Crises in Some Emerging Economy and Its Contagion Effect

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Abstract

The interdependence of countries may have positive impacts on countries development overall, however, any economic difficulties are no longer one countries issue, which clearly can be seen from many crises such as Asian Financial Crisis (1997), Russian debt crisis (1998), the Global Financial Crisis (2008) and Eurozone debt crises. Contagion effects have been studied extensively, however, uncertainty remains regarding the interrelationship between countries and the scale of crisis impacts (Bird et al. 2017). Meanwhile, crisis symptoms are occurring repeatedly across countries. The latest examples are for the biggest emerging markets: the Russian financial crises (2014-2017); the Brazilian political and economic crises (2014-2016); Turkey financial and economic crises (since 2018). The effect of crises in the biggest emerging markets on their trade partners and the global economy is still an open question. This paper seeks to illustrate the quantifiable effects of an emerging market shock by conducting a simulation centred on four countries - Argentina, Brazil, Russia and Turkey using the G-Cubed model. From the simulation results, there will be severe loss in those four countries and short-run significant contractions in all other countries. Overall, the global economy and total wealth of the people will be worsened in the long run.

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[1] The views expressed in this paper are the only authors.

I. Introduction

As the degree of global integration increases, the significance of emerging markets on the global economy (and vice versa) is rising. This has both positive and negative implications. On the one hand, integration accelerates the catch-up growth of emerging economies through competition and technological progress. On the other hand, the economic problems of one country can affect trade partners, neighbouring regions and the global economy through contagion. Prominent recent examples include the Asian Financial Crisis (1997), Russian debt crisis (1998), the Global Financial Crisis (2008) and Eurozone debt crises – which are all considered as having severe impacts globally (McKibbin 1999; Kaminsky & Reinhart 2000; Caramazza, Kaminsky, Reinhart & Végh 2003; Ricci & Salgado 2004; McKibbin & A. Stoeckel 2009; Rim & Setaputra 2012). Contagion effects have been studied extensively, however, uncertainty remains regarding the interrelationship between countries and the scale of crisis impacts (Bird et al. 2017). Some cases, such as the Argentina and Turkey crises (2001) have not had big consequences (Didier, Mauro & Schmukler 2008), while the Eurozone debt crises are viewed as having no significant impacts on Non-Euro countries (Pentecost et al. 2019). The literature used varies kind of econometric and DSGE models.

Meanwhile crisis symptoms are occurring repeatedly across countries. The latest examples are for the biggest emerging markets (Table 3, 4): the Russian financial crises in 2014 to 2017 - during which the stock market fell by about 30 per cent and GDP growth dropped to 0.3 per cent; the Brazilian political and economic crises in 2014 to 2016, where the economy declined by 3 per cent per year. More recently, Turkey has faced financial and economic crises due to a politically and economically unstable environment since 2018.

The effect of crises in the biggest emerging markets on their trade partners and the global economy is still an open question. This paper seeks to illustrate the quantifiable effects of an emerging market shock by conducting a simulation centred on four countries - Argentina, Brazil, Russia and Turkey. This is achieved by applying a simultaneous risk premium shock to these countries using the G-Cubed model - a general equilibrium model with intertemporal optimisation, expectation as well as trade and financial linkages. The model gives the advantage to produce and compare the impacts of the countries as well as sectoral level.

From the simulation results, there will be severe loss in those four countries and short-run significant contractions in all other countries. Overall, the global economy and total wealth of the people will be worsened in the long run.

This paper is organized as follows. Section II introduces the G-Cubed model and related assumptions. Section III explains the simulation results and the final section provides a conclusion.

II. The G-Cubed Model and the modelling of risk

The model incorporates features of econometric general equilibrium modelling, international trade theory and modern macroeconomics, which is the best feature of using the model (Mckibbin & Triggs 2018). Among the many versions of G-Cubed model, the biggest model, version 149G is used in this paper. The model includes six economic sectors, 20 countries and 4 regions (Table 1). The main features and how risks are modelled are briefly explained.

Main features of the model:
- Tradable goods are substitutes imperfectly between countries.
- Financial capital is flexible.
- Intertemporal budget constraint- foreign debts must be paid.
- Two types of households, forward-looking and rule of thumb
- The households' total wealth consists of human capital and financial capital
- Labour is mobile within the economy, not overseas.
- Sticky wages
- Two types of firms, forward-looking and backward-looking.
- Capital and labour are substitutable
- Firms are maximizing the firms' value
- Fiscal sustainability: interest rate payment of outstanding government bond must have paid.
- Henderson-McKibbin-Taylor rule, which specifies for each country
- Dynamics are consistent with Solow-Swan-Ramsey neoclassical growth model

Modelling risks

A risk premium shock in the model is similar to an interest rate shock. Economic agents discount their future income based on the interest rate plus risk premium. If the risk premium is higher, then the present value of future income is lower than if there was no risk premium.

The risk premium changes with the interest rate. The interest rate and associated risk premium influence consumption and production decisions over time.

There are three risk perceptions, country, equity and household risk premium in the model.

Equity risk premium:

When agents make a financial decision, they are taking into account how the equity is risky and how the returns are relative to holding bonds. For the arbitrage condition to hold, the equity risk premium is the additional payment required to make the agent indifferent between holding bonds and equities.

In G-Cubed, the rate of change in Tobin's Q consists of the sum of interest rate, depreciation rate, risk premium, minus the marginal capital of product after-tax and adjustment cost term. In other words, it is an arbitrage condition for equity and capital. Tobin's Q for each period is equal to the rate of return, which is the sum of the difference between marginal product and adjustment cost from now and terminal point. If an agent undertakes an additional unit of investment, they can get

a return from the marginal product of capital, adjusted cost. The rate of return is discounted by the real interest rate, depreciation rate and equity risk premium.

If the risk premium goes up, Tobin's Q will go down. In order words, if firms are uncertain about the future, Tobin's Q will decline and so investment will fall.

Household risk premium:

In the intertemporal consumption decision of households, the human capital and the present value of the future after-tax labour income are discounted by the interest rate and risk premium.

If households are more concerned about the future, and then they think that their human wealth may be smaller because the present value of their future income discounted by higher rate will be smaller. Therefore, consumption will fall and given current income, the saving rate is going up. However, the savings will increase while the domestic investment will decrease because of the higher risk. Therefore, there are lots of movements in the balance of payments as current account equals the difference between savings and investment. The current account equals to the capital account negatively.

Country risk premium:

It is the difference between holding asset one country versus another. Risk premiums are defined relative to the US and in the interest rate parity condition. Firstly, the expectation of changing interest rate is related to the country risk premium. Also, it will affect the equilibrium exchange rate. While a lot of models do not solve for the equilibrium exchange rate, an advantage of G-Cubed is that it does. When the risk premium goes up, the interest payment has to be higher for that foreigners are holding the asset and also the exchange rate has to be depreciated.

III. Simulation results

The crisis simulation comprises two simultaneous shocks to the risk premiums mentioned above:

1. A five-percentage point permanent shock to the country risk for Argentina, Brazil, Turkey and Russia. This captures the effect on these economies and their direct partners.
2. A four-percentage point increase to equity and household risk premiums globally. This captures the contagion effect on consumer and producer confidence.

The simulation is based on 2015 data and the result is compared to this baseline.

The results are illustrated in Figures 1 to 22, with countries are divided into 3 sub-categories: countries in crisis; major trading partners; and the rest of countries by region.

Countries in crisis

GDP decreases by 4 per cent to 18 per cent from baselines in countries whose country risk premiums have risen. The economic recessions of Turkey and Russia are about double those of Argentina and Brazil. The reason is that Turkey and Russian economies are more capital intensive (Table 2) and the mining-sector will collapse more.

Increases to the country risk premiums would be expected to push up real interest rates. However, the real interest change will decrease in Argentina and Brazil, which related to monetary policy in the short run. But in the interest rate is higher in the long-run due to the risk premium shock. The real interest rate change is determined by the marginal product of capital condition. If the sector or economy is more capital intensive, that sector or economy will more be affected by changes in risk premium. Therefore, Turkey and Russia will be affected more when the risk premium increases.

Tobin's Q falls since the risk is increasing and also the future profit is lower due to the contraction of the whole economy. Increase in risk of holding capital, which means the amount of capital is too high relative to optimal decreases the capital stock in the economy. So, the capital which is relatively low return should be reduced and hence overall return of capital increases consistent with higher real interest rate.

But the physical capital is sticky and cannot be eliminated immediately. So, the investment has to fall (up to 20 per cent) and stays to low, that leads to low capital stock. The initial fall is related to backwards-looking firms and they see what happens today and are reducing the investment more. Not only financial adjustment is happening, but also the households will raise their risk premium in to calculating lifetime income. Therefore, consumption will fall by up to 20 per cent, and the savings will increase while the domestic investment will decrease.

Because the shock of risk premium is permanent, the real interest rate (about 1 percentage point) and the marginal return of capital will be higher in the long run. That means capital stock and hence GDP will be lower permanently.

In the short run, the interest rate movements are also related to monetary policy. Real interest rate equal nominal interest rate adjusted by the expected inflation. In the long run, monetary policy cannot affect the real interest rate which is determined by the marginal product of capital. While in the short run, the central bank can hold the nominal interest rate. If the nominal interest rate is fixed, the real interest will change depending on the expectation of inflation.

Even though total demand is falling, inflation sharply jumps (by 1 to 4 percentage point) initially due to the higher import prices resulting from exchange rate depreciation will increase the import price (25 to 40 per cent). Capital leaving from the economy due to the higher risks leads to the weaker currency.

The central bank of Argentina and Brazil cut the interest rates by about 1 percentage point due to the lower GDP, however, the inflation rate is increasing. While the central bank of Turkey and Russia will respond to inflation rather than GDP to increase the interest rate by 1 percentage point in the short run. But, in the long run, the monetary policy only controls inflation and then the inflation will decline to the initial point. Therefore, change in real and nominal interest rate is the same in the long run.

The results also suggest around 10 per cent higher unemployment in the short run. But employment eventually will return to baseline. Because wage is sticky in the short run, but in the long run the real wage will adjust, and so labour market will be clear.

In the model, wages are determined by agents looking at past and future inflation and employment prospects. Initially, the wage increases by up to 4 per cent after the increase in inflation, however, people will lose their job caused by lower labour demand related to weaker real economic activity as well as that increased wage. So, the real wage decline and employment

will back to the initial level. There is less capital stock and then marginal product of labour will go down.

Price of bond decline when the real interest rate falls. Thus, the government deficit will increase by 1 per cent of GDP, and the debt level will rise by 3 to 10 per cent of GDP. Also, the government deficit increases caused by lower tax revenue as the economy goes into the recession. Payment and unemployment benefits will go up. Turkey and Argentina will increase more fiscal expenditure.

Capital outflows increase significantly from these countries, but the model suggests that exchange rate flexibility supports the economy by improving the trade balance (improve by 13 to 17 per cent of GDP) during the flowing out of capital. Because of the deep recession and lower wage, the household's total wealth will be declined by 20 to 60 per cent by 2030. As a fall in the equity market, households' shareholder will also fall, which is another declining wealth effect.

Economic sectoral change: If the real interest rate will go down, the discount rate becomes lower. So, the value of durable goods will be higher, and a higher level of purchasing durable goods because it is worth more. When the risk premium went up, discounting future stream of return fell dramatically, so the consumption of the durable goods fell far more than other types of consumption. Falling the investment went down is also related to this collapse of durable good demand that is consistent of risk premium in household discounting.

Trade partners

Trade partners (Table 4) are the most affected by the shock. Most of these countries saw their exports fall, so in this sense, it is a negative demand shock. GDP growth reduces by 1 to 4 per cent in first two-years all trade partners, but in further, the countries experience different GDP patterns.

Japan is heavily impacted by declining exports as its major exports are durable goods. The demand for durable goods dries up because people are discounting the value of the durable good by interest rate plus a risk premium. The risk premium is shocked to up. The GDP growth rate of Japan initially declines by about 4 per cent in the beginning. After that the growth rate sees gradual recovery, however, it will have been reduced by 1.5 per cent by 2030 from the baseline. Falling stock market and investment contributes to lower GDP.

As for Germany and China, there is about no change in GDP after it decreases by 1 per cent in the beginning. This causes that lot of capital flow out the countries having a crisis, but a lot of capital is flowing into other countries including those countries. So, this capital inflow offsets the export demand effect in these economies.

While the US and Korean economy have a positive impact on GDP, having about 1 per cent higher economic growth by 2030. There are stock market and investment boom in the economies. The higher capital accumulation generates higher income over time, which is also shown in the consumption pattern.

In the short run, governments will respond to temporary demand decline by increasing the expenditure by 1 per cent of the GDP.

Inflation will decline by 3 to 6 percentage initially due to exchange rate appreciation and lower demand. So, the interest rate will go down and the real interest rate will be permanently lower. Because capital is flowing in those countries and so higher capital accumulation will be in the long run, which means lower the marginal product of capital that is the equally real interest rate.

Rest of the world

The synchronized loss of confidence spill-over through trade all over the world, which can be seen as 1 per cent to 2 per cent drop in GDP for all other countries at the beginning of the period. But, capital flows into other countries especially Asia and the negative demand effect will be reduced. The Asian economies apart from the trade partner increase by about 1 per cent at the end of the period due to higher investment and capital formation. However, the overall world GDP drops 1 per cent and total wealth reduces about 3 per cent by 2030 comparing to baseline.

Similar story with trade partners will be for fiscal and monetary policy.

IV. Conclusion

Using an intertemporal general equilibrium model of the world economy, this paper illustrates the differing country-level effects of an emerging economy crisis and global loss of confidence. The results suggest that, if confidence is permanently lower, the economic loss will be immense. Policymakers should ensure that the investors do not stay in a permanent state of panic.

Increasing the risk premium by 5 percentage points brings up to 18 per cent lower GDP growth and 60 per cent lower total wealth of the economy mainly due to lower investment. In the model, GDP may fall less than the actual because of the higher export effect due to the exchange rate. However, economic agents want to export more, they may not have enough access to finance to produce in reality. Therefore, the actual reduction in those economies can be higher than the model tells. The model suggests that if the exchange rate is flexible, the economy have the capacity that the economy keeps functioning and balancing effect will happen from the trade balance when the capital flows out massively. The economy could not avoid the slowdown, but you avoid the recession through the trade balance effect.

The synchronized loss of confidence spill-over through the trade to all of the country in the short run. However, in the long run, Asia will gain (GDP increases by 1per cent), global GDP will be 1 per cent lower and the total wealth will be 3 per cent lower caused the loss of confidence. It tells what importance of the macro policies apart from smoothing demand is to stabilize the confidence.

For the monetary policy, in the short run, it seems not effective to try to smooth the economy. Instead, fiscal policy may more effective to relieve the economic recession. From the model, when fiscal stimulus is conducted temporarily, the spending of the government will increase, there is no additional financial outflow from the higher interest rate and a stronger currency. Because if it is temporary, agents know the future would be the same and the asset effects will disappear. From this point of view, a temporary fiscal stimulus is much more effective, which can be seen clearly in the simulation result of trade partners and the rest of the world.

VI. Tables and figures

Table 1: Countries and sectors of the model

Version 149G

Country codes

U,	USA,	United States
J,	JPN,	Japan
G,	DEU,	Germany
K,	GBR,	United Kingdom
F,	FRA,	France
I,	ITA	Italy
E,	EUZ,	Rest of Euro Zone
N,	CAN,	Canada
A,	AUS,	Australia
O,	OEC,	Rest of Advanced Economies
X,	KOR,	Korea
T	**TUR,**	**Turkey**
C,	CHI,	China
D,	IND,	India
I,	INO,	Indonesia
V,	OAS,	Other Asia
M,	MEX,	Mexico
Q,	**ARG,**	**Argentina**
B,	**BRA,**	**Brazil**
R,	**RUS,**	**Russia**
S,	SAU,	Saudi Arabia
H,	ZAF,	South Africa
L,	ROW	Rest of World
P,	OPC,	Oil-exporting and the Middle East

Rest of Euro Zone:
Spain, Netherlands, Belgium, Luxemburg, Ireland, Greece, Portugal, Finland, Cyprus, Malta, Slovakia, Slovenia, Estonia

Rest of Advanced Economies:
New Zealand, Norway, Sweden, Switzerland, Iceland, Denmark, Iceland, Liechtenstein

Oil-exporting and the Middle East:
Ecuador, Nigeria, Angola, Congo, Iran, Venezuela, Algeria, Libya, Bahrain, Iraq, Israel, Jordan, Kuwait, Lebanon, Palestinian Territory, Oman, Qatar, Syrian Arab Republic, United Arab Emirates, Yemen

Other Asia:
Singapore, Taiwan, Hong Kong, Indonesia, Malaysia, Philippines, Thailand, Vietnam

Rest of World:
All countries not included in other groups.

Sector Codes:

1. Energy;
2. Mining;
3. Agriculture;
4. Durable Manufacturing;
5. Non-Durable Manufacturing;
6. Services.

Table 2: Capital intensity by sectors

		Energy	Mining	Agriculture	Durable Manufacturing	Non-Durable Manufacturing	Services	Average
Turkey	k/L	3.26	**4.61**	1.77	2.94	2.07	1.00	2.61
	k/y	0.77	**0.82**	0.64	0.75	0.67	0.50	0.69
Argentina	k/L	0.98	0.17	**1.28**	0.64	0.91	0.90	0.81
	k/y	0.50	0.15	**0.56**	0.39	0.48	0.47	0.42
Brazil	k/L	1.55	**1.98**	1.04	0.86	1.09	0.46	1.16
	k/y	0.61	**0.66**	0.51	0.46	0.52	0.32	0.51
Russia	k/L	**4.07**	1.56	1.27	1.03	0.79	3.01	1.96
	k/y	**0.80**	0.61	0.56	0.51	0.44	0.75	0.61

Table 2: Countries economic indicators

	Russia	Brazil	Argentina	Turkey
Country group	Developing/Emerging Upper-middle income economy	Developing/Emerging Upper-middle income economy	Developing/Emerging Upper-middle income economy	Developing/Emerging Upper-middle income economy
Statistics				
Population GDP	144,478,050 (2018) $1.657 trillion (nominal, 2018) $4.227 trillion (PPP, 2018)	209,469,333 (2018) $1.868 trillion (nominal, 2018) $3.366 trillion (PPP, 2018)	44,494,502 (2018) $519.487 billion (nominal, 2018) $915.749 billion (PPP, 2018)	82,319,724 (2018) $771.274 billion (nominal, 2018) $2.300 trillion (PPP, 2018)
Share of world GDP (nominal)	1.9%	2.2%	0.9%	0.6%
GDP rank	11th (nominal, 2018), 6th (PPP, 2018)	9th (nominal, 2018), 8th (PPP, 2018)	24th (nominal, 2018), 28th (PPP, 2018)	19th (nominal, 2018), 13th (PPP, 2018)
GDP by sector	agriculture: 4.7%, industry: 32.4%, services: 62.3% (2017 est.)	Agriculture: 5.5%, industry: 18.5%, services: 76% (2016 est.)	Agriculture 6.0%, industry: 60.7%, services: 33.3% (2015)	Agriculture: 8.6%, industry: 27.1%, services: 64.3%, (2016 est.)
Labor force by occupation	agriculture: 9.4%, industry: 27.6%, services: 63%, (2016 est.)	Agriculture: 9.4%, industry: 32.1%, services: 58.5% (2017 est.)	Agricultural 7.3%, industry: 65.6%, services: 27.1% (2006)	Agriculture: 17.7%, industry: 27%, services: 55.3% (2017)
Main industries	Mining, chemicals, machinery, medical and scientific instruments, consumer durables, textiles, foodstuffs	Textiles, shoes, chemicals, cement, lumber, iron ore, tin, steel, aircraft, motor vehicles and parts, other machinery and equipment	Food processing and beverages, motor vehicles and auto parts, appliances and electronics, machinery and equipment, Chemicals, pharmaceuticals, glass, steel and aluminum,cement, textiles, tobacco products, publishing, furniture, leather	Textiles, food processing, autos, electronics, tourism, mining, coal, chromite, copper, boron, steel, petroleum, construction, lumber, paper
Main data source: CIA World Fact Book **All values, unless otherwise US dollars.**				

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Table 2: Countries economic indicators

	Russia	Brazil	Argentina	Turkey
External				
Exports	$353 billion (2017 est.)	$217.7 billion (2017)	$58.45 billion (2017 est.)	$180.2 billion
Export goods	Petroleum and petroleum products, natural gas, metals, wood and wood products, chemicals, and a wide variety of civilian and military manufactures	transport equipment, iron ore, soybeans, footwear, coffee, automobiles	Soybeans and derivatives, petroleum and gas, vehicles, corn, wheat	Apparel, foodstuffs, textiles, metal manufactures, transport equipment
Main export partners	**European Union 45.8%, China 9.8%,** Belarus 4.9%, Turkey 4.8%, South Korea 3.5%, India 2.1%	**China 21.8%, European Union 16%, United States 12.3%,** Argentina 8%, Japan 2.4%	Brazil 16.1%, **United States 7.9%, China 7.5%,** Chile 4.4%	Germany 9.6%, United Kingdom 6.1%, UAE 5.9%, Iraq 5.6%, **United States 5.5%,** Italy 5.4%, France 4.2%, Spain 4% (2017)
Imports	$238 billion (2017 est.)	$150.72 billion (2017)	$63.97 billion (2017 est.)	$234.2 billion (23rd) (2017)
Import goods	**Machinery,** vehicles, pharmaceutical products, plastic, semi-finished metal products, meat, fruits and nuts, optical and medical instruments, iron, steel	**Machinery,** electrical and transport equipment, chemical products, oil, automotive parts, electronics	**Machinery,** motor vehicles, petroleum and natural gas, organic chemicals, plastics	**Machinery,** chemicals, semi-finished goods, fuels, transport equipment
Main import partners	**European Union 38.2%, China 20.9%, United States 6.1%,** Belarus 5.2%, **Japan 3.7%**	**European Union 21.2%, China 18.1%, United States 16.5%,** Argentina 6.2%, **South Korea 3.4%**	Brazil 26.9%, **China 18.5%, United States 11.3%, Germany 4.9%**	**China 10%, Germany 9.1%,** Russia 8.4%, **United States 5.1%,** Italy 4.8% (2017)
FDI stock	$535.2 billion (2017 est.)	$778.3 billion (2017 est.)	$76.58 billion (2017 est.)	$180.3 billion (31 December 2017 est.)
Current account	Abroad: $470.9 billion (2017 est.) $35.44 billion (2017 est.)	Abroad: $358.9 billion (2017 est.) −$9.762 billion (2017 est.)	Abroad: $40.94 billion (2017 est.) −$31.32 billion (2017 est.)	Abroad: $47.44 billion (2017 est.) −$27.6 billion (2018)
Gross external debt	$539.6 billion (2017 est.)	$684.6 billion (2017)	$214.9 billion (2017 est.)	$452.4 billion (2017 est.)
Public finances				
Public debt	10.6% of GDP (2017)	84% of GDP (2017 est.)	97.7% of GDP (2018)	26.5% of GDP (2017)
Budget balance	−1.4% (of GDP) (2017 est.)	−1.1% (of GDP) (2017 est.)	−6% (of GDP) (2017 est.)	−1.5% (of GDP) (2017 est.)
Credit rating	Standard & Poor's: BB+	Standard & Poor's: BB	Standard & Poor's: B-	Standard & Poor's: B+
Main data source: CIA World Fact Book				
All values, unless otherwise US dollars.				

Figure 1

Real GDP — Percentage deviation

Legend: Argentina, China, USA, Germany, Rest of the Euro, Rest of the Asia, Brazil, Japan, Korea, Rest of the world, World, Turkey, Russia

Figure 2

Private consumption — Percentage deviation

Legend: Argentina, USA, China, Germany, Brazil, Japan, Korea, Rest of the Euro area, Rest of the Asia, Russia, Rest of the world, World, Turkey

Figure 3

Investment — Percentage deviation

Legend: Argentina, USA, China, Germany, Japan, Brazil, Korea, Rest of the Euro area, Rest of the Asia, Russia, Rest of the world, World, Turkey

Figure 4

Tobin's Q — Percentage point change

Legend: Argentina, USA, China, Germany, Japan, Brazil, Korea, Rest of the Euro area, Rest of the Asia, Russia, Rest of the world, Turkey
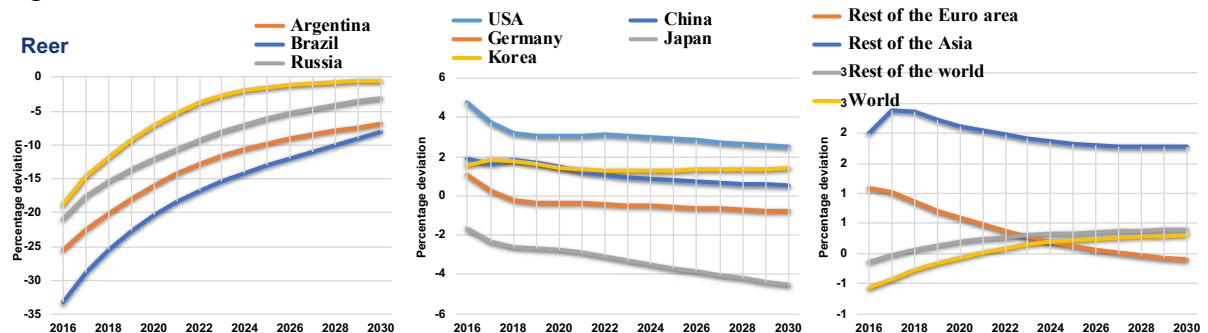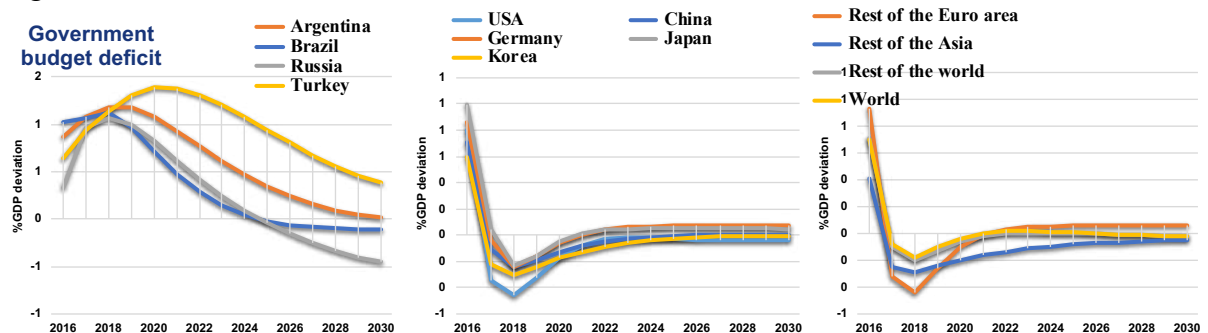
Figure 5
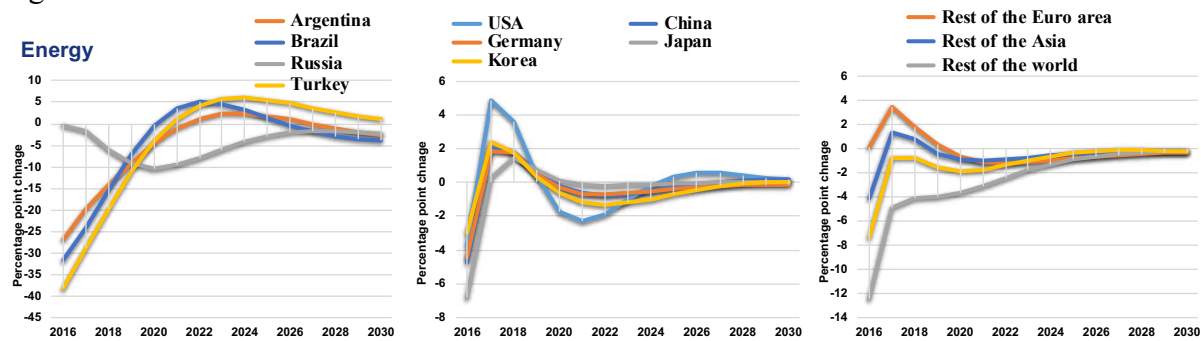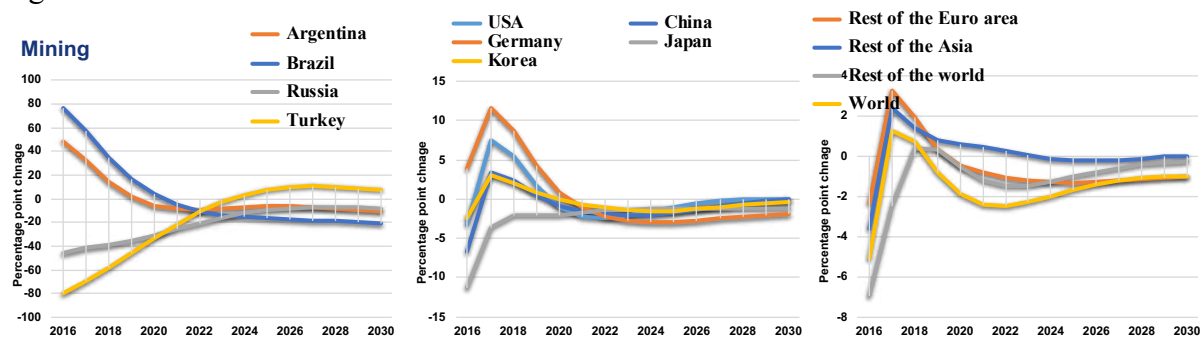

Figure 6

Figure 7
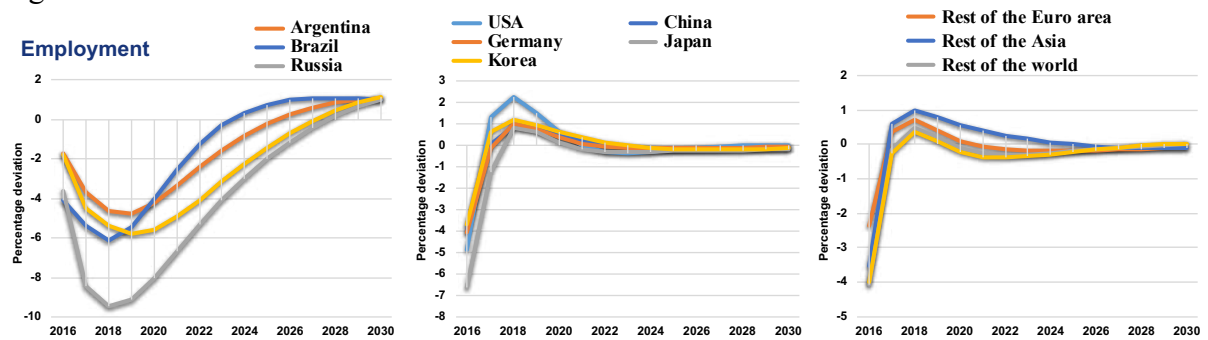
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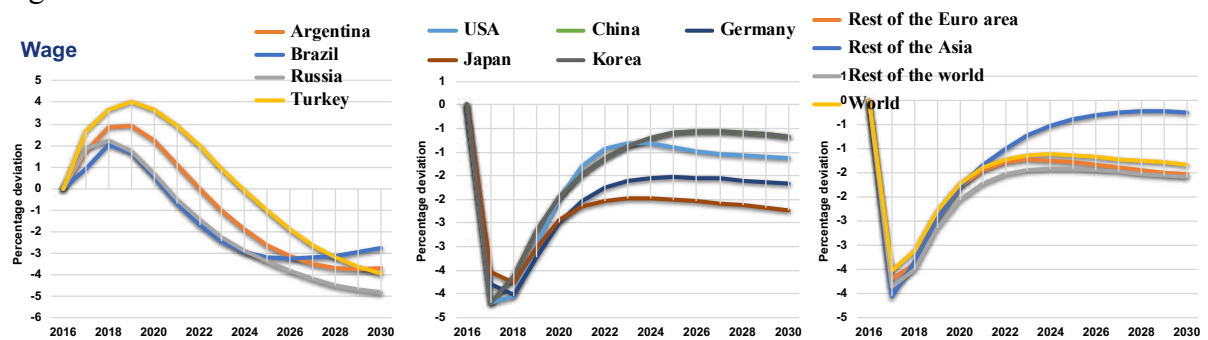
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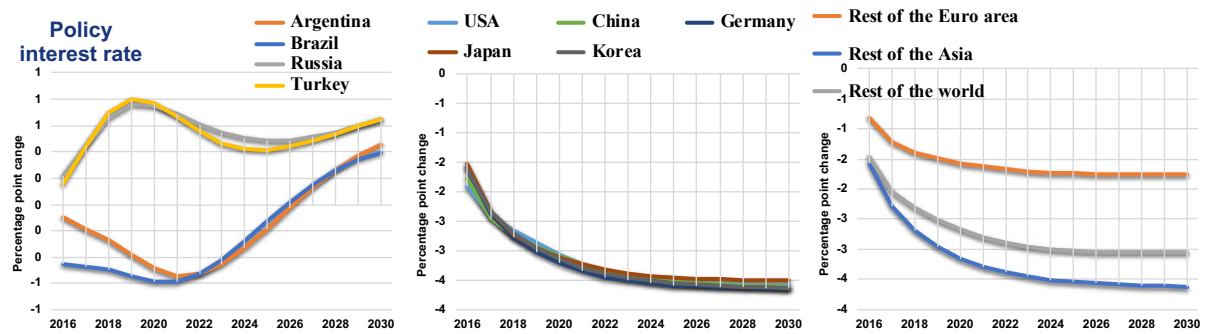
Figure 10

Figure 11

Figure 12

14

Figure 13

Debt stock

Legend: Argentina, Brazil, Russia, Turkey | USA, Germany, Korea, China, Japan | Rest of the Euro area, Rest of the Asia, Rest of the world, World

Figure 14

Current account

Legend: Argentina, Brazil, Russia, Turkey | USA, Germany, Korea, China, Japan | Rest of the Euro area, Rest of the Asia, Rest of the world

Figure 15

Trade balance

Legend: Argentina, Brazil, Russia, Turkey | USA, Japan, China, Korea, Germany | Rest of the Euro area, Rest of the Asia, Rest of the world

Figure 16

Total wealth

Legend: Argentina, Brazil, Russia | USA, Germany, Korea, China, Japan | Rest of the Euro area, Rest of the Asia, Rest of the world, World

Sectoral Tobin's Q

Figure 17

Figure 18

Figure 19

Figure 20

Figure 21

Non-durable manufacturing

Legend: Argentina, Brazil, Russia, USA, Germany, Korea, China, Japan, Rest of the Euro area, Rest of the Asia, Rest of the world, World

Figure 22

Service

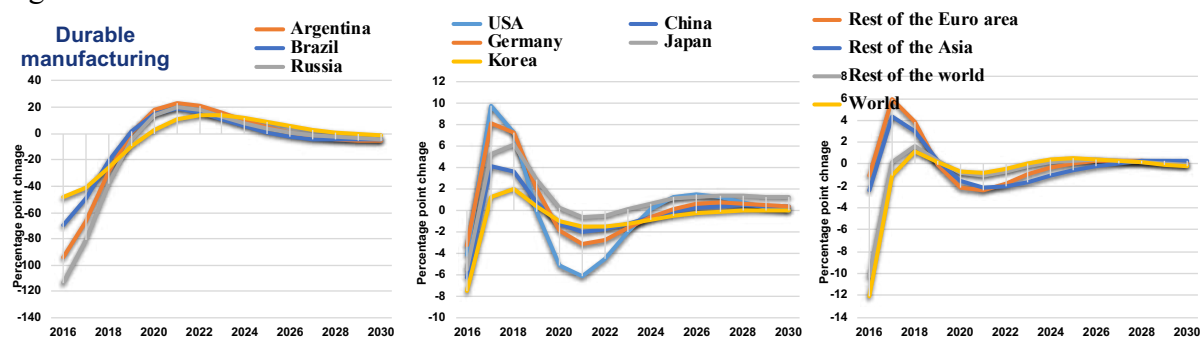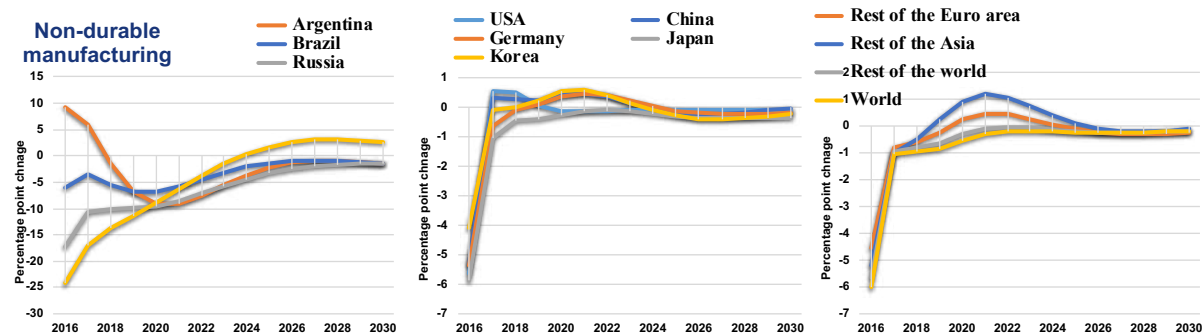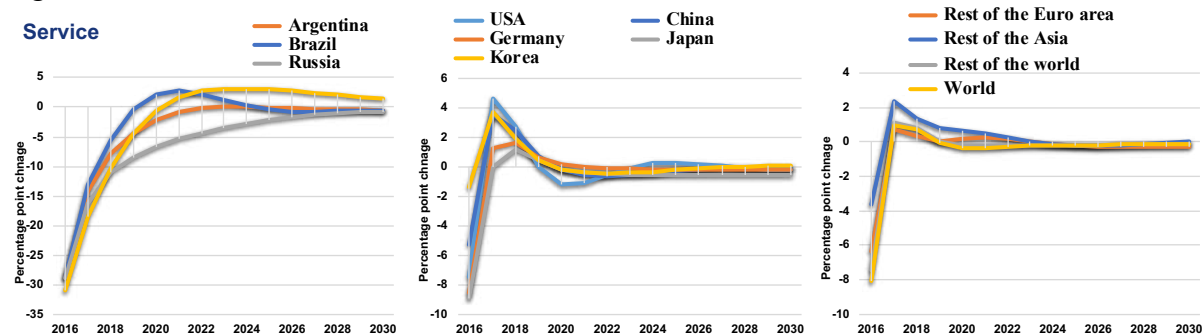Legend: Argentina, Brazil, Russia, USA, Germany, Korea, China, Japan, Rest of the Euro area, Rest of the Asia, Rest of the world, World
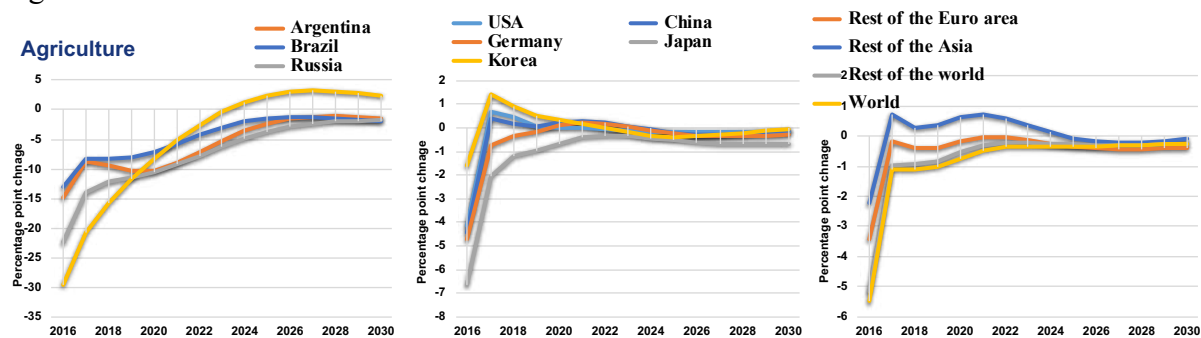
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