

An Empirical Stock-Flow Consistent Model of the Italian Economy

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<https://github.com/marcoverpas/>

CONTEXT AND (INITIAL) RESEARCH QUESTION

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- We assess the sustainability of the Italian debt in the medium run
- However, we did that before the Russia-Ukraine war and the inflation surge!

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- Code: *R*, **Bimets** package (Bank of Italy)

TABLE 1. BALANCE SHEET, CURRENT PRICES, 2020

	Households	Firms	Government	Banks	ECB	Foreign	Total
Cash and reserves	185433	0	0	11474	-196907	0	0
Deposits	1379289	0	0	-1379289	0	0	0
Securities	247089	0	-2463489	1451428	764972	0	0
Loans	-733702	-1043063	0	1776765	0	0	0
Shares	1115388	-1115388	0	0	0	0	0
Other net FA	744331	261933	-448263	-829800	-342779	614578	0
Net financial wealth	2937828	-1896518	-2911752	1030578	225286	614578	0
[Fixed capital]	0	[12464281]	0	0	0	0	0
Column total	0	0	0	0	0	0	0

TABLE 2. TRANSACTIONS-FLOW MATRIX, CURRENT PRICES, 2020

	Households	Firms	Government	Banks	ECB	Foreign	Total
Consumption	-956426	956426	0	0	0	0	0
Investment	0	[290768]	0	0	0	0	0
Government spending	0	345374	-345374	0	0	0	0
Export	0	485944	0	0	0	-485944	0
Import	0	-424935	0	0	0	424935	0
[GDP]	0	[1653577]	0	0	0	0	0
Taxes	-466761	0	466761	0	0	0	0
Transfers	202442	0	-202442	0	0	0	0
Wages	637632	-637632	0	0	0	0	0
Interest payments	10600	-3926	-54359	39970	7715	0	0
Dividends	709973	-709973	0	0	0	0	0
Distributed bank profit	39970	0	0	-39970	0	0	0
Distributed CB profit	0	0	7715	0	-7715	0	0
Other payments	-347451	78590	-115728	108444	45629	230516	0
Change in net wealth	-170021	89868	-243427	108444	45629	169507	0
Column total	0	0	0	0	0	0	0

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- Generate out-of-sample predictions under baseline assumptions (in line with other institutions' predictions), including the impact of the Recovery Plan
- Create alternative scenarios and compare with baseline results

(NEW) BEHAVIOURAL EQUATIONS (1/2)

- Target capital to output ratio:

$$k^* = \kappa \cdot \frac{Y}{\rho} \quad (1)$$

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- Real consumption (*logs*):

$$c = \alpha_1 \cdot \frac{WB}{p} + \alpha_2 \cdot \frac{(YD - WB)}{p} + \alpha_3 \cdot \frac{V_{h,-1}}{p_{-1}} \quad (3)$$

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- Gross nominal import (*logs*):

$$M = \mu_0 + \mu_1 \cdot Y \quad (6)$$

FIGURE 1. SELECTED IN-SAMPLE PREDICTIONS, 1998-2020

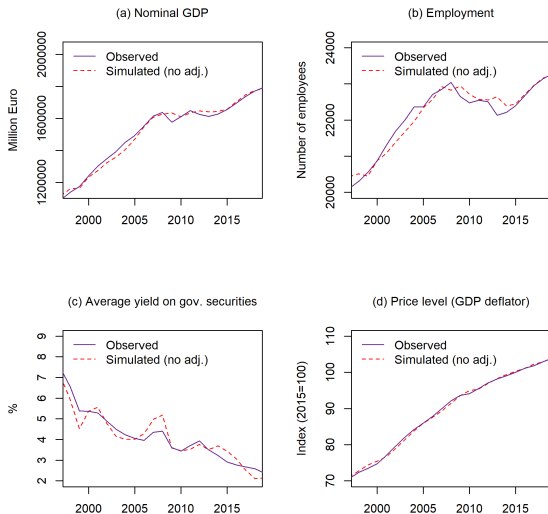


FIGURE 2. SANKEY DIAGRAM OF TRANSACTIONS, 2020

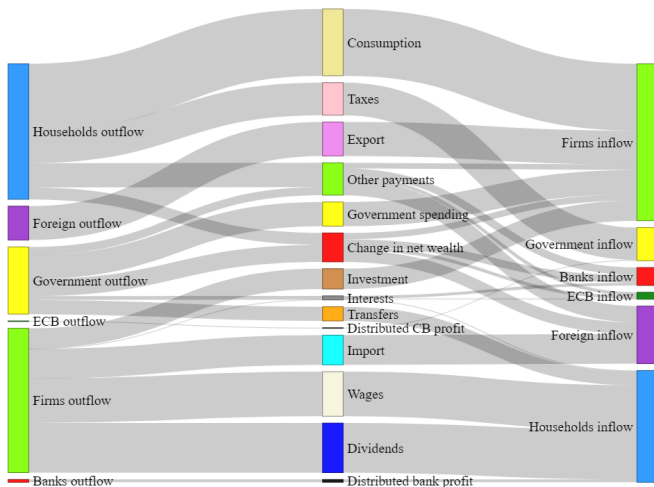
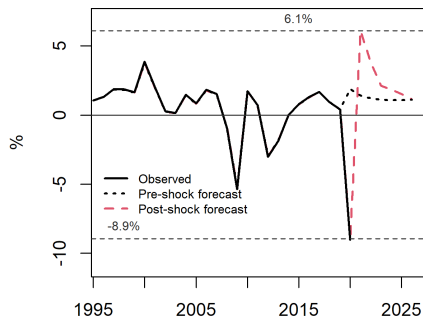


FIGURE 3. GROWTH AND DEBT, 2020

(a) Real growth rate after shock



(b) Government debt to GDP ratio after shock

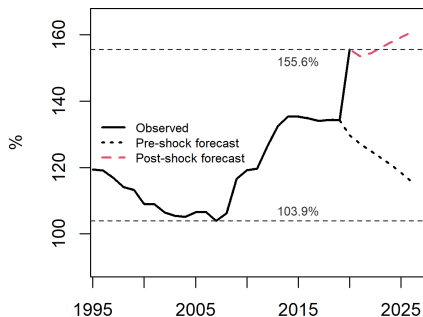


FIGURE 4. DEBT SUSTAINABILITY, 2020

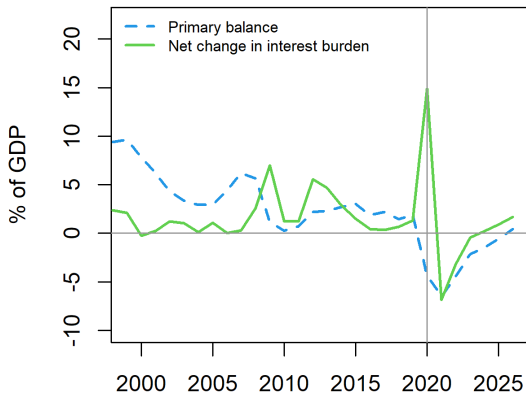


FIGURE 5. MAX. SUSTAINABLE INTEREST RATE, 2020

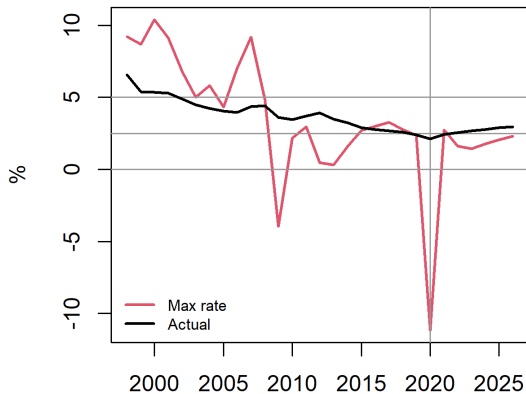
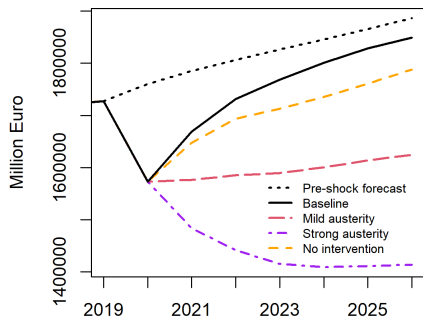
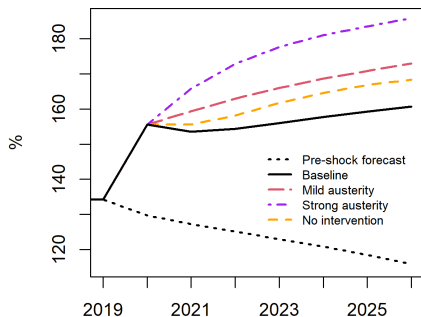


FIGURE 6. GROWTH AND DEBT, ALTERNATIVE SCENARIOS, 2020

(a) Real GDP after shock



(b) Gov. debt to GDP ratio after shock



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- Reduce aggregation level

Thank you

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