

Comment on Tiff Macklem's Presentation on Fiscal Policy

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International Monetary Fund

May 2010

Comments based on:

Freedman, C., M. Kumhof, D. Laxton, D. Muir and S. Mursula, 2009, “Fiscal Stimulus to the Rescue? Short-Run Benefits and Potential Long-Term Costs of Fiscal Deficits,” IMF Working Paper No. 09/255 (Washington, DC.: International Monetary Fund).

Coenen, G., C. de Resende, C. Erceg, C. Freedman, D. Furceri, J. in 't Veld, M. Kumhof, R. Lalonde, D. Laxton, J. Linde, A. Mourougane, D. Muir, S. Mursula, J. Roberts, W. Roeger, S. Snudden and M. Trabandt, 2009a, “A Detailed Analysis of the The Effects of Fiscal Stimulus in Structural Models,” forthcoming IMF Working Paper No. 10/73 (Washington, DC.: International Monetary Fund)

Outline

1. What do structural models like GIMF have to say about fiscal policy?
2. Long-Term Effects of Government Debt
3. A Temporary Fiscal Shock
4. Effects of the G20 Stimulus
5. Conclusions

1. Why GIMF?

What is GIMF?

Global Integrated Monetary Fiscal Model: One of the multi-country models we use at IMF for multilateral surveillance.

As the name suggests GIMF's main strengths are related to issues that involve both monetary and fiscal policy issues. Today we will be using a 5-region version (United States, Euro Area, Japan, Emerging Asia and Rest of World), but GIMF comes in different variants including closed economy, small open economy, and 2-region versions we use for training purposes.

Standard GIMF Features: Tradables, nontradables, intermediate goods, final consumption and investment goods; large assortment of cascading nominal and real rigidities. The structure makes it easy to eliminate sectors to simplify the model, which of course is essential for understanding what is driving the results.

1. Why GIMF?

Two Important Features:

OLG and hand-to-mouth consumers introduce "non-Ricardian" behavior. Fundamental trade-off for fiscal policy between the short run and long run.

Financial accelerator similar to Bernanke, Gertler, Gilchrist (1999), which amplifies the propagation mechanism for standard shocks and creates a role for new shocks. Shocks that reduce net worth and cause an increase in leverage and the external finance premium will result in much larger effects on aggregate demand especially if the economy is at the zero interest rate floor and vulnerable to deflationary spirals. The financial accelerator allows for new shocks, such as changes in perceptions of riskiness, which have been found to be important drivers of boom and bust cycles—see Christiano, Motto and Rostagno (2009).

Figure 1: Dynamic Path of Effects of a Permanent 10 Percentage Point Increase in the U.S. Government Debt to GDP Ratio Financed by an Increase in Labor Income Taxes (1) (Deviation from Baseline)

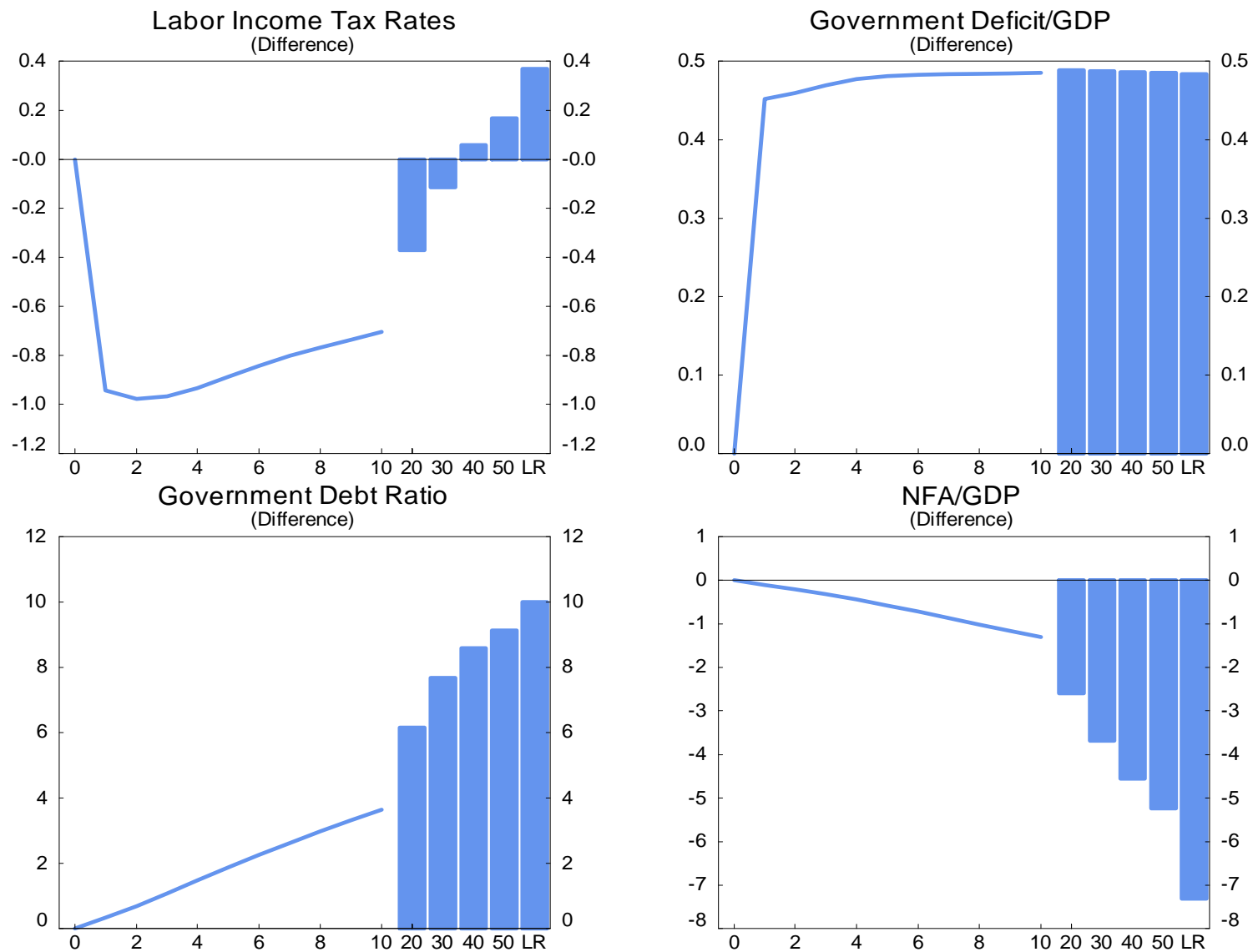
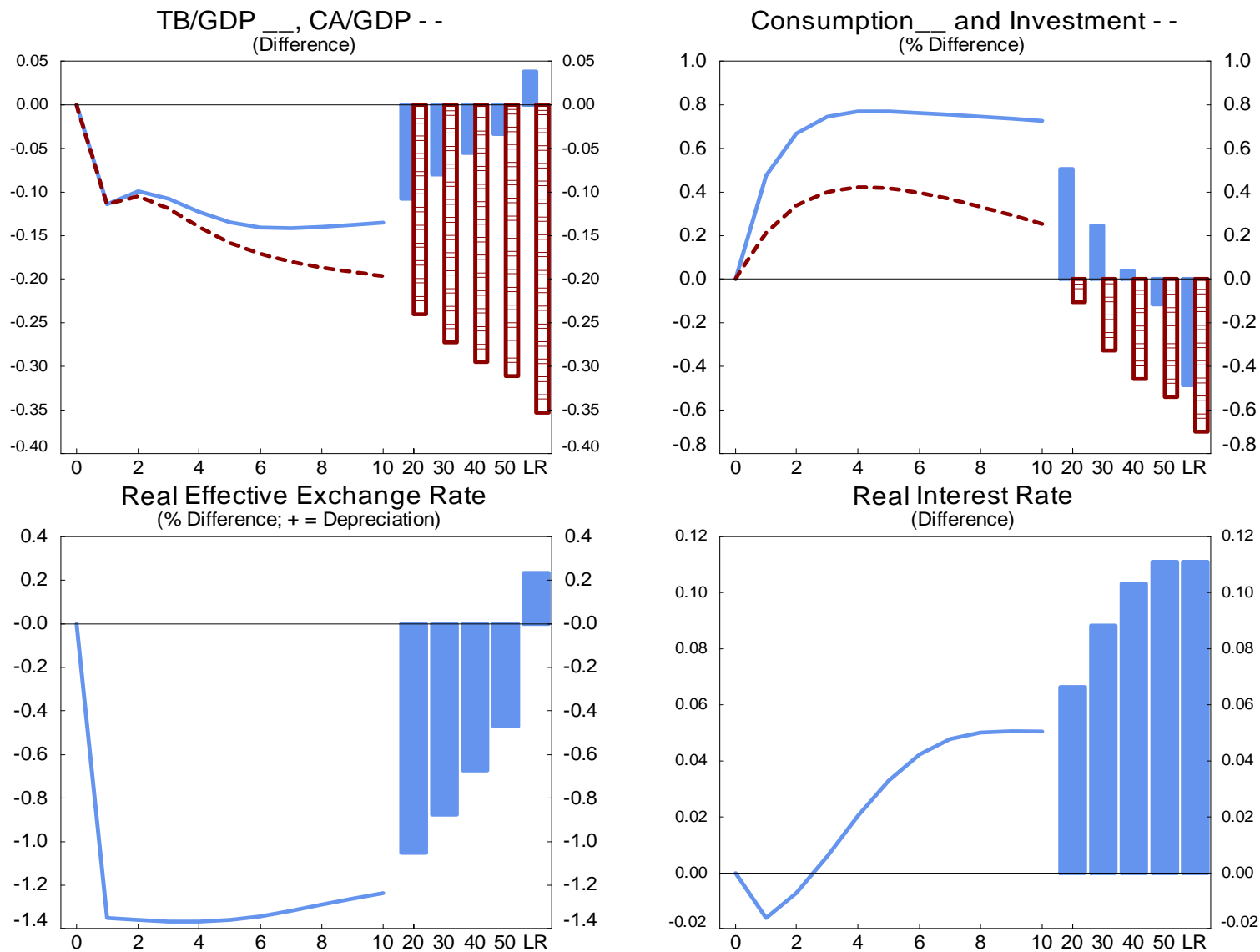


Figure 2: Dynamic Path of Effects of a Permanent 10 Percentage Point Increase in the U.S. Government Debt to GDP Ratio Financed by an Increase in Labor Income Taxes (2) (Deviation from Baseline)



2. Long-Term Effects of Government Debt

What are the long-term crowding-out effects for each 10 percentage point increase in the U.S. government debt to GDP ratio?

Answer: It depends how the higher interest payments are financed. Larger crowding-out effects when more distortionary taxes have to be used.

Significant crowding-out effects in the rest of the world because it raises the world real interest rate.

Table 1: Effects of a Permanent 10 Percentage Point Increase in the U.S. Government Debt to GDP Ratio Financed by a Cut in General Transfers (Deviation from Baseline)

	U.S.	RoW	Global
Real GDP (Percent)	-0.27	-0.20	-0.21
Real Interest Rate (Percentage points)	0.10	0.10	0.10
Current Account to GDP (Percentage points)	-0.32	0.10	
Investment (Percent)	-0.54	-0.47	-0.48
Government Deficit to GDP (Percentage points)	0.48	0.00	0.11
Private Saving to GDP (Percentage points)	0.12	0.05	0.06

Table 2: Effects on GDP of a Permanent 10 Percentage Point Increase in the U.S. Government Debt to GDP Ratio (Percent Deviation from Baseline)

	U.S.	RoW	Global
Financed by a Cut in General Transfers	-0.27	-0.20	-0.21
Financed by an Increase in Labor Income Taxes	-0.43	-0.24	-0.28
Financed by an Increase in Capital Income Taxes	-0.64	-0.25	-0.34
Financed by an Increase in Consumption Taxes	-0.34	-0.21	-0.24

3. Temporary Fiscal Shocks

Empirical estimates of fiscal multipliers are all over the map. Why is it so difficult to estimate fiscal multipliers?

No such thing as a pure fiscal multiplier? The responses of the economy will depend crucially on the type of fiscal instrument and if monetary policy accommodates the fiscal stimulus. This is particularly relevant when the economy is at the zero interest rate floor and during a financial crisis.

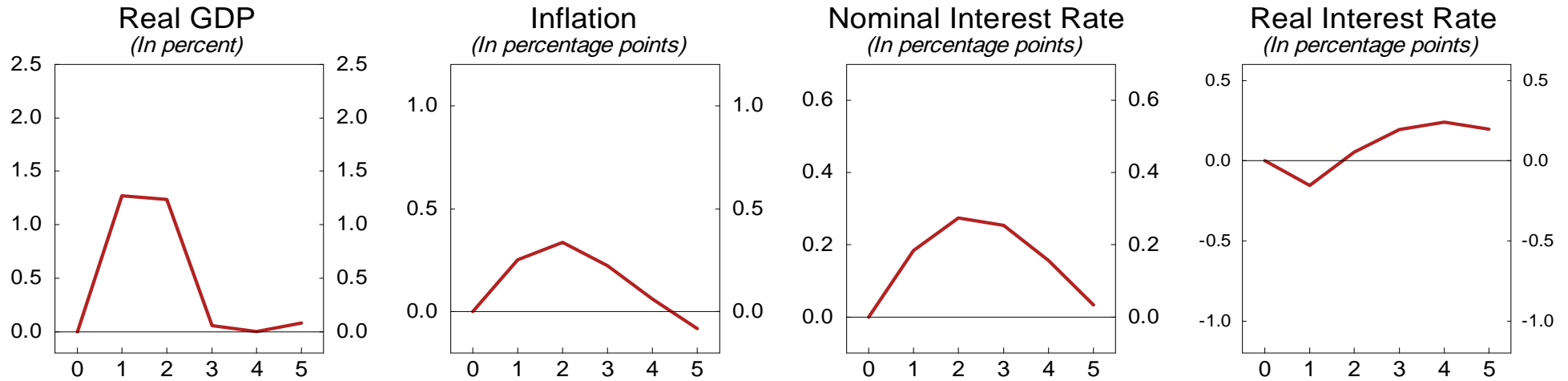
Consider 2 illustrative fiscal shocks. Government investment and targeted transfers. In the paper we also consider labor taxes and general transfers, which have much smaller multipliers.

Very Important Caveat! Its not easy to increase government investment quickly.

Figure 3: United States: Fiscal Stimulus Instrument: Gov't Investment (1)

— Immediate Policy Interest Rate Response
— Unchanged Policy Interest Rate for One Year
— Unchanged Policy Interest Rate for Two Years

United States: Model Without Financial Accelerator



United States: Model With Financial Accelerator

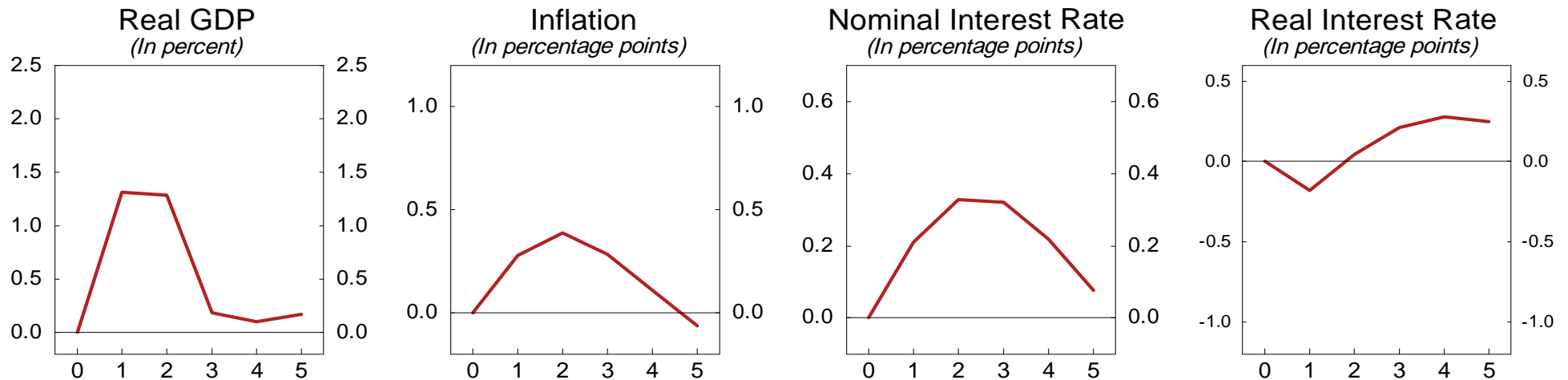
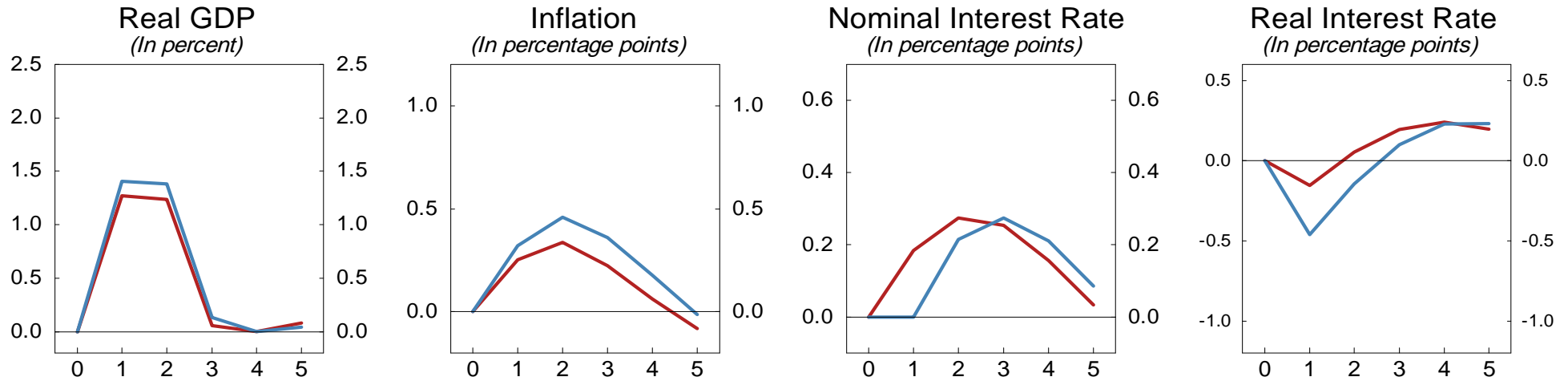


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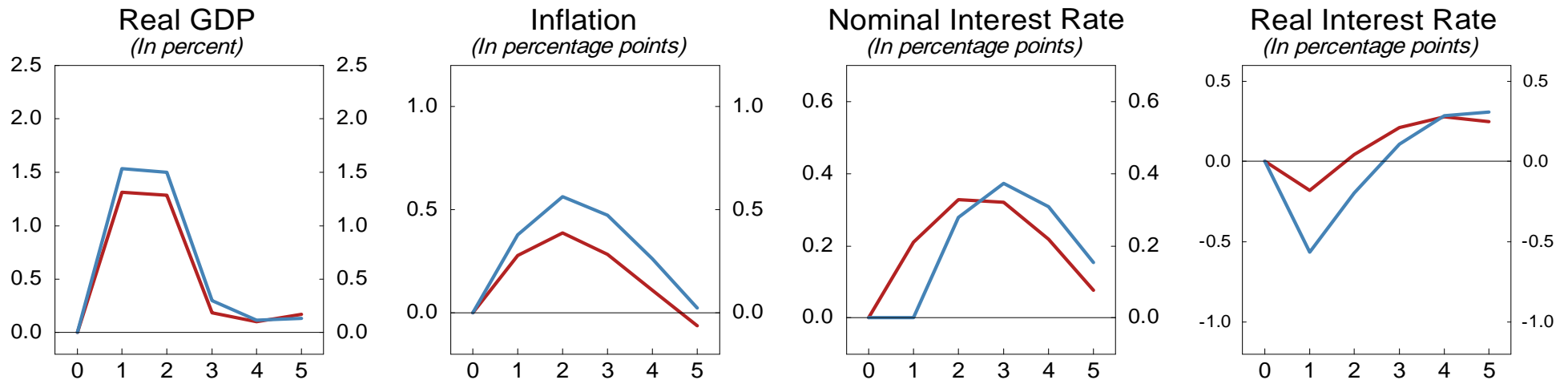
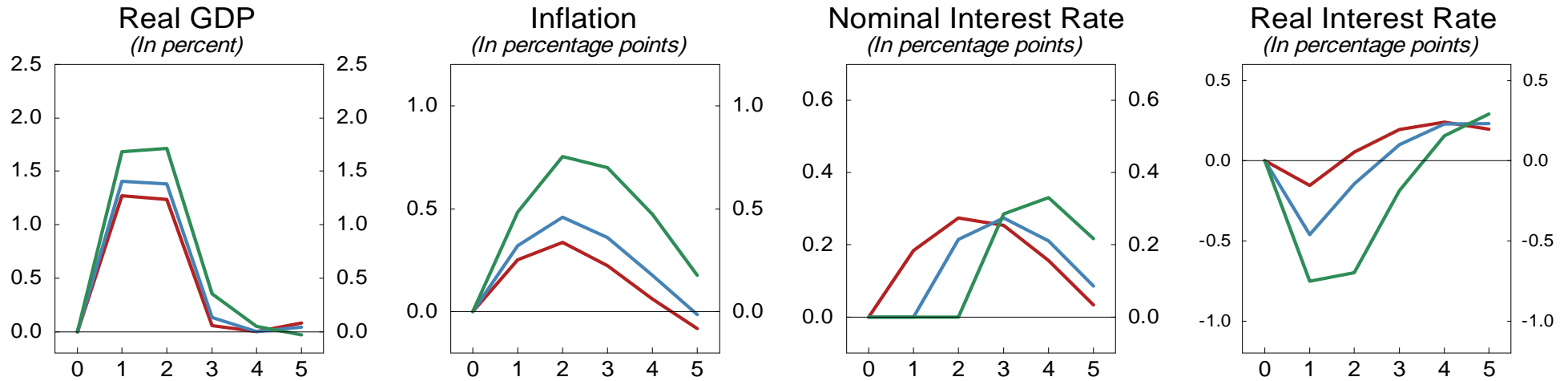


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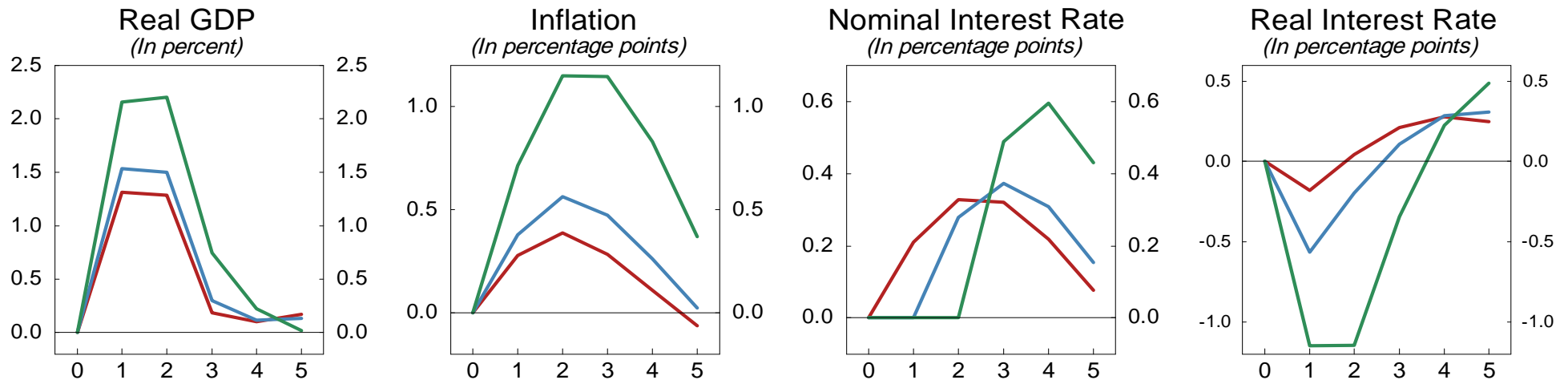
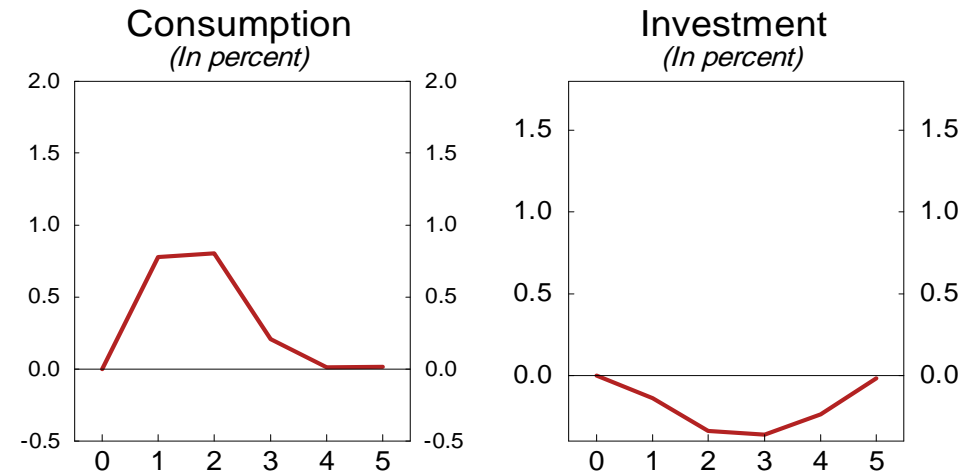


Figure 4: United States: Fiscal Stimulus Instrument: Gov't Investment (2)

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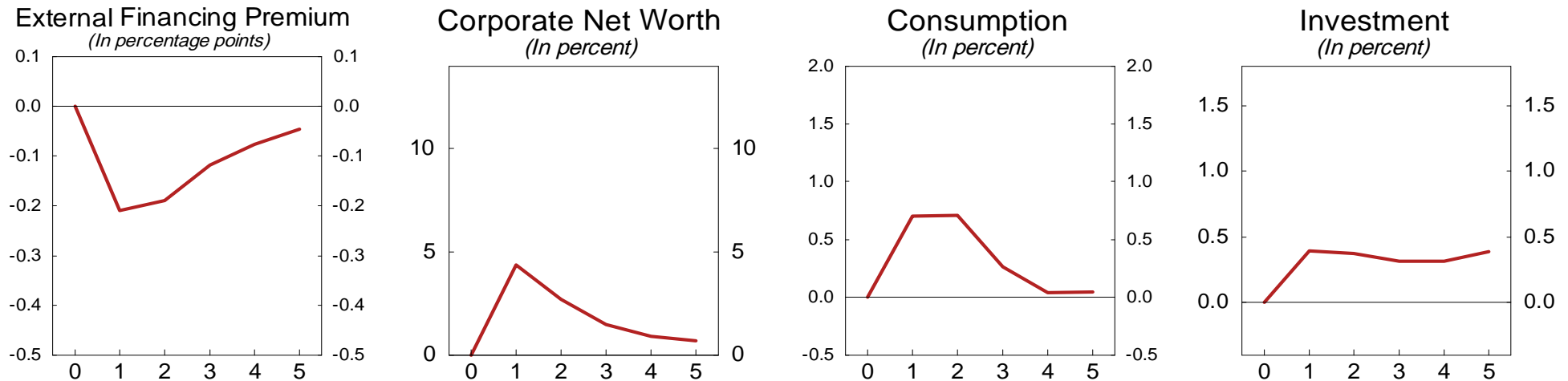
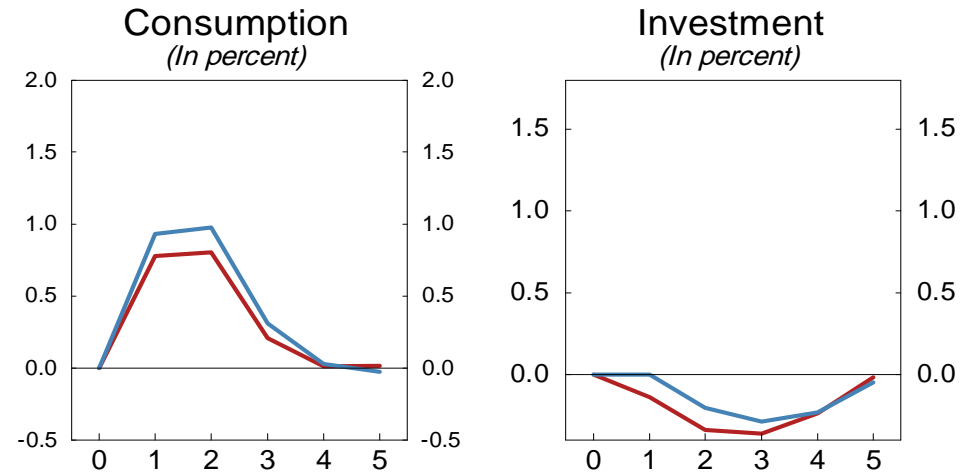


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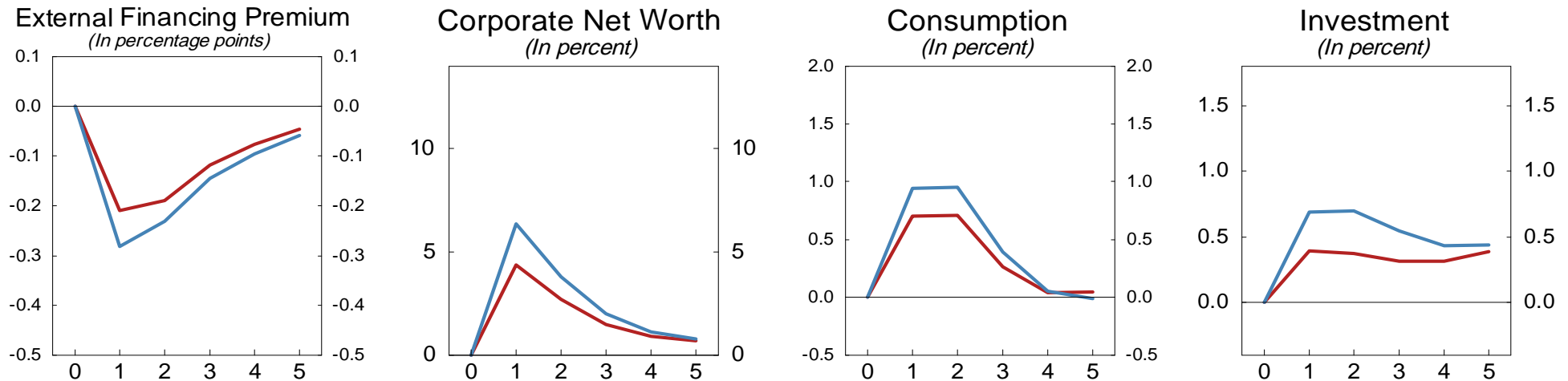
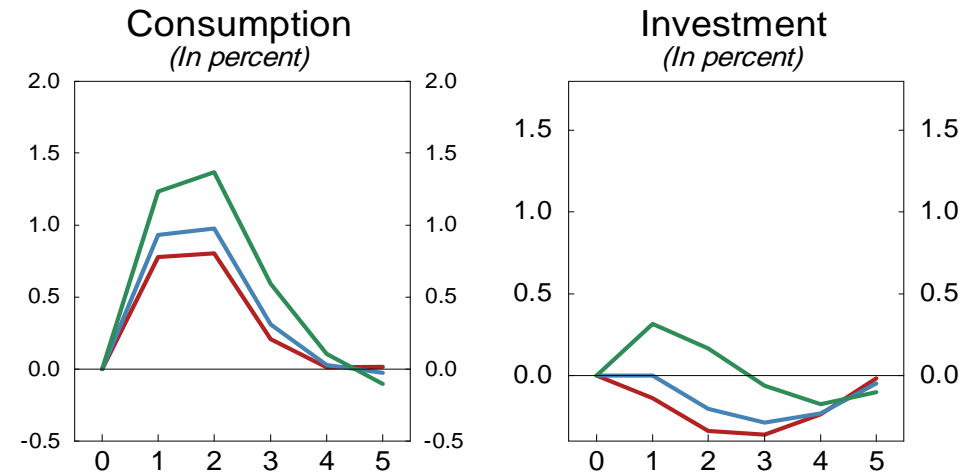


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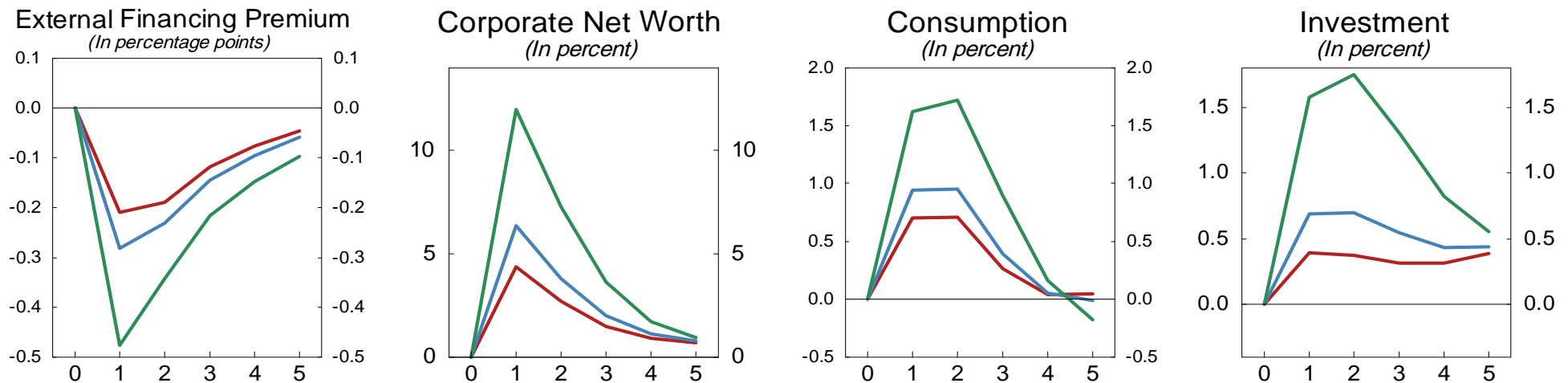
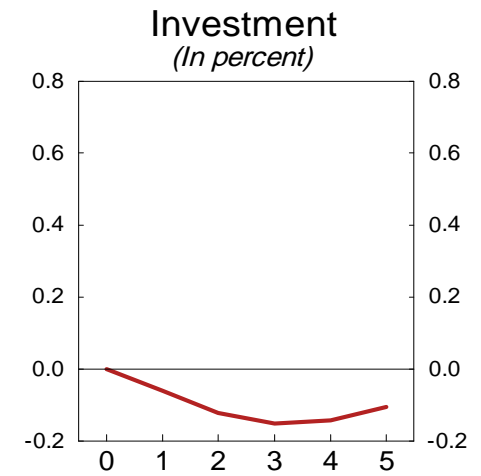
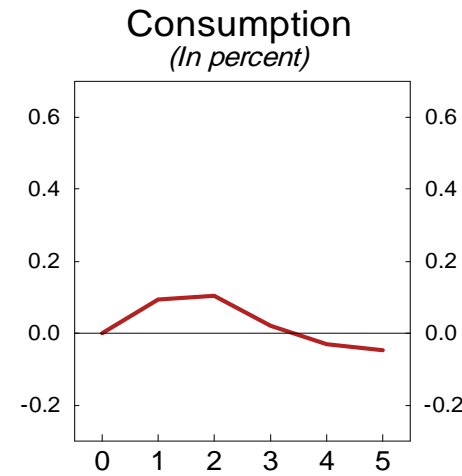
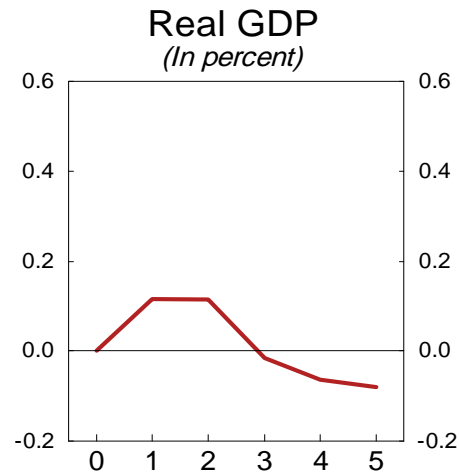


Figure 5: United States: Fiscal Stimulus Instrument: Gov't Investment (3)

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Rest of the World: Model Without Financial Accelerator



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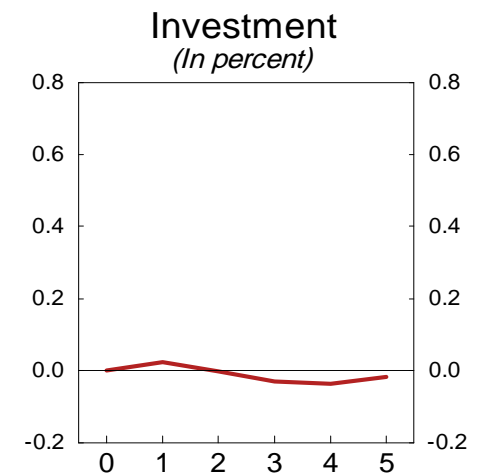
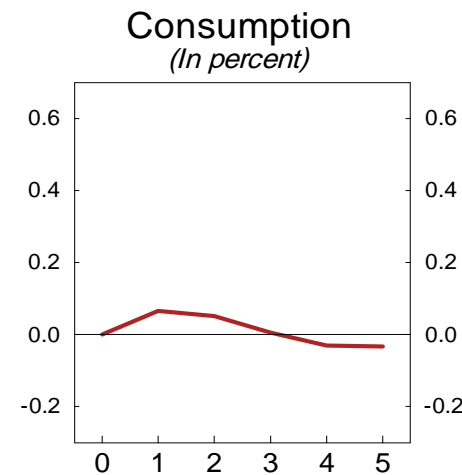
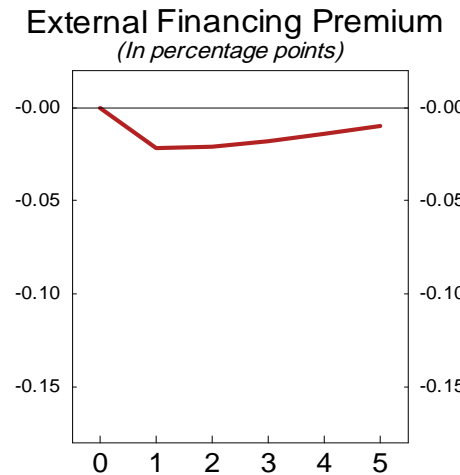
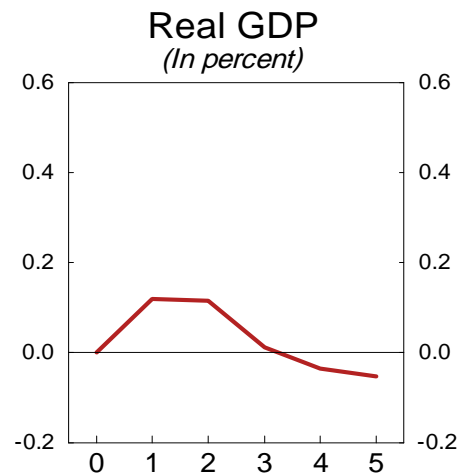
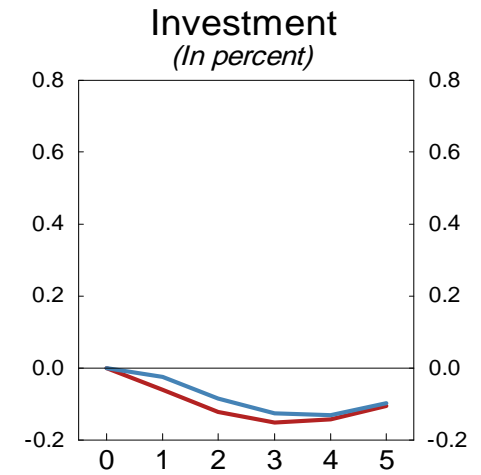
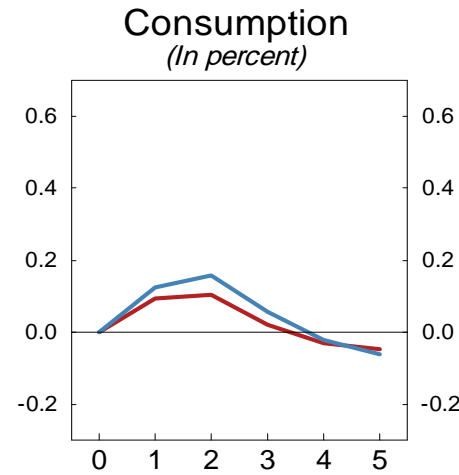
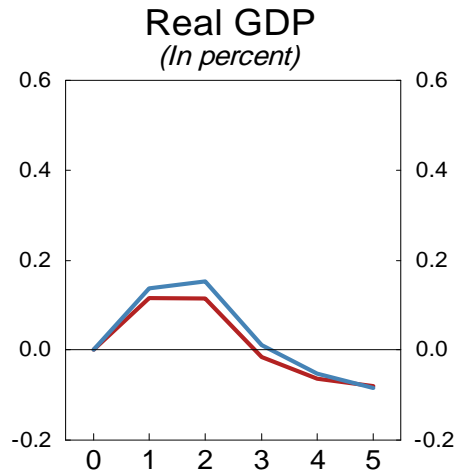


Figure 5: United States: Fiscal Stimulus Instrument: Gov't Investment (3)

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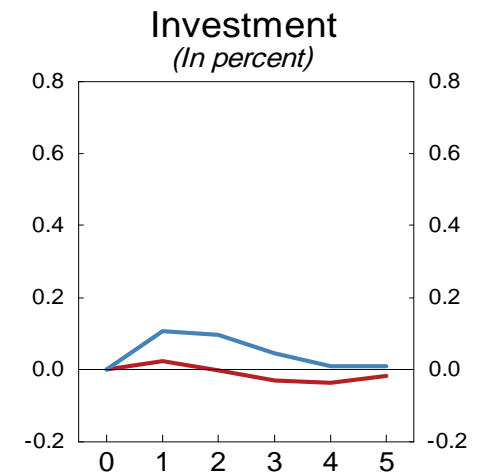
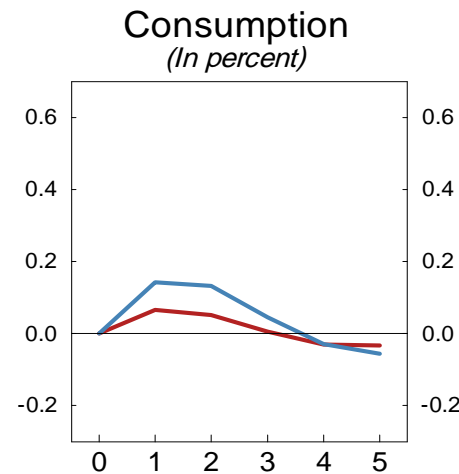
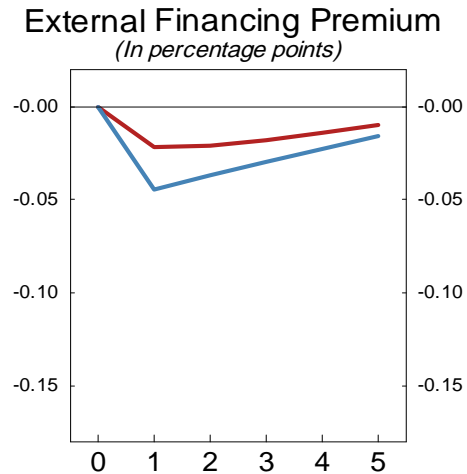
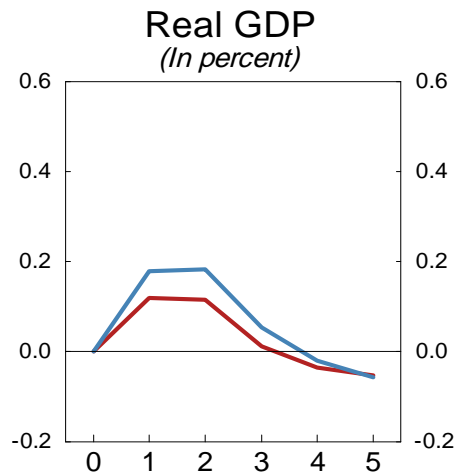
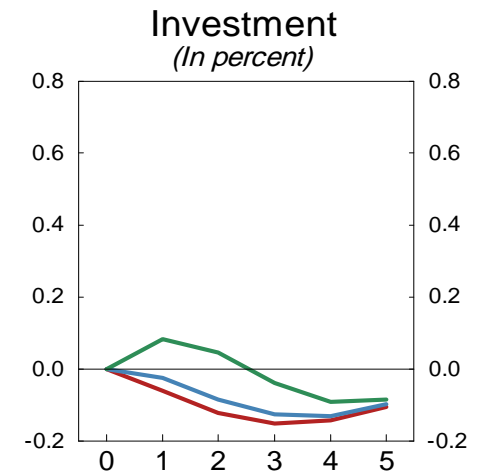
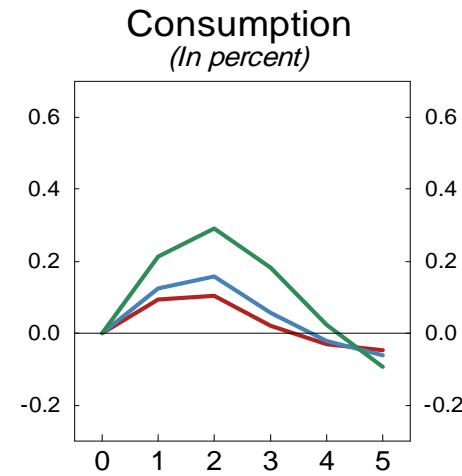
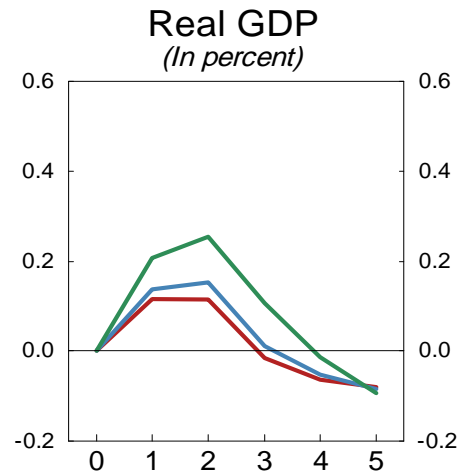


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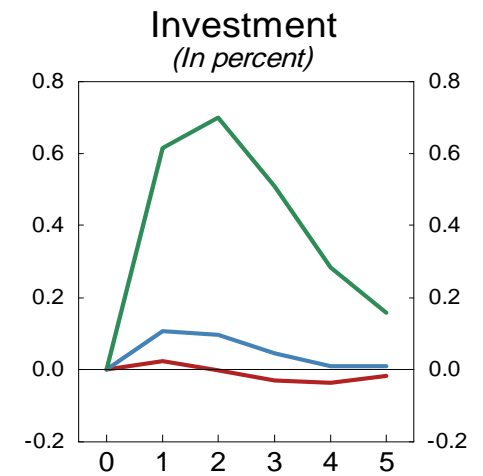
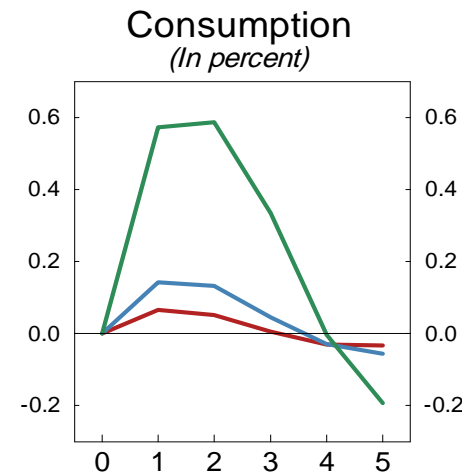
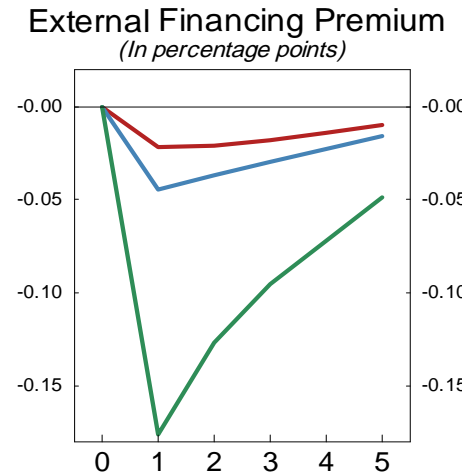
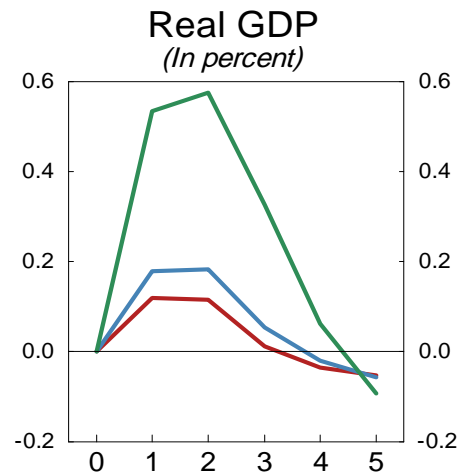
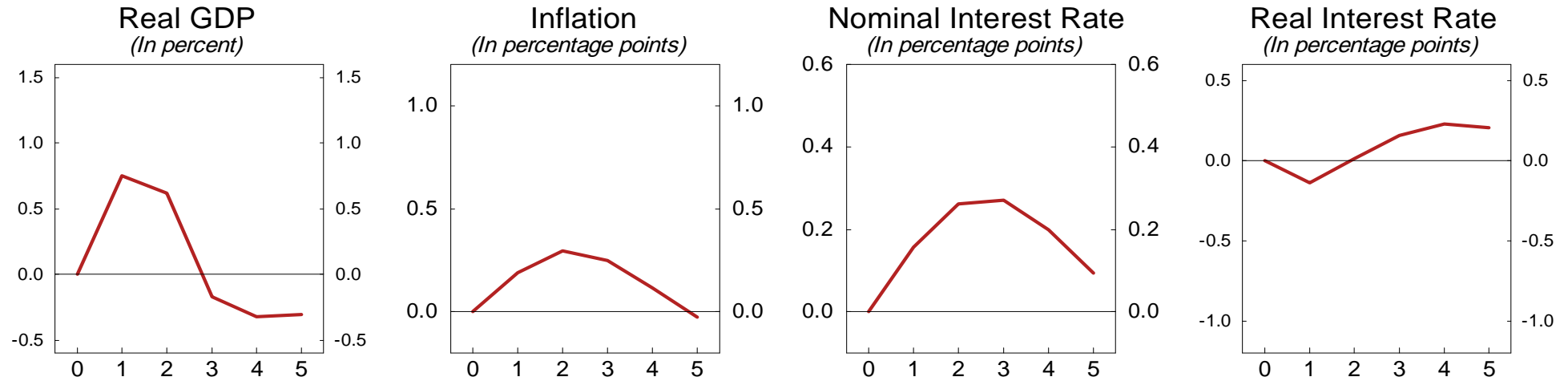


Figure 6: United States: Fiscal Stimulus Instrument: Targeted Transfers (1)

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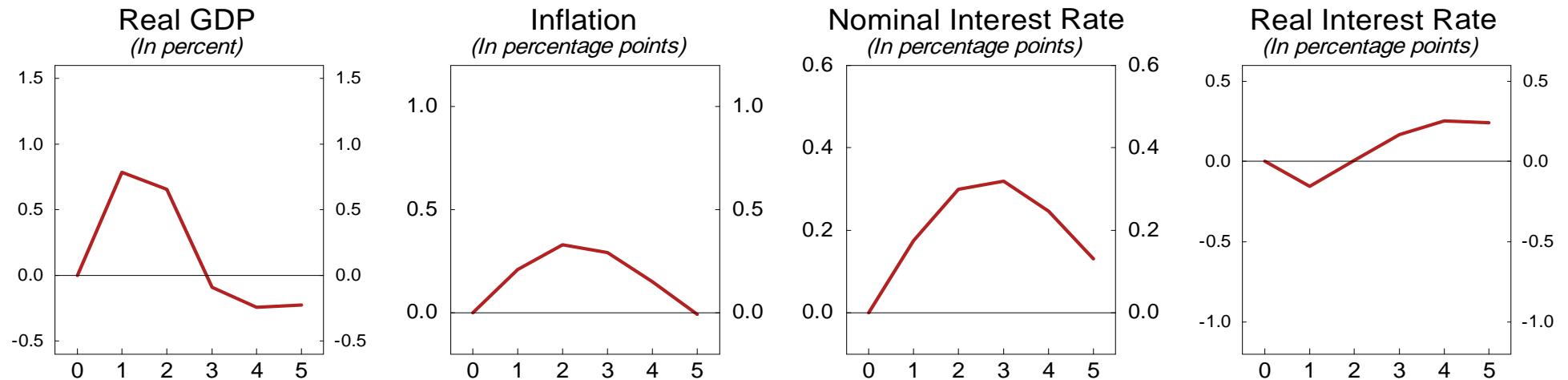
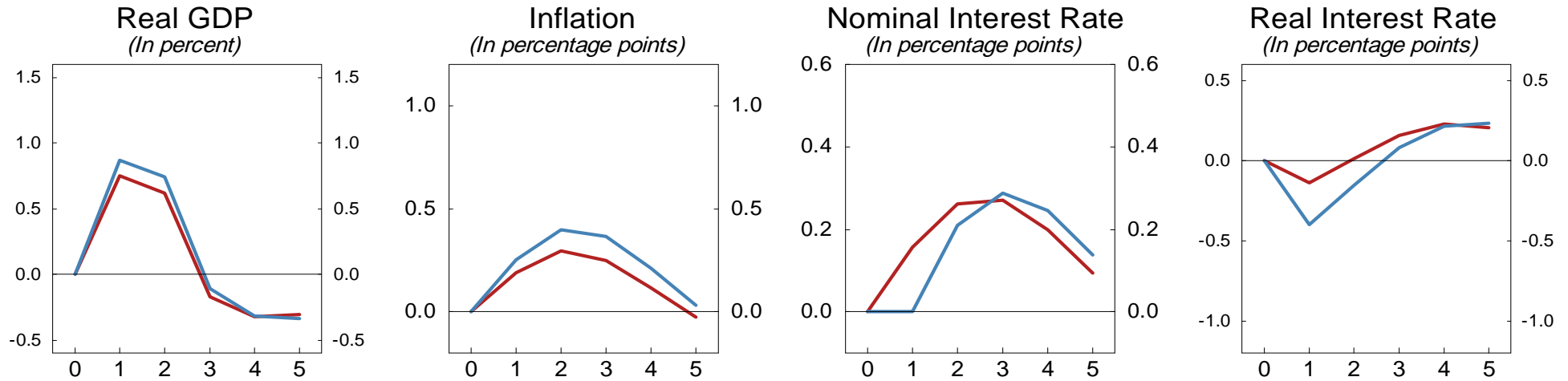


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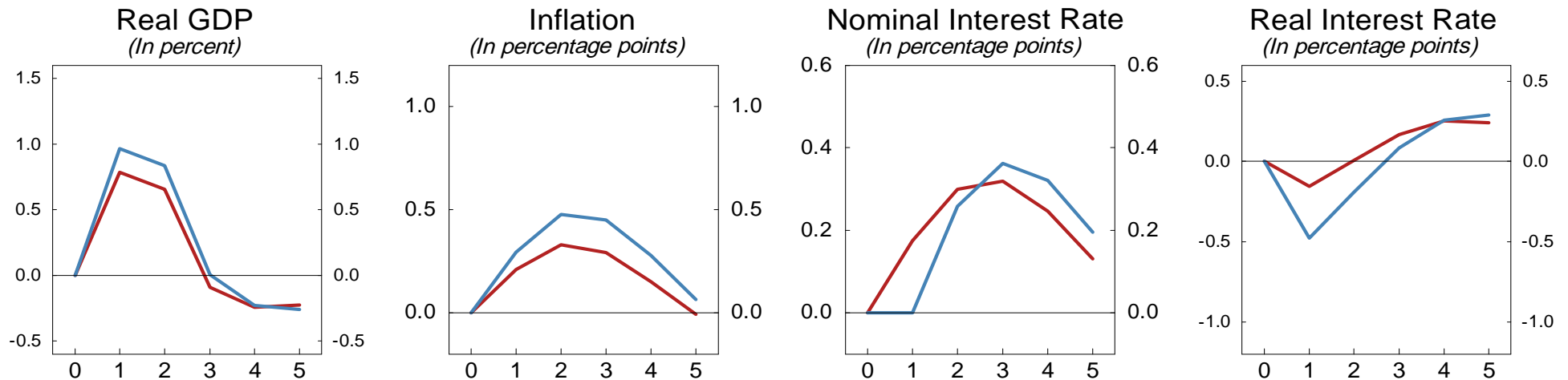
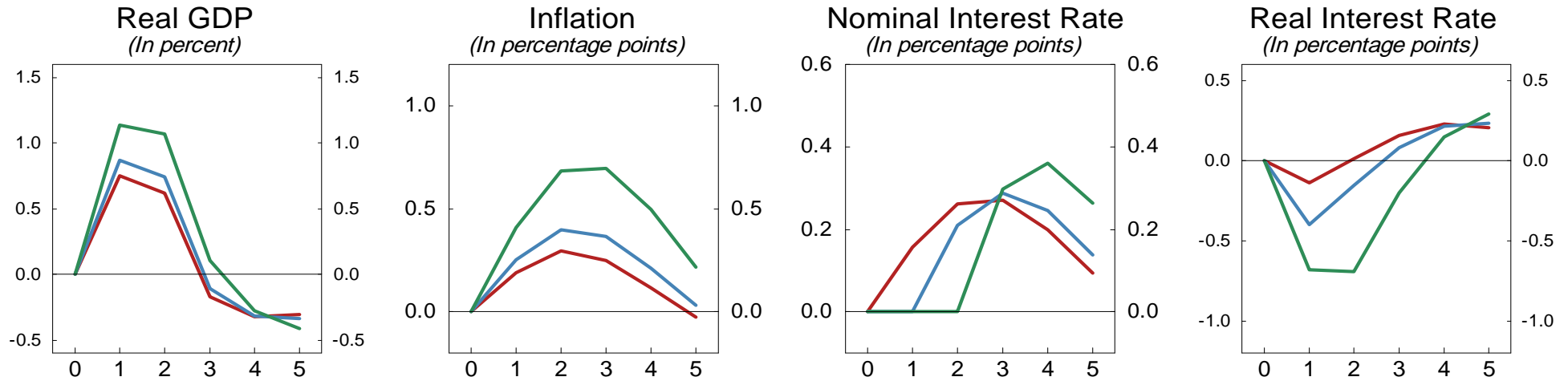


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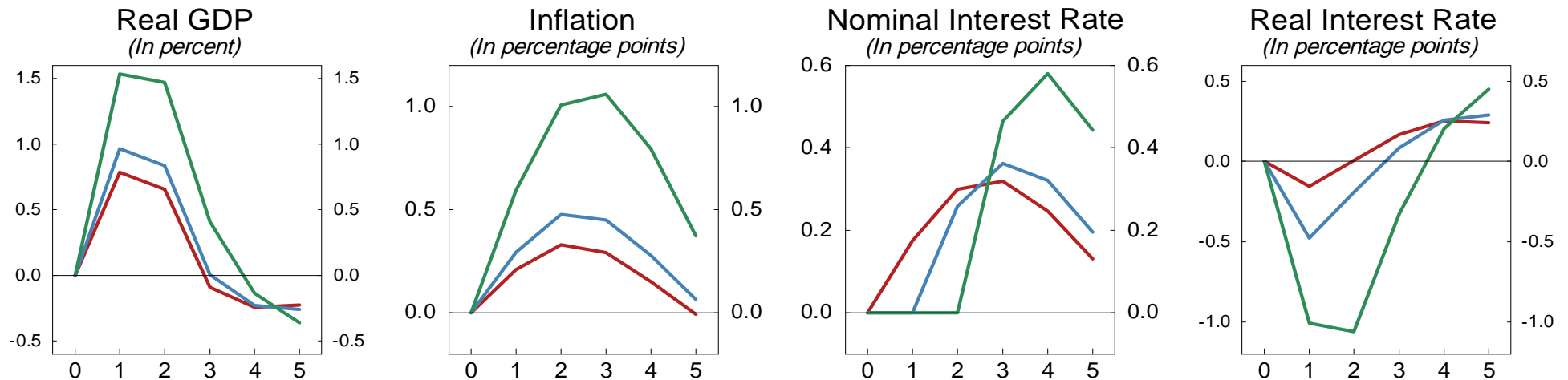
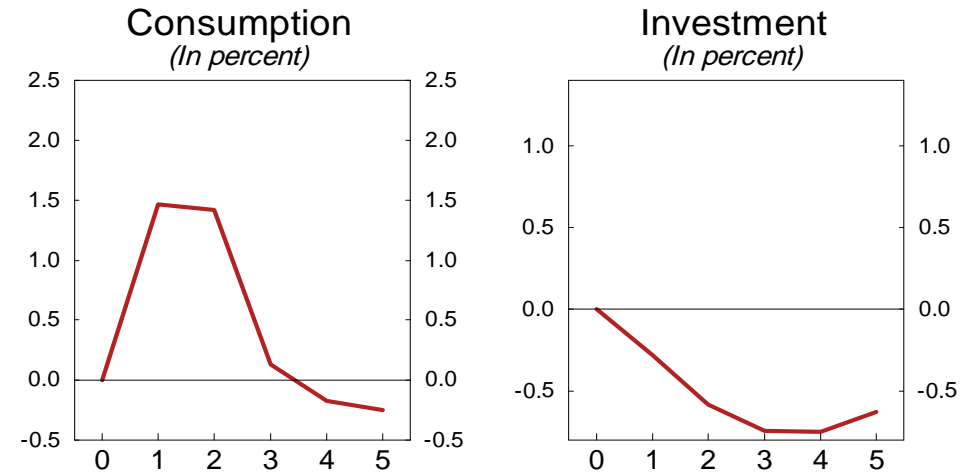


Figure 7: United States: Fiscal Stimulus Instrument: Targeted Transfers (2)

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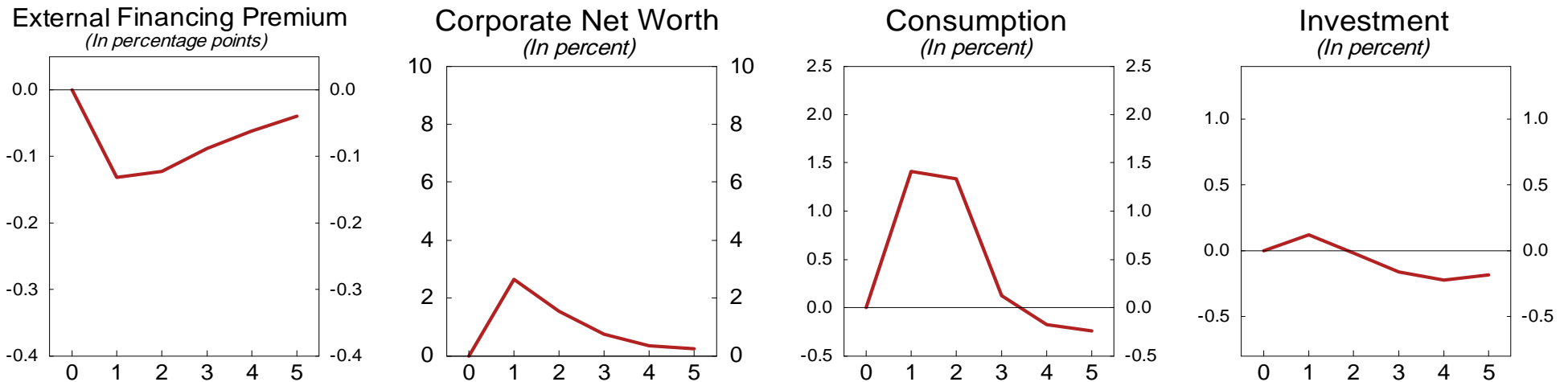
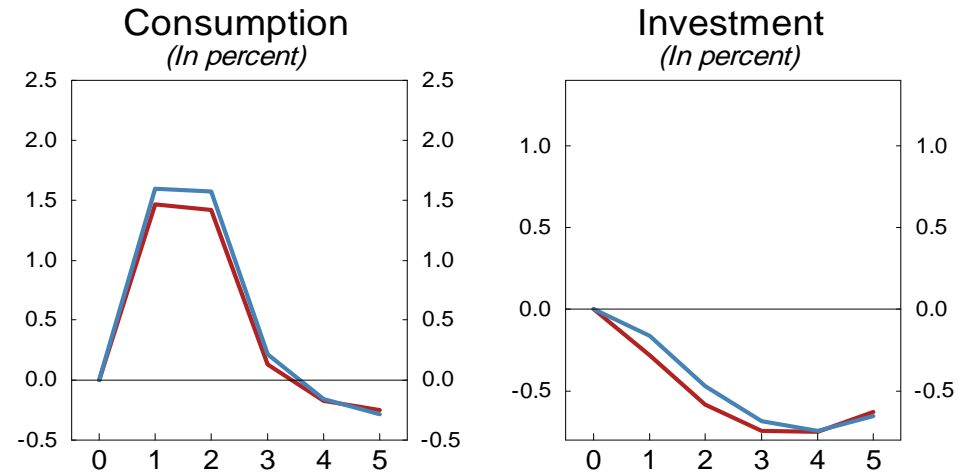


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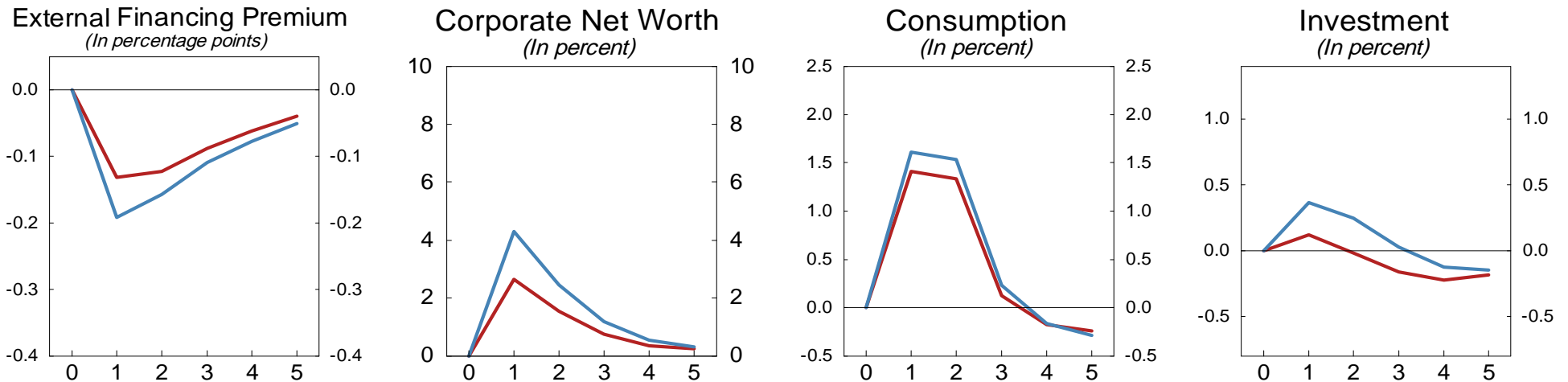
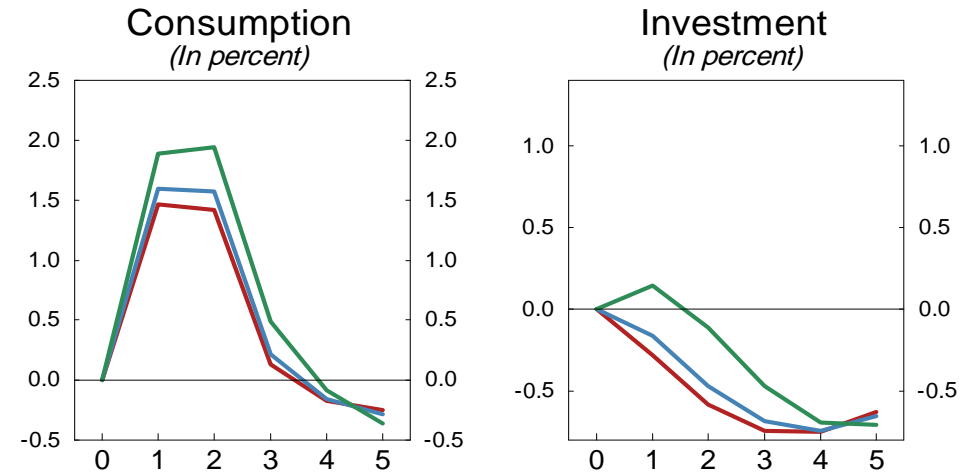


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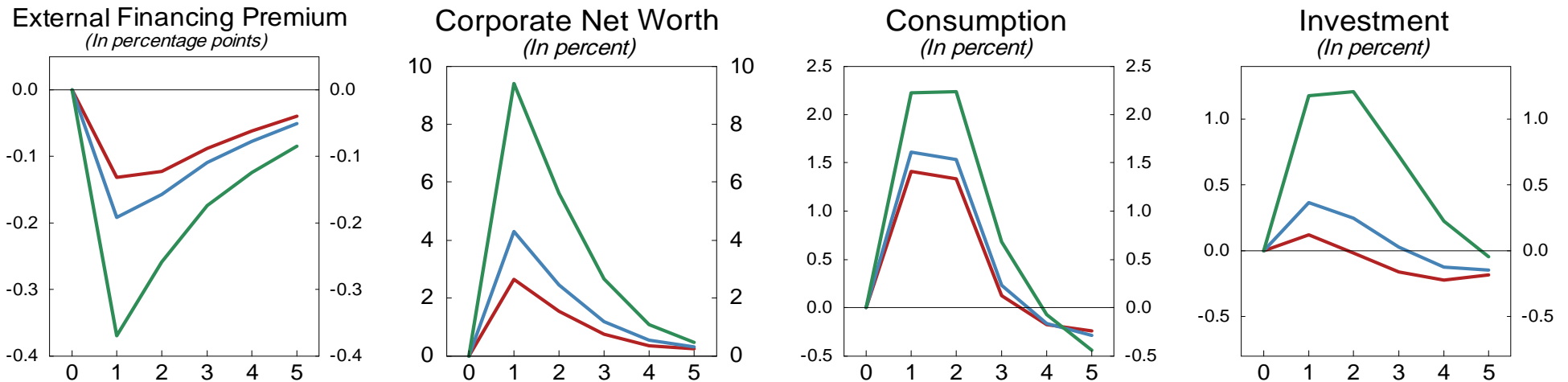
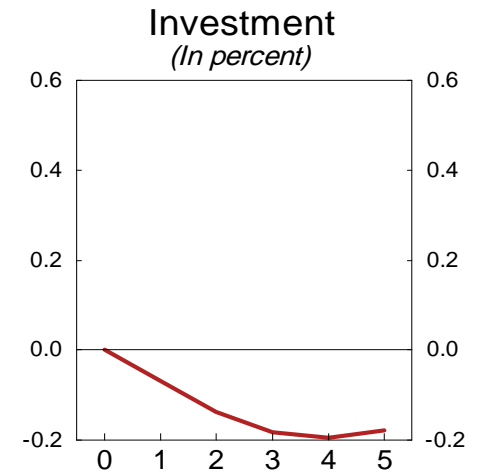
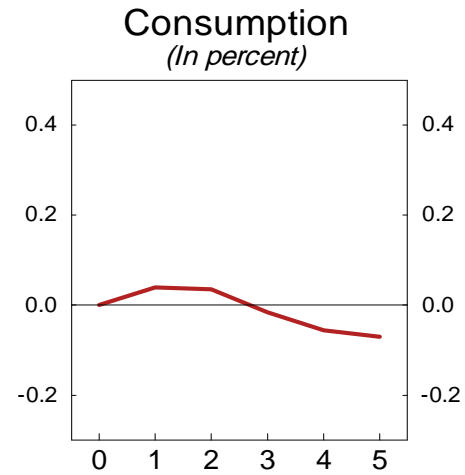
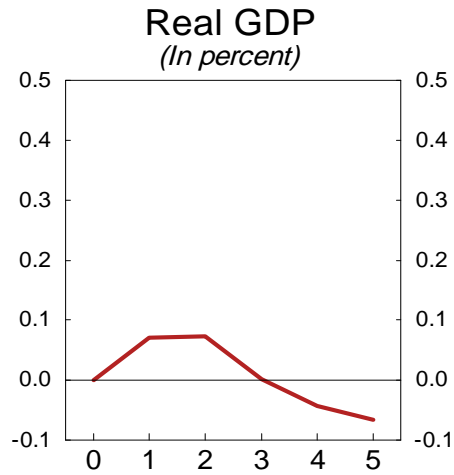


Figure 8: United States: Fiscal Stimulus Instrument: Targeted Transfers (3)

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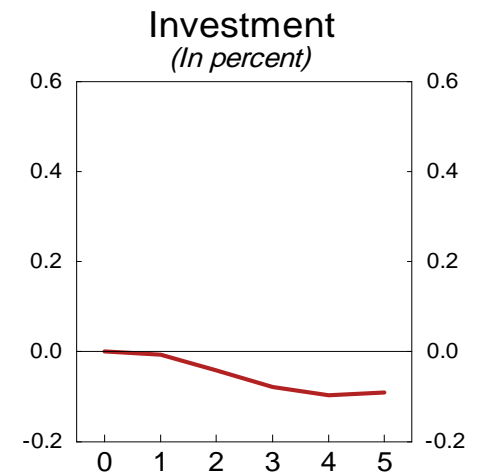
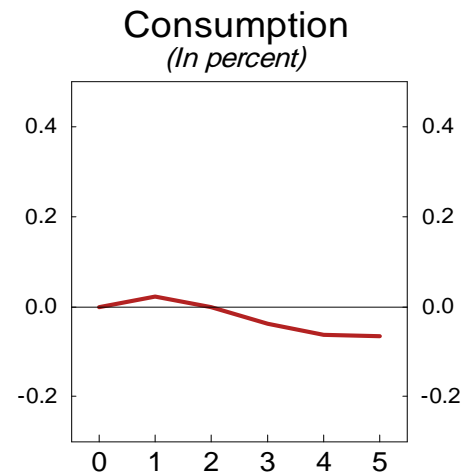
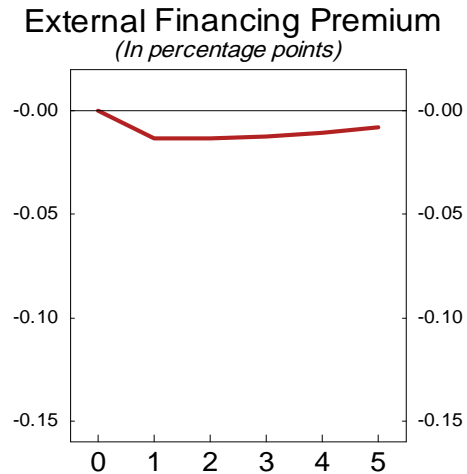
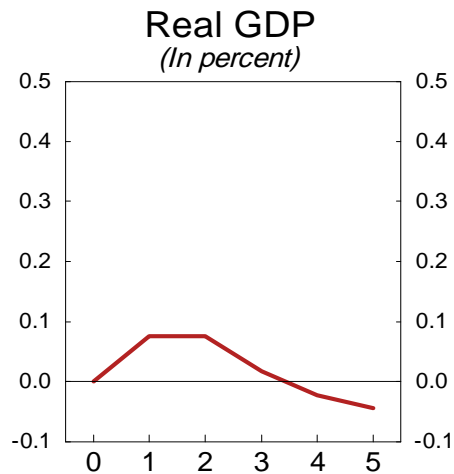
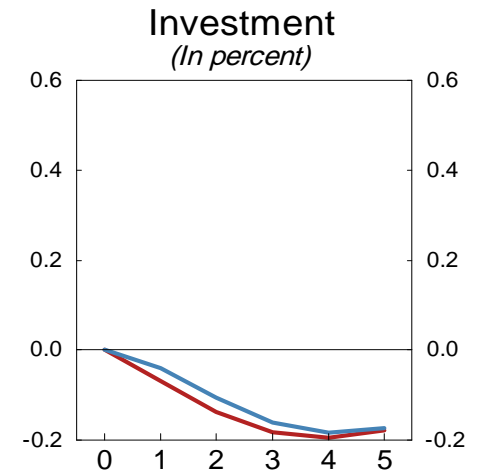
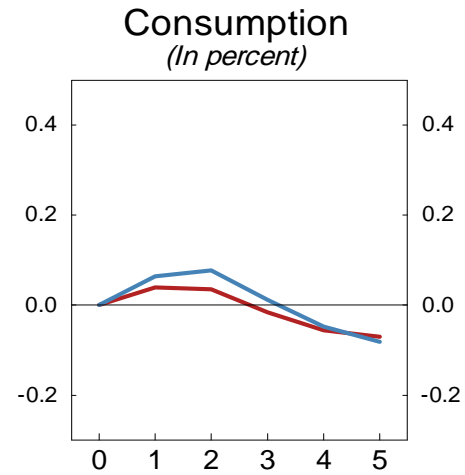
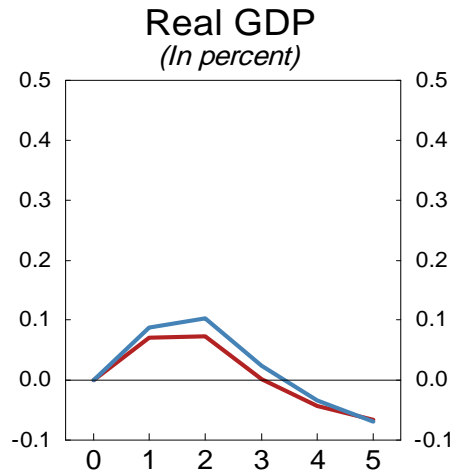


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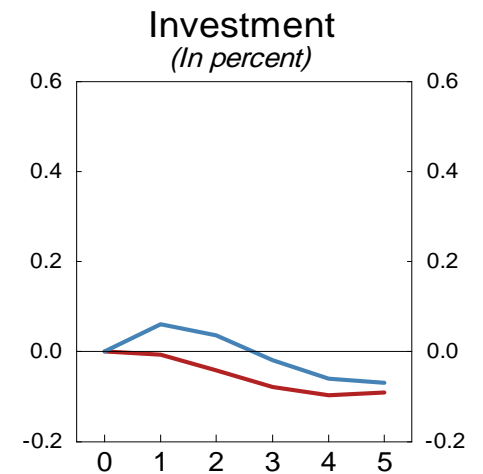
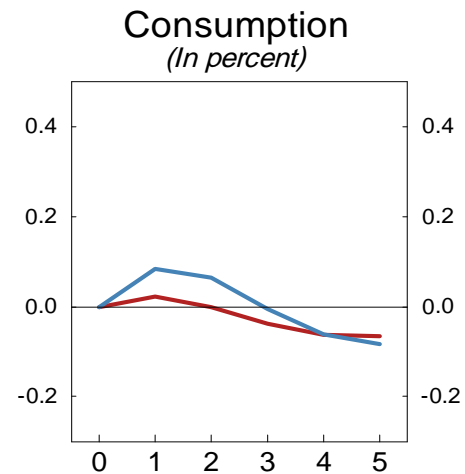
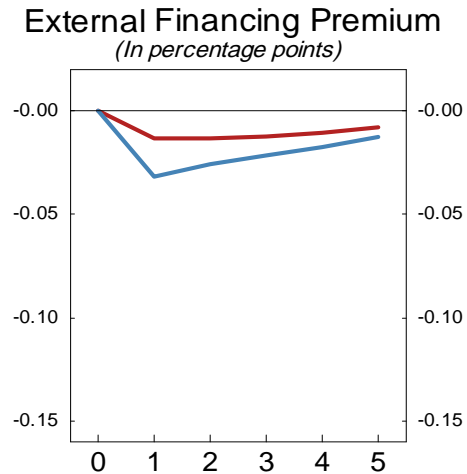
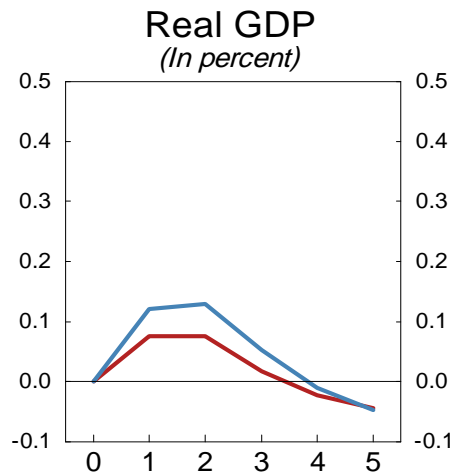
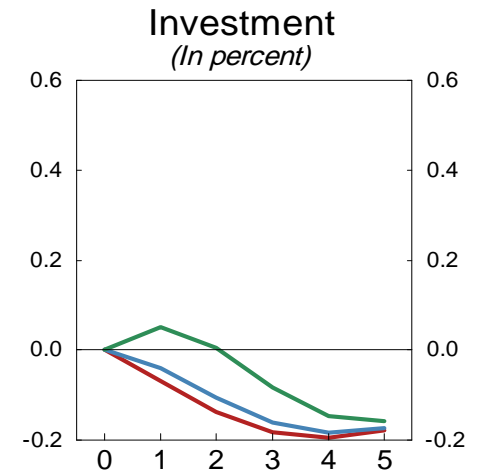
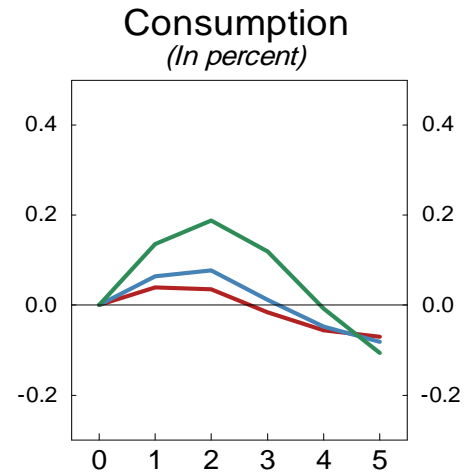
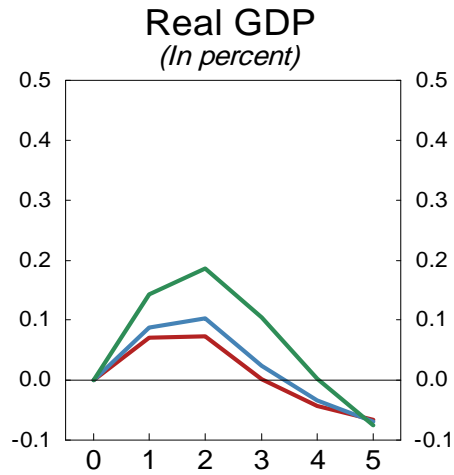


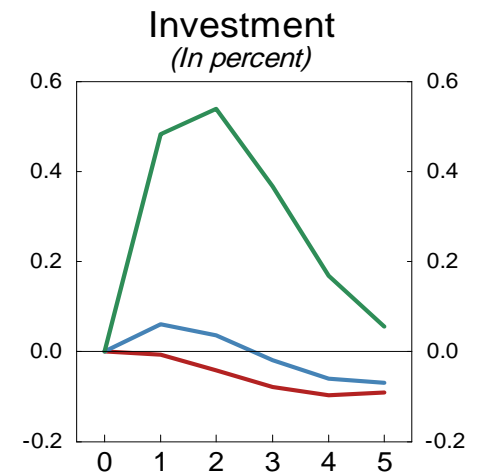
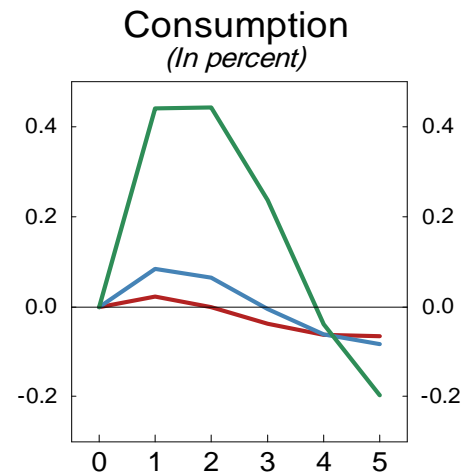
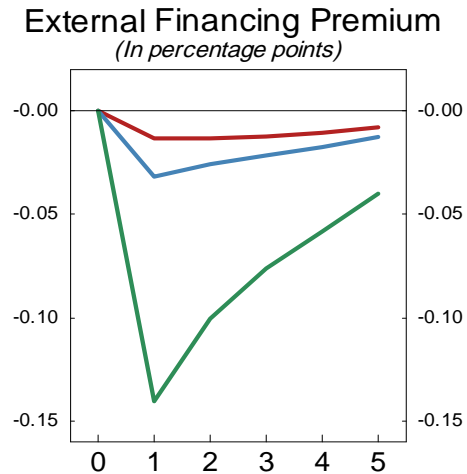
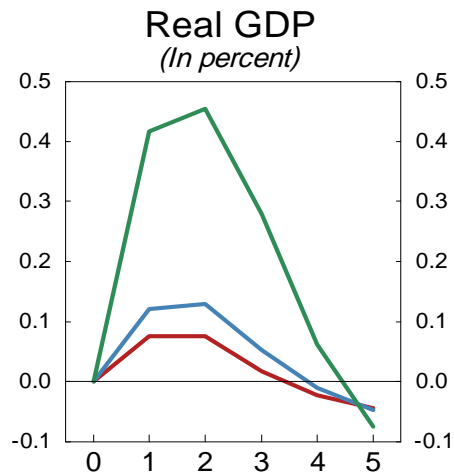
Figure 8: United States: Fiscal Stimulus Instrument: Targeted Transfers (3)

— Immediate Policy Interest Rate Response
— Unchanged Policy Interest Rate for One Year
— Unchanged Policy Interest Rate for Two Years

Rest of the World: Model Without Financial Accelerator



Rest of the World: Model With Financial Accelerator



4. Effects of the G20 Stimulus

Our Fiscal Affairs Department monitors the fiscal situation.

The State of Public Finances Cross-Country Fiscal Monitor: November 2009; Prepared by the Staff of the Fiscal Affairs Department; IMF Staff Positions Note SPN/09/25; November 3, 2009.

They provides us with estimates of discretionary stimulus for all the G20 economies broken down by instrument type. We can then plug these estimates into GIMF to estimate the own-country and spillover effects on other economies.

Table 3: Effects of G-20 Fiscal Stimulus on GDP Level in 2009: Model with Financial Accelerator (Percent Deviation from Baseline)

	Stimulus in:						
	All	U.S.	Euro Area	Japan	Em.Asia	RoW	
World	2.1	0.7	0.2	0.2	0.8	0.5	
United States	1.9	1.5	0.1	0.1	0.3	0.2	
Euro Area	0.9	0.1	0.6	0.0	0.2	0.2	
Japan	2.4	0.2	0.0	1.8	0.4	0.1	
Emerging Asia	3.1	0.8	0.1	0.1	2.1	0.3	
Remaining Countries	2.0	0.5	0.2	0.1	0.7	1.0	

Table 4: Effects of G-20 Fiscal Stimulus on GDP Level in 2010: Model with Financial Accelerator (Percent Deviation from Baseline)

	Stimulus in:						
	All	U.S.	Euro Area	Japan	Em.Asia	RoW	
World	1.9	0.7	0.2	0.2	0.8	0.4	
United States	1.8	1.4	0.1	0.1	0.3	0.2	
Euro Area	0.7	0.1	0.4	0.0	0.2	0.1	
Japan	2.2	0.2	0.1	1.6	0.4	0.1	
Emerging Asia	2.7	0.8	0.1	0.1	1.7	0.2	
Remaining Countries	1.8	0.5	0.2	0.1	0.7	0.7	

Table 5: Effects of G-20 Fiscal Stimulus on GDP Level in 2009: Model Without Financial Accelerator (Percent Deviation from Baseline)

		Stimulus in:					
	All	U.S.	Euro Area	Japan	Em.Asia	RoW	
World	1.6	0.4	0.1	0.1	0.7	0.3	
United States	1.4	1.1	0.0	0.0	0.2	0.1	
Euro Area	0.7	0.0	0.5	0.0	0.1	0.1	
Japan	1.8	0.1	0.0	1.5	0.2	0.0	
Emerging Asia	2.6	0.4	0.1	0.1	2.0	0.2	
Remaining Countries	1.4	0.2	0.1	0.1	0.4	0.8	

Table 6: Effects of G-20 Fiscal Stimulus on GDP Level in 2010: Model Without Financial Accelerator (Percent Deviation from Baseline)

	Stimulus in:						
	All	U.S.	Euro Area	Japan	Em.Asia	RoW	
World	1.3	0.4	0.1	0.1	0.6	0.2	
United States	1.2	1.0	0.0	0.0	0.2	0.1	
Euro Area	0.6	0.0	0.3	0.0	0.1	0.1	
Japan	1.6	0.1	0.0	1.3	0.3	0.0	
Emerging Asia	2.2	0.4	0.1	0.1	1.7	0.1	
Remaining Countries	1.1	0.2	0.1	0.1	0.5	0.5	

5. Conclusions

1. Structural models such as GIMF suggest fiscal policy was critical for supporting the global economy during the crisis.
2. The same models suggest that there can be important crowding-out effects from allowing a large permanent buildup in government debt.