79665.1	53646.0	-11338.8	24715.9
2022:2	177.8	212909.6	118388.3	71660.5	51747.6	-4206.4	24678.7
2022:3	179.6	215034.6	117873.0	74544.3	51029.1	-3470.7	24935.9
2022:4	180.5	216077.7	117970.9	75192.8	51694.4	-3712.6	25068.5

¹ GDP at factor cost. Expenditure measure; seasonally adjusted

² Consumers expenditure less expenditure on durables and housing

³ Private gross domestic capital formation plus household expenditure on durables and clothing plus private sector stock building

⁴ General government current and capital expenditure including stock building

⁵ Exports of goods and services less imports of goods and services

Financial Forecast

	PSBR/GDP % ¹	GDP ¹ (£bn)	PSBR (£bn) Financial Year	Debt Interest (£bn)	Current Account (£ bn)
2017	2.6	2048.0	53.7	18.3	-68.3
2018	1.9	2111.8	40.8	23.4	-81.3
2019	1.7	2177.2	37.2	26.5	-86.4
2020	0.9	2269.2	20.7	28.9	-41.1
2021	0.3	2364.0	7.0	32.9	-31.2
2022	0.1	2462.6	3.1	36.7	-23.1
2017:1	-3.0	504.7	-15.3	4.7	-15.4
2017:2	6.2	502.7	31.3	4.6	-21.0
2017:3	2.2	508.9	11.2	4.5	-16.2
2017:4	5.0	518.8	26.1	4.4	-15.7
2018:1	-2.9	517.6	-14.9	4.9	-17.7
2018:2	4.7	524.6	24.6	5.7	-19.9
2018:3	1.8	524.6	9.5	5.7	-20.5
2018:4	4.8	535.5	25.6	5.7	-23.1
2019:1	-3.6	527.1	-18.8	6.3	-37.8
2019:2	2.9	535.6	15.6	6.4	-25.4
2019:3	2.6	543.3	14.3	6.7	-10.0
2019:4	2.9	546.2	15.7	6.7	-13.2
2020:1	-1.5	552.1	-8.5	6.7	-11.3
2020:2	2.0	556.8	11.3	6.9	-11.0
2020:3	1.3	565.8	7.6	7.0	-8.2
2020:4	1.5	570.9	8.7	7.2	-10.6
2021:1	-1.2	575.7	-6.8	7.9	-6.8
2021:2	0.8	580.4	4.8	8.1	-7.6
2021:3	0.2	589.4	1.0	8.2	-7.3
2021:4	0.3	594.6	1.7	8.2	-9.5
2022:1	-0.1	599.7	-0.5	8.4	-3.6
2022:2	0.4	604.9	2.3	8.4	-4.9
2022:3	-0.3	613.8	-1.6	8.4	-6.2
2022:4	-0.1	619.4	-0.5	9.9	-8.5

¹ GDP at market prices (Financial Year)



THE WORLD ECONOMY

US

The economy continued to expand but at a slower pace. Real GDP rose by 0.5% qoq in Q2, down from 0.8% in Q1. This growth was driven by the strongest private consumption since Q4 2017. It rose by 1.15% in Q2 after 0.3% in Q1. Negative contributions came from a fall in investment (-0.275% in Q2 after 0.8% in Q1) and in net trade with a sharp fall in exports of 1.4% in Q2 (after +1% in Q1) and almost flat growth in imports (after -0.4% in Q1).

Looking forward to Q3, economic activity should decelerate further. The data on retail sales showed that its month on month growth rate was 0.4% in August, down from 0.7% in July. Consumers remained optimistic about the future as the confidence index was 125.1 in September following 135.1 in July and 135.8 in June, all above the threshold of 100. These indicators signal that consumption spending in Q3 should stay robust. On the production side, data and surveys indicated quite weak expansion in private sector output. Industrial production rose 0.1% qoq in August following 0.125% in July. The Markit Composite PMI rose to 51 in September from 50.7 in August.

Labour market conditions remained healthy. In September the unemployment rate fell to a 50-year low of 3.5%, from 3.7% in August. Non-farm payrolls increased 136,000 in September, down from 168,000 in August- a sign of weaker economic momentum.

At the September meeting, the Federal Reserve decided to cut its target range for the federal funds rate to 1.75%-2%. Despite the optimistic outlook, the monetary policy expansion seeks to insure the economy further from slower global demand and uncertainty around the trade war.

Japan

Economic growth remained robust in Q3. GDP rose 0.3% following 0.5% in Q2. The positive contribution came from strong domestic demand. Private consumption rose 0.6% in Q3 after 0% growth in Q1. Investment rose 0.2% following 1.5% in Q1. On the other hand, net exports contributed negatively to GDP growth. It cut 0.3 percentage points from growth as imports grew sharply (1.7% compared to -4.3% in Q1) while exports stalled (0% compared to -2% in Q1).

Recent data and surveys viewed the economic prospects for Q3 as difficult. Exports are suffering greatly from the trade war's effects. The nominal value of exports fell 8.2% yoy in August, the ninth consecutive decline. Industrial production contracted 1.2% month on month, seasonally adjusted, compared to +1.3% in July. Adding to weak external demand, the new sales tax of 10% implemented in October will impact negatively on consumer sentiment for the next

six months. The consumer confidence index declined from 37.1 in August to 35.6 in September.

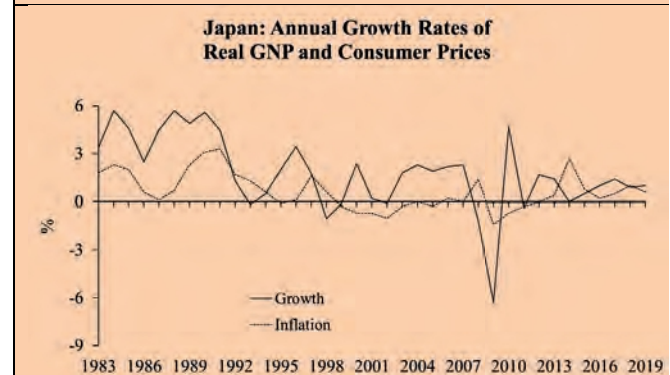


US

	2014	2015	2016	2017	2018	2019
Real GDP Growth (% p.a.)	2.4	2.9	1.6	2.2	2.9	2.3
Inflation (% p.a.)	1.6	0.1	1.3	2.1	2.4	1.8
Real Short Int. Rate	-1.1	-1.1	-1.6	-0.9	0.5	1.0
Nominal Short Int. Rate	0.2	0.2	0.5	1.4	2.4	2.6
Real Long Int. Rate	0.7	0.3	0.5	0.8	1.1	1.4
Nominal Long Int. Rate	2.2	2.2	2.5	2.8	3.2	3.4
Real Ex. Rate (2000=100) ¹	83.9	93.0	94.0	94.5	94.8	95.0
Nominal Ex. Rate ²	89.40	103.08	101.91	102.20	102.40	102.50

¹The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation of the real exchange rate.

² The series for the USA is a trade weighted index (1990=100)



Japan

	2014	2015	2016	2017	2018	2019
Real GDP Growth (% p.a.)	1.6	1.3	0.6	1.9	0.8	1.0
Inflation (% p.a.)	2.7	0.8	-0.1	0.5	1.0	0.6
Real Short Int. Rate	-0.6	0.1	-0.4	-0.8	-0.9	-1.2
Nominal Short Int. Rate	0.2	0.2	0.1	0.1	0.0	0.0
Real Long Int. Rate	-1.1	-0.5	-1.0	-1.1	-0.9	-1.2
Nominal Long Int. Rate	0.3	0.3	0.0	0.1	0.1	0.2
Real Ex. Rate (2000=100) ¹	59.8	56.0	58.4	58.3	58.1	58.4
Nominal Ex. Rate	106.7	121.11	108.61	112.18	114.10	112.00

¹The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation of the real exchange rate.

Germany

After two quarters of economic recovery, the German economy contracted again. Real GDP fell by 0.1% in Q2, after rising 0.4% and 0.2% in Q1 2019 and Q4 2018 respectively. The fall was mainly due to weak foreign demand. Net trade subtracted 0.5 percentage points from GDP growth as exports declined (-1.3% in Q2 after +1.8% in Q1) faster than imports (-0.3% in Q2 after +0.9% in Q1). Domestic demand also became weaker. Private consumption rose only by 0.1% compared to 0.8% in Q1. Investment contracted 0.1% in Q2 after rising 1.6% in Q1.

Due to the effects of the trade tensions and uncertainty about Brexit the German economy was heading for recession in Q3 according to the recent data and surveys. Industrial production fell 0.6% m-o-m in July, following -1.1% in June. The September composite PMI of 49.1 points fell into the economic contractionary territory compared to 51.7 in August. Business confidence fell for five consecutive months, hitting a 7-year low level of 94.3 in August, before recovering slightly in September to 94.6.



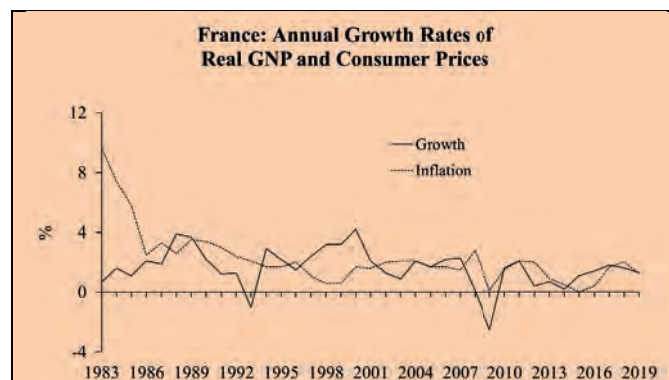
German

	2014	2015	2016	2017	2018	2019
Real GDP Growth (% p.a.)	1.6	1.7	1.9	2.2	1.6	0.5
Inflation (% p.a.)	0.9	0.3	0.5	1.8	1.9	1.4
Real Short Int. Rate	-0.2	-0.6	-2.0	-2.0	-2.2	-2.2
Nominal Short Int. Rate	0.1	-0.1	-0.3	-0.3	-0.3	-0.3
Real Long Int. Rate	-0.8	-0.9	-1.7	-1.5	-1.4	-1.1
Nominal Long Int. Rate	0.5	0.6	0.1	0.4	0.5	0.8
Real Ex. Rate (2000=100) ¹	99.9	94.7	95.0	94.3	94.9	95.1
Nominal Ex. Rate	0.76	0.90	0.90	0.88	0.85	0.86

¹The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation of the real exchange rate.

rose 0.1% (after 1.1% in Q1) and exports rose 0.2% (after 0.2% in Q1).

The economic outlook for Q3 remained slightly positive. The Markit Composite Purchasing Managers' Index (PMI) was 50.8 in September, down from 52.9 in August. The index was above the threshold of 50 and indicated that private sector activity continued to expand but at a slower rate than in the previous month. Consumer confidence rose to 104 in September from 103 in August. this is a seventh consecutive rise and the highest level in almost two years, suggesting continued expansion in private consumption.



France

	2014	2015	2016	2017	2018	2019
Real GDP Growth (% p.a.)	0.2	1.0	1.1	2.3	1.5	1.4
Inflation (% p.a.)	0.5	0.0	0.2	1.0	1.9	1.3
Real Short Int. Rate	0.1	-0.2	-1.3	-1.6	-1.8	-1.7
Nominal Short Int. Rate	0.1	-0.1	-0.3	-0.3	-0.3	-0.3
Real Long Int. Rate	-0.5	-0.7	-0.9	-0.9	-0.6	-0.5
Nominal Long Int. Rate	0.5	1.0	0.7	0.8	0.9	1.1
Real Ex. Rate (2000=100) ¹	100.8	96.2	96.0	95.3	95.1	95.5
Nominal Ex. Rate ²	0.76	0.90	0.90	0.88	0.85	0.86

¹The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation of the real exchange rate.

France

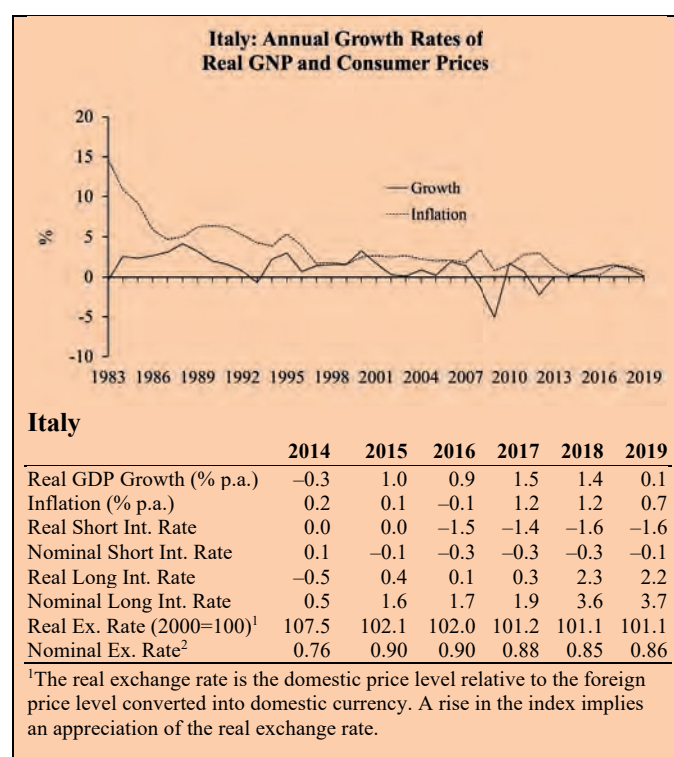
Modest economic recovery continued in Q2. Real GDP rose by 0.2% following 0.3% in Q1. Growth was driven by stronger domestic demand. Consumption grew by 0.2% after 0.4% in Q1. Investment rose sharply by 0.9% compared to 0.5% in Q1. Net trade contributed nothing to GDP growth in Q2 (after subtracting 0.3 percentage points in Q3) as imports



Italy

Political instability and lack of economic reforms continued to weigh on economic performance. The Italian economy stalled in Q2 after declining 0.1% in Q1. Both weak domestic and external demand dragged on growth. Consumption was flat in Q2 following a 0.1% rise in Q1. Net trade contributed nothing to growth as exports decelerated and rose only by 1% (compared to 3.8% in Q1) and imports rose by 1.1% (down from 1.2% in Q1). On the other hand, gross fixed capital formation rose 1.9% in Q2 compared to 1.5% in Q1.

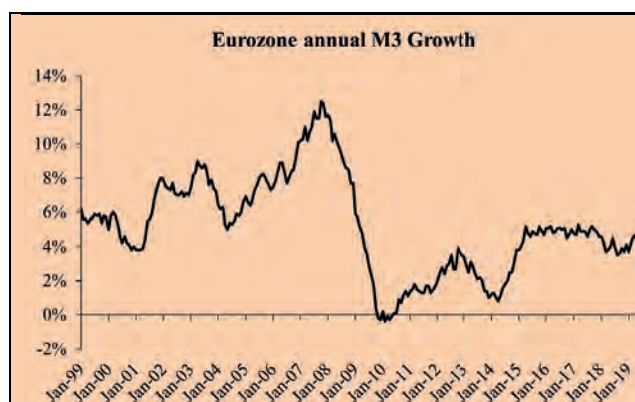
Q3 prospects remain grim. Business confidence also declined. Its index fell to 98.5 in September from 98.9 in August and 101.2 in July. The manufacturing Markit Purchasing Managers' Index (PMI) fell to 47.8 in September from 48.7 in August. This index has been below the 50 mark for the 12th consecutive month and indicates that manufacturing sector has been contracting since October 2018. Industrial production contracted 0.7% m-o-m in July after -0.3% in June.



Euro-zone monetary policy

The Harmonised Index of Consumer Price Inflation rate was 0.9% in September, down from 1% in both July and August. This is well below the ECB's 2% target, and confirms the weakness of the euro-zone.

Faced with weak economic data, persistent low inflation and modest inflation expectation, at the September meeting the European Central Bank decided to relax its monetary stance for the first time since 2016. First, to encourage bank lending it decreased the interest rate on the deposit facility by 10 basis points to -0.50%. It kept the interest rate on the main refinancing operations at 0% but pledged to maintain it indefinitely until inflation has robustly risen. Second, it introduced a two-tier system for reserves, where part of banks' holding of excess liquidity are exempt from the negative deposit rate. This aims to support the bank-lending transmission channel and reduce pressure on banks' lending margins. Third, it decided to restart its quantitative easing at a monthly pace of 20 billion euro from the 1st November 2019. Fourth, it repriced its targeted longer-term refinancing operations to make bank lending more profitable.



WORLD FORECAST DETAIL

Growth Of Real GNP

	2015	2016	2017	2018	2019	2020
U.S.A.	2.9	1.6	2.2	2.9	2.3	1.8
U.K.	2.3	1.9	1.8	1.4	1.7	2.0
Japan	1.3	0.6	1.9	0.8	1.0	0.2
Germany	1.7	2.2	2.2	1.4	0.5	0.8
France	1.0	1.1	2.3	1.5	1.3	1.2
Italy	0.9	1.1	1.6	0.9	0.1	0.4

Growth Of Consumer Prices

	2015	2016	2017	2018	2019	2020
U.S.A.	0.1	1.3	2.1	2.4	1.8	2.1
U.K.	0.2	1.1	2.6	2.5	1.9	2.1
Japan	0.8	-0.1	0.5	1.0	0.6	0.7
Germany	0.3	0.5	1.5	1.8	1.4	1.5
France	0.0	0.2	1.0	1.9	1.2	1.3
Italy	0.1	-0.1	1.2	1.2	0.7	1.0

Real Short-Term Interest Rates

	2015	2016	2017	2018	2019	2020
U.S.A.	-1.1	-1.6	-0.9	0.5	-0.5	-0.5
U.K.	0.0	-1.2	-1.5	-1.3	-1.2	-0.8
Japan	0.1	-0.4	-0.8	-0.9	-0.7	-0.7
Germany	-0.6	-2.1	-2.2	-2.1	-2.0	-2.0
France	-0.3	-1.3	-2.2	-1.6	-1.9	-1.9
Italy	0.0	-1.5	-1.5	-1.5	-1.5	-1.4

Nominal Short-Term Interest Rates

	2015	2016	2017	2018	2019	2020
U.S.A.	0.2	0.5	1.4	2.4	1.6	1.6
U.K.	0.6	0.5	0.4	0.7	0.9	1.3
Japan	0.2	0.1	0.1	0.1	0.0	0.0
Germany	-0.1	-0.3	-0.3	-0.3	-0.5	-0.5
France	-0.1	-0.3	-0.3	-0.3	-0.4	-0.4
Italy	-0.1	-0.3	-0.3	-0.3	-0.5	-0.4

Real Long-Term Interest Rates

	2015	2016	2017	2018	2019	2020
U.S.A.	0.2	0.3	0.6	0.8	-0.3	-0.1
U.K.	-0.7	-1.5	-1.5	-1.0	-0.7	-0.5
Japan	-0.4	-1.0	-1.1	-1.4	-0.9	-0.8
Germany	-0.9	-1.7	-1.5	-1.7	-1.8	-1.8
France	-0.2	-0.8	-0.8	-0.9	-1.6	-1.4
Italy	0.6	0.3	0.5	1.2	0.0	0.2

Nominal Long-Term Interest Rates

	2015	2016	2017	2018	2019	2020
U.S.A.	2.2	2.5	2.8	3.0	1.8	2.0
U.K.	1.3	0.7	0.6	1.0	1.4	1.6
Japan	0.3	0.0	0.1	0.0	-0.2	-0.1
Germany	0.6	0.1	0.4	0.2	-0.5	-0.5
France	1.0	0.7	0.8	0.7	-0.3	-0.1
Italy	1.6	1.7	1.9	2.8	1.0	1.2

Index Of Real Exchange Rate(2000=100)¹

	2015	2016	2017	2018	2019	2020
U.S.A.	93.0	94.0	94.5	94.8	95.0	95.2
U.K.	92.2	81.4	77.4	78.5	76.6	76.1
Japan	56.0	58.4	58.3	58.1	58.4	58.3
Germany	94.7	95.0	94.3	94.9	95.1	95.0
France	96.2	96.0	95.3	95.1	95.5	95.4
Italy	102.1	102.0	101.2	101.1	101.1	101.0

¹ The real exchange rate is the domestic price level relative to the foreign price level converted into domestic currency. A rise in the index implies an appreciation in the real exchange rate.

Nominal Exchange Rate

(Number of Units of Local Currency To \$1)

	2015	2016	2017	2018	2019	2020
U.S.A. ¹	103.08	101.91	102.20	100.6	103.0	102.50
U.K.	1.53	1.23	1.35	1.29	1.30	1.32
Japan	120.5	116.8	112.90	110.80	108.00	106.00
Eurozone	0.90	0.90	0.88	0.85	0.89	0.87

¹ The series for the USA is a trade weighted index (1990=100); the series for the UK is \$ per £

* Forecasts based on the Liverpool World Model



Anupam Rastogi

India

Indian Prime Minister Narendra Modi wants a \$5 trillion economy by 2025. But the country's slowdown and a simmering shadow banking crisis mean that the target is at risk, and global investors are heading for the exit. To lure the foreign investors, the Indian government reduced the headline corporate tax rate to 22% from 30%, effective from the start of the current tax year in April. The cut will boost the earnings growth of companies in the MSCI India index by around 6 percentage points this calendar year and next. The sectors that will benefit the most are raw materials, financials and industrials, which currently have the highest effective tax rates.

The stimulus will restore confidence amongst both domestic and foreign investors that the Indian government is committed to promoting private enterprise and make them the principle driving force of economic growth. It will strongly rekindle investors' animal spirits. Moreover, it is aimed to improve India's chances of attracting investors moving out of China and looking for alternative locations. Prime Minister Modi's visit to the US was to woo the US large corporations to India and to invite them to take part in the massive privatization programme underway in India.

On the other hand, the structural adjustments which have far reaching consequences for corporates, is having its ripple effects on economic growth. Comparatively, an insipid GDP growth figure is drowning the expected bright future, better corporate governance, better fiscal and disciplined credit and lending culture without corruption.

GDP growth hit 5% in the three months to June which is the weakest since March 2013, and well below the 8% plus annual expansion needed to achieve Modi's 2025 goal. The external shocks from trade wars to surging oil prices are exacerbating the economy's woes. Our growth forecast for 2019 is kept unchanged as India had above normal monsoon and this would lead to bumper agriculture growth and rural consumption in the second half of the fiscal year.

While economic activities are showing signs of sluggishness, the policy makers are drawing solace from the fact that retail inflation remains in the comfort zone of the central bank. Retail inflation inched up to 3.21% in August but remained within the RBI's target of 4%, with deviation of 2% on either side. The CPI inflation was at 3.2% in August. The low inflation provides enough headroom for the RBI to further lower the policy rate.

The central bank has already slashed the repo rate (short-term borrowing rate) four times aggregating to 1.35 percentage points since January. At its meeting in August,

India: BSE Sensitive



the Monetary Policy Committee had reduced the benchmark lending rate by an unusual 35 basis points to 5.40%, followed by a further 25 basis point cut in the recent meeting on October 4. Besides this, the central bank announced a slew of measures aimed at unclogging liquidity to kick-start lending and confidence.

India's current account deficit (CAD) for the first quarter ended June contracted to 2% of the gross domestic product (GDP) on a year-on-year basis, primarily on account of higher invisible receipts at \$32 billion, as compared with \$30 billion a year ago. India's merchandise exports in August declined for the second time in the current financial year, which began in April, while imports dropped for the third consecutive month, signalling that rising protectionism and trade tensions between the US and China are impacting India's trade prospects as well.

The CAD could ease to \$52 billion or 1.8% of the GDP in FY20 from \$57.2 billion or 2.1% of GDP in FY19 as crude oil prices have returned on their downward path.

Indian rupee (INR) has depreciated roughly 3% this year so far and the central bank is happy to see it that way as it helps in maintaining competitiveness for exports sector.

In the first leg of Modi's U.S. visit, he was joined by Mr. Trump to address tens of thousands of Indian-Americans. The symbolism of Modi and Trump addressing a joint rally should not be underestimated. It puts into perspective how significantly India-U.S. ties have grown in the last few years and how important New Delhi is for Washington today. Energy and defence issues are being leveraged by India, and thorny trade issues are being addressed bilaterally.

India will host President Xi in October and it may cut duties on 80% of Chinese imports under the Regional Comprehensive Economic Partnership (RCEP). The RCEP is a proposed free trade agreement between the ten member states of the Association of Southeast Asian Nations (ASEAN) (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam)

and its six FTA partners (China, Japan, India, South Korea, Australia and New Zealand).

	18-19	19-20	20-21	21-22	22-23
GDP (%p.a.)	6.8	6.5	6.8	7.2	7.4
WPI (%p.a.)	3.9	3.6	3.8	3.9	4.0
Current A/c(US\$ bill.)	-70.0	-64.0	-64.0	-65.0	-65.0
Rs./\$(nom.)	79.5	70.5	71.5	72.5	73.5

China

On October 1st, Chinese President Xi Jinping presided over a grandiose military parade marking the 70th anniversary of Communist rule in China, in a projection of strength as the country wrestles with a challenge from President Trump. President Xi Jinping declared China's rise unstoppable. In Hong Kong, black-clad protesters occupied roads, set fires and clashed with riot police around the financial hub in the 17th week of protests opposing Beijing's increased grip over the city. This was in the stark contrast to celebrations in Beijing and shows the challenges Xi faces in convincing people in Hong Kong and Taiwan of the benefits of Beijing having greater control over their political systems and paths to prosperity.

President Trump believes that the U.S. tariffs are battering the Chinese economy and millions of Chinese workers are out of jobs and pressuring the country's president, Xi Jinping, to strike a trade deal.

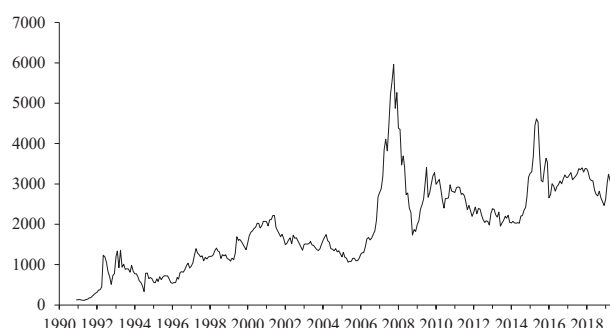
The reality is somewhat different. China, after decades of rapid development, is grappling with a slowing growth pace and weaker sentiment among businesses and consumers. Urban unemployment is high as a result of the Chinese economy's shift over the past decade from one reliant on manufacturing and exports to one where services and domestic consumption have gained importance as pillars of growth. However, the government remains confident that it can meet its goal of keeping growth within a range between 6% and 6.5% this year. China's economy expanded 6.3% in the first half of the year. China's government has sought to support the economy this year through tax cuts, and by taking measures to boost liquidity in the financial system.

China's industrial output grew at its slowest pace since 2002 in August. China is witnessing slowdown in retail sales as well. We forecast that 6% growth in China this year slowing to 5.6% next year as U.S. tariff on all Chinese imports starts affecting the real economy.

China's consumer inflation rate expanded its pace in August as the price of pork rose due to the swine flu. China's overall consumer price index rose 2.8% from a year earlier — matching the July level, which was the fastest pace in 17 months. Rising CPI and falling PPI has put the central bank in a dilemma. The central bank believes that the country's interest rates were appropriate and that it wouldn't aggressively ease monetary policy, even as other central banks lower borrowing rates in a bid to spur growth.

Chinese exports fell in August by 1% from a year earlier, and by a sharp 16% to the US — a clear sign that the dispute

China: SSE Composite Index



with the US is hurting bilateral trade. China's imports fell for a fourth straight month in August as a drop-off in exports to the U.S. steepened. Exports during August decreased 1% in dollar terms from a year earlier, while imports declined 5.6%, leaving a trade surplus of \$34.8 billion only. Exports would grow 2.2%, while imports would shrink by 6.4% in 2019.

American companies are downshifting in China as its economy slows and trade tensions with the U.S. persist. Western businesses have been shifting production out of China, even though the numbers have not been large enough. Many firms will keep some production in China to cater for its important domestic market, investments in increasing capacity is moving to other countries.

China's progress in boosting international use of the yuan is stalling. According to data published by the Bank for International Settlements, the yuan remained as the eighth most traded currency this year, unchanged from the previous survey done three years ago. Beijing has promoted the yuan as a core element of its international political engagement and officials talk of positioning it as an alternative to the U.S. dollar for trade and finance.

The yuan has crossed the sacred red line of 7 per dollar and China will allow its currency to fall further and may even risk U.S. anger by using it as a bargaining chip in trade talks. The currency's 3.8% decline in August was its sharpest monthly fall in 25 years. We do not expect Beijing to hem in the yuan in a defined range this time. The currency is likely to end 2019 at 7.2.

The yuan's depreciation is having its greatest impact in the emerging markets. Most emerging market currencies have depreciated in line with the yuan to maintain competitiveness.

The U.S. and China trade war remains at an impasse in more than a year long trade war and widening a chasm between the two countries. High-level trade talks between the two countries are scheduled to resume in Washington in October.

The Trump administration is considering measures including delisting Chinese companies from U.S. stock exchanges, limiting Americans' exposure to the Chinese market through government pension funds, and putting caps



on the Chinese companies included in stock indices managed by U.S. firms. As another round of high-level trade talks looms, a U.S. crackdown on capital flows would create a new pressure point in the economic dispute and could cause disruption well beyond it.

As noted in previous Liverpool Investment Letters that the US-China trade war's pivot is 5G. President Trump has said 5G is a race that the U.S. must win. But while American wireless carriers are leading in early deployment of the technology, some telecom-industry leaders say that Beijing is poised to vault ahead in the coming months. Just as America's trailblazing 4G networks helped Uber Technologies Inc. and Instagram reach global heights, 5G could turbocharge some Chinese companies. It might also help China's efforts to stem a scientific brain drain that has led some of its brightest students to study abroad and then stay there. But, Beijing is known for wasteful, debt-fuelled spending on massive infrastructure projects leading to ghost cities across China.

	18	19	20	21	22
GDP (%p.a.)	6.6	6.0	5.6	5.4	5.2
Inflation (%p.a.)	2.2	2.3	2.3	2.0	1.8
Trade Balance(US\$ bill.)	50.0	60.0	40.0	20.0	0.0
Rmb/\$ (nom.)	6.8	7.0	7.1	7.3	7.3

South Korea

The South Korean central bank has confirmed that 2019 GDP growth will miss its GDP growth forecast of 2.2%. In July, the central bank had trimmed its forecast for economic growth this year to 2.2% from 2.5% previously. We continue to keep the GDP growth rate of 1.6% in the current year and 1.8% in 2020. The outlook for the economy is not bright, as it is hampered by trade battles and weakening global demand. The composite consumer sentiment index has edged up to 96.9 in September from 92.5 in August. The reading below 100 means that consumer sentiment is weaker than the long-term average, which currently covers 2003-2018.

The impact of the trade war between Japan and South Korea will have its ripple effect far longer than anticipated. The trade war would disrupt the technology supply chain starting with China. Even if it is resolved now, the potential for long-term trust deficit would remain. In our opinion, South Korea would fare worse than Japan.

The U.S.-China trade war, on the other hand, is beginning to crimp the economies of China's neighbours. South Korea's exports to China fell 21.3% in August compared with the same month a year earlier, driving an overall 13.6% decline in exports. South Korea's exports have dropped for nine consecutive months since December, plunging 13.6% on-year to \$44.2 billion in August.

The real value of the South Korean won versus other major currencies hit the lowest level in three and a half years amid growing concerns over the country's economy that heavily

Korea: Composite Index



Taiwan: Weighted TAIEX Price Index



relies on export due to prolonged trade disputes between the world's two biggest economies, the U.S. and China.

Tokyo has removed Seoul from its list of trusted trade partners in early August, about one month after it began imposing tougher restrictions on South Korea-bound shipments of three key materials used to produce semiconductors and display panels, both key export items of South Korea.

President Moon is at about the midpoint of his five-year term. His approval rating last week fell to 40%, according to Gallup Korea, the lowest of his presidency. Last year, when the relationship with the North was warming, it was above 80%. At the U.N., Mr. Moon said his country and North Korea are moving toward not just peace, but also economic cooperation, and he pledged to continue a dialogue.

	18	19	20	21	22
GDP (%p.a.)	2.7	1.6	1.8	2.2	2.2
Inflation (%p.a.)	1.5	1.1	1.5	1.5	1.5
Current A/c(US\$ bill.)	86.0	80.0	78.0	70.0	70.0
Won/\$ (nom.)	1130	1220	1240	1260	1260

Taiwan

Taiwan is one of the countries which is benefitting from the US-China trade war. Taiwan's gross domestic product forecast, for 2019, is maintained to grow 2.5% in 2019 as there is an increase in private investment as more Taiwanese companies have pledged to invest at home to avoid trade

tensions between the United States and China. The central bank has also raised its full-year forecast on to 2.4% from 2.06% estimated in June. It expects GDP to grow around 2.34% in 2020.

The central bank expects 2019 core inflation to be 0.56% and added that the outlook for inflation remained stable. Our forecast has not changed and it is more than the central bank's forecast as we expects that food and pork prices would raise the inflation in coming two years.

On the back of a stable demand for semiconductors, Taiwan's export momentum is expected to pick up. Taiwan's exports of merchandise and services for 2019 is expected to grow 3.6% and more than 3% in 2020.

The Taiwan dollar rose 1.3% against the U.S. dollar last month and is expected to remain stable in the near future.

Kiribati has become the second Pacific nation in less than a week to end diplomatic relations with Taipei and switch allegiance to Beijing, reflecting China's strategic gains in the region while squeezing an increasingly isolated Taiwan. It happened after the Solomon Islands cut ties with Taiwan. Taiwan now has diplomatic partnerships with only 15 countries, as Beijing steadily ratchets up pressure on the self-ruled island ahead of its presidential election in January.

According to President Ms. Tsai, Beijing's goal is to interfere with the outcome of next year's election. They are trying to tell the Taiwan people that Taiwan can't buy jet fighters, they can't support Hong Kong and that they can only choose a president who bows his head to China.

China halted its campaign to poach Taiwan's diplomatic allies during the eight-year administration of Ms. Tsai's predecessor, President Ma Ying-jeou of the Nationalist Party. Beijing resumed its efforts in 2016 after Ms. Tsai was elected. Beijing has accused Ms. Tsai of fanning unrest in Hong Kong, where mass demonstrations erupted in June against a government plan to introduce legislation allowing extradition to mainland China.

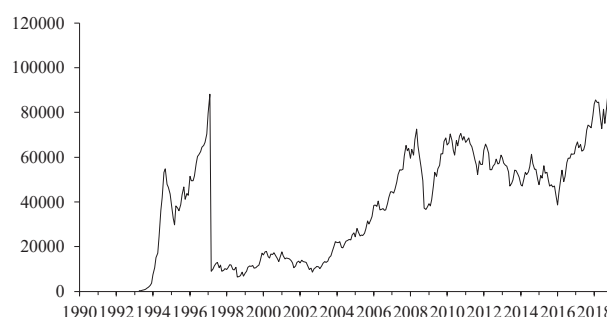
	18	19	20	21	22
GDP (%p.a.)	2.6	2.5	2.6	2.6	2.2
Inflation (%p.a.)	1.2	1.0	1.0	1.0	1.0
Current A/c(US\$ bill.)	68.0	70.0	71.0	70.0	60.0
NT\$/\$(nom.)	29.8	31.0	31.0	31.0	31.0

Brazil

There is confirmation that the economy has turned around and the worst seems to be over. The economy grew by 0.4% in the April-June period after contracting in the first quarter. We forecast a growth rate of 0.5% in 2019 and accelerating to 1.8% in 2020. The central bank is marginally more optimistic about the growth rates.

The central bank expects inflation to be around 3.3% this year and 3.6% next year. That's significantly below the

Brazil: Bovespa



central bank's official targets of 4.25% and 4.00%, respectively. Inflation was 3.43% in the 12 months through August, up from 3.22% in the previous month but still well below the central bank's annual target of 4.25%. We expect inflation to be slightly higher than the central bank forecast as the fuel prices etc. work through the year.

The Central bank chief, Roberto Campos Neto, is confident that inflation will remain contained just below the annual target of 4.25%. The bank has cut the benchmark Selic rate to a record low of 5.5% from 6% in September. Lower than expected inflation rate would encourage Copom (the bank's policy-making committee) to cut its benchmark Selic rate by 50 basis points further. This would see the Selic rate equal to 5% by the end of 2019. Mr Neto is confident that carrying out reforms will ensure the sustainable growth of the country's economy. With more participation of the private sector and more liberal policies, economic growth is expected to be more sustainable. According to him, the central bank would contribute to economic growth by keeping the inflation rate stable.

Brazil's pension reform bill, which rewrites the rules on how and when public employees can retire, will finally be approved by the Senate on October 2. It looks like 66 Senators out of 81 will approve the bill, enough to give investors the security that the bill will be passed. According to the financial press, the government would like to boost the economy further by cutting taxes.

Brazil's current account deficit this year is expected to widen to \$36.3 billion, or 2.0% of gross domestic product, from an earlier forecast of \$19.3 billion, or 1.0% of GDP, owing to statistical revisions and updated forecasts of financial flows.

The real is trading at about 4.10 to the dollar, after reaching 3.74 in July. The depreciation is part of a global weakening among emerging-market currencies as noted earlier.

Brazil has opened up its economy like never before. A Wave of tariff cuts are aimed at jump-starting one of the world's largest closed economies. Brazil is slashing import tariffs on more than 2,300 products, a significant shift in a country long accustomed to protectionism.



With little fanfare, President Bolsonaro's conservative government has reduced tariffs mostly on items which Brazil doesn't make. The new opening is a central feature of the Economy Minister Paulo Guedes's plans to make the country of 210 million more competitive, part of an effort to rekindle a moribund economy historically shielded from foreign competition and bogged down by bureaucracy. Slashing tariffs is an essential step in the implementation of a trade deal with the EU that was clinched in June after years of negotiations spanning the administration of four of Mr. Bolsonaro's predecessors.

Brazil has sold international reserves for the first time in 10 years to meet demand for dollars. The bank's policy-making committee, known as 'Copom' under Campos Neto, is far less concerned with the spillover effect on the exchange rate.

Brazilian President Jair Bolsonaro defended his country's sovereign right to develop the Amazon, in a defiant speech before the U.N. General Assembly. His agenda looks like a game changer for millions of impoverished Brazilians. He accused global leaders and the media of spreading lies and treating indigenous people as if they were cavemen. Mr. Bolsonaro also said Brazil was protecting the environment and clamping down on illegal deforestation. He said much of the Amazon is practically untouched and many of the fires

that sparked global dismay in August were set by indigenous groups or local communities who should have the right to exploit the richness of the land.

He has pledged to reform Brazil's national development bank, BNDES, founded in 1952. Like many development banks, BNDES has largely served the politically powerful and has played an outsize role in the country's recurring economic debacles. Economic reforms like this come at an important time in global trade history. The U.S. is trying to decouple from China. Brazil is close by and would be a good spot to source part of the supply chain instead of China. But in order to be attractive, Brazil has to lower its government overhead so it can cut taxes like India did. Then it can improve its logistics in order to eradicate the bottlenecks that make exporting from Brazil more efficient than it is from China. Pension reform means lower government spending, which allows for tax cuts, an important move to get Brazil on par with what multinational corporations are paying in corporate taxes in China and India.

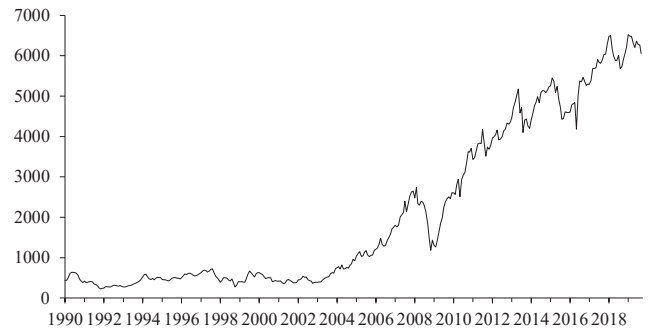
	18	19	20	21	22
GDP (%p.a.)	1.1	0.5	1.8	2.5	2.5
Inflation (%p.a.)	3.8	4.0	3.9	4.0	4.0
Current A/c(US\$ bill.)	-14.6	-36.0	-30.0	-26.0	-26.0
Real/\$ (nom.)	3.8	4.1	4.0	4.1	4.2

Other Emerging Markets

Hong Kong: FT-Actuaries



Indonesia: Jakarta Composite



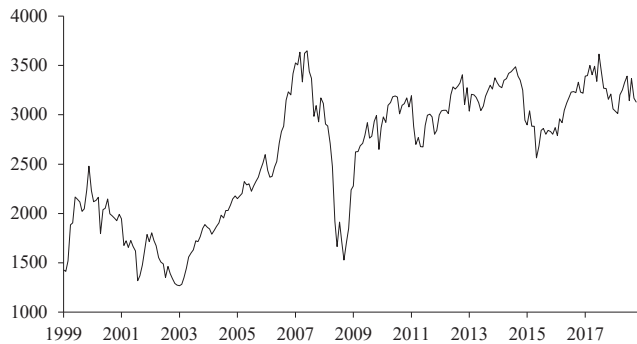
**Malaysia: FT-Actuaries
(US\$ Index)**



Thailand: Composite Index



Singapore: Straits Times Index

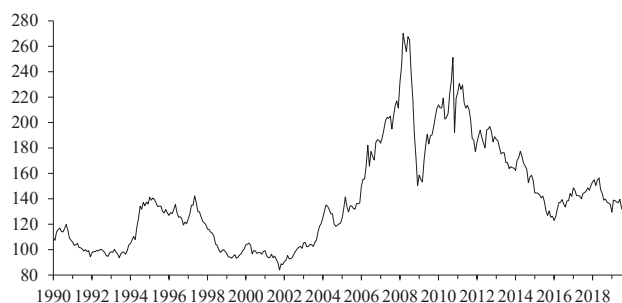


Philippines: Manila Composite



COMMODITY MARKETS

Commodity Price Index (Dollar)
(Economist, 2000=100)



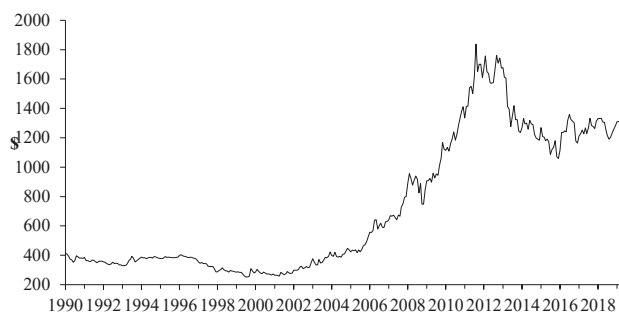
Oil Price: North Sea Brent (in Dollars)



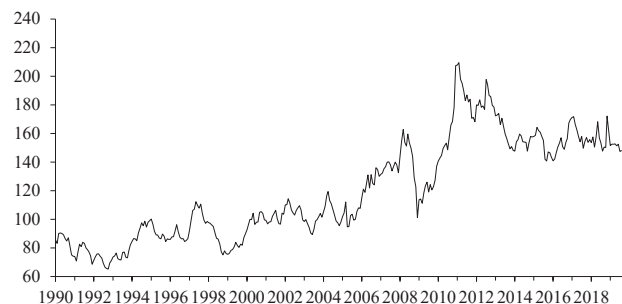
Commodity Price Index (Sterling)
(Economist, 2000=100)



Gold Price (in Dollars)



Commodity Price Index (Euro)
(Economist)



BREXIT EFFECTS OF THE NEW EU DEAL: A CRITIQUE OF THE MODELS AND ASSUMPTIONS USED IN ITS EVALUATION

Patrick Minford

The many assembled groups of anti-Brexit economists have warmed up their earlier analyses of different Brexit policy combinations to attack the latest EU Deal negotiated by Boris Johnson. One of their mantras is that the Treasury's earlier published report when Philip Hammond was Chancellor gave negative assessments of different forms of Brexit and that the current Chancellor and his team should reissue these assessments.

However just as no government can bind its successor, nor can any Chancellor bind his. Sajid Javid, the Chancellor, and Rishi Sunak, the Chief Secretary, have wisely remarked that the Treasury's assessments were of various scenarios, none of which exactly corresponds to the Brexit Boris Johnson may well negotiate, but has not yet.

None can stop these various groups- including LSE, the IFS Green Budget team, and the King's College economists behind 'The UK in a changing Europe' - from continuing to publish negative assessments of their supposed Boris Johnson Brexit Deal. Indeed also the civil servants who wrote the November Cross-Whitehall report published by the Hammond Treasury would no doubt gladly reissue it if allowed to by their new Treasury Ministers. However there are three separate issues that all these groups would need to face in doing so, all of which would undermine their credibility.

The first point is that the current EU Deal merely commits the UK and the EU to future negotiations on a Free Trade Agreement. What will be in this Agreement is as yet totally unknown. It will of course depend critically on which UK government will be doing the negotiation after -presumably at some point- an election. We know this will make a lot of difference since a Johnson government would go for a Canada+ agreement whereas Mr. Corbyn's Labour party is in favour of continued membership of the single market and the EU customs union and indeed would put this Deal to a referendum with the option of Remain.

However, even the content of a Canada+ Agreement is at this stage largely unknown. Indeed even a vote in the current Parliament 'committing' the UK government to some future FTA negotiating stance is a waste of breath since the current Parliament cannot bind a future government. Hence the first point is that any assessment must make quite plain what its policy assumptions are about this as-yet-unknown future EU agreement.

This brings me to the second key point. Any assessment hangs critically from its policy assumptions. Get these wrong and the assessment is irrelevant. However if you look carefully, as I have, at many anti-Brexit assessments, you find that invariably the assumptions have been cooked to give the negative result.

These assumptions revolve around two main issues. First what trade barriers would the UK dismantle by its proposed Free Trade Agreements with non-EU trading partners. Second what trade barriers would spring up between the UK and the EU under different sorts of Brexit. On this question it is most illuminating to examine the Treasury reports on the long-term effects of Brexit which were highly explicit and thorough in their policy assumptions. Other groups have adopted generally similar assumptions; my critique here of the Treasury's, on behalf of the Economists For Free Trade group which I chair, applies equally to these other groups' reports.

There have been two such reports from the Treasury cooperating across Whitehall. The first came out at the beginning of 2018 as Slides with explanatory notes which were given to the Treasury Committee chaired by Hilary Benn, after previously being leaked to the press; I will call this the Cross-Whitehall Benn Report. The second was a full report with a Technical Annex, published by the Treasury in November 2018; I will refer to this as the November Report. In the next section I discuss the Benn Report, which allows me to give the broad outlines of my critique of the approach and in an Appendix I discuss the November Report, which being much more detailed requires a more complex treatment, though one raising all the same issues of principle. To facilitate reading, each treatment is self-contained, repeating the essential arguments in full.

II. The Policy Assumptions made by ourselves and the Cross-Whitehall Benn Report; and their implications for UK welfare

This study made assumptions about 'general free trade via FTAs' that are conservative in the extreme. It stated that gains from their general FTA assumption are only a 0.5-0.8% rise in UK GDP. From this it would seem that they assume either that EU trade barriers are rather small or that barriers are reduced by rather little. This is puzzling since current EU protection of food and manufactures including non-tariff barriers is authoritatively estimated at 20% (Minford et al, 2015, chapter 4; also for non-tariff barriers Berden et al, 2009). Our assumption of the likely Brexit



reduction of protection is deliberately cautious at 10%; it can be thought of as assuming either that only half is abolished or that somehow the EU would itself have abolished half anyway. With this 10% assumption our Cardiff World Trade Model predicts a 4% rise in GDP (Minford et al, 2015, chapter 4). If this 10% is fed into the GTAP model, then UK GDP would rise by 2%, while if all 20% EU protection were abolished it would rise by 4%. Interestingly, a recent study of Australian trade liberalisation over the past thirty years using GTAP (CIE, 2017) finds that its GDP has been increased by 5.4%- a figure rather similar to the gains being discussed for the UK's Brexit liberalisation.

The other key assumption made by the Cross-Whitehall Benn report is that large costs arise at the EU border for UK-EU trade even if we negotiate 'free trade' with the EU. One element of this appears to be related to pure 'border costs'; such things as time to get paperwork agreed before ships are allowed to unload.

However these assumptions have been bypassed by the progress of technology and WTO rules for customs procedures (WTO, 2018c; World Bank, 2016). Computerisation has more or less eliminated border costs among developed countries, since almost all cargoes are cleared before reaching port, with only some 2 per cent or so physically inspected and even this is taking only around a day typically. Prof. Dr. Michael Ambühl (ETH Zürich), who negotiated one of the Swiss-EU bilateral free trade deals, estimated that border costs were as low as 0.1% of the value of trade (Ambühl, 2018, slide 8).

Another assumption in the study appears to be that UK-EU non-tariff protection would spring up after Brexit. The idea seems to be that the EU and maybe the UK too would claim that exporters do not satisfy required product standards; thus non-tariff barriers would sprout on the UK-EU border, regardless of any trade negotiations. However, current WTO rules (WTO, 2018 a and b) outlaw such behaviour as illegally discriminative, given that existing product standards are already exactly obeyed on both sides.

Thus it is hard to understand the study's assumptions on EU-UK border costs post- Brexit. Nevertheless, on the basis of these assumptions, the main GTAP model calculates large losses in GDP, variously amounting to between 3 and 7%, depending on the 'closeness' of the eventual EU arrangements. On our calculations, these costs are simply not there in the event of a free trade (Canada-plus) agreement with the EU. We also have an assessment (Economists for Free Trade, 2018a) of the 'no deal' case within the Cardiff World Trade Model. In this case again non-tariff barriers and customs hold-ups are illegal but tariffs do apply; in our assessment the tariff element damages the EU but not the UK essentially because given that FTAs have driven UK prices to world prices, tariffs in both directions must be absorbed by EU traders.

The Table below summarises how based on available GTAP simulations (Ciuriak et al, 2015 and 2017) we have reconstructed the assumptions made by the Benn report as well as their published impact on GDP according to the GTAP model; it sets them side by side with what the GTAP model would say based on the alternative assumptions we regard as reasonable for UK-EU trade barriers and an assumption for FTAs with the rest of the world that achieve the full abolition of EU protection of food and manufactures. Table 3: Trade Effects under Brexit Scenarios According To GTAP-type model used by Whitehall

Table 3: Trade Effects under Brexit Scenarios According To GTAP-type model used by Whitehall

	A: Whitehall Assumptions		B: Variant Assumptions	
Trade Barriers expressed as % Tariff Equivalent; Effect on GDP shown as % of GDP in italics				
	Canada+	WTO	Canada+	WTO
Tariffs	-	4.5	-	4.5
<i>Effect on GDP</i>	-	-1.0	-	-1.0
New Standards	16.2	20.3	-	-
<i>Effect on GDP</i>	-3.6	-4.5	-	-
New Customs	5.8	5.8	-	-
<i>Effect on GDP</i>	-1.3	-1.3	-	-
Total Tariff Equivalent (%)	22.0	30.6	-	4.5
<i>Total Effect on GDP (% of GDP)</i>	-4.9	-6.8	-	-1.0
FTAs with rest of world				
<i>Effect on GDP (% of GDP)</i>	+ (0.3-10.6)		+4.0*	
All Trade Effects on GDP				
(% of GDP)	-4.3	-6.2	+4.0	+3.0
*assume all EU protection of food and manufactures (20% average on each) eliminated via FTAs				

The Cross-Whitehall Benn Report therefore reaches its conclusions that Brexit reduces UK GDP on the basis of untenable assumptions. When reasonable assumptions are substituted for the extent of the trade barriers eliminated against the rest of the world and for the trivial UK-EU border costs, this reduction is turned into a substantial increase on both the GTAP model, and on the Cardiff World Trade Model. What is more this is true even on the Gravity version of that Cardiff model.

The Treasury in its latest Report published in November has not materially changed its overall estimates of the costs to GDP of the different Brexit scenarios; my critique remains the same, and is set out in detail in the Appendix to this paper.

Our research and the Models of the economy that we use to evaluate Brexit

To recapitulate the main points about the effects of Brexit according to our research, there are long-run gains from four main sources (Minford, 2017):

1. Moving to free trade with non-EU countries that currently face high EU protection in goods trade
2. Substituting UK-based regulation for EU-based Single Market regulation
3. Ending the large subsidy that the 'four freedoms' forces the UK to give to EU unskilled immigrants
4. Ending our Budget contribution to the EU.

In total these four elements, according to research in Cardiff, create a rise in GDP in the long term over the next decade and a half of about 7%, which is equivalent to an average rise in the growth rate of around 0.5% per annum.

If we leave with No Deal, i.e. under WTO rules with piecemeal side-agreements, we gain on top of this about £650 billion in one-off present value terms from extra tariff revenues, not paying the Deal's £39 billion, and making Brexit policy changes two years earlier; the EU loses £500 billion from all this.

At the heart of our estimates lie models which assume a world of tough long run competition in which industries can only survive by matching the competitive norm. By contrast the consensus among trade theorists is that competing firms have significant monopoly power due to their unique brands; this theory is known as 'gravity' modelling, in which natural monopoly power arises simply from size and proximity to consumers. On this view cutting into rival markets is hard, and this fact also protects their own market position. Along with this view goes an interventionist theory of regulation: that 'rights' can be awarded to 'stakeholders' at the expense of monopolist firms, with little damage to their competitive position. Along with it too goes the view that productivity growth occurs automatically as a result of growing trade, itself a product of proximity.

In our research we find a very different world: a world in which lagging firms can be largely destroyed, with examples like Nokia and Blackberry coming to mind. We see the role of supply chains as squeezing out uncompetitive intermediate producers who do not devote enough effort to raising productivity via innovation. In this world business regulation can easily damage competitiveness. This is particularly true of labour market regulation, for which we have good estimates of the damage based on UK experience (see chapter 2 of Minford et al, 2015).

In our Cardiff World Trade Model we embed these assumptions and test their predictions against the facts of

UK trade. We also set up a rival 'gravity model' as set out above. We test these models by indirect inference against the UK facts (Minford and Xu, 2018). This test is based on simulating each model many times to generate a full range of counterfactual histories due to randomly chosen reruns of historical shocks; we then ask how probable the actual UK history would have been if the model were correct. What we find is that the gravity model is highly improbable, well below a 5% minimum threshold of rejection, whereas the Cardiff model is fairly probable, comfortably above this rejection level.

The implications of the Cardiff models for Brexit are radical. Brexit will usher in a world in which for the first time in our post-war history the UK market will be entirely dominated by world competition, finally admitted by abandoning EU protection of farming and manufacturing. UK firms and farms will have to be competitive with the best the world has to offer; this plainly will lower prices to the consumer and raise UK productivity. Notice that because UK service sectors have never had EU protection, not much changes for them in terms of necessary world competitiveness. To ensure this competitiveness UK regulations will have to be business-friendly; utterly gone will be the idea that there is some 'free lunch' of 'rights' to be exacted from the business community for the benefit of particular constituencies.

What then of the position of EU firms in these UK markets? It will have fundamentally changed. Instead of being able to sell food and manufactures to UK consumers at inflated prices, owing to the lack of world competition, they will have to sell here at world prices, some 20% lower if EU protection is entirely removed. Were they not to match these prices they would simply be pushed out of the UK market, to sell nothing at all.

It needs to be understood just how large a change this is for EU exporters to the UK. The UK constitutes about a quarter of the whole EU consumer market. If prices fall by a fifth, their margins on a quarter of their sales may well be entirely wiped out.

But matters do not end there. If there is no UK-EU Free trade agreement then both sides must levy tariffs on the other, to comply with WTO rules; otherwise they must abolish their tariffs on everyone. But the EU will not because it is protectionist; the UK will not, because it wants to use its tariffs as leverage in FTAs with other countries.

UK tariff revenues from EU exports are estimated at £13 billion a year. But notice that these cannot be passed on to UK consumers after Brexit and UK FTAs around the world. EU exporters must match those world prices in the UK market; so bang goes another £13 billion bite into their margins.



Can the EU recoup these losses by their tariffs on UK exporters? This revenue is estimated at £5 billion a year. But notice these UK exporters now can sell their output at world prices at home; they will sell abroad at the same prices- arbitrage will force that. Abroad now includes the EU. The EU tariffs will therefore be passed on to EU consumers. This will not damage their sales compared with pre-Brexit, because their prices will still be competitive; pre-Brexit they were equal to world prices plus EU protection (tariffs plus non-tariff barriers), post-Brexit equal to home/world prices plus tariffs (only as there cannot be non-tariff barriers with the UK, standards being identical).

UK trade negotiations with the EU and the rest of the world: a struggle by the EU to control UK policy

This analysis based on our Cardiff models sheds light on why the EU has so bitterly opposed Brexit. When the UK leaves, not only will it stop contributing money to the EU budget and stop the inflow of unskilled workers from the EU but also it will greatly reduce the UK profits made by EU exporters due to more UK competition and new tariffs. Furthermore the UK will introduce lighter regulation designed to improve UK competitiveness, so reducing the scope for EU regulations to place burdens on EU industry which must compete with the UK.

However, our discussion also shows that the UK gains from leaving straightforwardly under WTO rules and rapidly proceeding on FTAs with the rest of the world, starting with the US, our biggest single trading partner, with whom we have a mutual interest in abolishing our EU- inherited import barriers. All that the EU achieves by refusing to agree a simple FTA with the UK is not to stop Brexit but rather to force the mutual imposition of tariffs, which makes EU losses even bigger. If the EU were to intervene diplomatically to oppose US-UK FTA discussions, it would risk inflaming its existing trade disputes with the US.

The main political weapon the EU has wielded has been the Irish border, claiming that there must be a 'hard border' if Brexit goes ahead and that this would create renewed IRA terrorism. However, this claim is not just irresponsible but also incredible, as the EU itself has admitted it would not impose a hard border under Brexit, while the UK has said the same, and the current government has committed to using technology and off-border checks to avoid it.

Another EU tactic has been to raise concerns about administrative disruption in the short run. However, any such disruption is mutually damaging and would be highly unpopular in both the UK and the EU- and if it involves border hold-ups is positively illegal, as I have explained above. Plainly anyway short term disruption by definition

is temporary while long term gains persist and so are the dominant consideration.

Conclusions

In sum, the key element in any immediate Brexit strategy designed to obtain the gains available from it is to achieve Brexit and so sovereignty. The best way to achieve this is via a simple exit under WTO rules.

However, now that the EU has negotiated seriously with the UK to agree a new Deal with Boris Johnson's government, then to relief all round this implies that a UK-EU FTA will be negotiated next, after withdrawal. In the long run this has to happen anyway if EU losses from tariffs are to be avoided. Whereas the UK is indeed better off with No Deal, it is damaging to the EU, our neighbour. Better for neighbours to have good relations than to score off each other.

APPENDIX:

Supplementary analysis of November Cross-Whitehall Report

After discarding use of its widely criticised 'gravity-like' model used in the initial Project Fear Referendum forecasts, the Treasury has now adopted use of a Computable General Equilibrium (CGE) model (GTAP from Purdue University) that is similar in approach to the World Trade Model at Cardiff University.

In this note we ignore the migration assumptions made by the Treasury which create large extra costs supposedly; however, these costs are based on absurd assumptions about abruptly cutting off the flow of migrants, when it is generally agreed that skilled migrants will be flexibly treated and unskilled migrants will be allowed in temporarily and without access to state benefits.)

Based on the latest Treasury Report and its Technical Annex, the assumptions are flawed in three fundamental ways:

1. They assume de-minimis benefits for the UK economy from future free trade agreements with non-EU countries

- Only a 0.2 per cent boost to GDP is forecast vs an estimate for Australia on the same model of more than 5 per cent from its 30 years of trade liberalisation.
- It gets this by assuming
 - Quite low estimates of EU Non-Tariff Barriers (based on econometric work) around 7% for goods (other estimates suggest 16%). For services, it assumes UK NTBs after leaving the EU would be 15% (our estimate is zero as the UK has a liberal regime for services trade)
 - Only half of the goods NTBs can be abolished, and only one third of the services NTBs, giving the resulting NTBs to fall as follows:

Table 3.A: Summary of estimates of changes to UK-Rest of World NTBs compared to today's arrangements for all scenarios.

Compared to today's arrangements (per cent change)	NTBs into the UK for ROW trade partners (per cent)	NTBs into ROW trade partners for the UK (per cent)
Manufactured Goods	-3.3	-2.3
Agri-food	-3.6	-3.8
Services	-2.6	-4.2
Financial Services	-5.0	-5.6
Networks	-3.8	-3.6

Negative figures reflect a reduction in NTB costs compared to today's arrangement.

Source: HMT Tech Annex

– Adding these abolishable NTBs to the average tariffs on goods gives a total eliminable of 8% on goods (average tariffs 4%); and 5% on services (no tariffs here)

• Under GTAP if these were abolished via FTAs that achieved the same barrier reduction on our imports as unilateral free trade, the gain would be 1.6% of GDP.

– However, in practice HMT assumes only around half of these gains would be achieved by FTAs, because of limited coverage. This brings the gain down to 0.8% of GDP. (Would like to see more detail on this of how HMT did the simulations.)

– Then HMT assumes that only one quarter of this programme will occur as it is 'under development' - see following para 76 from annex,

76. The Government's approach to agreements between the UK and prospective trade partners is currently being developed. In this illustrative and indicative approach, representing ambitious agreements including but not limited to FTAs, it is estimated that under the central ambition case, 25 per cent of the actionable goods and services barriers might be reduced. These are applied in all the modelled EU exit scenarios. As set out in section 2.3.3 of the analysis document, the analysis does not model any constraints that the Government's policy could impose on future UK-ROW agreements.

Source: HMT Tech Annex

This reduces the gain to the headline 0.2% of GDP.

2. High border costs are assumed for the processing of customs declarations, rules of origin certificates, and goods inspections.

This reflects a lack of understanding of how modern computerised, pre-declared border procedures work

• Typical actual costs of modern procedures are well below 1 per cent and the Swiss customs authority reports costs of 0.1 per cent.

• Inspections are intelligence led and a rarity (typically only 1 to 3 percent of shipments). They often require only confirmation of computerised documentation and can take place away from the border. These costs across goods and services give rise to a loss of 1.8% of GDP.

3. Imaginary high compliance costs are assumed for exporters/importers to meet hypothetical new non-tariff barriers springing up immediately after Brexit.

These NTBs (see next Table) include the border costs discussed in the previous paragraph.

Table 2.D: Summary of estimates of changes to UK-EU NTBs by sector compared to today's arrangements.

Compared to today's arrangements (per cent change)	Modelled no deal	Modelled average FTA	Modelled EEA-type ⁶³	Modelled White Paper	Modelled White Paper with 50 per cent NTB sensitivity ⁶⁴
All Goods ⁶⁵	+10 (+6 to +15)	+6 (+5 to +11)	+5 (+3 to +7)	+1 (0 to +1)	+4
All Services	+11 (+4 to +18)	+9 (+3 to +14)	+2 (+1 to +3)	+6 (+2 to +10)	+7

Central estimates and ranges in brackets.⁶³ Note: estimates are rounded to the nearest per cent. Owing to rounding, narrow ranges (less than one per cent) are not distinguishable in the table.

Source: Treasury Technical Annex

• This is based on the mistaken belief that the EU will suddenly determine that UK exporters do not meet product standards - despite over 20 years of shared rules and standards

• Such behaviour would be illegal under WTO anti-discrimination rules that require importers from all countries to be treated the same – ie, a UK importer cannot be required to meet a standard that is not required of, say a US importer or indeed an internal producer from the EU. In other words they must be existing EU standards- which we meet.

• Fails to understand how trade actually works – i.e., each importer makes independent decisions as to set their product configurations and the attractiveness of export markets. Hence even as standards change in future, exporters will make sure, from their own commercial interest, that their goods continue to meet these standards, as occurs throughout the world with export trade.

In reply to our criticism of these estimates, the Treasury evades the point, simply saying the WTO rules may not be implemented

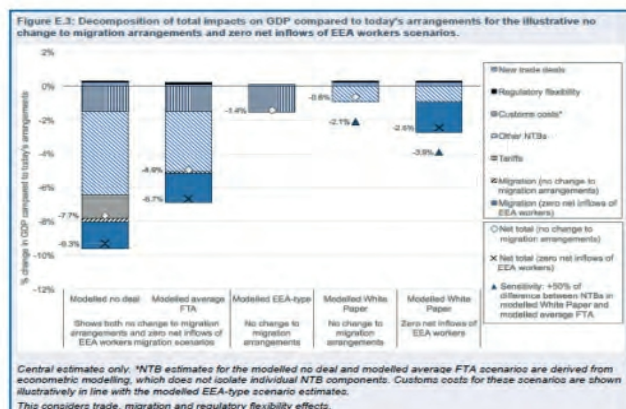
63. Rather than model NTBs with the EU, an Economists for Free Trade study⁶⁶ assumes no additional NTBs. They argue that given the UK's current regulatory alignment with the EU, any attempt to impose trade barriers would be illegal under WTO rules. The OBR notes that 'this appears to be based on Economists for Free Trade's interpretation of the WTO's MFN requirements. But most trade experts interpret these rules as meaning that the EU would be forced to impose the same NTBs that the rest of the world currently faces, unless the UK and EU sign a trade deal to lessen them'.⁶⁷

Source: HMT Tech Annex

Note that the EU imposes standards that the UK currently meets; these are 'the same EU standards that the rest of the world currently faces'. These standards of course act as NTBs to countries such as the US which cannot meet them. The combined total effect of these assumptions is that—beginning with product standards and regulations identical to those of the EU – it would be as if the UK faced an EU tariff-equivalent cost on goods and services combined of around 14.5 per cent (of which only 4.5% is actual goods tariffs), if trading under WTO rules. This is about three quarters of the effective tariff actually faced by the US that, in fact, trades with the EU under WTO rules.

When these flawed assumptions are fed into the Treasury's GTAP model, it forecasts a reduction to UK GDP of 7.7 per cent (see bar chart below). This is rather amazing considering that total EU trade accounts for only 12 per cent of total UK GDP and only about 40 per cent of this trade is exports that could be affected by such EU restrictions.





Source: Main Treasury Report

The table below compares the result of HMT model results with the estimated results that would be obtained from the same model if assumptions more reasonable than those used by the Treasury were fed into the model.

It should be noted that, due to the use of econometric estimates, the new EU trade barriers now assumed are lower than the judgements used in the earlier PowerPoint report, and indeed have been roughly halved. But the response of the UK part of model in the new report has been raised (more than doubled) to compensate and give a similar-sized hit to UK GDP from WTO and FTA scenarios. This alteration of the Treasury model is puzzling and suggests we need to have access to discover just why these changes have been made as well as their empirical justification.

It should be also noted that in separate work we have tested different model variations in our own Cardiff World Trade Model and found that the most accurate model is closest to the perfect competition Classical version.

Table: Trade Effects under Brexit Scenarios According To GTAP-type model used by Whitehall

ASSUMPTIONS	A: Whitehall		B: Alternative	
Trade Barriers expressed as % Tariff Equivalent; Effect on GDP shown as % of GDP in italics	Canada+	WTO	Canada+	WTO
Tariffs	-	4.5	-	4.5
<i>Effect on GDP</i>	-	-1.4	-	-1.4
New Standards	16.2	5.5	-	-
<i>Effect on GDP</i>	-3.6	-4	-	-
New Customs costs	5.8	4.5	-	-
<i>Effect on GDP</i>	-1.3	-1.4	-	-
Total Tariff Equivalent (%)	22.0	14.5	-	4.5
<i>Total Effect on GDP (% of GDP)</i>	<i>-4.9</i>	<i>-6.8</i>	<i>-</i>	<i>-1.4</i>
FTAs with rest of world	+0.2		+4.0*	
All Trade Effects on GDP (% of GDP)	-4.7	-6.6	+4.0	+2.6

*Assumes all EU protection of food and manufactures (20% average on each) eliminated via FTAs

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ISSN 0952-0724

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