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Output gap, participation and minimum income: a proposal for Italy

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ABSTRACT

Recently, some attempts to increase the stance for fiscal policies in the European budgetary framework have followed the line of reducing the estimated “structural” unemployment rate (NAIRU), with the ensuing increase in the computation of the output gap. A similar effect can be obtained by increasing the actual participation rate. In this paper, we propose the introduction of a deficit-financed conditional minimum income (CMI) to discouraged people which are outside the labor force. By stimulating participation, this measure would bring about an upward revision of Italy’s potential output, and this in turn will contribute to generate a greater fiscal stance. We empirically assess the reliability of this measure by using both comparative statics and empirical estimations carried out *via* the simulation procedure used by the *Output Gaps Working Group* of the European Commission. Assuming one million newcomers in the labor force, our findings indicate that the measure would have produced a greater fiscal space of approximately €19 billion in 2016 and €12 billion in 2017. We also forecast the impact of the introduction of the deficit-financed CMI on real GDP and public finance indicators. We finally discuss the feasibility and the main criticisms of the proposal.

KEYWORDS

Aggregate demand; fiscal stance; minimum income; NAIRU; potential output

JEL CLASSIFICATION

E27; E62; J08

Background and motivation

A decade after the 2008–09 Great crisis, economic conditions in the Euro area are improving, albeit the recovery is feeble, and the labor market has not been catching up at a stable pace. According to Eurostat, Euro Area (EA19) aggregate unemployment stood at 8.3% in June 2018, after having reached a peak of 12.1% in 2013.¹ Despite the apparent improvement, wage growth remains subdued and measures of underemployment which go beyond the narrow definition of unemployment do not point to a strong recovery of labor market conditions. Moreover, a high dispersion of

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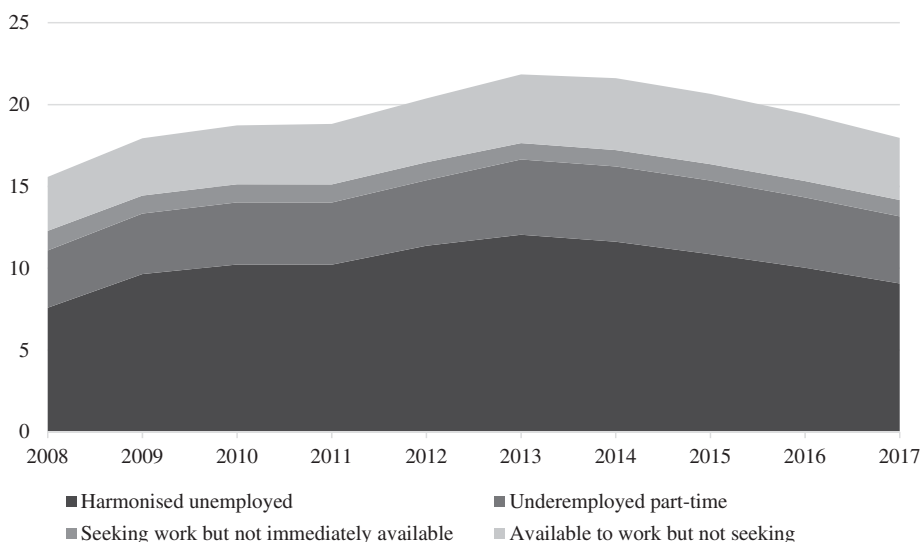


Figure 1. Broader estimates of labor underutilization in the Euro area. Source: elaborations on OECD and Eurostat. All components are expressed as a percentage of the active population. The latest observations are for the yearly average of 2017.

unemployment rates still persists among countries, with Greece, Italy and Spain showing worse labor market conditions compared to Central and Northern European countries. To this regard, [Figures 1](#) and [2](#) show broader estimates of labor underutilization in the Euro area and in Italy, respectively, including part-time workers, people seeking work but not immediately available, and people available to work but not seeking.

While all indicators of labor underutilization sharply decline from 2014 onwards, in 2017 the broader measure of labor market slack hit 18% in the Euro area and 26.1% in Italy (expressed as a percentage of the active population). Moreover, while the bulk of labor underutilization in the Euro area is given by the official unemployment rate, discouraged workers—i.e. people that are available to work but are not seeking it—hit 11.6% in Italy, while the same magnitude stood at 3.8% in the Euro area in 2017. Instead, in the United States, the broader measure of unemployment (the U-6 index, provided by the U.S. Bureau of Labor Statistics) including discouraged people and other marginally attached workers stood at 7.5% in July 2018, far below its peak of 2009 (17.1%).

Hence, the persistent labor market slack in the Euro area indicates the possibility of expanding employment through discretionary fiscal policies without incurring in significant inflationary pressures. This implies that potential GDP of Euro area economies may be strongly underestimated, particularly in Mediterranean countries. Along these lines, the former European Central Bank (henceforth, ECB) President Mario Draghi has stated that “*estimates of the size of the output gap have to be made with*

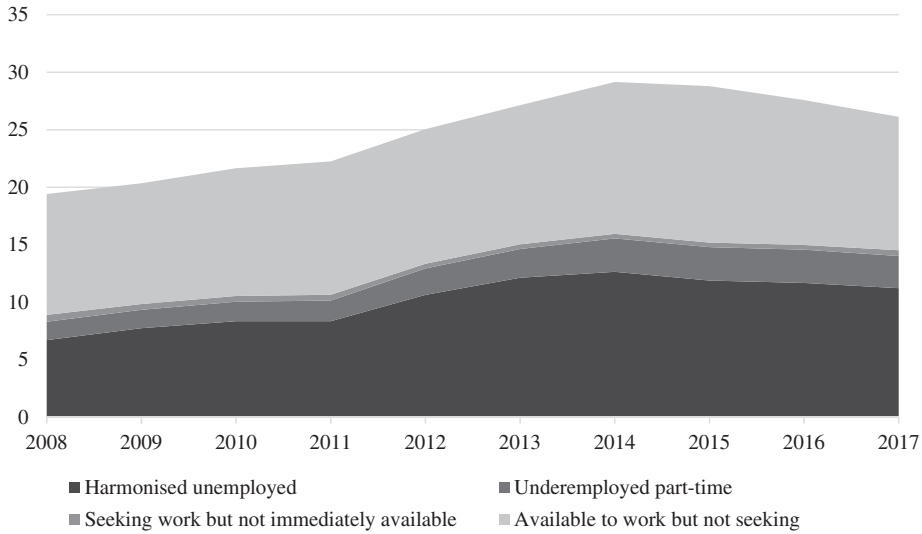


Figure 2. Broader estimates of labor underutilization in Italy. Source: elaborations on OECD and Eurostat. All components are expressed as a percentage of the active population. The latest observations are for the yearly average of 2017.

caution (...) if substantially more workers can be drawn into the labor force, it would be possible for the labor market to strengthen further without generating wage pressures” (Draghi 2018). In a recent speech, also the current ECB President Christine Lagarde has admitted the presence of a “hidden slack”: in her words, “studies that assume that the output gap has been much larger have, in general, outperformed those that use traditional estimates” (Lagarde 2020).²

Exploiting this additional non-inflationary fiscal space might be extremely beneficial not only for the Euro area as a whole, but in particular also for countries that experience high degrees of labor underutilization combined with prolonged economic stagnation such as Italy.

Due to the fundamental relevance of the potential output in determining the fiscal spaces for government, it is crucial to understand, at least in general terms, how it is estimated. In fact, the debate on potential GDP has recently shifted from the theoretical definition to the methods for its estimation. On the one hand, a substantial consensus has emerged, and it has been endorsed by European institutions, in considering potential GDP as the maximum level of income that can be achieved by fully utilizing available resources (capital and labor) and that is compatible with stable inflation (Okun 1962; Gordon and Clark 1984). On the other hand, the estimates of structural unemployment, i.e. the unemployment rate consistent with non-accelerating inflation (the NAIRU or NAWRU),³ proposed by the European Commission (henceforth, EC) for the estimation of potential GDP, have turned out to be highly pro-cyclical and hence methodologically

debatable (Coibion, Gorodnichenko, and Ulate 2017). In this regard, two discussion papers by the EC deserve to be mentioned: the former proposes an alternative methodology to the NAWRU-based one to reduce procyclicality issues (Lendvai, Salto, and Thum-Thysen 2015); the latter refers to a method which mixes information about the business cycle and labor market conditions (Hristov et al. 2017). The criticism concerning procyclicality, along with the documented revisions made to output gap estimates from 2001 to 2015 (Darvas 2018) and the discrepancies among estimations made by different institutions (Darvas 2019), stimulated a lively campaign against “nonsense” output gaps, which culminated in a number of empirical works casting doubt on the plausibility of the official estimations of output gaps in the Euro area periphery.⁴

Having considered the role of output gap in designing fiscal consolidation strategies in the European Union (henceforth, EU), the controversy has extended from the academic debates to the political sphere. With respect to the Italian case, which is the subject of this paper, the former Minister of Economy and Finance, Pier Carlo Padoan, explicitly considered the existing EU fiscal rules to penalize Italy.⁵ Padoan held that alternative methodologies for the estimation of potential GDP would generate additional budgetary flexibility, as Italy would be running a balanced budget in structural terms since 2015. According to Padoan, in recent years Italy’s structural deficits estimated according to the current EU rules are based on underestimated output gaps. Consequently, the official calculation of fiscal space is overly restrictive, while alternative measures would allow for more fiscal space.⁶

We fully recognize the relevance and policy implications of this debate, to which our work relates and aims at contributing. Nevertheless, our paper will not focus on technical aspects and methodologies concerning the estimation of potential output, nor will propose alternative strategies for the computation of “unobservable” variables (e.g. the NAIRU). Specifically, we aim at suggesting an expansionary policy measure consisting in deficit-financing a conditional minimum income (CMI) for inactive workers that transit into the labor force. The measure would contribute to generate a greater fiscal stance as increasing participation will increase potential output, and therefore the size of output gap. Our policy suggestion, which is motivated by the high degree of underemployment featuring the Italian economy, combines a minimum income with an incentive to rejoin the labor market. In doing so, the proposal is also consistent with the 14th principle of the European Pillar of Social Rights: “*Everyone lacking sufficient resources has the right to adequate minimum income benefits ensuring a life in dignity at all stages of life, and effective access to enabling goods and*

services. For those who can work, minimum income benefits should be combined with incentives to (re)integrate into the labor market.”

The rest of the paper goes as follows. The second section illustrates the main characteristics and rules of the EU fiscal framework. In the third section we provide some elements about the Italian context. In the fourth section we outline our proposal and we simulate the results of the introduction of the CMI. The fifth section discusses the main criticisms of our proposal. The final section 6 summarizes and concludes.

The output gap and the fiscal framework of the euro area

To understand the functioning of our policy proposal, let us start by introducing some elements describing the fiscal framework in the Euro area. Currently, it is based on the revised Stability and Growth Pact (SGP), which includes two policy instruments. The first one is the “preventive arm”. In order to ensure sustainable fiscal policies over the economic cycle, this instrument aims at setting medium-term objectives (MTO) for the structural deficit of each Euro area member. The second one is the “corrective arm”, which imposes corrective actions to member countries whose national budget exceeds the Maastricht Treaty reference value of 3% in nominal terms or whose public debt exceeds the reference value of 60%. Member countries are expected to reach their MTOs by adjusting their structural budget at a rate of 0.5% of GDP as a benchmark if they are not compliant with their MTOs.

Potential GDP assumes a crucial role in the determination of budgetary flexibility. Specifically, the latter is a positive function of the output gap, that is the difference between actual and potential GDP (expressed as a percentage of potential GDP). Basically, the higher is potential GDP, the greater the output gap is for a given actual GDP.⁷ The output gap (OG) is calculated as in [equation \(1\)](#):

$$OG = \left[\left(\frac{Y}{Y_{POT}} \right) - 1 \right] \times 100 \quad (1)$$

where Y is the actual GDP and Y_{POT} is the potential GDP computed through an estimation procedure (see [EC 2017](#)). Different methods can be used to estimate potential GDP.⁸ Particularly, the methodology of the EC for estimating potential GDP of a country is based on a standard Cobb-Douglas production function with constant returns to scale ([Havik, Mc Morrow, and Vandermeulen 2014](#)), which encompasses the measure of the total factor productivity (TFP) through the conventional method of the Solow residual, the net capital stock (K) and the potential labor force (L), as in [equation \(2\)](#):

$$Y_{POT} = TFP \times L_{POT}^{\alpha} \times K^{1-\alpha} \quad (2)$$

where α is the estimated labor output elasticity,⁹ $(1 - \alpha)$ is the estimated capital output elasticity, and L_{POT} is the potential labor force. The latter is computed as in equation (3):

$$L_{POT} = PART_{rate} \times POP_{15-74} \times HOURS \times (1 - NAWRU) \quad (3)$$

where $PART_{rate}$ is the participation rate (the ratio between the labor force and the working age population) smoothed with a Hodrick-Prescott filter, POP_{15-74} is the working age population (from 15 to 74 years in the EU framework), $HOURS$ is the trend component of the sum of hours worked in a given year, and $NAWRU$ is the non-accelerating wage rate of unemployment. Intuitively, equation (3) suggests that the potential labor force is positively influenced by the participation rate and negatively relates to the NAWRU. Hence, as more working age individuals transit from inactivity to employment or unemployment, the potential labor force increases, *ceteris paribus*, thereby boosting potential GDP. On the other hand, increases in the “structural” component of unemployment—captured by the NAWRU—decrease the potential labor force and, consequently, lower potential GDP.

The output gap is crucial for the calculation of the structural balance (SB), which in each year is obtained as in equation (4) by subtracting the output gap multiplied by an empirically estimated semi-elasticity to the nominal deficit, minus any politically negotiated “one-off” (that is, exceptional expenditures for natural disasters or banking crises):

$$SB = BB - \beta \times OG - OFF \quad (4)$$

where BB is the nominal budget balance-to-GDP ratio, β is the semi-elasticity of the structural balance with respect to the output gap (estimated for Italy at 0.55),¹⁰ and OFF is the ratio of *una tantum* expenditures to GDP.

In addition to these technical aspects, the adoption of the EU fiscal framework by member states follows a detailed timeline, which is known as the European Semester: essentially, this represents a roadmap to be followed, accompanied by an exchange between the EC and each member state, to comply with the Stability and Growth Pact.¹¹

As we shall see in the rest of the paper, understanding the complete technicalities of the fiscal framework of the Euro area, as well as the whole process through which governments of member countries are supposed to comply with, is crucial for the reading of our policy suggestion, in terms of viability, effectiveness and implications.



Figure 3. Italy's real GDP dynamics. GDP, billions of Euro at constant 2010 prices, bold line, left scale. Per capita GDP, Euro at constant 2010 prices, dashed line, right scale. Source: elaborations on AMECO.

A Bird's-eye view of Italy

GDP stagnation and the labor market

Before turning to our proposal, some features and specificities of the country should be reported to frame the socio-economic context.¹² In 2019, Italy was the only large economy in the Eurozone which had not recovered yet from the 2008–09 Great crisis: although returned to positive (but very modest) growth rates, total and per capita GDP were still below their pre-crisis levels (see [Figure 3](#)). However, the slowdown of the economy seems to have started well before the 2007 financial crash: Italy's economic performances started deteriorating in the second half of the 1990s. Many commentators looked at this prolonged slowdown as mainly depending on supply-side factors. Accordingly, the causes of stagnation have been often sought in the slowdown of productivity, which in turn would have depended on poor ICT investments, low company dimensions and labor/capital misallocation phenomena (Bugamelli, Lotti, and Scoccianti 2018). Moreover, low quality of education, an unfriendly business environment and high public debt would have negatively contributed to low economic performances (Romei 2018).

This view, however, has been challenged on several grounds. In particular, it seems to overlook that fiscal austerity measures implemented after the 2010–11 European sovereign debt crisis did not favor economic recovery, contrary to what advocated by the “expansionary austerity” supporters (Alesina and Ardagna 1998; 2010; and for a critique, Botta and Tori 2018). Moving from the recent literature documenting the negative effects of

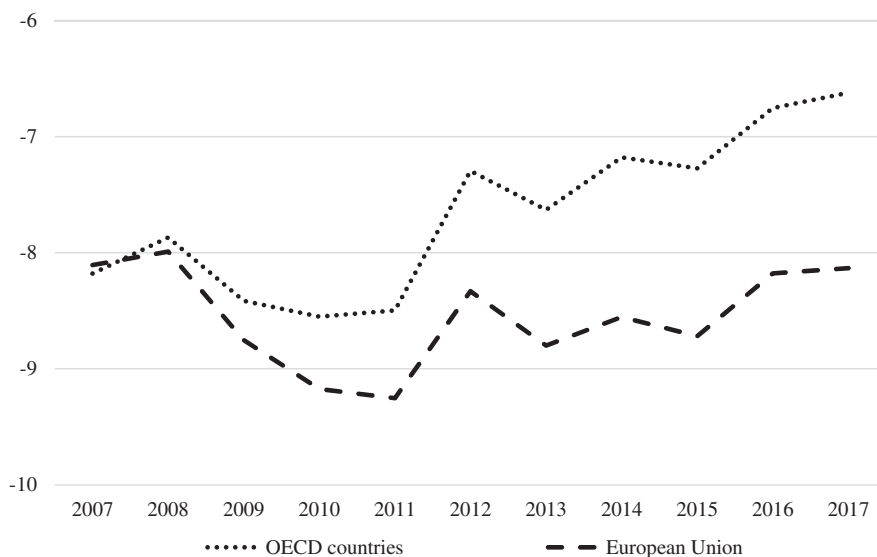


Figure 4. Gaps in participation. The figure reports the dynamic pattern of the difference between Italy's participation rate and the average participation rate of two aggregates. Source: elaborations on OECD Stats, Labor Force Statistics, labor force participation rate (15–64).

austerity policies on output and employment (Guajardo, Leigh, and Pescatori 2014; Jordà and Taylor 2016) and from the idea that aggregate demand growth - and hence expansionary fiscal policies - may have effects which go beyond the short run (as recently documented by Girardi, Paternesi Meloni, and Stirati 2020), Italy's prolonged stagnation may not be viewed as independent from fiscal consolidation and structural reforms (mainly concerning a continuous process of labor market flexibilization). From this perspective, the recent policy agenda, particularly after the sovereign debt crisis, is likely to have hindered demand both directly, i.e. with a long series of primary fiscal surpluses, and indirectly, by reducing the labor income share and consequently to further dampen internal demand, in line with findings according to which Italy is a wage-led economy (Onaran and Obst 2016).

Endorsing a Keynesian perspective, some of the causes of persistent labor market slack in Italy can be traceable in the worrying GDP stagnation documented in Figure 3. Remarkably, weak labor market performances are witnessed by a number of macroeconomic indicators, such as low employment rates, low activity rates and high unemployment rates. According to Eurostat, in 2017 they amounted, respectively, to 58%, 62.3% and 11.3%, far beyond the EA19 average (64.2%, 66.4% and 9.1%, respectively). The comparison of participation rates with other countries or aggregates indicates that Italy's participation rate was 8.1 percentage points lower than the EU average and 6.6 p.p. lower than the OECD average (Figure 4).

Combined with high unemployment and low employment rates, far below-average participation rates contribute to shed light on the issue of labor underutilization which concerns the Italian economy. According to ISTAT (2019), labor underutilization in Italy is, on the one hand, related to cyclical factors, namely to the stagnation following the “double dip” recession; on the other hand, it presents structural components, linked to the size, the specialization and the territorial placement of the productive system, as well as to skills mismatch. Overall, in 2017 Italy showed about 6 million unused workforces in absolute terms (2.9 million unemployed and more than 3 million discouraged individuals). If we artificially included potential labor forces (i.e. inactive people which are interested in working, while discouraged) within the active population, the inactivity gap between Italy and EA19 would pass from 4.1 to 3.4 percent.

Moreover, underemployment testifies the existence of labor market slack in Italy: in 2017, around 1 million individuals (4.4% of total employment) declared to work less weekly hours compared to their availability. For the same year, ISTAT (2019) stated that the phenomenon of over-education concerned 5.57 million employed, which represent 24.2% of the total employed and 35% of graduates employed. The lack of adequate job opportunities may lead to the decision to migrate abroad, a growing phenomenon in recent years (from 40.000 in 2008, to almost 115.000 people in 2017), especially among the youngest people and those with a high level of education.

While an OECD (2019) work attributed both high unemployment and low participation to skills and territorial mismatch, Italy's low participation rates may also be the outcome of poor job opportunities and underemployment. In this regard, Zezza (2017), by using an approach similar to that of the U-6 index adopted in in the US, estimated an underemployment of approximately 30% in 2017. Combined with some explorative evidence suggesting the existence of a long-run relationship between unemployment and participation (Nemore 2018), which in particular holds for women (Ozerkek 2013), this element supports the existence of a “discouraged worker” effect. From this perspective, high and persistent levels of unemployment and underemployment would further confirm that labor market slack is the consequence of low GDP performances, which in turn would depend on stagnating demand. In addition to the existing literature grounded on the Keynesian tradition—among which, Cesaratto and Zezza (2018), Paternesi Meloni and Stirati (2018) and Storm (2019), with this latter using the evocative expression “suffocation of aggregate demand” to describe one of the main traits of the recent Italian economic history—such lack in demand can be testified by the size of Italy's output gap in the last decade. A comparison across years and with different countries can be

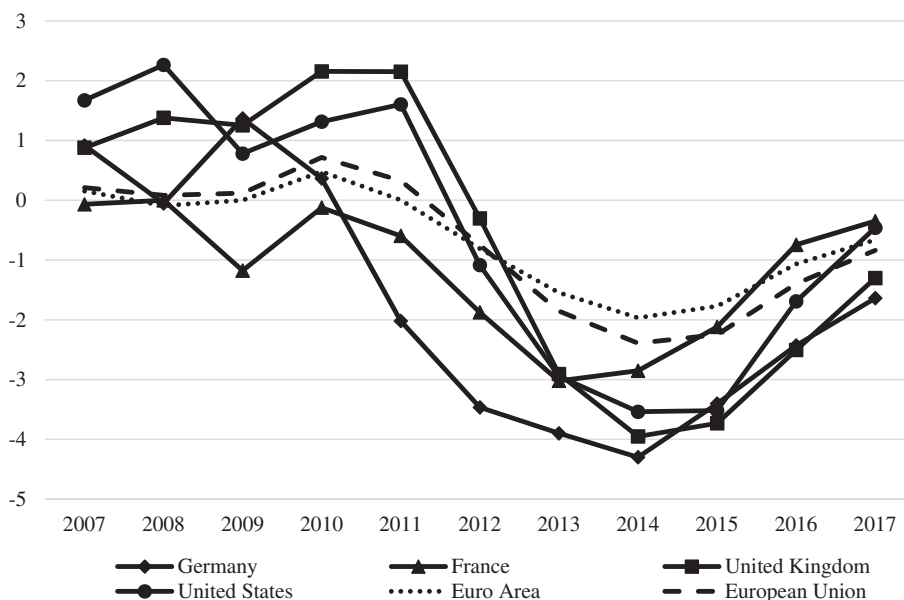


Figure 5. Gaps in output gap. The figure reports the dynamic pattern of the difference between Italy's output gap and the output gap of different countries or aggregates. Source: elaborations on AMECO.

useful. On the one hand, the size of Italy's output gap has been higher in recent times than during the previous decades: while in the 1980s and the 1990s the average output gap was roughly -0.5 , it stood at 1.7 in the first half of 2000s (average 2000–2007), and then collapsed at -1.85 in the post-crisis period (average 2008–2017). On the other side, after 2011–12 Italy's output gap was systematically lower than that of other “big” economies: as shown in Figure 5, a sizeable gap held before 2014, and—despite a recovery in 2017—the difference with the European average was still about 1 p.p. of potential GDP.

From our perspective, such poor GDP performance, which translated in a worrisome slack in the labor market, should be faced with important policy measures. Recently, a specific initiative has been undertaken by the Italian government to support unemployed, working poor and inactive workers, while creating incentives to actively seek new job opportunities. We refer to the so-called “Reddito di Cittadinanza” (henceforth, RDC), a program of conditional income support started in the first half of 2019: specifically, the program supports household incomes which are below the national poverty line. It pays an income and a housing support up to €780 per month (as an integration of other social transfers) for a single individual to eligible beneficiaries, while requiring the active participation of beneficiaries to job-seeking efforts of public and private job centers. According to the National Security Institute (INPS), which manages the applications

and payments, about 960 thousand households were involved in the program on September 2019.¹³

Similar to our proposal, the RDC aims at reactivating discouraged people while providing them an income support conditional to active job seeking. However, our proposal directly targets discouraged individuals (which are outside the labor force by definition) and provides support to their individual income, whereas the RDC targets household incomes which are below the poverty line, regardless of their occupational status. By targeting a broader spectrum of beneficiaries (and not exclusively inactive people), one can argue that the impact of RDC on Italy's participation rate may be weakened. However, according to an estimate by the National Statistics Institute (ISTAT), the measure is expected to increase the active labor force by 470.000 units in the second quarter of 2020, confirming the tendency of this kind of policies to increase participation.¹⁴ Similar to what we expect from our proposal, the labor supply shock stemming from RDC has been estimated by the Italian Ministry of Finance (MEF) to widen the output gap in the first five years, due to an increase of the labor gap in absolute value (as a result of the upward revision of the participation rate) which is partly offset by a reduction of the TFP gap.

Actual vs. structural unemployment

According to EU institutions, Italy's high unemployment rates should be to a large extent considered as a structural phenomenon: for 2018, the estimated NAWRU was 9.9%, while actual unemployment rate settled at 10.6% (source: AMECO). Broadly speaking, this means that discretionary fiscal policies would have been able to reduce Italy unemployment by only 0.7 percentage points (i.e. the size of the unemployment gap), while more generous fiscal policies would only accelerate the pace of inflation. Consistently, the main objective of policy makers should be lowering the structural unemployment through liberalization processes (in both the goods and the labor market) and by targeting the education system. In this framework, unemployment benefits and active labor market policies may help, at least for short periods, to cope with unemployment, while no role is recognized for sustained expansionary fiscal policies, which are almost exclusively considered able to upsurge inflation.

Nevertheless, as indicated by Lang and Setterfield (2015), the notion of a non-accelerating inflation rate of unemployment is "a well-established but controversial feature of modern macroeconomics" (p. 1). The notion of NAIRU is grounded on two assumptions that are not shared by Keynesian and post-Keynesian economics, namely the neutrality of money and the irrelevance (at least in the long run) of aggregate demand for

the determination of output and employment. Inevitably, this allows us to consider the notion of NAIRU as crucially related to the view that persistent unemployment is principally caused by excessive labor market rigidities (due to trade union power, strict unemployment protection and other labor market institutions), whereas aggregate demand has no lasting effect on unemployment in case hysteresis is not at work.¹⁵

Despite its controversial theoretical foundations (see among others Stirati 2016; Stockhammer 2008; 2011), the NAIRU is among the milestones of the current policy-making toolkit. Then, the only existing debates concern its empirical estimation. Particularly for Italy, this is immediately testified by remarkable discrepancies in NAIRU estimations—and then in potential output and output gap—stemming from different international institutions (Fioramanti, Padrini, and Pollastri 2015; Frale and De Nardis 2017). This depends on different estimation strategies of “unobservable” variables. In this regard, the commonly-agreed methodology for the computation of the NAWRU resorts to the standard unobserved component framework to estimate time-varying conceptual variables. Then, by assuming that its dynamics is generated by a stochastic linear process, the unemployment rate is decomposed into the NAWRU plus a gap. In doing so, the Kalman filter procedure is used: intuitively, while the trend (or “structural”) component is usually interpreted as a random walk without drift, the cyclical one is estimated by referring to specific economic relationships. Particularly, a negative correlation between unemployment rate and inflation rate (in the spirit of the Phillips curve) is assumed to hold—for the complete procedure, see Havik, Mc Morrow, and Vandermeulen (2014).

Notwithstanding very sophisticated statistical procedures, the estimates of the NAIRU have been criticized by several scholars. Although the EC frequently refines and updates NAWRU estimation procedures, some scholars argued that structural unemployment still largely traces actual unemployment (Ball 2014; Palumbo 2015; Gechert, Rietzler, and Tober 2016; Blanchard 2018; Jump and Stockhammer 2019), to the point that also the EC (Hristov et al. 2017) has recently recognized that NAWRU estimates which follow this scheme tend to be excessively pro-cyclical.¹⁶ Hence, the reliability of potential output estimates, and consequently the size of structural deficits, are called into question. All in all, this brief overview indicates that both the notion of NAIRU/NAWRU and its empirical estimations should be considered as highly questionable: due to both analytical and empirical issues, we cannot exclude that past levels of unemployment (and then of economic activity) would influence NAIRU estimations, and then those ones of potential GDP and output gap. This seems to be especially true for Italy, where actual unemployment and the NAWRU systematically tend to comove, as it is evident from Figure 6.

Such path-dependency casts doubt on the very substance of the concept of NAIRU (see Blanchard 2018) and leaves an open question: in case structural unemployment would effectively depend on actual unemployment, significant expansionary measures would be able to lower both actual unemployment and the NAIRU.¹⁷ This element will be further discussed in the fifth section in connection with our policy proposal.

The proposal: simulation results and policy implications

As previously discussed, a consensus emerges, particularly among Post-Keynesian scholars, on the criticisms regarding both the notion and the estimations of the NAIRU. We share this view, as well as the policy implications of the use of this approach. However, the main contribution of this paper does not concern technical issues on the estimation of potential output, nor we are going to propose alternative strategies for the computation of non-inflationary unemployment. Specifically, in this work we present a measure consisting in deficit-funding a CMI of €780 per month for 1 million discouraged individuals that accept to restart seeking work, thereby reentering the labor force by registering at the job center.¹⁸ As a result, the participation rate would increase, boosting *ceteris paribus* the potential labor force as stated in equation (3), which would increase Italy's potential output—as indicated in equation (2)—and consequently the output gap and the allowed fiscal stance. In doing so, however, we have to deal with the thorny issue of the path-dependency of the NAIRU, which should be taken into account also for the evaluation of our proposal.

Let us start with some data concerning the potential pool of beneficiaries, an element which is crucial for the reliability of the proposal. In Italy, the active labor force is estimated by ISTAT in line with common Eurostat guidelines: according to ISTAT's definition of unemployment, an individual is classified as unemployed if a) she has not worked at least one hour in the week of inquiry, b) she has actively sought work in the last 4 weeks, and c) she is available to start a new job within two weeks. Monitoring the impact of the CMI program on the active labor force is possible, as ISTAT's statistical inquiry of active labor force is performed weekly. Moreover, activities such as a daily consultation of online job offers or job-seeking activities at job centers are valid causes to change an individual's status from inactive to unemployed. According to the Eurostat Labor Force Survey, which is grounded on ISTAT surveys, in 2017 there were 3.13 million discouraged individuals in Italy, which contributed to a very low employment rate. According to the definition provided by ISTAT, those people are explicitly outside the labor force, as they are defined as promptly available to work (in just two weeks), but they have actually "given up" job

searching activities because of the perceived low probability of finding vacancies.¹⁹ Meanwhile, the official unemployment rate stood at 10.9% in February 2018, with roughly 2.9 million people actively seeking work in absolute terms. By definition, the aforementioned 3.13 million discouraged individuals would be available to work but have not been seeking it for the latest four weeks: hence, if these individuals joined the labor market, Italy's participation rate can be revised upwards, thereby improving the economic potential of Italy.

In order to increase the participation rate along these lines, our proposal entails the payment of a minimum income—different from existing unemployment benefits—as an incentive for discouraged people to subscribe to employment centers and attend re-training courses.²⁰ Of course, an appropriate selection system has to be modeled, as it should effectively target people who are outside the labor force. Accordingly, in managing the applications priority should be given to individuals who join the labor force for the first time, or at least after a long period of inactivity. This can be assessed by monitoring how long ago was the precedent job position of the candidate. The same strategy could also prevent gaming phenomena.²¹

We now proceed by estimating the impact of the entrance of discouraged individuals into the labor force on Italy's potential GDP as an exercise of comparative statics for 2016. Our calculation is based on EC's data, according to which potential hours worked amounted to 1,725.1 per worker, the working age population totaled 45,276,000 individuals, the participation rate stood at roughly 60% and the net capital stock was estimated at €5,162.1 billion (source: AMECO). Accordingly, and considering a 10.1% NAWRU as estimated by the EC, in 2016 potential GDP in Italy totaled €1,603 billion. As actual GDP (at constant 2010) prices totaled €1,573 billion, the resulting official output gap amounted to -1.9 , thereby allowing a cyclical correction of about €16 billion to the nominal budget balance.

We then calculate the effects of the measure by computing the cyclical correction to the nominal budget, i.e. the term OG multiplied by β in [equation \(4\)](#), under different hypotheses. Out of 3.344 million discouraged individuals,²² in our policy scenarios for 2016 we consider, respectively, 1, 2 and 3 million newcomers in the labor force, or in other words potentially involved in the CMI measure ([Table 1](#)).²³ In case 1 million individuals entered the labor force, the participation rate would increase from 60.3% to 62.5%.²⁴ Assuming constant TFP and NAWRU, potential GDP would hit €1,641 billion, thereby bringing the output gap to -4.1 . The cyclical correction to the structural budget balance would therefore hit €35 billions, increasing the available fiscal space by €19.611 billion. Larger additional fiscal stances would be achieved in case the policy would involve 2 or 3 million inactive workers.

Table 1. Comparative statics model for 2016 (different policy scenarios).

Scenarios (2016 data)	Newcomers in the labor force (million)	Cost of the measure (billion)	Participation rate (15–74)	Potential GDP (billion)	Output gap	Cyclical correction (billion)	Δ Cyclical correction (billion)
Actual	–	–	60.34	1,602.900	–1.9	16.138	–
Policy 1	1	9.360	62.54	1,640.799	–4.1	35.748	19.611
Policy 2	2	18.720	64.75	1,678.233	–6.3	54.248	38.111
Policy 3	3	28.080	66.96	1,715.222	–8.3	71.736	55.598

Table 2. Simulation model for 2017 (single policy scenario).

Scenarios (2017 data)	Newcomers in the labor force (million)	Cost of the measure (billion)	Participation rate (15–74)	Potential GDP (billion)	Output gap	Cyclical correction (billions)	Δ Cyclical correction (billions)
Actual	–	–	62.27	1,605.43	–0.594	5.247	–
Policy	1	9.360	64.69	1,628.28	–1.989	17.565	12.318

The emerging additional fiscal space could be devoted to discretionary fiscal measures: in our case, these resources would be used precisely in order to deficit-financing the CMI and to potentiate the job centers (more details on this are provided for 2017). Obviously, this would negatively impact the structural deficit since it is reasonable to suppose that the relative increase in actual deficit will be greater than the relative increase in potential output (about 2.3%), but the measure would also produce real effects.²⁵

For these reasons, we set forth a more sophisticated empirical exercise for the subsequent year. Improvements involve both technicality and policy impact evaluation. In detail, we simulate the reintroduction of 1 million discouraged workers into the labor force in 2017 by implementing the estimation procedure adopted by the *Output Gap Working Group* (OGWG), a technical body set up to provide advice to the ECOFIN and the EC, in the 2017 Autumn Forecasts. Specifically, we make use of RATS routines and the GAP package.²⁶ This improvement is needed in order to cope with potential criticisms of the comparative statistics exercise.²⁷ For 2017, the EC's estimates entail a 10.3% NAWRU, a €1,605.43 billion potential GDP and a €1,595.9 billion actual GDP (at constant 2010 prices). The relative output gap stood at -0.59 , associated with a €5.25 billion cyclical correction to the nominal budget balance. According to the simulation (reported in Table 2), if 1 million discouraged individuals (out of 3.13 million, which count as additional potential workforce according to ISTAT) had joined the labor force, the participation rate would have increased from 62.3% to 64.8%, potential GDP would have increased by €23 billion, and the resulting output gap would have been equal to -1.98 ; as a result, the labor force shock would have produced an additional fiscal space of €12.318 billion.²⁸

Assuming a monthly payment of €780 per individuals, the additional nominal budget deficit would make it possible to finance a CMI for the supposed 1 million newcomers in the labor force (which would cost €9.360 billion) and to support the training activities of employment centers.

As already mentioned, the implementation of our proposal implies a higher structural deficit. The latter amounted to approximately 2.09% of potential GDP in 2017 (roughly €33.5 billion at constant 2010 prices). Within the existing framework, Italy would have had to undertake fiscal consolidation aimed at improving the structural balance by 1.6 percent points within the subsequent three years.²⁹ In case all the additional fiscal space generated by the measure would be utilized (this is not the case of our simulation, as we shall see below), structural deficit would hit 2.76% (see Table 3). This value is below the 3% Maastricht threshold, the exceeding of which would activate the “corrective arm.” Nevertheless, even within the action of the “preventive arm,” the higher structural deficit nested in our proposal would raise Italy’s medium-term consolidation effort (see the second section).

However, attention should be paid to the real effects of the measure. While we are aware that supporting the employability of individuals alone is not sufficient to create jobs, the stimulus provided by the minimum income to aggregate demand can be successful in fostering output, and consequently employment. In this regard, we evaluated the real impact of our measure on economic activity. In doing so, however, the true stimulus might be lower than the additional fiscal stance since some of the beneficiaries of the CMI could lose other social transfers. Accordingly, we cautiously suppose that only €9.198 out of €12.318 billion of the additional fiscal space translate in the budget expansion. Specifically, the €2.958 billion exceeding the cost of the measure will be, in our scheme, devoted to the enhancement of job centers. While it is reasonable to assume that this effort will completely translate into a fiscal expansion, we suppose that this will occur for only €6.240 out of the €9.360 billion (two thirds of the sum of the payments of the CMI). By assuming a 1.1 fiscal multiplier, as in the Italian Treasury Econometric Model (ITEM) employed by the Italian Finance Ministry,³⁰ the measure would boost real GDP by €10.118 billions, which *ceteris paribus* would imply a 0.633% higher real GDP. By assuming an employment elasticity of 0.5, in accordance with ECB (2016), we also estimate an effect of about 72 thousands additional employees.³¹

Table 3 presents additional evidence concerning public finance indicators, computed outside the simulation procedure and starting from the above-mentioned fiscal expansion of €9.198 billion (in real terms). Together with the effects on output, from the actual to the policy scenario we calculate an increase in the nominal budget balance (in % of actual

Table 3. Actual and policy macroeconomic scenarios for 2017.

	Actual	Policy	Notes
GDP (billion, constant 2010 prices)	1,595.89	1,606.01	(a)
Potential GDP (billion)	1,605.43	1,628.28	(b)
Participation rate (15–74)	62.27	64.69	(c)
Unemployment rate	11.30	14.33	(d)
Labor Force	25,720,493	26,720,493	(e)
Output gap	−0.594	−1.368	(f)
Cyclical correction	−0.327	−0.752	(g)
Nominal budget balance-to-GDP ratio	−2.10	−2.62	(h)
Gov' deficit (billion, current prices)	36.017	45.902	(i)
Gov' deficit (billion, constant 2010 prices)	33.514	42.712	(j)
GDP (billion, current prices)	1,715.10	1,725.97	(k)
Structural deficit (% of potential GDP)	2.09	2.62	(l)
Gov' consolidated gross debt (billion, current prices)	2,266.4	2,276.3	(m)
Debt-to-GDP (%)	132.14	131.88	(n)

Notes:

- (a) AMECO data for the actual scenario. For policy scenario, we consider a fiscal stimulus of €9.198 billion (in real terms), to be multiplied for 1.1 and hence added to the actual GDP.
- (b) AMECO data for the actual scenario. For policy scenario.
- (c) AMECO data for the actual scenario. For policy scenario, considering 1 million newcomers in the labor force.
- (d) AMECO data for the actual scenario. For policy scenario, considering 1 million newcomers in the labor force and the employment effect of the measure. We estimate such effect by applying the employment elasticity of 0.5 to an actual employment of 24.616 million persons (source: AMECO). Specifically, we applied the 0.5 coefficient to the GDP growth of 0.634%, resulting in 0.317% employment growth.
- (e) Data refer to the civilian labor force provided by AMECO data for the actual scenario. For policy scenario, considering 1 million newcomers in the labor force.
- (f) AMECO data for the actual scenario. For the policy scenario, we calculate the ex-post output gap by considering also the real effect of the measures, and hence by dividing the GDP of the policy scenario for the estimated potential GDP. Note that the output gap estimated in Table 2 (the ex-ante output gap) does not consider the real effects of the measure, and therefore it would be equal to the ratio of actual GDP and the policy potential GDP (in per cent of the policy potential GDP).
- (g) Output gap times semi-elasticity to the nominal deficit ($\beta = 0.55$).
- (h) AMECO data for the actual scenario. For policy scenario, Gov' deficit (current prices) divided by GDP (current prices).
- (i) For actual scenario, GDP (current prices) times deficit-to-GDP ratio. For policy scenario, actual Gov' deficit (constant 2010 prices) plus the fiscal stimulus of €9.198 billion.
- (j) For actual scenario, Gov' deficit (current prices) divided by GDP deflator. For the policy scenario, actual Gov' deficit (constant 2010 prices) plus the fiscal stimulus of €9.198 billion.
- (k) AMECO data for the actual scenario. For policy scenario, GDP (constant 2010 prices) multiplied by GDP deflator.
- (l) Gov' deficit (constant 2010 prices) divided by potential GDP.
- (m) AMECO data for the actual scenario. For policy scenario, actual Gov' consolidated gross debt plus the fiscal stimulus of €9.198 billion, with this latter multiplied by the GDP deflator.
- (n) Gov' consolidated gross debt divided by GDP (current prices).
The GDP deflator for 2017 (base year 2010) is 1.075.
Source: AMECO (data extracted on March 2018).

GDP) and in the structural deficit, with this latter passing from 2.09 to 2.62 (in % of potential GDP). While impacting on deficit, it is interesting to note that this measure would not negatively affect the debt-to-GDP ratio, which in the policy scenario exhibits a slight reduction due to the positive effects on output. The real effect, however, will reduce the size of the *ex-post* output gap, which would settle at -1.37 once considered the real impact of the fiscal expansion (an element which will be discussed in the fifth section).

Of course, restoring workers' employability is not sufficient to ensure labor absorption: active labor market policies and training have effects on employment as long as new vacancies are created (see Tridico 2018, ch. 4), while active labor market policies are effective only when vacancies and job seekers grow at the same rate (i.e. when the economy lies on the Beveridge curve). This seems not to be the case of Italy, as discussed in the third section, where high unemployment should be faced through more ambitious expansionary policies. In this regard, the idea that fiscal stimuli should be regarded as the best policy answer to the actual scenario of hysteresis in unemployment and prolonged stagnation is currently considered also from authors belonging to the New Keynesian tradition (see Krugman 2012; Summers 2015; Summers and Stansbury 2019). If we admit the idea that the decrease of structural unemployment can be achieved through the reduction of actual unemployment (Orlandi 2012), this can occur through demand-side policies, as the empirical evidence has recently questioned the relationship between labor market flexibility and employment (see Tridico 2013; Kleinknecht, Kwee, and Budyanto 2016; Brancaccio, De Cristofaro, and Giammetti 2020).

Criticism and the case of Germany

Main points of criticism

The present proposal can be criticized along three lines. The first strand of criticism argues that this measure is nothing more than an “accounting trick” that the EC will never approve.³² Secondly, it has been claimed that whereas such measure would have real effects, the increase in actual GDP would reduce the output gap (as we actually find for 2017) and then reduce the additional fiscal stance. Thirdly, one may argue that the increase in the unemployment rate caused by the transition of discouraged individuals into unemployment would automatically translate into an increase in the NAWRU, thereby neutralizing much of the effect of the participation rate on the potential labor force. In what follows, we deal with these potential shortcomings.

With respect to the first critique, admitting that the proposal is uniquely related to accounting issues concerning the pool of discouraged and inactive people can contribute to legitimize it from a procedural point of view, since we are measuring the effects on potential GDP by following the calculation procedures of the EC. Specifically, if the measure effectively increases participation, the computation of the output gap will be grounded on the “new” active labor force stemming from actual surveys, and hence from the potential labor force a higher contribution to potential GDP will hold. Of course, this would crucially depend on the initial possibility of the

government to deficit-financing the CMI. We are conscious of the political implications of this proposal, but they are not object of our discussion here.

Concerning the second critique, one can argue that in case minimum income payments translate immediately into additional consumption, actual GDP will also increase. Consequently, the output gap would not be so large, and the additional fiscal space would not emerge (see Garnero 2018). Nevertheless, as we indicate in our simulation for 2017, where we consider also the effects of the measure on output and employment, the *ex-post* output gap is larger (-1.37) than the actual (-0.59), implying a discrepancy between actual and potential GDP of €22.2 billion (if we did not consider the real effect on GDP, it would amount at €32.4 billions). This value is far beyond the amount of the stimulus. Therefore, a sufficiently larger (to implement the measure) output gap would hold even if we consider also the real effect of the CMI. Indeed, a further element has to be taken into consideration: a delay between the increase in potential GDP and the expected increase in actual GDP is likely to be in line with the official procedures of the European Semester, since the EC preventively admits (in year $t-1$) a certain output gap with respect to GDP estimation for year t . Subsequently, the EC updates both estimations of potential GDP and the compliance with the medium-run goal criteria both during year t and *ex-post* in year $t+1$ (see EC, 2017, pp. 24–26).³³

For what concerns the third critique, issues are even more debatable from both a theoretical and a methodological standpoint. Ideally, if including discouraged individuals into the labor force would mechanically induce an increase of the NAIRU (being the activated people translated in the unemployment and at the same time considered as structural unemployed), this could reveal possible weaknesses regarding its estimations, as discussed in the third section (second subsection). However, it should be noted that the importance of broader estimates of labor underutilization for the measurement of the economic potential of countries has been stressed by EC (2017) and ECB (2017): both of them underlined the fact that the presence of “hidden” unemployment in the form of inactivity impairs a correct assessment of labor market conditions and negatively affects the impact of monetary policy on economic activity. Moreover, while it is reasonable that an increase in actual unemployment has an impact on the NAWRU—in line with the hysteresis argument advocated by several leading economists (Blanchard 2018; Cottarelli, Giammusso, and Porello 2014)—the transformation of cyclical into structural unemployment happens over time, thereby leaving room for an initial increase in potential GDP.³⁴ In fact, the output gap estimation method officially adopted at EU level allows for a “gradual” effect of the unemployment rate on the NAWRU. In this regard, the

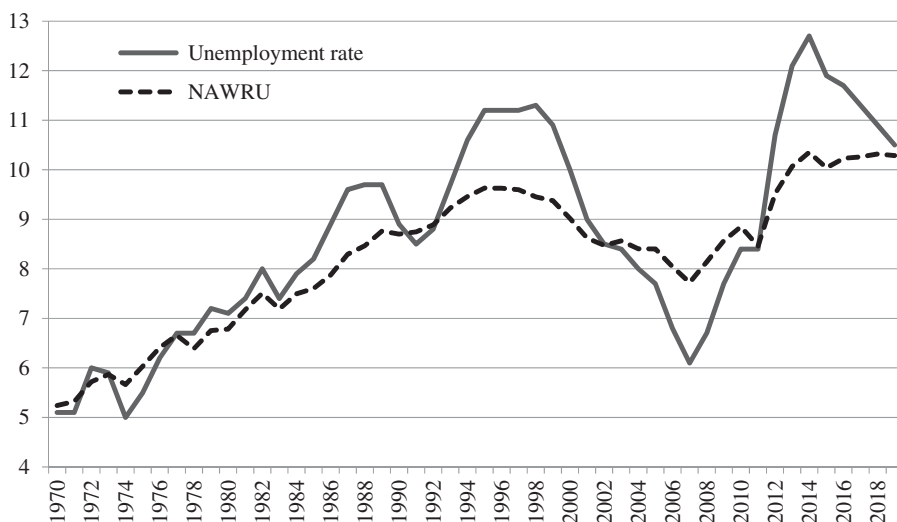


Figure 6. Italy's actual unemployment rate and NAWRU. Source: AMECO (data extracted on March 2018).

statement by Draghi (2018) reported in the first section seems to support this interpretation. Moreover, for the case of Italy it is straightforward to note how changes in the NAWRU regularly track changes in actual unemployment (as reported in Figure 6). If causality ran from actual unemployment to the NAWRU, expansionary policies would decrease actual and consequently structural unemployment (see Stirati 2016). Therefore, an additional stimulus to aggregate demand triggered by the introduction of the minimum income can promote labor absorption, thereby contributing to the reduction of both the “additional” unemployment generated by the entrance of discouraged individuals into the labor force.

Labor supply shocks and the case of Germany

However, other factors such as the effect of an influx of discouraged individuals and long-term unemployed on aggregate labor productivity, TFP and the NAWRU can eventually reduce the impulse provided by the labor supply shock to the labor contribution to potential output, thereby reducing the related fiscal space in structural terms. The use of the commonly-agreed methodology and technicalities, as we did in the simulation for 2017, should in principle exclude this potential bias. However, we find of interest to introduce a paramount reference case. In order to understand the potential impact of increasing participation on potential output, let us refer to the request presented by the German Finance Ministry to the German desk of the Directorate-General for Economic and Financial

Affairs (DG ECFIN) of the EC in 2016. Two notes presented for consideration of the *Output Gaps Working Group* report the results of the request by the German Ministry (DG ECFIN 2016a, 2016b).

Specifically, the German Ministry requested the DG ECFIN to take migration effects into account within the 2016 Autumn economic forecast. Based on immigration scenarios provided by the German Council of Economic Experts and the German desk of ECFIN, the two notes compared the “mechanical” method for assessing the impact of asylum seekers on potential output derived by the official production function methodology with a more refined approach which distinguishes between the participation rate of the working age natives and the working age migrants. Instead of computing a smooth trend over the global labor force, the two works apply a Hodrick-Prescott filter to the native-born labor force, whereas estimates of participation rates for migrant labor force are unfiltered as they already refer to trend rates. The comparison between the participation rates computed via the standard mechanical approach and the refined one shows negligible differences between the two methods in estimating potential output after the migration shock. In 2015 and 2016, potential output growth would deviate from the standard mechanical approach, by not more than 0.2%, whereas in the medium term the impact becomes smaller than 0.1%. The small entity of the potential growth rate bias is mostly due to the assumption that the whole migrant labor force is low-skilled, consistent with the German Council of Economic Experts (2015/16) and the Deutsche Bundesbank (2015, 2017). Regardless of the potential growth bias, the standard mechanical approach implemented in the Spring 2016 economic forecast for Germany takes the migration shock into account: as [Figure 7](#) shows, Germany held a constant cyclically adjusted budget balance equal to 1.1% of potential GDP between 2015 and 2016, while the German output gap stood at -0.5 in 2014 and 2015, and at -0.2 in 2016, finally turning to zero in 2017.

The forecasts in DG ECFIN (2016a, 2016b) are based upon the assumptions presented in German Council of Economic Experts (2015/16) and the endogenously computed employment and participation rates within the EC’s QUEST model (Ratto et al. 2009). In German Council of Economic Experts (2015/16), four different scenarios for future inflows of migrants and refugees are compared. In the baseline scenario, 80% of the 1 million refugees arrived in Germany in 2015 seek asylum, while 72% of asylum seekers are of working age. Hence, 0.576 million migrants in 2015 are added to the working age population. The participation rate of migrants is assumed to be a function of the number of years they have already been in Germany, and it increases from 40% in 2015 to 62% in 2020. Moreover, using a cohort approach, it is assumed that each year in which a migrant

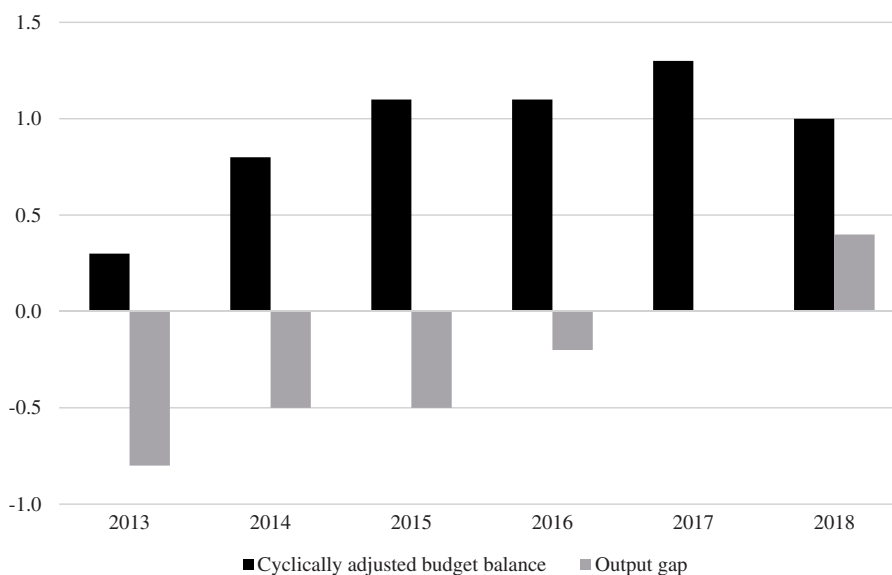


Figure 7. Germany's cyclically adjusted budget balance and output gaps. *Note:* both measures are expressed in % of potential GDP. Source: AMECO (data extracted on March 2018).

person stays in Germany, the associated probability to be unemployed decreases: the unemployment rate of migrants is thus set to decline from 80% in 2015 to 32% in 2020. In the baseline scenario, the German government is set to spend €800 per month in benefits for asylum applicants, €550 per month for 75% of the recognized refugees, and a lump sum measure of €2,000 per migrant person for qualification and training measures including language courses in the first year after recognition.³⁵ Different scenarios are then computed with respect to the inflows of migrants, the speed of recognition of asylum seekers and the pace of integration in the labor market. Each scenario is connected with a different level of fiscal outlays and produces different results in terms of fiscal sustainability: the quicker is integration in the labor market, the less becomes the fiscal effort required to pay benefits for asylum seekers and recognized refugees. Based on the information provided by the DG ECFIN (2016a, 2016b), it is possible to understand that the goal of the German Finance Ministry in requesting an adjustment for the migration shock to the DG ECFIN has been to favor a recognition of the related fiscal effort as a response to a structural change in Germany's labor market.

Several other sources have interpreted the migration shock as a structural change in the dynamics of labor supply. The Deutsche Bundesbank (2015) revised its estimate of potential output upwards after the influx of refugees, owing to the impact of the migration shock on the potential labor force and its indirect effects on productivity growth and investment (including housing). Deutsche Bundesbank (2015) estimated potential output to grow

at 1.3% per year and the Germany's output gap to improve over the medium term, whereas the actual output gap stayed negative until 2017, allowing the cyclically adjusted budget balance to be constant over the 2015–2016 period. Similarly, Deutsche Bundesbank (2017) estimated the short-term and medium-term projection of Germany's potential output to be influenced by different immigration scenarios: with higher immigration, potential growth increases by 1.3% (compared to 1.2% in case of lower immigration) in the 2016–2020 period, and by 1.0% in the 2021–2025 period (compared to 0.7% in case of lower immigration). The contribution of hours worked to potential growth is estimated to be 0.3% in the 2016–2020 period (compared to 0.1% with lower immigration), and -0.1% in the 2021–2025 period (compared to -0.4% with lower immigration).

All in all, evidence from Germany may suggest that a labor supply shock of inactive workers, such as the reintroduction of 1 million discouraged individuals into the labor, can contribute to boost Italy's potential GDP. Hence, the fiscal expenditures for a minimum income conditional to the reactivation of long-term unemployed and discouraged people out of the labor force through active labor market policies might be at least partially subtracted from the computation of the cyclically adjusted budget balance and the structural balance, which is the relevant magnitude for the evaluation of compliance with EU budgetary rules.

A further caveat has to be discussed. It has been argued that the influx of discouraged people into the labor force can hardly be translated into an increase of the potential labor force, and this would happen since these workers would be typically low-skilled and untrained (Monacelli, 2018). Consequently, the NAWRU would increase and average TFP would decrease, thereby negatively offsetting the increase in participation. If this was the case, there would be no additional fiscal space available, to the point that the overall impact of the measure on the output gap could also be negative in a very extreme case.

Remarkably, this argument assumes that workers "activated" by the CMI would almost totally translate in additional structural unemployment. While the procedure followed for 2017 via RATS routines and the GAP package makes any possible side-effect endogenous, we leave a thorough estimation of the response of the NAWRU and TFP to a labor supply shock for future research. Nevertheless, a comparison with what has recently happened in Germany provides a useful comparative indicator. Germany experienced a huge labor supply shock consisting in an influx of migrants which in 2015 involved about 900,000 asylum seekers (OECD 2017). Such inflow has effectively contributed to increase the potential labor force: Deutsche Bundesbank (2017) forecasts an increase of approximately 2 million workers from 2017 to 2025. The age structure of immigrants is

extrapolated on the basis of the pattern observed in previous years, in which young immigrants predominated; hence, the inflow of immigrants is expected to offset the decline in participation rates of native-born workers due to ageing. Moreover, the dynamics of the NAWRU in Germany have not been significantly influenced by the increase in unemployment due to the inflow of migrants: the NAWRU stood at 5.3% in 2013 and decreased to 4.1% in 2016, while it is estimated at 3.6% in 2018 (source: AMECO). According to Romei et al. (2017), about 20% of refugees from crisis-afflicted countries managed to find employment as of June 2017, with more than 50% of refugees and asylum seekers still on integration courses. Most of the jobs created for refugees are low-skilled, with 57% of employers reporting that they had little difficulties in integrating refugees, 29% reporting no difficulties and 13% reporting considerable difficulties mostly due to language issues. Deutsche Bundesbank (2017) also found that according to a generalized estimate of the Phillips curve, upward wage pressures resulting from the expansion of domestic demand have exceeded the wage-dampening impact of immigration. However, most of the dampening effect is not to be attributed to immigration pushing down the demand wages of domestic workers, but it is due to the migrant employment composition which generally favors low-skilled jobs with below-average wages.

An extrapolation of these outcomes to the case of Italy is not straightforward. According to Monacelli (2018), a decrease in average wages in Italy as a result of the influx of discouraged individuals in the labor force might dampen labor force participation as many workers that are currently “discouraged” can be expected to be employed in informal labor markets, especially in the Southern regions of the country. Thus, there would be an incentive for these individuals to keep working in informal markets and at the same time earn the minimum income, thereby decreasing the demanded wage in informal markets and increasing the demand for labor in these markets. This would dampen the potential labor force. In order to prevent this outcome, fighting illegal work and well-designed training programs to be managed by employment centers are key: if the latter are successful, the positive labor supply shock is not likely to be translated in an increase in structural unemployment.

Concerning technical matters, the production function approach for the estimation of potential output implies that in the short run the inflow of discouraged workers increases the potential labor force and the unemployment gap widens, as the hike in the unemployment rate is interpreted as cyclical. If unemployment does not decrease over time—i.e. if there is a slow integration of previously inactive workers in the labor market—the Kalman filter approach begins interpreting the increase in unemployment

as a trend component, thereby increasing the NAWRU (cf. third section, second subsection). The speed of labor absorption is thus crucial in promoting an increase in the productive capacity of the economy, and thus prevent an excessive increase in the structural unemployment.

Conclusions

Focusing on the case of Italy, this paper presents a proposal for promoting a transition of discouraged individuals into the labor force by means of a minimum income conditional to active job seeking. Increasing participation would boost potential output and, other things being equal, widen the stance for fiscal policy. A simulation of the impact of such a measure on Italy's structural balance has been performed using the production function approach implemented by the EC. For 2016, the simulation consists of a comparative statics exercise, whereas for 2017 a labor supply shock (1 million additional workers in the active population) has been introduced in the procedure used by the OGWG. In 2016, the upward revision in the participation rate caused by the labor supply shock would increase the available fiscal space by about €19 billions, whereas in 2017 an equivalent labor supply shock would increase fiscal space by about €12 billion. This additional fiscal stance would have been used to deficit-financing a conditional minimum income for inactive workers that transit into the labor force. This measure could be implemented due to the greater fiscal stance generated by the increase in output gap, stemming from the increasing participation. Finally, by assuming the fiscal multiplier estimated by the Italian Ministry of Finance, we forecast the impact of the introduction of this measure on national income, deficit and debt ratios.

Further research should assess the impact of a labor supply shock to Italy's potential labor force on aggregate wage dynamics, the likelihood of sectoral labor shortages and the dynamics of both NAIRU and TFP. These factors provide a crucial indication as to how quickly an increase in the official unemployment rate would be reabsorbed over time, and whether the reactivation of discouraged people would have a considerable impact on the medium-term dynamics of potential output.

Notwithstanding the feasible real impact of this measure, we are conscious that a minimum income to inactive people should be a complementary measure to the implementation of more ambitious and inclusive employment policies. The CMI would, however, represent a welfare measure designed to fight absolute poverty and to encourage the reintegration of inactive people into the workforce. Obviously, the greater employability stemming from re-training is not sufficient itself to solve the problem of unemployment and underemployment. Nevertheless, the stimulus to

aggregate demand arising from the deficit spending may contribute to sustain economic recovery and then employment growth.

However, labor market slack in Italy remains a relevant issue. High and persistent unemployment, particularly among young people, has to be faced through substantial demand stimulus, whose size would be remarkably greater than the measure here proposed. Of course, we are aware that significant expansionary fiscal policies, which we consider extremely relevant to sustain aggregate demand (especially after economic downturns, or during periods of stagnation), are not feasible in the current institutional context of the Euro area, featured by fiscal strictness. Nevertheless, and if politically accepted, our proposal can still represent an attempt to foster GDP and employment, as well as to mitigate poverty and income inequality.

Notes

1. On January 2020, Eurostat indicated a positive but moderate improvement concerning Euro area (EA19) unemployment rate (7.4%). Importantly, the reader should take into account that the present work has been conceived in 2018 and developed before the outbreak of the Covid-19 emergency.
2. See on this Jarociński and Lenza (2018).
3. It is worth pointing out that in the EU fiscal framework reference is made to the NAWRU (non-accelerating wage rate of unemployment) instead of the NAIRU when assessing the 'natural' or 'structural' rate of unemployment. While the latter refers to the traditional price inflation features in the Phillips curve, the former refers to wage inflation. Despite this difference, they can be interpreted in the same way: when the actual unemployment rate is below this 'equilibrium' rate, inflationary pressures would take place. Throughout the article, we shall use the terms NAIRU and NAWRU interchangeably.
4. See for example the note by Adam Tooze published on 30th April 2019 by Social Europe (website: www.socialeurope.eu/output-gap-nonsense). The reader may also refer to the works by Robin Brooks and Greg Basile published by the Institute of International Finance (website: www.iif.com).
5. The interview was released at *Le Figaro*. See AGI (2016).
6. In addition to Padoan, also Cacciotti, Frale, and Teobaldo (2013), Cottarelli, Giammusso, and Porello (2014), Fioramanti (2016), Frale and De Nardis (2017), and MEF (2017a) posed similar questions to the output gap estimations for Italy.
7. Following Keynesian insights, fiscal policy is supposed to be countercyclical, hence a greater fiscal stance is allowed when the economy stands well below its potential.
8. Putting it simply, the methods of computation of potential GDP can be clustered in two families: those ones based on the use of filtering techniques (implying the smoothing of actual GDP data), and those ones based on the production function approach (grounded on the estimation of potential levels of the factors of production). For a broader overview of these methods, see Cerra and Saxena (2000) and CBO (2004). Recently, some challenging attempts to introduce innovative techniques—or interesting modifications to the existing ones—for the computation of

potential GDP have been proposed by Fontanari, Palumbo, and Salvatori (2020), Charles, Dallery and Marie (2018) and Li and Mendieta-Muñoz (2018).

9. Equation (2) is homogeneous of degree 1. Since constant returns to scale and perfect competition are assumed, this functional form does not allow for the presence of any 'residual' in the distribution of product. Moreover, being in this framework marginal products equal to their remuneration (in physical terms), the parameter α should reflect the labor share on GDP. In the EC model for the computation of potential GDP, it is fixed for all EU countries at 0.65 (see Fioramanti 2016).
10. The semi-elasticity captures the reactivity of the budget balance (in % of GDP) to a change in the output gap. Its value stems from a weighted average of the individual elasticities of each government revenue and spending item. For technical issues, see Mourre, Astarita, and Princen (2014) and Price, Dang, and Guillemette (2014). Recently, Mourre, Poissonnier, and Lausegger (2019) have offered an update and further analyses on the estimation of this parameter.
11. The EC yearly analyses in detail EU member states' economic and structural reforms programmes and provides them with a set of recommendations for the subsequent 12–18 months. During this time, each member state has to align their budgetary and economic policies with the objectives and rules agreed at EU level, within the previously mentioned targets. For a more detailed picture, see EC (2017).
12. For a comprehensive overview of the Italian context, see Cesaratto and Zezza (2018) and Storm (2019).
13. After the outbreak of the pandemic emergency, the number of beneficiaries dramatically increased up to 3.1 million people, that is 1.3 million households (September 2020). Source: INPS.
14. See MEF (2019, p. 33) for further details.
15. For a critique on the concept of NAIRU, see also Stirati (2001), Sawyer (2002) and Storm and Nastepad (2007); Girardi, Paternesi Meloni, and Stirati (2020) provide some empirical support against the independency of potential GDP of aggregate demand.
16. A certain degree of pro-cyclicality has been explained through the presence of labor market rigidities (Rusticelli 2015). In parallel, the 'hysteresis hypothesis' has been advanced to describe labor market 'anomalies' in European Countries (Blanchard and Summers 1986; Havik et al. 2014).
17. To this regard, Girardi, Paternesi Meloni and Stirati (2020) have recently estimated the effects of demand impulses on key macroeconomic outcomes, finding that autonomous demand shocks fosters GDP, lowers unemployment and upsurges other factors which may stimulate potential growth (such as productivity, participation, and capital stock).
18. As in the scheme of the RDC, the sum represents the minimum monthly income needed to reach, on average among regions, the reference 'absolute poverty' threshold in Italy (cf. ISTAT 2018).
19. For the third quarter of 2018, the official statistics on Italy indicate a vacancy rate of 1.1% in industry and services sector, which is approximately equal to 270 thousand vacancies.
20. Our policy proposal would not imply a reduction in unemployment benefits since people involved would be outside the labor market, and hence they are not getting any unemployment benefits.

21. One can argue that a low-paid worker can be encouraged to quit the job in case the CMI is higher than the salary. While the monitoring of the precedent job can formally mitigate this issue, the introduction of a minimum wage level at least equal to the CMI would discourage these behaviors.
22. Source: ISTAT, potential labor force. Even if the most common data by ISTAT concern the age group 15–64, we used the 15–74 statistics to be consistent with EC procedures.
23. In case the scope of measure would not be enough to involve all discouraged individuals, a selection system would be necessary to identify the beneficiaries. For instance, this mechanism may take into consideration the economic condition of the candidates, by given priority to the poorest ones.
24. The simulation, which results are reported in Table 1, starts from 27,317.6 million workers in the total labor force.
25. To be fair, also the actual unemployment rate would increase, but this would not significantly impact the real conditions of involved people since they would pass from inactive to unemployed, with no changes on their personal situation. The expansionary fiscal policy is however supposed to stimulate the economy and then to foster employment opportunities, as we will show in the simulation proposed for 2017.
26. Estimates of potential GDP have been computed via the RATS routines made available by the OGWG at the CIRCABC public repository. We have followed the European Commission's methodology which entails the estimation of TFP—in its trend and cycle components—and NAWRU through the GAP package, that is also publicly available at the CIRCABC repository.
27. Basically, the procedure we follow in the simulation allow us to consider as 'endogenous' all the variables in our empirics, then taking into account to feasible side-effects of the increasing participation rate on TFP and the NAWRU. See fifth section (second subsection) for a discussion.
28. Discrepancies in participation rates with the previous exercise would depend on the fact that the simulation for 2017 considers only the civilian labor force.
29. According to the existing fiscal framework, Italy still has to cope with a prospective structural deficit of 0.5% GDP, that is the medium-term budgetary objective.
30. Being our stimulus a combination of subsidies for the beneficiaries and public effort in reinforcing the job centers, we refer to the fiscal multiplier of total expenditure calculated by MEF (2017b).
31. In the simulation reported in Table 2, for 2017 we start from 25.7 million workers involved in the civilian labor force. The simulation has been carried out by adding one million persons to the labor force and the unemployment. This increases the unemployment rate up to 14.62%, whose value settles at 14.32% if we consider the expansionary effect of the measure. See Table 3 for details.
32. See the interview to Daniel Gros reported by Paudice (2018). The interview refers to the work by Tridico and Paternesi Meloni (2018), where the general features of this proposal have been introduced.
33. In each year t , the main economic and fiscal data presented in the Stability and Convergence Programmes entail the previous year (year $t-1$), the current year (year t) and at least the following three years (year $t+1$ to $t+3$). The compliance of each member state is assessed on an *ex-post* basis for the year $t-1$, an in-year basis for the year t and on an *ex-ante* basis for years from $t+1$ to $t+3$.

34. As a matter of fact, the NAIRU theory has become the prevalent explanation of unemployment in the European framework, and it is often used to advocate policies aiming at reducing welfare provision (particularly unemployment benefits) to decrease actual unemployment rates (cf. Stockhammer 2008). However, this view has been criticized by authors who endorse a different perspective on the inflation-unemployment nexus (see Sawyer 2002; Arestis and Sawyer 2005; Stirati and Paternesi Meloni 2018). According to this alternative approach, output and employment essentially depend on aggregate demand also in the long run, while income distribution can be affected by the bargaining power of parties. See Stirati (2001) and Serrano (2006) for an interpretation of inflation and hysteresis according to these lines of interpretation, as well as Kurz and Salvadori (1995) and Petri (2004) for advanced expositions of the analytical background.
35. See German Council of Economic Experts (2015/16), *Focus on Future Viability*, Appendix, p. 34.

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