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Italy: Quantifying the Benefits of a Comprehensive
Reform Package

by Michal Andrle, Alvar Kangur, and Mehdi Raissi

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I N T E R N A T I O N A L M O N E T A R Y F U N D

IMF Working Paper

European Department

Italy: Quantifying the Benefits of a Comprehensive Reform Package¹

Prepared by Michal Andrle, Alvar Kangur, and Mehdi Raissi

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Abstract

This paper seeks to quantify the net benefits of a comprehensive reform package aimed at addressing Italy's inter-related challenges. Specifically, it simulates the growth and competitiveness effects of a package of fiscal, financial, wage bargaining, and other structural reforms. Credible implementation of such a package yields substantial medium-term dividends at negligible near-term growth costs. Real GDP growth is estimated to be substantially higher over the medium term, while the real effective exchange rate depreciates notably.

JEL Classification Numbers: C53, C54, E27, E61, E62, J30, J52, L11, O43

Keywords: Italy, growth, competitiveness, fiscal policy, wage bargaining, labor market reforms, product market reforms, banking sector, DSGE models.

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I. BACKGROUND

Italy is struggling with modest growth, high public debt, and a banking system burdened with high nonperforming loans and weak profitability. The economic recovery is being weighed down by long-standing structural problems, imbalances, and strained balance sheets. At the same time, restoration of balance sheet health is being hindered in important part by the slow economic recovery. On current projections, growth remains too modest to decisively reverse imbalances and lower debt, leaving the economy vulnerable to adverse developments.

Relatedly, Italy’s competitiveness is assessed to be moderately weaker than suggested by medium-term fundamentals and desirable policy settings. The current account surplus that emerged since 2013 has mostly been the result of import compression caused by a decline in investment and large commodity terms of trade gains. The recovery of exports has lagged, while desirable policy settings to reduce high public debt and medium-term fundamentals, including Italy’s rapidly aging society, imply a higher equilibrium current account balance. Unit labor costs that rose notably in the years following euro accession remain elevated, as wage gains have outstripped productivity. The real exchange rate is estimated to be overvalued on the order of 10 percent.²

Fostering growth and competitiveness and addressing imbalances requires a comprehensive and timely policy response. Such a response would not only address underlying rigidities and imbalances and, thus, unlock growth, but also ensure that public debt and bank nonperforming loans (NPLs) are placed on a firm downward trajectory over the medium term. It could include (i) fiscal consolidation, underpinned by growth-friendly and inclusive measures (see Andrieu and others, 2017); (ii) wage bargaining reforms to ensure wages are aligned with productivity at the firm level (see Kangur, 2017); (iii) other structural reforms (e.g., product market, other supportive labor market reforms, and public administration reforms); and (iv) financial sector measures to hasten the cleanup of bank balance sheets and corporate restructuring.

II. REFORM PROGRAM

This note uses the IMF’s Global Integrated Monetary and Fiscal Model (GIMF) to simulate the impact of key fiscal and structural reforms on output and competitiveness (Box 1). As the GIMF incorporates monopolistic competition and a rich set of structural rigidities, it can be used to assess the effectiveness of structural reforms. In doing so, this paper relies on the distance-to-frontier approach whereby the gap between Italy and the euro area frontier is assumed to be narrowed over the medium term.³ GIMF also has a well-developed fiscal block allowing for the analysis of fiscal instruments. All other structural policies are phased in over a 5–10-year horizon in a step-wise manner, becoming fully implemented and credible at the fifth year.

² IMF (2017), “2017 External Sector Report,” IMF Policy Paper (Washington: IMF).

³ Lusinyan and Muir (2013) conduct a similar exercise while quantifying the impact of the authorities’ structural reform program at the time. Annicchiarico and others (2015, 2013) provide simulations by the Italian Ministry of Finance of a package of product market, labor market, and fiscal devaluation reforms.

Several research papers over the past few years provide guidance on mapping reforms to GIMF. While the fiscal block in GIMF allows a direct relation to fiscal policies, simulating structural and financial reforms requires mapping reform intentions to changes in GIMF structural parameters (such as wage and price markups, labor supply, total factor productivity or TFP, etc.). A growing body of literature on macro-structural and macro-financial interlinkages provides quantitative guidance for such mappings. Table 1 summarizes all shocks, instruments and sources for mapping.

The proposed policy package is as follows:

- *Fiscal adjustment and rebalancing.* To achieve a small structural surplus, which for simplicity is modeled as a fiscal consolidation of 2 percent of GDP over four years, a growth-friendly and inclusive policy mix is envisaged. This is assumed to comprise a revenue-neutral and less distortionary tax reform to reduce the labor tax wedge by 1½ percent of GDP, financed by lower VAT gaps, both compliance and policy, (1 percent of GDP); a property tax on primary residences (½ percent of GDP); current primary spending cuts, achieved by reducing large social benefits and spending on goods and services, both by 1¼ percent of GDP; and increasing spending on public capital by ½ percent of GDP (see Andrieu and others, 2017).
- *Wage bargaining.* To facilitate the alignment of wages with productivity at the firm level, a move from the current sectoral-level to firm-level wage setting is assumed (see Kangur, 2017). By aligning the wage distribution closer with the productivity distribution of firms, decentralized bargaining could save (create) jobs that otherwise would be destroyed (or not created). As shown in Kangur (2017), simulations of such a reform calibrated to the Italian labor market point to an increase in steady-state employment of about 4 percent from such a reform. This result is replicated in GIMF via a reduction in the wage markup by about 15 p.p.
- *Other structural reforms.*
 - *Labor market reforms.* Measures to incentivize labor force participation and improve targeting of social spending in a fiscally-neutral manner include (i) scaling up active labor market policies (ALMPs, 0.4 percent of GDP); (ii) increasing spending on childcare (0.2 percent of GDP); and (iii) broadening the social safety net to cover all those below the poverty line (0.5 percent of GDP). These reforms are modelled as a neutral spending reallocation from general (untargeted) to targeted transfers phased in over five years. The effect of these reforms on labor supply is derived from estimates developed by the OECD, including for the IMF's contribution to the G-20 Mutual Assessment process (see IMF, 2011; Barnes, 2014).
 - *Product market reforms.* The reform envisages further easing of regulatory barriers to competition in sectors such as retail trade, professionals, and select network sectors (e.g., road and local transport services) that remain more highly regulated than the euro area frontier, defined as an average of the five best OECD Energy, Transport, and Communications Regulation (ETCR) scores. It is assumed that the distance-to-frontier is closed by one-half, resulting in an equivalent improvement in a non-tradable product market regulation (PMR) score by about 17 percent, and phased in

over 5–10 years. The phasing as well as mapping into a non-tradable TFP shock⁴ follows OECD estimates of the reform impact (see Barnes, 2014).

- *Public administration reforms.* Public sector efficiency and firm productivity vary widely across Italian provinces (OECD, 2017). Giordano and others (2015) calculate public sector efficiency as a distance to the efficiency frontier in five key public service sectors—health, education, civil justice, child care, and waste collection—across 103 Italian provinces, using non-parametric Data Envelopment Analysis. They find that an increase in public sector efficiency in all provinces to the frontier would expand output for an average firm by 3 percent. Given that public-sector efficiency—as institutions—are slow to change, it is assumed that about one-half of the distance to frontier will be closed, by means of an economy-wide TFP shock.
- *Banking sector clean-up.* High NPLs are a drag on bank profitability and economic activity by requiring greater loan-loss provisions, which reduce the resources available for lending, and diverting resources and attention away from extending new credit to internal consolidation and asset quality (see Peek and Rosengren, 2005; and Caballero and others, 2008).
 - Using a newly constructed dataset on NPL reduction episodes, Balgova and others (2016) illustrate that a reduction in NPL ratios leads to faster GDP growth, higher credit growth and investment, and better labor market outcomes. Following Mohaddes and others (2017), the impact of a change in the NPL ratio on long-term real GDP growth is estimated—mean reverting the NPL ratio to normal levels (around 5–6 percent) would lead to a 3 percent higher real GDP in the long run (see text table). All the estimates are negative (about –0.08) and statistically significant at the 1 percent level, suggesting that a 5 percent persistent increase in the NPL ratio per year (observed in Italy since 2000 on average) is associated with 0.4 percentage points lower annual GDP growth in the long run, on average.
 - Correspondingly, reducing the NPL ratio to normal levels in five years and sustaining them at that level should imply higher real GDP by about 2 percent in five years and around 3 percent in steady state. This finding is mapped into GIMF—to allow for cumulating the effects of the reform package in a single framework—via a TFP shock that is distributed about $\frac{3}{4}$ into the non-tradable and $\frac{1}{4}$ into the tradable sector. In practice, this modeling assumption within the GIMF framework (which does not have banks) can be thought of as recovering value from existing stock of NPLs, e.g., through accelerated insolvency and workout procedures, rather than through higher upfront provisioning or capital costs.

Estimates of (Mean) Long-run Effects of Changes in the NPL Ratio on Real GDP Growth (1997–2014)							
Estimation method:	Auto-Regressive Distributed Lag (ARDL)			Distributed Lag (DL)			
Lag order:	1	2	3	0	1	2	3
	-0.087	-0.079	-0.080	-0.092	-0.087	-0.083	-0.082
	(0.0111)	(0.0136)	(0.0137)	(0.0087)	(0.0081)	(0.0108)	(0.0132)

Notes: Standard errors are provided in parentheses. All estimates are statistically significant at the 1% level.

⁴ TFP shock has quantitatively similar properties compared to a price-markup shock.

III. RESULTS AND POLICY DISCUSSION

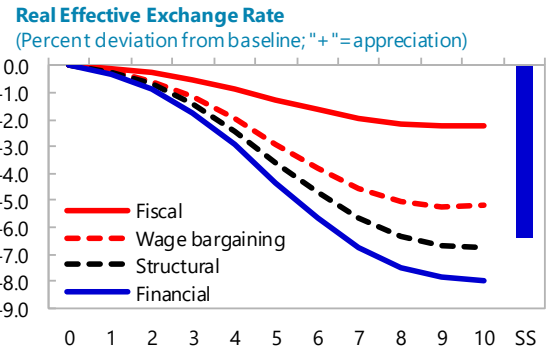
The reform package potentially increases output by 6–13 percent above the baseline and delivers a notable REER depreciation.

Figures 1–4 show individual simulation results for the above-mentioned reform blocks. The cumulative results are shown in Figure 5.

About one-half of the competitiveness gains over the medium-term stem from structural reforms and, in particular, wage bargaining. This is consistent with the finding that increases in the hourly wage rate accounts for a large part of the ULC-gap against euro area peers (see Kangur, 2017). The other half comes from growth-enhancing fiscal devaluation, spending rebalancing, and the cleanup of bank balance sheets.

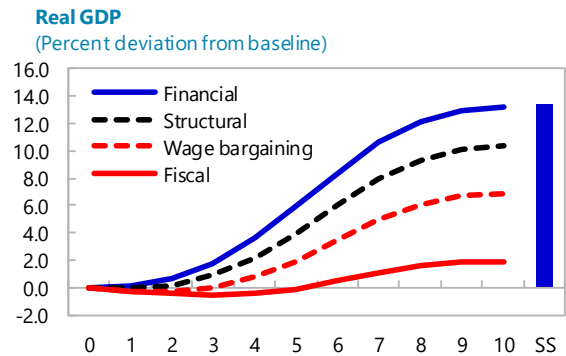
The medium-term output gains are substantial, while the short-term output losses are very limited. Upfront implementation of structural reforms is supportive of growth in the near and medium terms and helps offset the relatively small initial output losses associated with the fiscal consolidation. By itself, fiscal consolidation results in lower real GDP that, at its peak, is about ½ percent below baseline after three years. However, taken together with upfront implementation of structural reforms and bank balance sheet cleanup, these costs are offset.

In practice, the yields from the comprehensive reform package outlined above may be smaller. Model uncertainty, measurement error, interim economic shocks, implementation challenges, and the like may reduce the yields of the above comprehensive policy package.⁵ Thus, it may be more prudent to conclude that growth over the medium term would increase at best by the amounts estimated above.



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Lines are stacked so that blue shows also total impact.



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Lines are stacked so that blue shows also total impact.

⁵ The mapping of reforms into the structural parameters of a general equilibrium macro-model such as GIMF can be imperfect. For example, while it is accepted that decentralizing wage bargaining would lead to lower markups, the simulations here match outcomes from a specialized search-and-matching unemployment model with no other rigidities with those achieved in a general equilibrium model. The reduction in NPLs can work also through other channels than only TFP. Similarly, macro models are not equipped to capture implementation challenges that can arise, for example, from legislative complexities or coordination failures at different levels of government. Nevertheless, as the potential scale of several reforms cannot be assessed otherwise (e.g., regarding institutional changes in the wage bargaining), the strategy exploited in this paper is generally accepted in the literature and also necessary for assessing the macroeconomic impact of a comprehensive reform package (see Annicchiarico and others (2015, 2013) and Lusinyan and Muir (2013) for similar expositions for Italy using a variety of macro models such as IGEM, QUEST III and GIMF).

Complementary judicial, labor protection, and innovation policies could help to ensure that the gains from comprehensive reforms materialize in full.

- Italy's inefficient judicial system is an important factor behind difficult business environment (see Esposito and others, 2014), includes a regional dimension, and is closely associated with many elements of the reform package through administrative inefficiencies, higher cost of credit, slow NPL workouts, as well as smaller firm size and inefficiencies in the labor markets.
- Notwithstanding the important Jobs Act reform, employment protection legislation could be accelerated and further eased, including possibly in the public sector, to facilitate an efficient allocation of labor and the speed of adjustment of employment.⁶ This in turn would reinforce the expected gains from the wage bargaining reform, facilitate restructuring, and foster innovative activity as a low job turnover is more burdensome in the event of faster technological progress (OECD, 2015).
- In terms of innovation, Italy has fallen substantially behind other OECD countries. OECD (2017) shows that private R&D business spending is almost 1 percent of GDP below the OECD average. GIMF simulations based on the OECD (2017) mapping indicate that increasing R&D spending by about 1 percent of GDP, phased in gradually over five years in a sequentially credible manner, could in ten years increase real output by 1¼ percent and improve competitiveness by 0.3 percent, whereas in the long run output and competitiveness gains could reach 1.9 and 0.6 percent, respectively.

IV. CONCLUSION

Italy's growth and exports have picked up recently, although they continue to lag Italy's European peers. The real exchange rate is assessed to be moderately overvalued. Further fiscal, financial, wage bargaining, and other complementary structural reforms would raise Italy's growth rates and unwind remaining imbalances. This paper has quantified a package of reforms to that end, building on the details outlined in two close companion papers (Andrle and others, 2017, and Kangur, 2017) as well as research conducted over previous years. The results point to sizeable gains in output and competitiveness over the medium term, and to very limited short-term losses if implemented comprehensively and decisively.

⁶ Caballero and others (2013) find evidence of strict employment protection leading to lower adjustment in employment and consequently lower productivity. Specifically for Italy, Boeri and Jimeno (2005) in an earlier paper showed that stricter employment protection above the protection threshold decreases dismissal rates and provided indicative evidence also of lower hiring.

Box 1. The Global Integrated Monetary and Fiscal Model (GIMF)

The IMF's Global Integrated Monetary and Fiscal (GIMF) model is used to quantify the effects of reforms—see Kumhof and others (2010) and Anderson and others (2013) for more details.

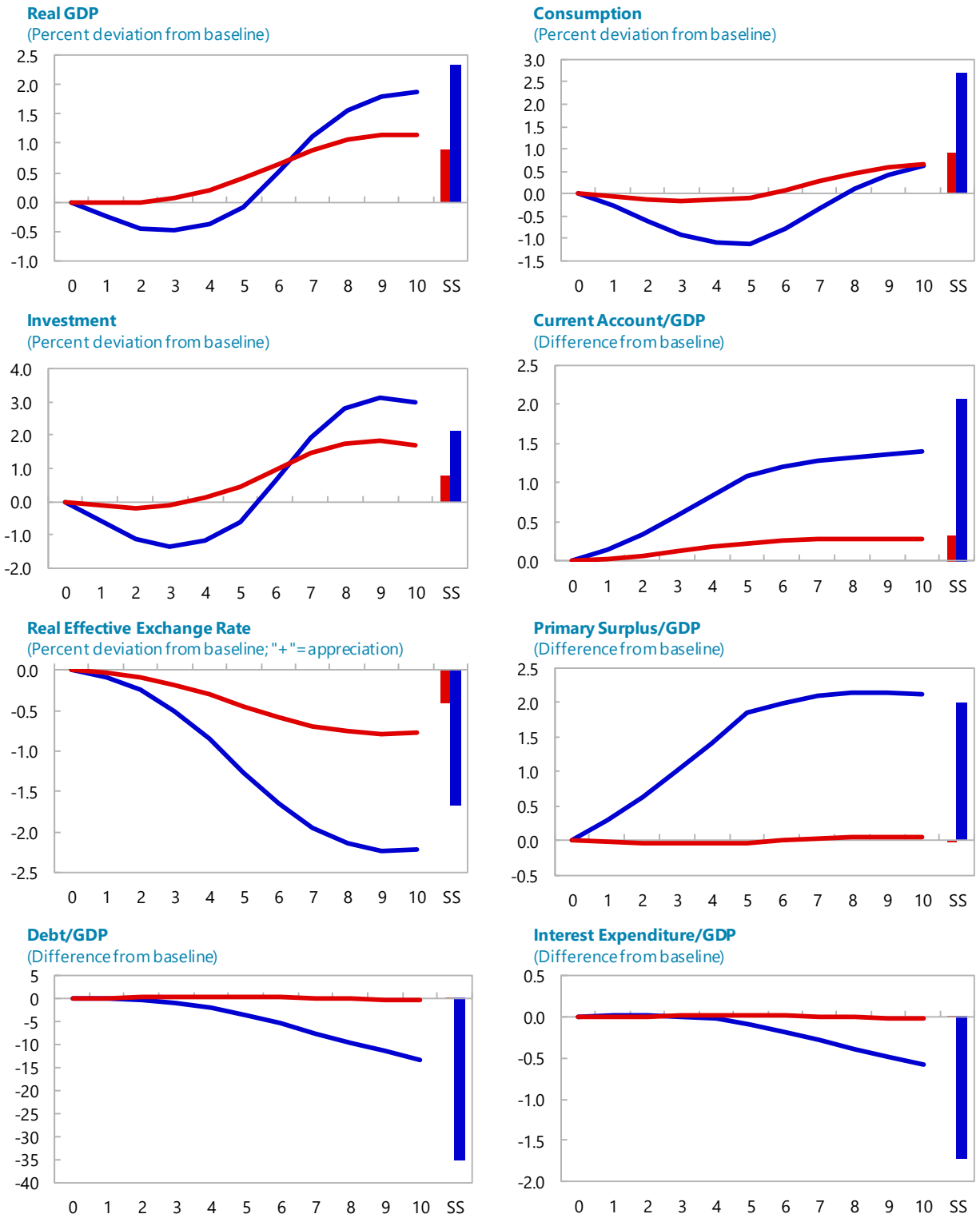
GIMF is a multi-country structural dynamic general equilibrium model featuring Italy, the rest of the euro area, and the rest of the world. It links the behavior of households, firms, and government sector within and among countries. The model has a consistent system of national accounting and stock-flow budget constraints for all sectors, including the government. The model belongs to exogenous-growth types of models, meaning that the long-term growth of output is exogenous. Hence, all fiscal or structural measures may change only the structure of the economy, possibly increasing permanently the level of real output per capita; never long-term growth.

The household sector consists of forward-looking optimizing households, as well as liquidity-constrained households who spend all their available income every period. The forward-looking households are modeled as overlapping generations (OLG) with finite lives, following the Blanchard-Weil-Yaari framework. The presence of OLG households breaks the Ricardian equivalence and is important for realistic results of fiscal policy in both the short and long run. Households gain utility from consumption and disutility from labor effort, they consume traded and non-traded services and goods, receive labor income, transfers from the government, dividends from corporations, and pay taxes—income, consumption, and lump-sum taxes.

Firms produce intermediate and final goods using labor and capital inputs, accumulate capital, and import or export their production. Firms pay taxes from corporate income. Monetary policy in the euro area and rest of the world regions follows an inflation-forecast targeting rule to set policy interest rates. Italy is a member of the euro area.

Government collects tax revenues (consumption, labor income, capital income, and lump-sum taxes) and spends them on government consumption, investment, and transfers to households. Governments target specific debt-to-GDP (and thus deficit-to-GDP) ratios and use a mix of instruments to achieve it. The government's commitment to sustainable public finance is credible for firms and households, who hold the stock of government bonds.

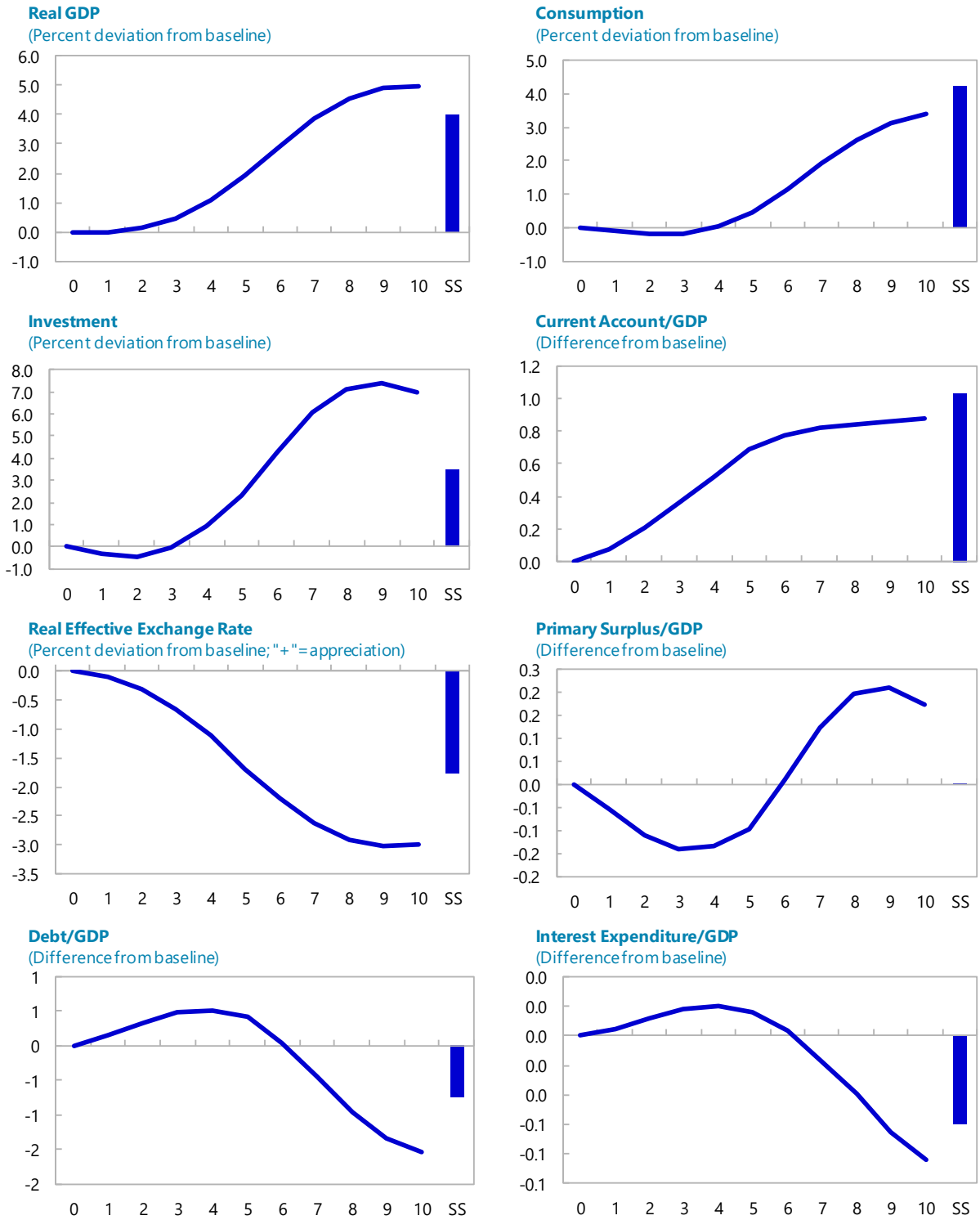
Figure 1. Italy: Fiscal Reform



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Red: revenue rebalancing. Blue: total impact.

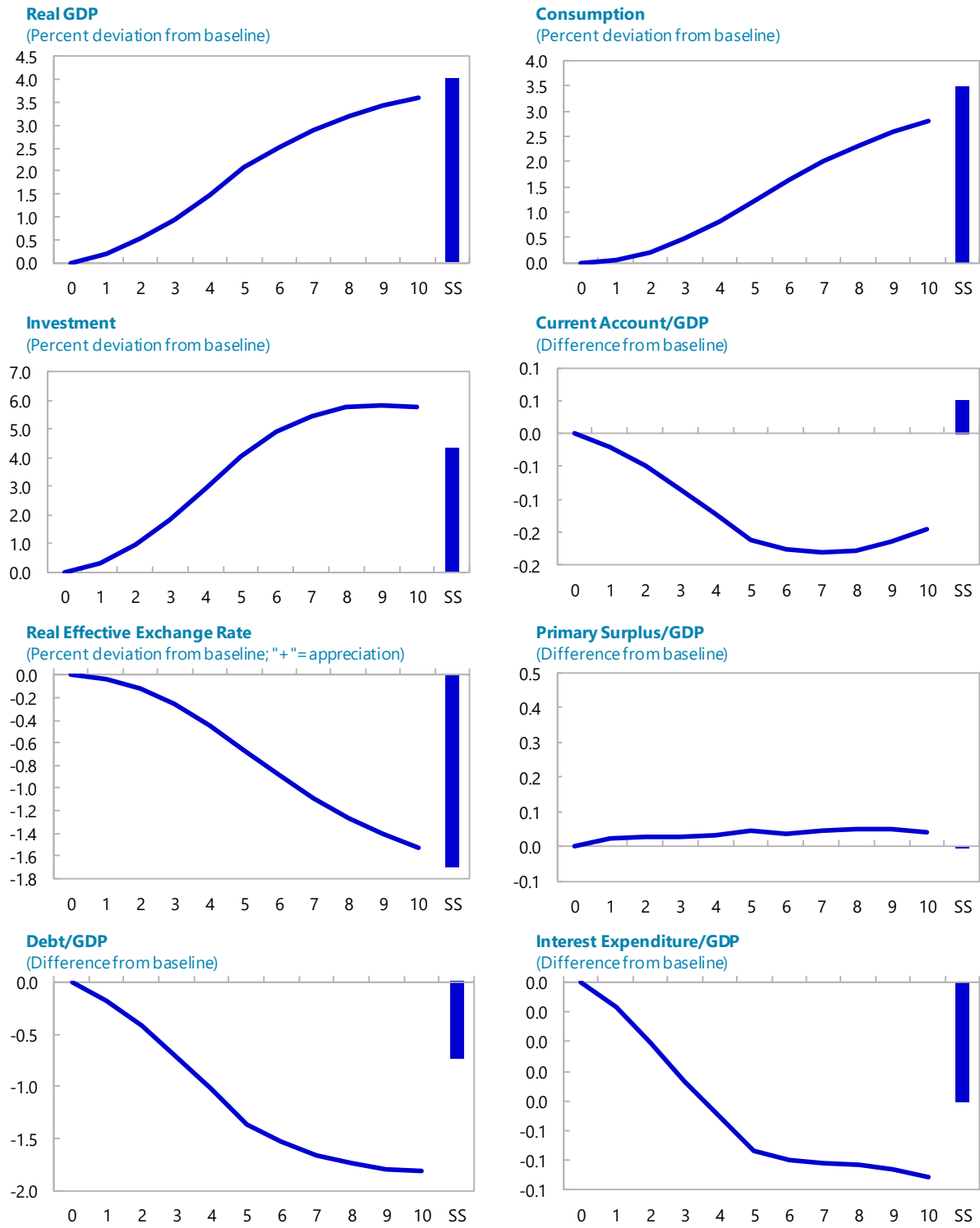
Figure 2. Italy: Wage Bargaining



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Blue: total impact.

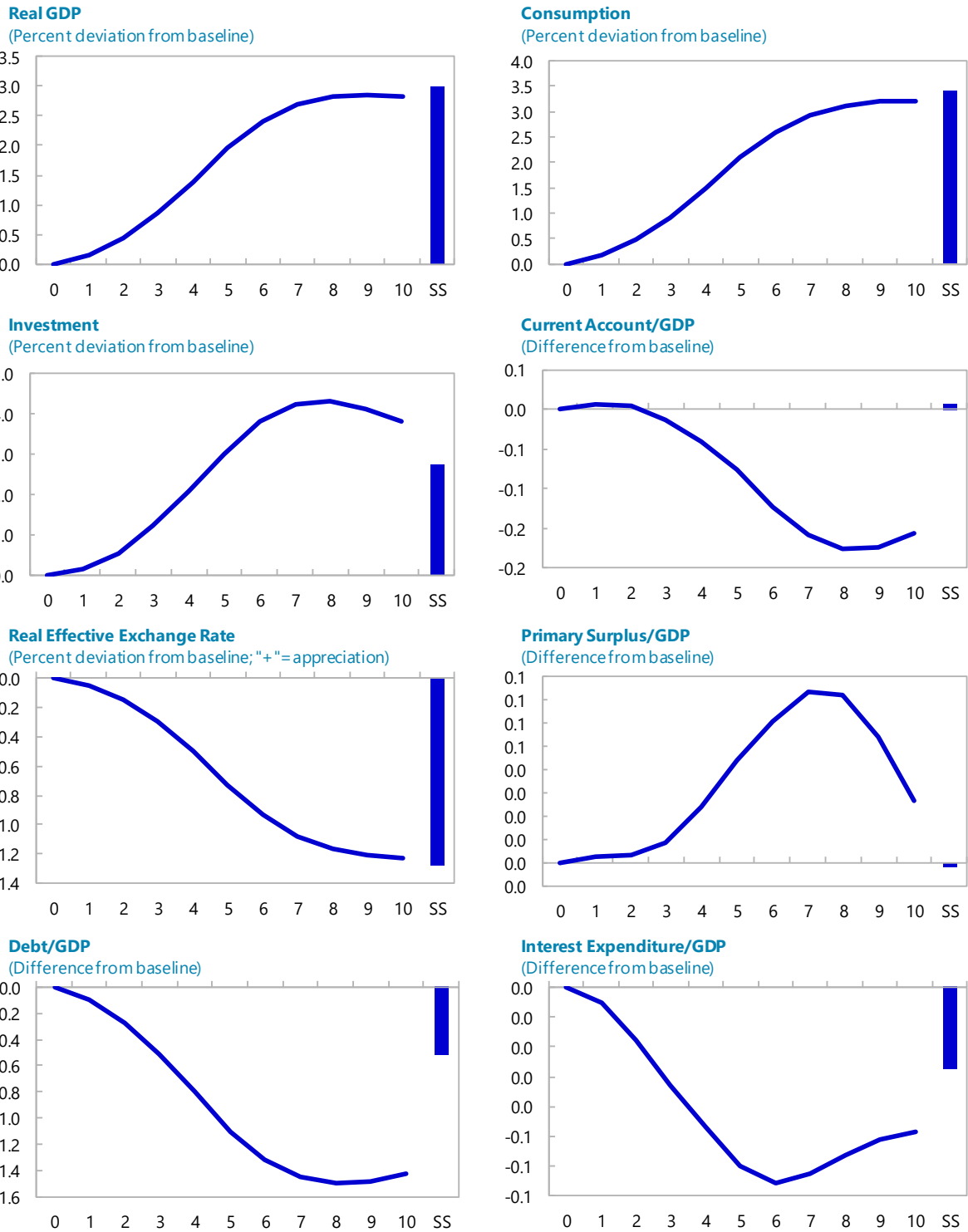
Figure 3. Italy: Other Structural Reforms: Product Markets, Public Sector Efficiency, Guaranteed Minimum Income, ALMPs, and Child Care



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Blue: total impact.

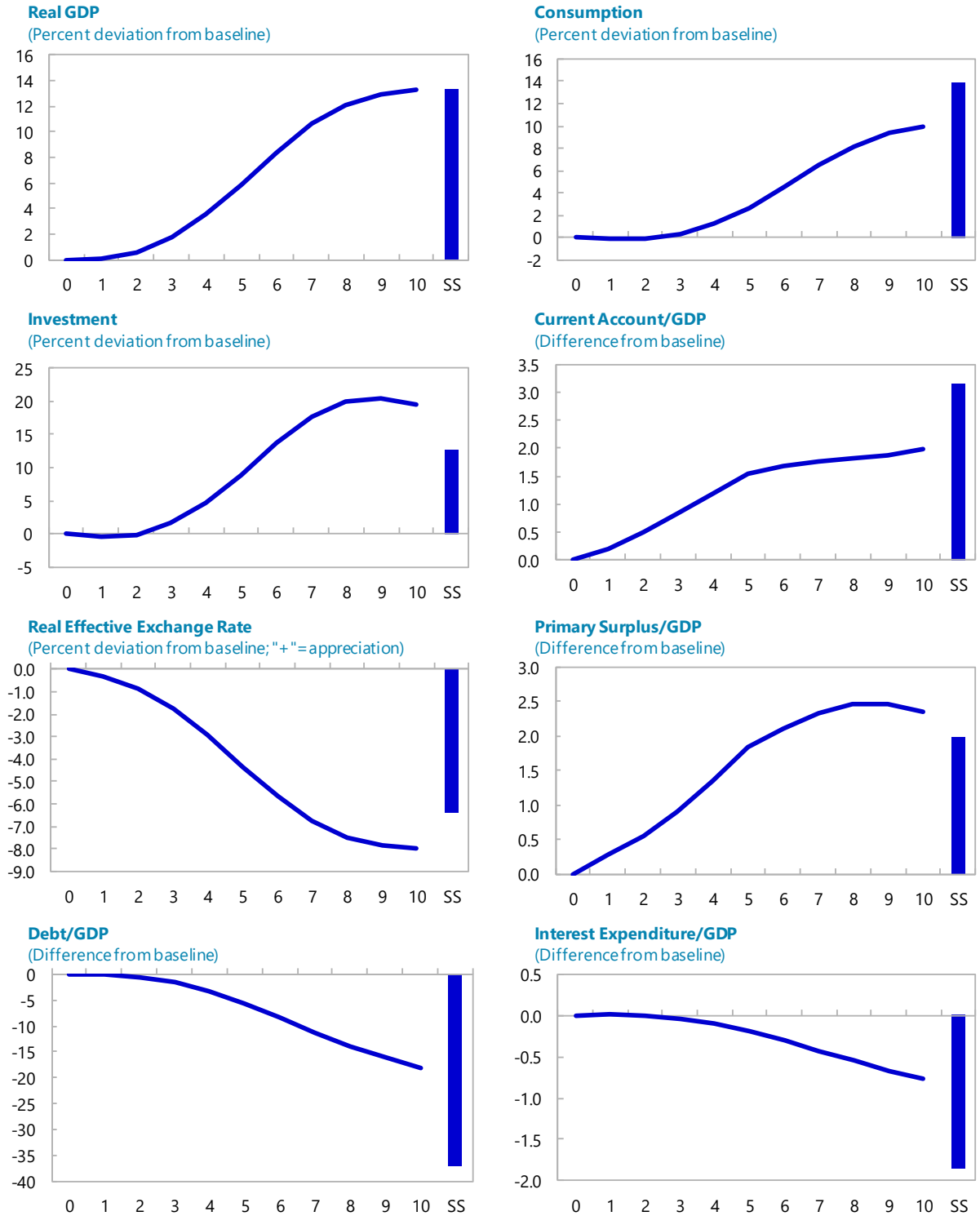
Figure 4. Italy: NPL Reduction



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Blue: total impact.

Figure 5. Italy: Total Reform Package



Source: IMF staff estimates.

Notes: Horizontal axis=years, and SS=steady state. Blue: total impact.

Table 1. Italy: GIMF Simulation Strategy

Measure	GIMF instrument / shock	Scale	Mapping
Fiscal Adjustment and Rebalancing			
Lower untargeted social transfers	General untargeted transfers	1¼ percent of GDP	Anderson and others (2013),
Lower spending on goods and services	Government consumption	1¼ percent of GDP	Kumhof and others (2010)
Higher spending on public investment	Government investment	½ percent of GDP	
Lower tax wedge on labor	Taxes on labor	1½ percent of GDP	
Higher VAT revenue	Taxes on consumption	1 percent of GDP	
Higher revenue from property tax	Lump-sum tax	½ percent of GDP	
Wage Bargaining			
Move to firm-level wage bargaining	Wage mark-ups	15 pp reduction	Kangur (2017)
Other Structural Reforms			
Higher spending on ALMPs (fiscally neutral)	Higher targeted and lower untargeted social transfers	0.36 percent of GDP	Barnes (2014)
Higher spending on child care (fiscally neutral)	Higher targeted and lower untargeted social transfers	0.2 percent of GDP	Barnes (2014)
Universal anti-poverty program (fiscally neutral)	Higher targeted and lower untargeted social transfers	½ percent of GDP	Anderson and others (2013)
Product market reforms	Non-tradables TFP (equivalently price mark-ups)	17 percent decline in ETCR / PMR	Barnes (2014)
Public administration reforms	Aggregate TFP	1½ percent increase in steady-state real GDP	Giordano and others (2015)
Banking Sector Clean-up			
Reduction in NPLs	TFP shock: ¾ non-tradables and ¼ to tradables	2 percent increase in real GDP over 5 years	Mohaddes and others (2017)

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