

The Future of Trade - COVID-19 and Global Policy Tensions and Potential Implications for long- term Growth

Dr. Robert Koopman

Chief Economist, World Trade Organization and Adjunct Professor at the
Graduate Institute, Geneva

CompNet Conference on Sustainable development, firm performance and
competitiveness policies in small open economies

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Summary of COVID impacts and implications for global trade?

Biggest declines in GDP and Trade in decades.

Weak recovery

- particularly if psychological (confidence/habits) effects on consumers and businesses result in weak consumption and investment recovery.
- If govt. policies are either not large enough or structurally ineffective at dealing with demand and liquidity issues.

Trade

- big impact on trade from decreased consumption and investment, but also from increased trade costs.
- Supply shock from reduced labor participation can, if health issues resolved (vaccine?), quickly recover – capital and infrastructure undamaged physically.

Globalization? Reorganization of globalization, re-globalization

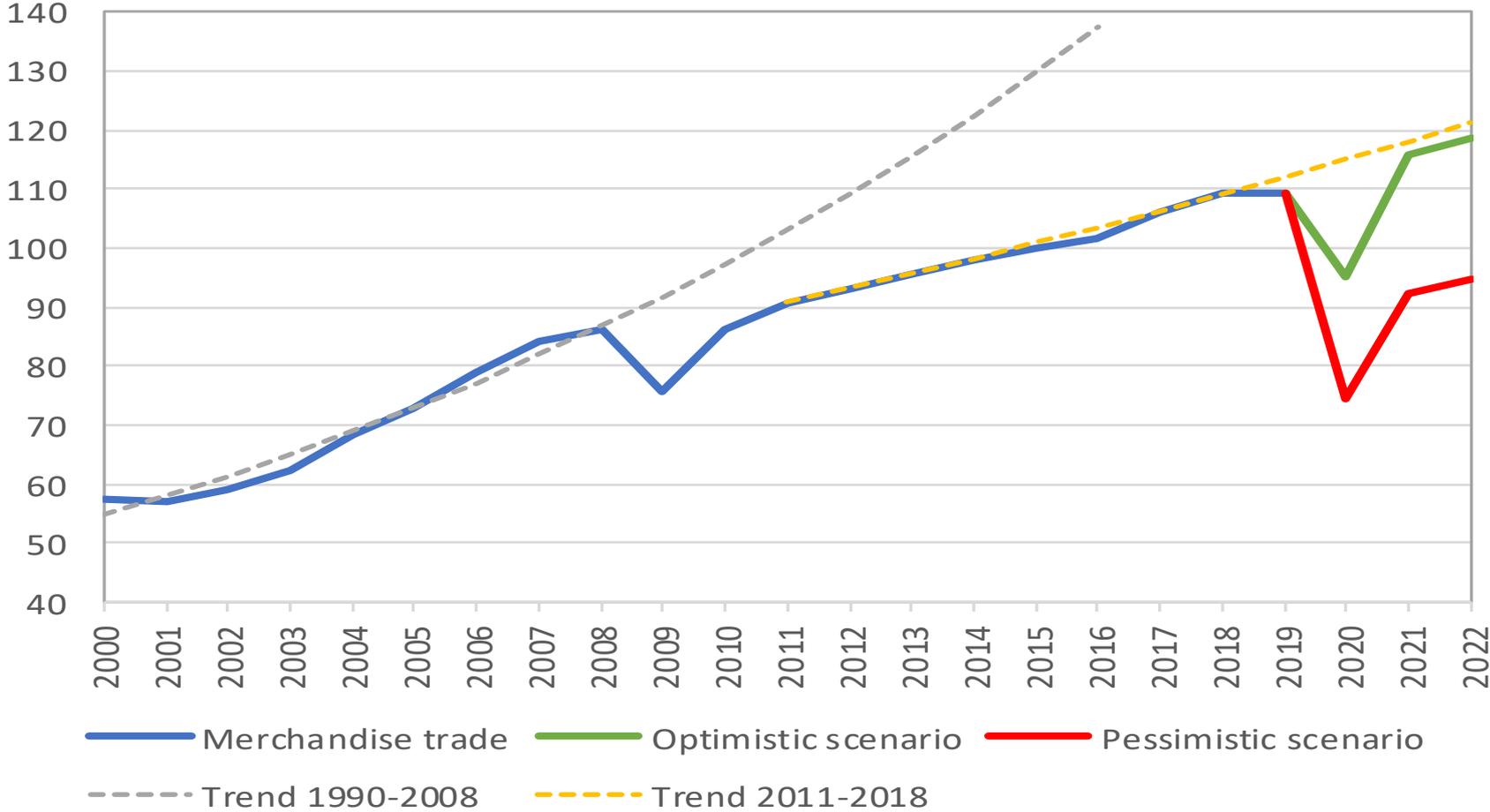
- Not recover to rapid growth of goods trade during 1990-2005 – Trade growth $2^+ X$ > income growth
- But probably back to long term growth from 1865 to present – Trade growth $1.4X$ > income growth
- More digital cross border trade
- More diversification in supply chain sourcing
- More automation of production and supply chain steps
- More flexible production processes

Adam Smith's specialization and David Ricardo's comparative advantage forces will still be at play, but with firms changing weights and values on risk (of production disruptions) vs. efficiency (lowest absolute cost of production) trade-offs.

WTO EXPECTS SIGNIFICANT DECLINE IN GLOBAL TRADE FOR 2020 AND POTENTIAL FOR SLOW RECOVERY IN 2021



Chart 1 - World merchandise trade volume, 2000-2022
Index, 2015=100



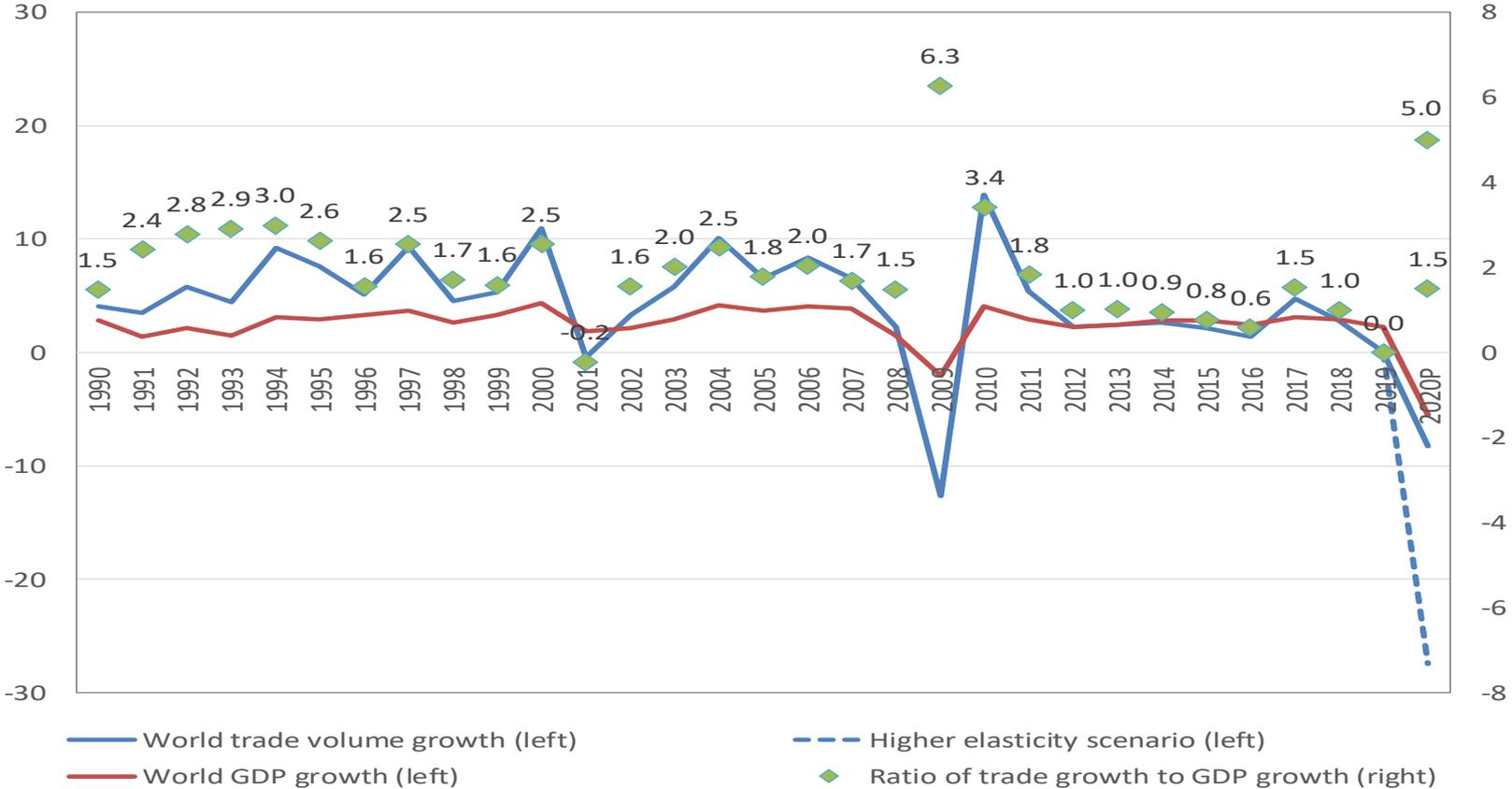
Source: WTO Secretariat.



Trade and Growth Relationship Has Changed Overtime: But for understandable reasons.

Recent relationship between trade and economic growth, 1990-2020

(% change and ratio)



Sources: WTO Secretariat for merchandise trade volume, consensus estimates for real GDP at market exchange rates.

Macroeconomic developments – IMF, WBG, OECD

| | Real GDP | | Trade volume | | Elasticity | |
|-------------------------------------------------|------------|------|--------------|------|------------|------|
| | (% change) | | (% change) | | (ratio) | |
| | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 |
| WTO Trade forecast (April 2020) | | | | | | |
| - optimistic scenario | -2.5 | 7.4 | -12.9 | 21.3 | 5.3 | 2.9 |
| - pessimistic scenario | -8.8 | 5.9 | -31.9 | 24.0 | 3.6 | 4.1 |
| IMF World Economic Outlook (April 2020) | | | | | | |
| | -3.0 | 5.8 | -11.0 | 8.4 | 3.6 | 1.4 |
| World Bank Global Economic Prospects (May 2020) | | | | | | |
| | -5.2 | 4.2 | -13.4 | 5.3 | 2.6 | 1.3 |
| OECD Economic Outlook (June 2020) | | | | | | |
| - single hit scenario | -6.0 | 5.2 | -9.5 | 6.0 | 1.6 | 1.1 |
| - double hit scenario | -7.6 | 2.8 | -11.4 | 2.5 | 1.5 | 0.9 |
| Memo items: | | | | | | |
| IMF GDP at market exchange rates | -4.2 | 5.4 | -11.0 | 8.4 | 2.6 | 1.6 |
| World Bank GDP at purchasing power parity | -4.1 | 4.5 | -13.4 | 5.3 | 3.3 | 1.2 |

The outlook for the global economy over the next two years remains highly uncertain. This is reflected in the wide range of GDP estimates from international organizations, in some cases relying on multiple scenarios. Generally the IOs forecasts range between 2.5 to 8 per cent or greater – with the range largely reflecting the length of time pandemic health related measures remain in place.

The challenge is unprecedented in the last 100 years?

This is the deepest global recession in eight decades, despite unprecedented policy support.

Per capita incomes in the vast majority of emerging market and developing economies (EMDEs) are expected to shrink this year, tipping many millions back into poverty.

What are the likely long-term implications of COVID-19? Weaker potential output, investment, and productivity over the long term.

What are policy priorities? Addressing the immediate health crisis; Pursuing reforms to reignite growth; Enhancing debt and investment transparency; Coordinating policies globally.

Trade Developments

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Preliminary trade statistics and trade-related indicators show world trade slowing sharply in the first half of 2020 as the Covid-19 virus spread globally. The volume of merchandise trade was down 2.3% year-on-year in the first quarter according to WTO statistics, while initial estimates indicate a drop of around 18.5% in the second quarter.

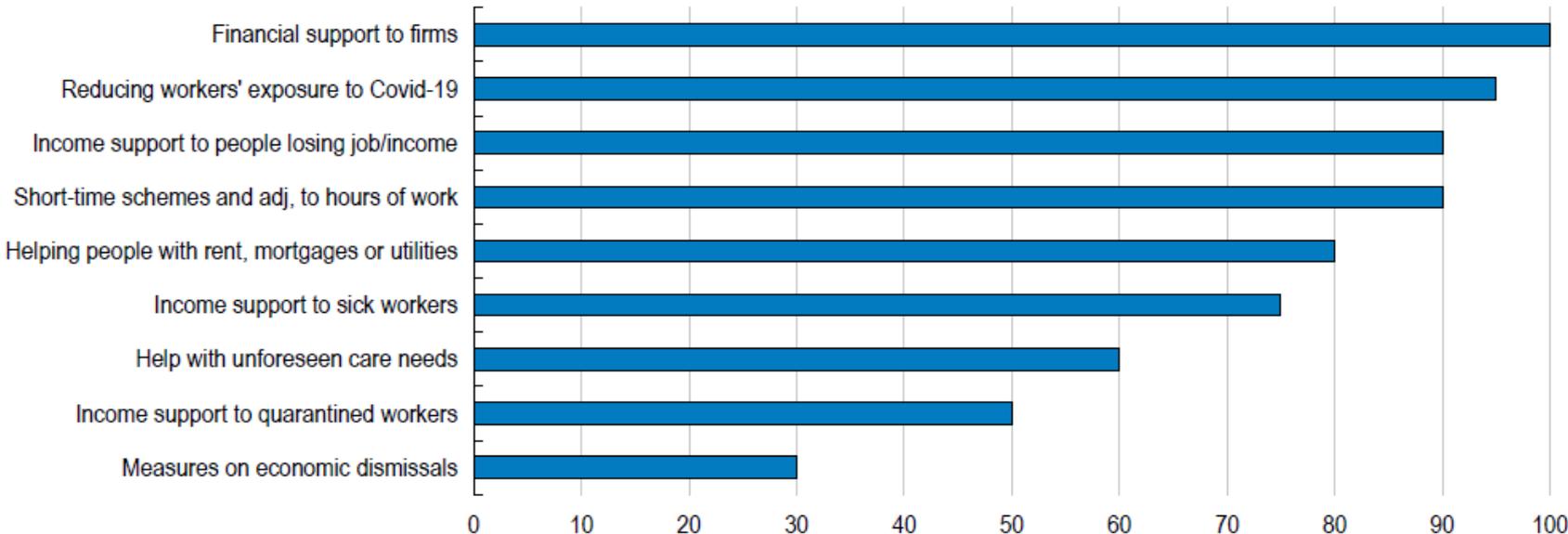
While large, the declines are thus far more consistent with the more optimistic scenario advanced in the WTO's most recent trade forecast, and seem reasonably in line with IMF, WBG and OECD forecasts for 2020. Much more uncertainty remains regarding the extent of a trade recovery 2021.

Rapid and extensive fiscal and monetary policy responses in most countries around the world have likely helped moderate both the GDP and trade impacts thus far.

What to watch for? Will COVID-19 policy responses be a drag on productivity and competition?

Many governments have acted decisively

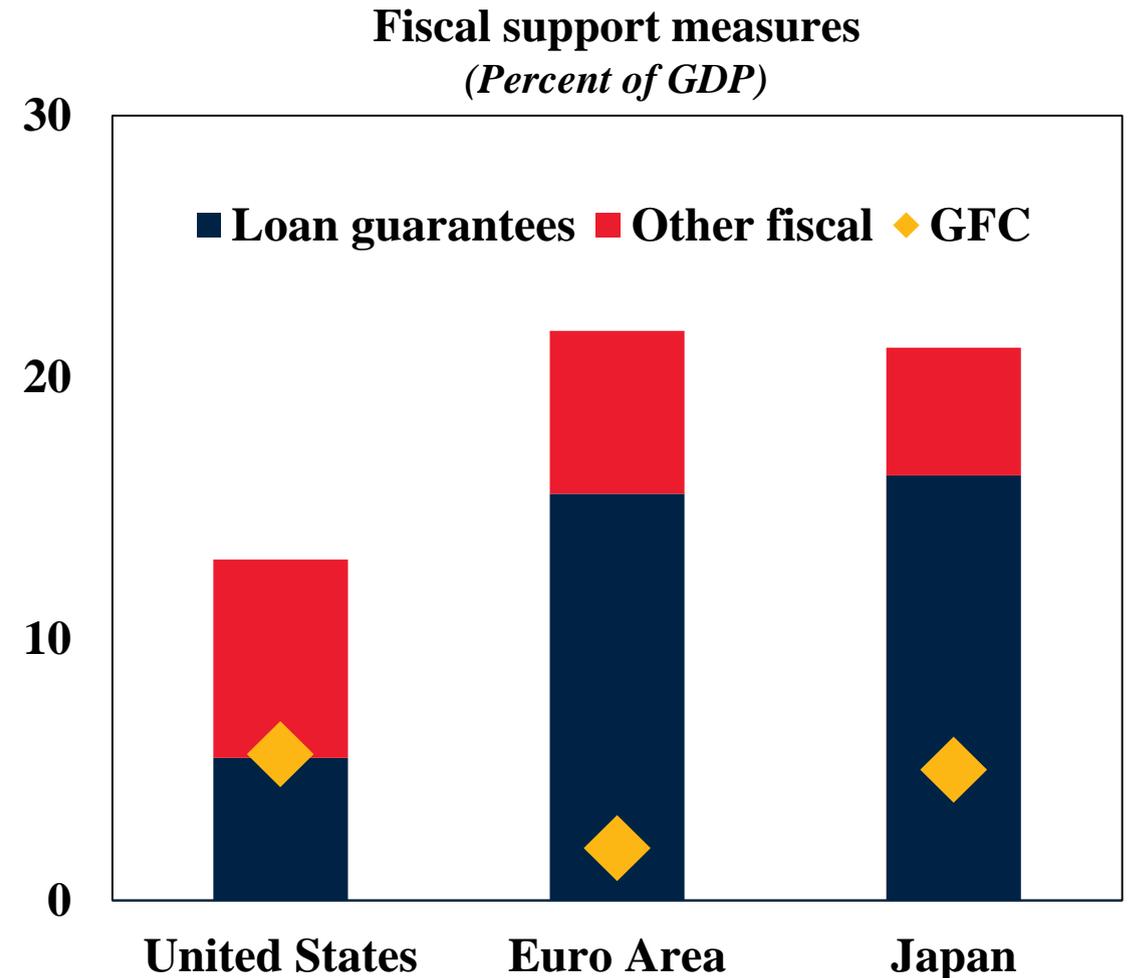
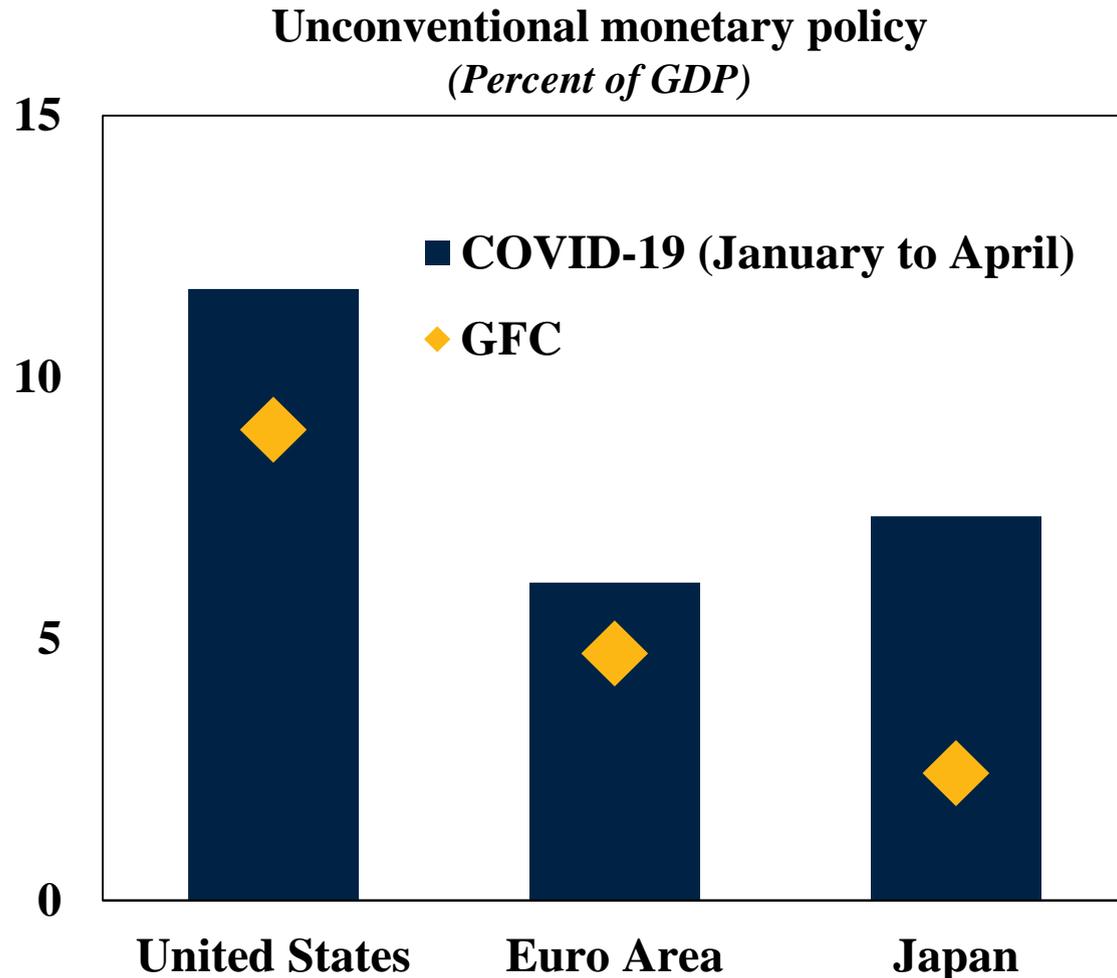
Share of G20 economies that have introduced (or announced) new measures or expanded existing ones in response to Covid-19



© OECD | Note: Data as of 1 June 2020.
Source: OECD (2020), "Supporting people and companies to deal with the Covid-19 virus: Options for an immediate employment and social-policy response", ELS Policy Brief on the Policy Response to the Covid-19 Crisis.

Policy Responses in Major Advanced Economies

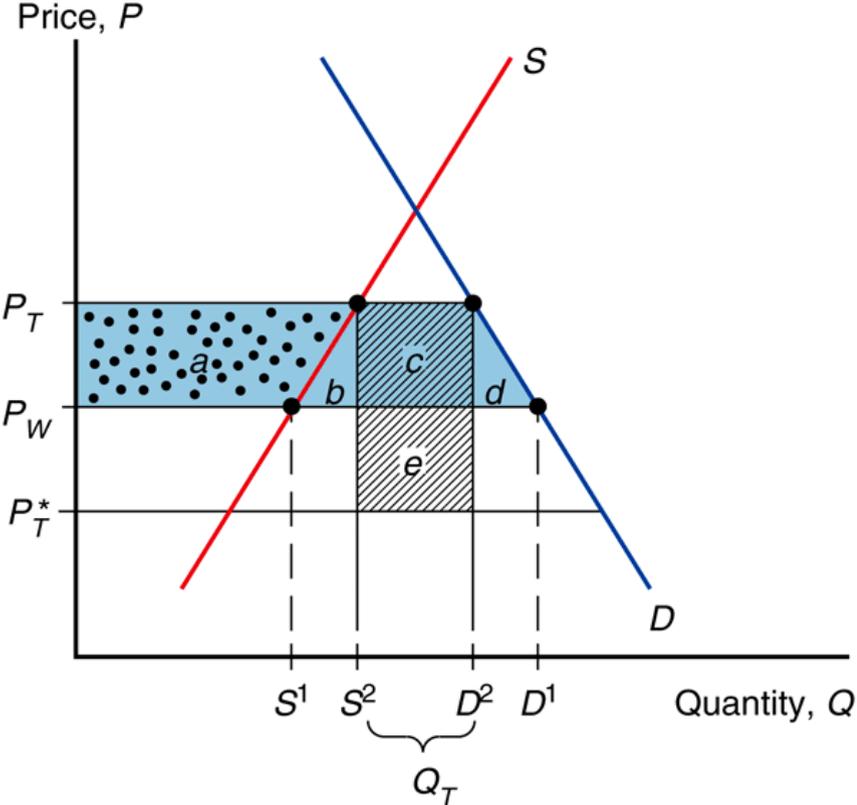
Unprecedented Measures



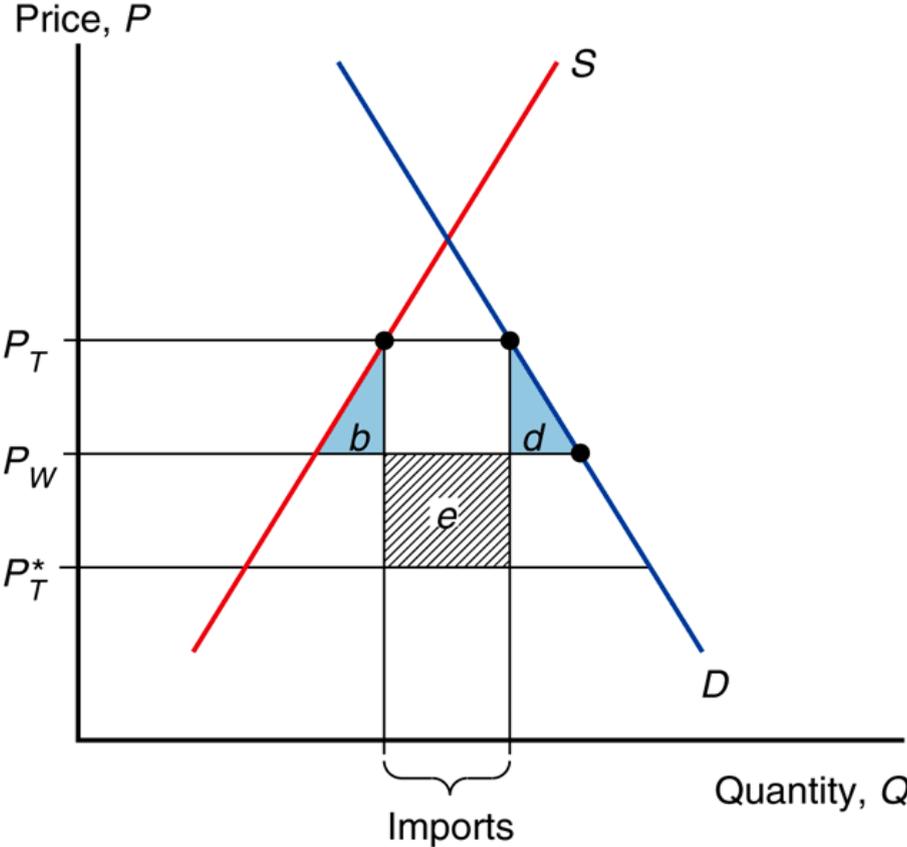
Source: Bloomberg, European Central Bank, International Monetary Fund, World Bank.

Left Panel. COVID-19 reflects recently increases in central bank balance sheets since January 2020 and are expressed as a share of 2019 nominal GDP. GFC refers to global financial crisis and reflects the increase in central bank balance sheets between August 2008 and December 2009 as a share of 2008 nominal GDP. Last observation is April 2020. Right Panel. Total of measures either planned or under consideration as of May 17, 2020. Share of 2019 nominal GDP. GFC indicates fiscal measures implemented over the period 2008-09.

Triangles and rectangles....Rent seeking vs. efficiency...comparative statics



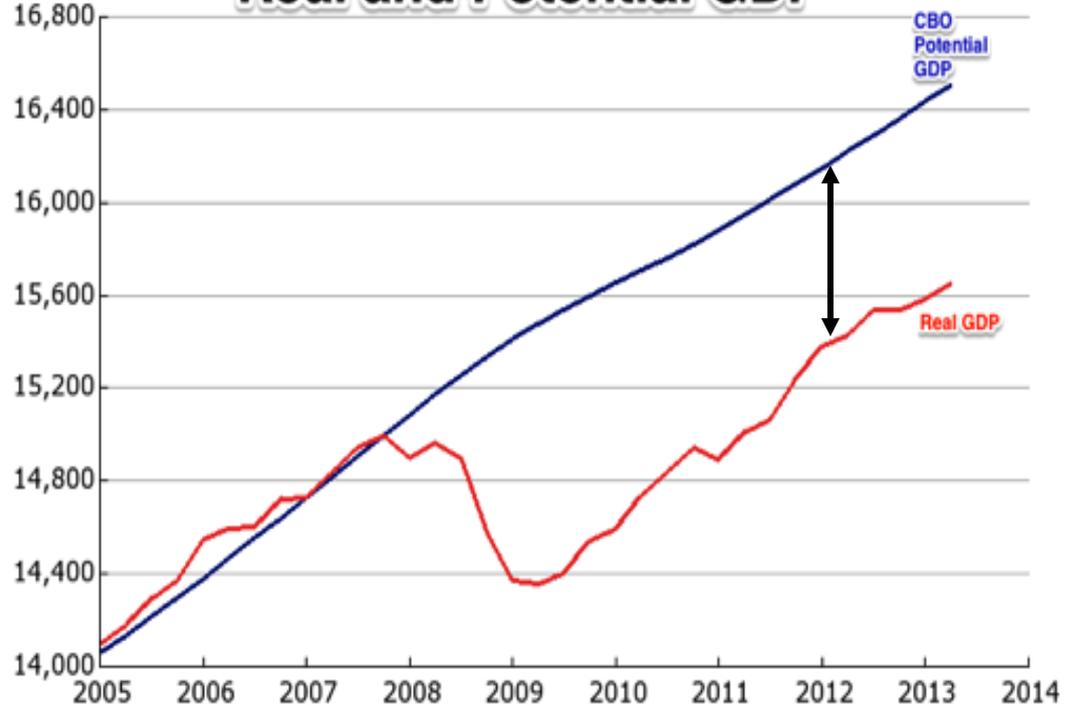
- = consumer loss ($a + b + c + d$)
- = producer gain (a)
- = government revenue gain ($c + e$)



- = efficiency loss ($b + d$)
- = terms of trade gain (e)

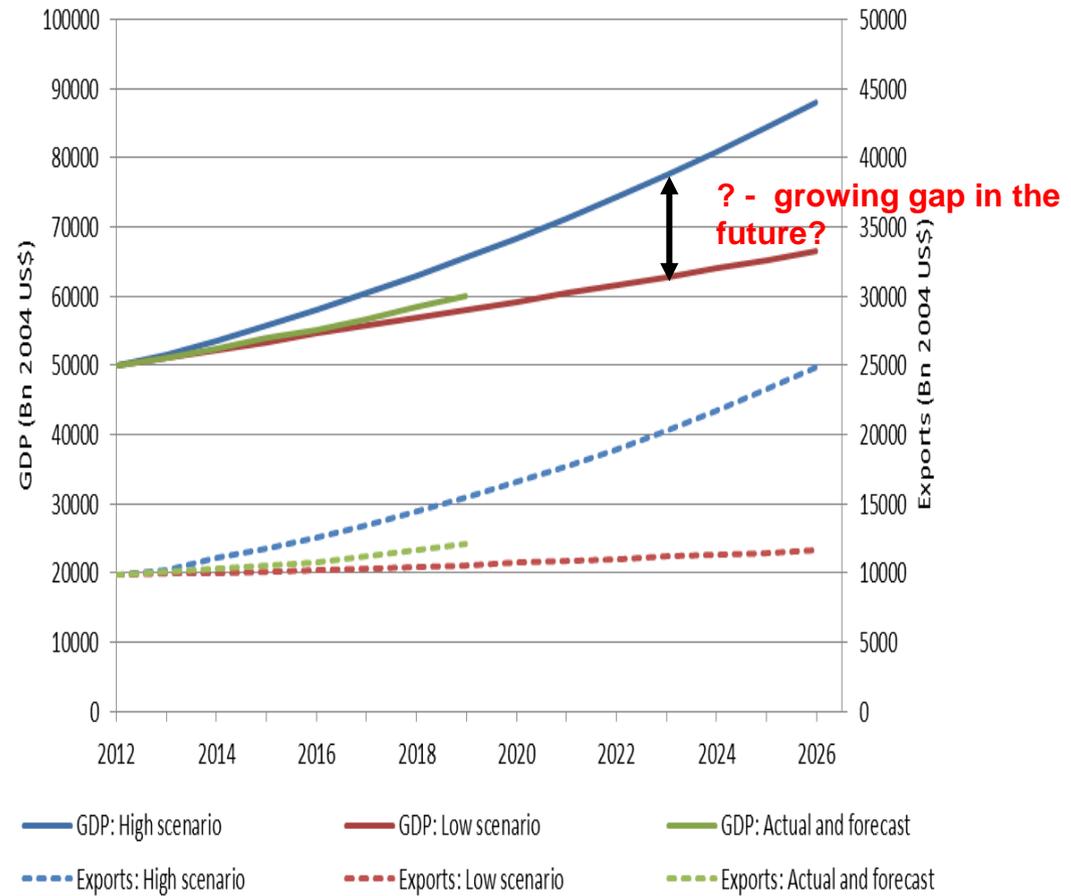
Long-term implications...slower long term growth adding up to significant foregone income and consumption – efficiency, productivity, competition

Real and Potential GDP



US potential output vs actual output - GFC

World GDP and exports



COVID-19, Trade Tensions and Global Economic Developments

Bottom lines –

Direct effects of tariffs (trade wars) are small (lost triangles and moving around rectangles.)

Indirect of tariffs can be large – increased uncertainty affecting components of aggregate demand – particularly Investment, and Consumption.

Biggest effects of trade are longer term – Slower shifting out of the production possibility frontier.

So while tariffs and rising trade costs cause a lot of trade diversion and some fragmentation of a fairly globalized economy, a negative investment shock lowers long term growth and a technology war could fragment the world digital economy into two or three spheres – China, US and European.

Overview of short-term modeling of economic effects of COVID

1. Modeling earlier pandemics (avian flu, Ebola etc.)
2. How is COVID different?
3. Modelling Covid-19
 - a. CGE studies: general observations on shocks
 - b. Examples of approaches followed in different CGE studies (WTO, EC, OECD, GAC, WB)
 - c. Insights from other types of models (DSGE, VAR)

Modelling earlier pandemics

- Prominent role for negative shocks to labour supply, because people get sick and die (morbidity and mortality)
- Other shocks included are
 - **Sectoral demand shocks**
 - CBO (2006): fall in demand bigger in sectors with more social interaction
 - Dixon et al. (2010): falling demand for tourism/travel and leisure activities (arts, entertainment, accommodation)
 - Keogh-Brown et al. (2009): falling demand in “social consumption” sectors
 - Burns, van der Mensbrugghe and Timmer (2006): reduction of travel, transport and restaurant consumption
 - **Rising trade/transaction costs**
 - World Bank (2014) models a rise domestic and international transaction costs in Ebola study based on calibration of a single country CGE model for Liberia
 - **Increasing risk premium (McKibbin et al.)**
 - **Rising sectoral cost of production**
 - Costs rise in sectors dependent in input-output structure on affected sectors such as recreation, tourism and transport (McKibbin et al.)

How is Covid different from earlier pandemics?

- Crucial difference of Covid-19 pandemic with scenarios studies of previous pandemics is the social distancing/lockdown measures, which changes type and size of the shocks. In current pandemic:
 - The negative shock to general labour supply smaller than modelled in many earlier pandemic studies
 - The reduction in economic activity (supply and demand) in social distancing sensitive sectors is large (restaurants, culture, tourism, travel).
 - There is a rise in savings (precautionary and because spending in social distancing sensitive sectors is impossible) and large fiscal policy responses
 - Trade costs are increasing because of travel restrictions

Modelling Covid-19 in CGE applications

- Many studies target GDP reductions from other studies (IMF WEO, Oxford Economics): European Commission, Global Affairs Canada
- Other studies parameterize shocks based on studies of previous pandemics, nowcasting information, and early statistics on Covid-19: WTO, WB, OECD
- In both cases the types of shocks are similar
 - General reduction in labour supply (morbidity, mortality, school closures, working from home)
 - Reduction in sectoral household demand in sectors targeted by (imposed and voluntary) social distancing (restaurants, recreation, transport, tourism) and affected by postponing consumption (durable manufacturing goods)
 - Rising trade costs
 - Falling capacity utilization of capital and other production factors

Modelling Covid-19 in CGE applications: Example WTO (Shocks)

- Three scenarios depending on length of social distancing: V-shaped, U-shaped, L-shaped recovery
- Three types of shocks
 - Reduced labour supply (morbidity and mortality, school closures, working from home)
 - Reduced sectoral demand and supply
 - Sectors affected by social distancing (tourism, travel, culture) and by heightened economic uncertainty (manufacturing durables)
 - Rising trade costs because of border controls and travel restrictions
 - Increase air cargo prices (lack of belly capacity in passenger planes)
 - Increased border controls raise time in transit of goods (Hummels and Schaur)
 - Higher trade costs for services and specialized manufacturing equipment because of travel restrictions
 - [Size of last shocks calibrated to trade costs increase World Bank (2014) Ebola study scaled down by the share of goods shipped by air (for specialized equipment) and the share of services not delivered digitally (Eurostat data turnover e-commerce)]

Modelling Covid-19 in CGE applications: Example WTO (Implementation)

- Sectoral demand and supply shocks implemented through reduction in sectoral and total private household demand and through reduced factor supply
- Rising trade costs implemented through iceberg trade costs
- Rising air cargo prices implemented through falling productivity of air transport
- Reductions in private demand lead in standard model to rising savings, rising investment and almost identical GDP
 - Therefore, investment is exogenized and capacity utilization of production factors endogenized
 - This means that a reduction in private household demand and a corresponding rise in savings leads to a reduction in the utilization of production factors.
 - The change in investment is conservatively set equal to the change in investment without the demand side shocks times the ratio of the GDP changes with and without demand side shocks.

While COVID gets the attention don't forget..current trade tensions continue

Global trade 2017 \$22 Trillion - \$17 goods and \$5 services

US-China Trade 3% - US China trade conflict small direct negative impacts - less than 2/10ths of a percent off global growth, but some much bigger redistributive effects - producer consumer surplus, trade diversion

Global automobile trade 8% - Auto tariffs bigger effects, particularly for US, MEX and Canada. Auto sector globally hit hard. But potential gains for other countries if large amount of global investment diverted from US? Diversion of investment vs. contraction?

Breakdown in global cooperation on tariffs (all countries go to optimal tariffs) - 2% off global growth, global trade declines by 17%. Including GATS, TRIPS, etc gets bigger effects. Distribution across countries quite varied. Small countries have greater adverse effects.

Total trade under WTO MFN - 81%, majority of which is MFN = 0, trade under preferential tariffs is 19%.

Future could look quite different...China rebalancing, changing comparative advantage...

Why the conflict? Many reasons

Unbalanced growth – globally, regionally, nationally, and sub-nationally, and by sector, labor/skill category, demography, households.

Many drivers and many “margins” of adjustment.

Not a surprise to economists (for instance H/O and specific factor stories have been around for long time) – but a challenge for economists to tell a full/big picture story, and for policy makers to developed nuanced and effective policies for a complex, dynamic environment.

So technological change, trade, changing consumer preferences, economic geography (think cities vs rural areas - and diversified cities vs specialized cities), efficiency of labor markets, efficiency of property markets, market power, changing institutional relationships...

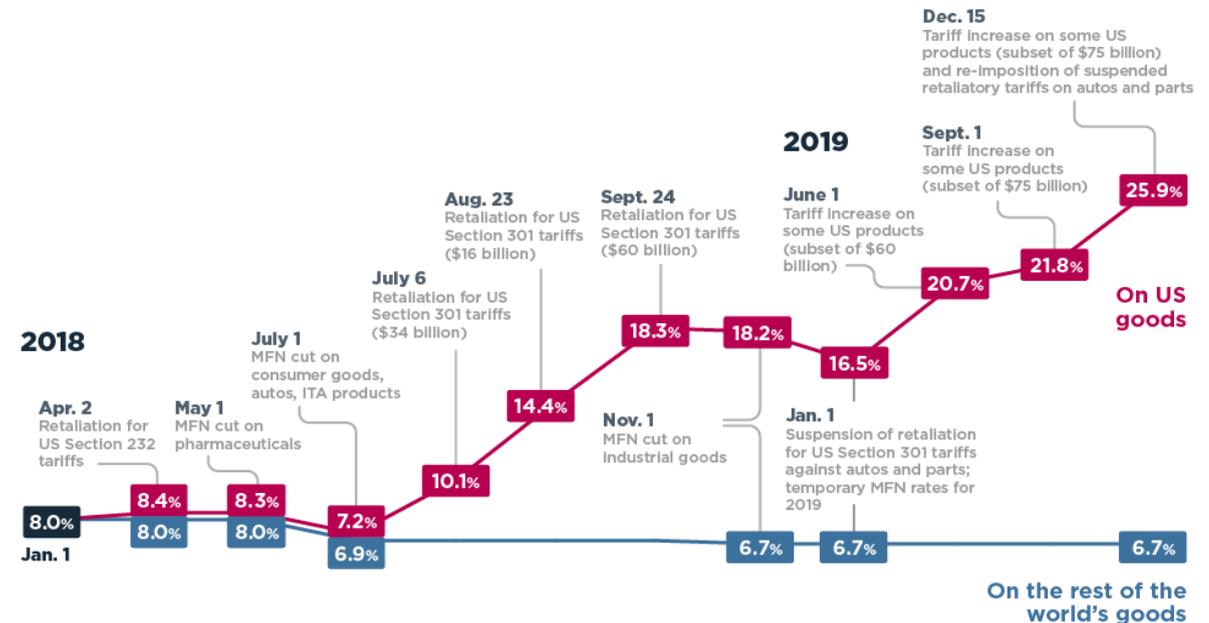
Easy answers – blame someone/something else...particularly trade and immigration

What is the current state of global trade policy and why does it matter?

- Trade conflict between the US and China – rising tariff rates, increasing uncertainty in bilateral trade. Figure from Bown PIIE.
- What else is going on?
 - WTO appellate body
 - US looking at autos
 - Korea-Japan tensions
 - ...Long list of actions, potential actions quite out of line with historical trends.
 - Other risks include things like climate change and a decline in trust in established institutions.
- What does it all mean?

Figure 1

China's average tariff rate is climbing on US goods and falling for the rest of the world



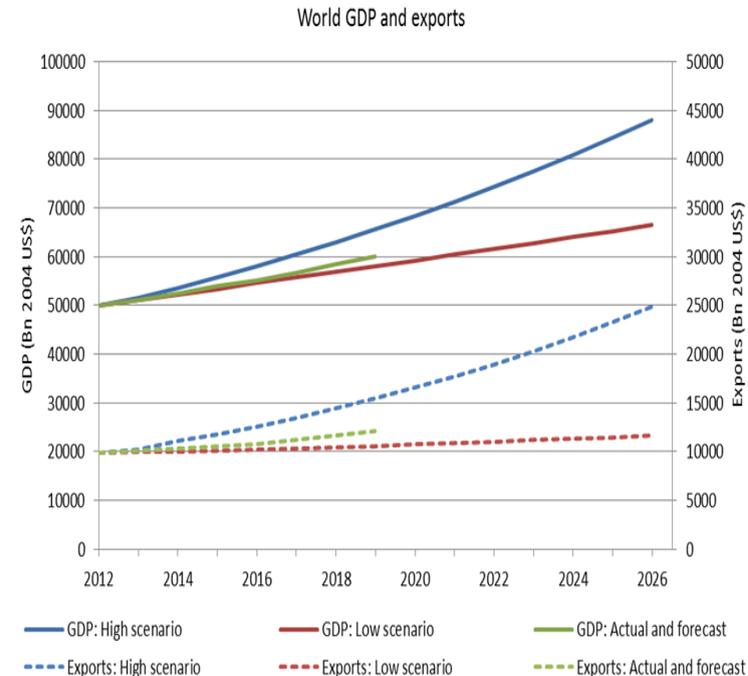
ITA = Information Technology Agreement; MFN = most favored nation

Note: Trade-weighted average tariffs computed from product-level tariff and trade data, weighted by US exports to the world in 2017.

Sources: Updated on August 23, 2019, from Bown, Jung, and Zhang (2019). Constructed by the author with data from Trade Map and Market Access Map (International Trade Centre, marketanalysis.intracen.org) and China's Ministry of Finance's announcements.

long-term Forces driving growth and trade

- What drives trade growth? What drives economic growth?
- Macro matters C+I+G
- Investment most “trade intensive”
- Liberalization policies – maybe 25% of trade growth – tariff increases work the other way of course.
- Why bother? Long term growth – shifting out PPF/dynamics effects of trade liberalization
- Falling behind.



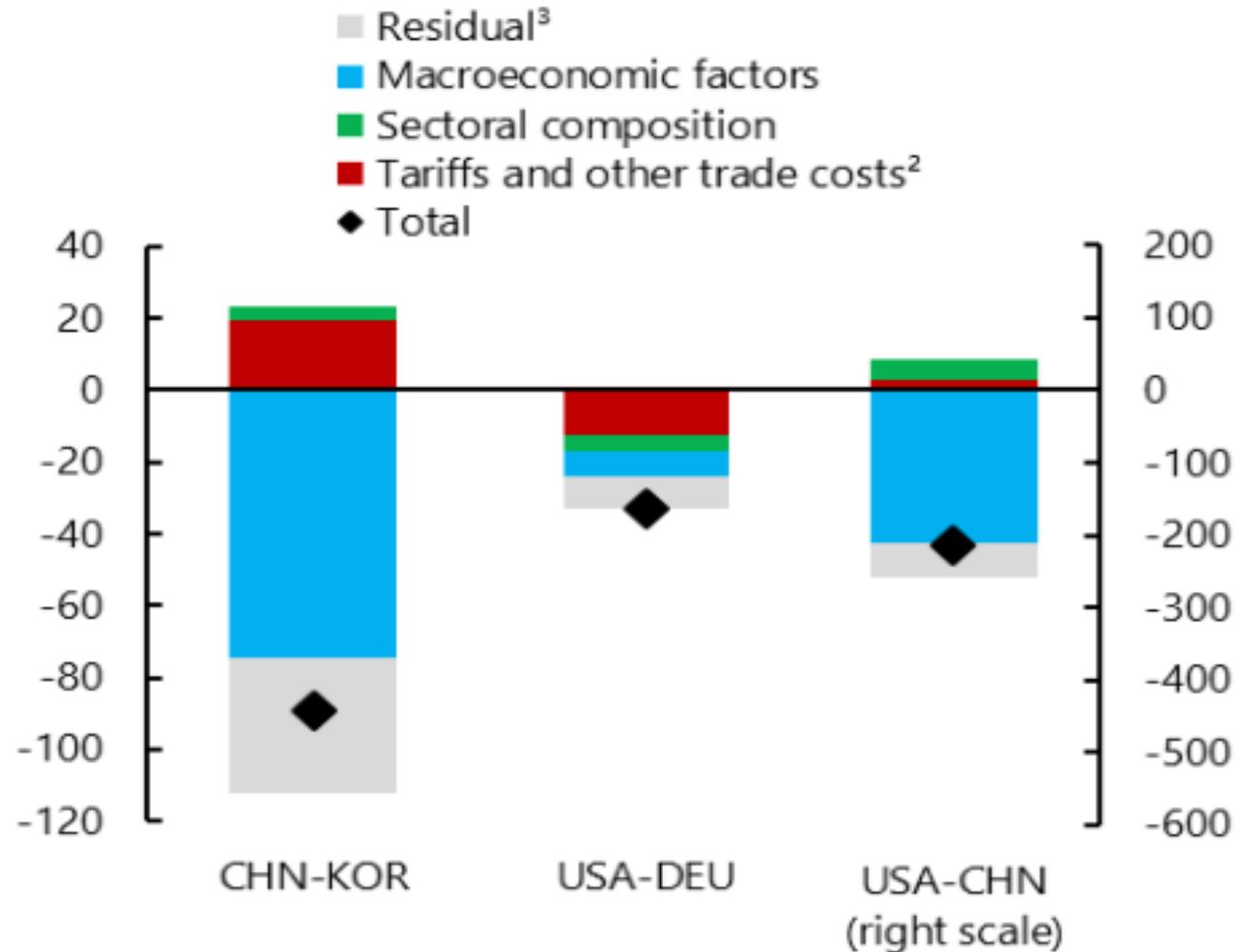
Global imbalances caused by tariffs and subsidies?

“Countries are cheating and screwing us...”

More likely fundamental macro forces – savings and investment, demographics, etc.

How will current COVID response effect these relationships?

IMF: Drivers of changes in selected bilateral trade balances, 1995-2015 (billions of US dollars)



Sources: OECD Trade in Value Added database, and IMF staff calculations.

Note: Data labels use International Organization for Standardization (ISO) country codes. 1 Average value 2010-2015 minus average value 1995-1999. 2 This includes tariffs and free or preferential trade agreements. 3 This residual is the sum of the model residuals plus the approximate error.

While trade costs have fallen for many years they are now rising and, more importantly, so is uncertainty around those trade costs (and other things!). And remember tariffs are only one part of trade costs

Uncertainty surges after 20 years of stability

In the past year, the World Trade Uncertainty index in the past year jumped 10-fold from previously recorded highs as the US-China trade war escalated.

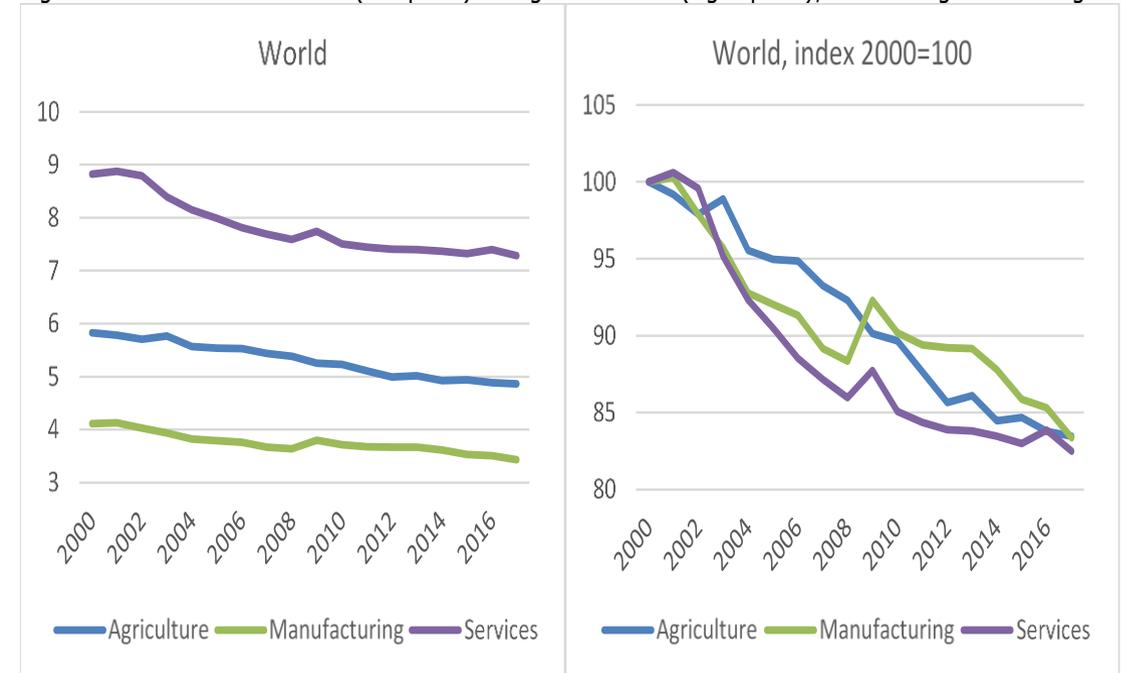
(WTU index, GDP weighted average)



Source: World Uncertainty Index. Ahir, Bloom, Furceri (2018). The source for the data on key dates in the US-China trade negotiations comes from Bown and Kolb (2019).

Note: The font in blue indicates the tariff measure taken, and the font in black indicates the narrative of the World Trade Uncertainty index. A higher number means higher trade uncertainty.

Figure 1: Trade cost in levels (left pane) and growth rates (right pane), trade-weighted average



Note: The level of trade cost can be interpreted as how many times higher is international trade cost compared to domestic trade cost. Hence, trade cost in services in 2017 (7.28) corresponds to an ad valorem equivalent of 628 per cent. Trade cost in manufacturing in 2017 (3.43) corresponds to an ad valorem equivalent of 243 per cent.

Trade costs are the highest in services and the lowest in manufacturing.



Gravity Implications...

- What does economic gravity tell us?
- Size and distance matter, as well as relative domestic to international costs and relative costs changing between partners
- What does gravity tell us about Brexit and the other agreements?
- US facing increased multilateral resistance and “further away” – tariff increases
- Long term? Smaller?

$$exp_{ij} = \frac{y_i y_j}{c} \left(\frac{\tau_{ij}}{P_j \Pi_i} \right)^{1-\sigma}$$

Table 2: Decomposing the Growth of U.S. Bilateral Trade

| Partner country | Growth in trade | Contribution of the growth in income | Contribution of the decline in bilateral trade costs | Contribution of the decline in multilateral resistance | Total |
|-----------------|-----------------|--------------------------------------|------------------------------------------------------|--------------------------------------------------------|-------|
| CANADA | 609 | 65.3 | + 42.3 | - 7.6 | = 100 |
| GERMANY | 526 | 67.1 | + 36.4 | - 3.5 | = 100 |
| JAPAN | 580 | 79.3 | + 28.3 | - 7.6 | = 100 |
| KOREA | 832 | 92.3 | + 33.5 | - 25.8 | = 100 |
| MEXICO | 944 | 54.8 | + 57.4 | - 12.2 | = 100 |
| UK | 578 | 55.9 | + 43.8 | + 0.3 | = 100 |

Growth between 1970 and 2000. All numbers in percent.

Countries listed are the six biggest U.S. export markets as of 2000.

Computations based on equation (16). Also see the Technical Appendix.

Level Playing Field? There are many reasons a “playing field” can be unlevel. Natural, one side tilts the field in their favor, or one side tilts the field NOT in their favor, or some combination of all of them.

Natural – bad design?



Distorted- by whom?

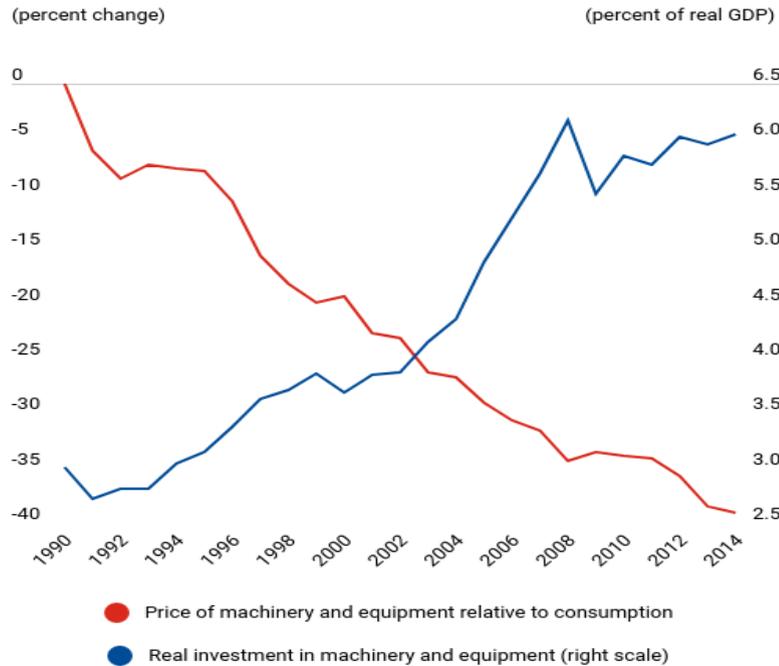


IMF: Is Slowing Trade Reform Impeding Investment and Growth?

- The relative price of investment goods, such as machinery and equipment (M&E), is a major driver of real investment rates. Investment rates, in turn, drive economic growth.
- Declining relative prices of M&E were in large part due to trade integration and relatively rapid productivity growth in sectors that produce capital goods.

Closely linked

The rise in real investment in emerging markets and developing economies coincided with large drops in the relative price of machinery and equipment.



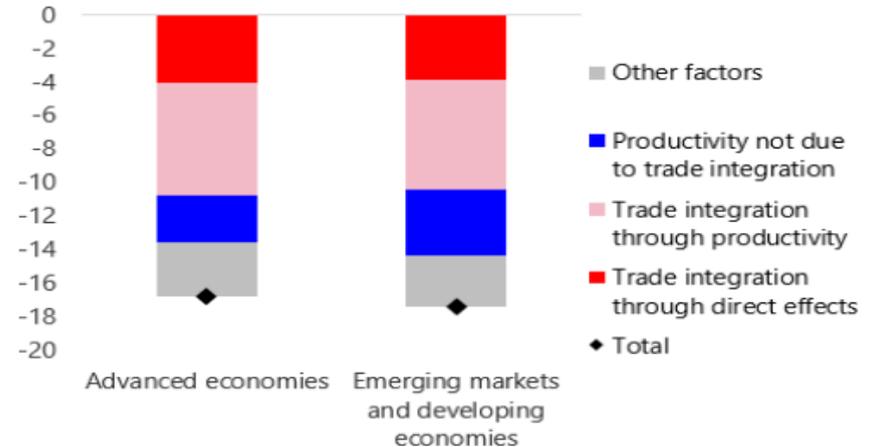
Sources: Penn World Table 9.0 and IMF staff calculations.

- This suggests that the slowing pace of trade reform since the mid-2000's—and especially the possibility of reversal in some AEs—could now interfere with investment and growth.

Trade matters most

The decline in the price of capital goods relative to consumption has been mainly supported by deepening trade integration.

(contributions to changes in relative producer prices of capital goods, 2000–11, percent)



Source: IMF staff calculations.

Summary

- COVID impacts very large
- Trade war tariffs – direct effects – small. Efficiency impacts/reallocation effects. What we see is a range of sectoral effects and trade diversion. Certainly has validated traditional trade models!
- Trade war tariffs – indirect effects – potentially very large – discourage investment and consumption – macro impacts.
 - We see this starting, but in some countries has been offset or diminished by fiscal and monetary policy actions.
- Trade war uncertainty – tied to indirect effects – potentially large and long term impacts – reduce current growth, and reduce future potential growth from reduced investment and relatively less efficient investment.
- Fragmentation of global economy into blocs?
- Continued fragmentation of countries as policies not addressing most of the underlying challenges – technology, changing preferences, demographics, economic geography.
- Which battle do you fight? Who, or what, is the problem (enemy?)