What can we learn from the last decades partial and targeted labour market de-regulation?
Few lessons for the present Covid-19 labour market crisis.

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Introduction

This paper focuses on the occupational impact of the labour market deregulation undergone in Italy in the last decades, adopting a mid-term longitudinal perspective to describe characteristics and determinants – among which labour market de-regulation is expected to be one of the most relevant – of both unemployment trends and the diffusion of temporary employment, between 1995 and 2016. We rely on a self-constructed panel dataset based on 11 distinct cross-sectional waves of SHIW (Bank of Italy) data, covering the period between 1995 and 2016, a period characterized by relevant labour market modifications as a joint product of institutional reforms (mainly in terms of welfare and labour market de-regulations) and different business cycles. By means of this extended observational window, we depict the contextual framework to investigate the rationale and the strategy followed in the last two decades of reforms concerning employment regulations, with a focus on the period preceding the spread of the Covid-19 crisis. In doing so we both provide a test for a (long-term) influence exerted by labour market de-regulation and temporary employment diffusion in a highly segmented labour market, and we shed light on a possible counter or pro-cyclical role played by non-standard employment. Then, we believe that looking at the experience of the last decades partial and targeted labour market de-regulation in Italy will also contribute to the discussion about the labour market consequences and the labour policies measures to be implemented to cope with the present Covid-19 situation. Is de-regulation the right answer to get the pandemic labour market up and runnin’ again?

From an empirical standpoint, the levels and modifications of labour market regulation under scrutiny are accounted for by means of a time varying labour market de-regulation measure (hereafter: LMR), a specific subcomponent of the Fraser Institute Economic Freedom of the World (EFW) index\(^1\). Based on the World Bank and World Economic Forum data, the LMR measure provides comparative and longitudinal scores of strictness of regulations and procedures related to an extensive set of LM dimensions. For what concerns Italy, at least along the period under scrutiny, LMR index is substantively consistent with measures provided by other institutional sources (such as the well-known OECD Employment Protection Legislation). It displays relevant longitudinal variation and an almost monotonic trend towards less stringent regulations in labour market domain, moving from a minimum score of 3.49 in 1995 to its maximum score of 6.13 in 2016 (the higher the value of the Index, the higher the level of LM de-regulation).

To deal with the nexus between temporary employment diffusion, LM de-regulation, and labour market outcomes, in the following we carry out our analysis tracking employment

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\(^1\) As specified by the authors: “The EFW measure might be thought of as a measure of the degree to which scarce resources are allocated by personal choices coordinated by markets rather than centralized planning directed by the political process. (...) To a large degree, a country’s EFW summary rating is a measure of how closely its institutions and policies compare with the idealized structure implied by standard textbook analysis of microeconomics.” With regard to labour market (de)regulation, the Index considers: (i) Hiring regulations and minimum wage; (ii) Hiring and firing regulations; (iii) Centralized collective bargaining; (iv) Hours regulations; (v) Mandated cost of worker dismissal; (vi) Conscription. For more details: [https://www.fraserinstitute.org/sites/default/files/economic-freedom-of-the-world-2017.pdf](https://www.fraserinstitute.org/sites/default/files/economic-freedom-of-the-world-2017.pdf)
trends both in response to variations in micro level (group-specific) exposure to temporary employment, and in macro (national) LMR. The overall pattern of the results suggests that macro level de-regulation policies and micro level density of temporary employment can exert less positive (or even adverse) influence on macro and micro labour market outcomes, with a significant pro-cyclical interplay with the economic conjuncture.

In what follows we start framing our research questions regarding the influence of LMR providing a sketchy description of macro labour market trends in the observational window under scrutiny. According to several macro-economic indicators, Italy scored at the top of the international rankings in the distribution of both national overall GDP and manufactory output (World Bank, 2014; UN, 2014). Until the 2008 crisis Italy in fact knew a relatively modest growth in (mainly female: Cutuli and Scherer, 2014; Barbieri et al. 2019) employment levels and in the speed of labour market entry (Barbieri et al. 2016). In the same years, in line with the international trend, the overall unemployment rate almost halved, moving from about 12% in 1998 to around 6% in 2007 (OECD Stats). Despite these positive considerations, if compared to other affluent countries Italian economic growth, independently on the crisis, has since a long time been rather weak and uncertain (Landesmann, 2015). The crisis started in 2008 hit on such an unsatisfactory economic situation: the levels of long-term unemployment started to growth apparently out of control (OECD Stats, 2015). Indeed, the capacity to cope with the crisis displayed by the Italian labour market remained definitely low. Since the 2008 crisis, the overall Italian unemployment rate continuously went up reaching about 13% at the end of 2014 (with an increase of around 6 p.p. between 2008 and 2014) and with a loss of one million jobs (Sestito and Viviano, 2016).

Subsequently, it followed a rather slow recovery trend. GDP growth rate remained consistently lower than 1% and the employment rate in 2016 still fell more than two percentage points below the pre-crisis period. This aggregate result in terms of unemployment diffusion came with a clear disproportion of the employment retrenchment among different social groups. Mid-age male workers, less qualified segments of the workforce and especially young people were the most exposed to increased risks of labour market exclusion. Moreover, youth unemployment rate and youth unemployment ratio moved from about 20% to over 35% and from 6.3% to 9.1 % respectively, thus exacerbating the youth-old age dualism as a relevant component of the Italian labour market. Side by levels and composition of unemployment, also the quality of the unemployed sensibly worsened, with the quota of long-term unemployed that reached 60%, exacerbating another problematic aspect of the segmentation of the Italian labour market, namely the lack of mobility between sticky non-work conditions and employment (Cutuli and Grotti, 2020). To

2 Eurostat defines youth unemployment rate as the percentage of the unemployed in the age group 15 to 24 years old compared to the total labour force (both employed and unemployed) in that age group. However, it should be remembered that a large share of people between these ages are outside the labour market, which explains why youth unemployment rates are generally higher than overall unemployment rates, or those of other age groups. For this reason, the youth unemployment ratio is proposed: the percentage of 15-24 unemployed young people compared to the total population of that age group (not only the active, but also the inactive such as students).

3 It is worth noticing that the low turnover rates, further falling due to the economic downturn, are particularly problematic in Italy. Indeed, prolonged unemployment spells tend to come with significant socio-economic risks for
what extent these long-term trends can be traced back to (or have been rather moderated by) supply side perspective of de-regulation policies undertaken in Italy, remains an open question. What we know is that theoretical reasoning and the empirical evidence on possible positive effects of labour market de-regulation appears rather mixed even in international perspective (Barbieri and Sherer 2009; Kahn 2010; Skedinger 2011; Advagic, 2015; Noelke, 2016; Gebel and Gisiecke, 2016; Barbieri and Cutuli, 2016; Barbieri et al., 2016). This applies especially in segmented labour market like the Italian one, where temporary employment has been found to serve comparatively less as a screening tool (Barbieri and Cutuli, 2018), and where the macro level expected positive effects of LM de-regulation at the margins have proved to be transitory, originating what the literature has labelled a “honeymoon effect” (Boeri and Garibaldi, 2007; Barbieri and Cutuli, 2016).

The existence of past counter or pro-cyclical influences of both de-regulation policies and temporary employment diffusion is a further point of interest, whose theoretical and societal relevance is arguably even higher in a period in which Italy and Europe seem stuck at the crossroads of the severe Covid-19 crisis and in need of planning future policies aimed at increasing labour market recovery and resilience.

**Labour market dualization and occupational trends**

The identification of possible heterogeneity in the role played by the diffusion of temporary employment depending on the economic cycle is both a retrospective and prospective exercise. For the latter, it can be intended as an empirically informed speculation on catching-up dynamics following the current Covid-19 crisis, both in terms of macro-economic recovery and, arguably more importantly, in terms of between group inequality. That being said, somehow less ambitiously, it can shed light on the appropriateness of the evergreen diagnosis attributing poor performances, scarce resilience and slow adjustment and recovery capacity of labour market to an excess of regulation, in line with the “Eurosclerosis” argument. According to the “Eurosclerosis” perspective, labour market inefficiencies in terms of employment creation, market clearing, low turnover rates can be seen as undesirable institutional side-products of institutional rigidities (often reported as “imperfections”). In this vein, excessive role of trade unions, strong centralization of wage bargaining, inefficient design of social and unemployment benefits, over-strict setting of hiring and firing regulation, were all factors “shifting to the right” the Beveridge curve thus exerting a detrimental influence on labour demand (vacancies) and unemployment reduction (Addison and Teixeira, 2003; Nickell, 1997; Siebert, 1997). Following these – mostly based on cross sectional comparisons - premises, starting from the mid-90s a set of reforms have been progressively implemented in order to make the Italian labour market more flexible. The political option of choosing job security rather than wage as the main adjustment lever (Maurin and Postel-Vinay, 2005; DiPrete et al., 2006) and of targeting the reforms efforts to the peripheral

entrapped individuals due to the bad match between eligibility criteria of unemployment insurance schemes and the actual distribution of unemployment risks among different social groups (Berton et al. 2009).
workforce had the advantage of avoiding opposition both by permanent workers and by those in unemployment, as neither of these two groups was being directly affected by the reforms (Sanfey, 1995; Saint-Paul, 1996; Dolado et al., 2002; Palier and Thelen, 2010; Rueda, 2014).

It is now generally acknowledged that the “Eurosclerosis” concept itself, especially if framed in cross-sectional cross-country comparisons and largely confined to a mere discussion of the effects of strictness of regulation is getting less and less useful in accounting for recent trends and cross countries differences in macro labour market performances. On the contrary, labour market dualism has progressively emerged in the socio-economic literature as a problematic by-side and (partly) unexpected consequence of labour market reforms (Boeri, 2011; Bentolila et al. 2010; Palier 2010). Italy makes no exception in this regards, as labour market dualization emerged over time as direct consequence of the reforms with clear upshots in terms of (mainly cohort-based) institutionally-originated inequality. On top of this, several institutional factors (strong work-based orientation of the welfare state, relatively modest female labour market participation, and weak welfare support devoted to households and family policies) had arguably a role in fostering adverse socio-economic spillovers of this insider-outsider scenario. More specifically, labour market segmentation and normative and institutional dualization took largely the shape of progressively looser eligibility criteria, cumulative duration, and reiteration of temporary contracts.4 In terms of distribution among different social groups, confirming the predominance of a strict supply-sided perspective, these “step-wise” labour market reforms (the so-called “Pacchetto Treu” in 1997; the “riforma Biagi” in 2003 and the “decreto Poletti” in 2014) boiled down in a strong focus on workforce’s hiring and firing procedures of peripheral segments of the workforce or, loosely speaking, targeted to labour market outsiders such as younger cohorts, labour market entrants, unemployed and inactive individuals.5

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4 Even if Italy can be considered a paradigmatic example due to the magnitude of its socio-economic spillovers, the pattern of increasing gaps in regulation of permanent and temporary employment has been shared most of the European countries. Net of the level of regulation characterizing each country (and more than a mere cross-country comparison), the longitudinal trend displayed by the gap between the two indexes at the national level has been interpreted as a measure of the process of institutionally driven labour market dualization (Barbieri and Cutuli, 2016; Passaretta and Wolbers, 2016; Svallund and Berglund, 2018).

5 A notable exception to this trend of labour market de-regulation at the margins has been the so-called Monti-Fornero Reform (Law No. 92/2012) intended to amend the regulatory framework of the Italian labour market, reducing the insider-outsider gap of protection, in line with the indication made, during the financial downturn, by the President of the European Central Bank, Mario Draghi. In order to safeguard the future of the youngest generations, Draghi openly questioned the long-term sustainability of the European social model and its dual LM (Tiraboschi, 2012). The Monti-Fornero reform was matched by a reform of the pension system, inspired by the same goal of reducing the insider-outsider gap in social rights. Unfortunately, the spirit of the Monti-Fornero reform was soon betrayed by the following (2014 and 2019) labour and welfare interventions.

Slightly different the evaluation of the 2015 “Jobs Act”, an ambitious set of measures aimed at making more flexible the “rigid” Italian labour market, boosting employment and reducing labour market normative segmentation. Apart from promoting other ancillary interventions of passive labour market policies, this measure was not explicitly targeted to temporary employment but it rather relaxed the legislation ruling (new) permanent contract, thus augmenting the segmentation of the Italian labour market but reducing the EPL gap between the different segments of the workforce. This redefinition of firing and hiring costs between alternative contract types has soon been highly debated among researchers – as well as its effectiveness in reducing the strong segmentation of the Italian labour market. If some contributions have casted doubts on the expected boost in employment (Fana et al. 2015), other authors have instead underlined the presence of a moderate positive effect of the reform (Sestito and Vallanti, 2016; Berton, et al., 2017) even if the largest part the employment growth that strictly followed the implementation of the policy can now be safely attributed to the (expensive) shock of the time-limited (and publicly funded) rebate of the
The aforementioned process of progressive de-regulation can be descriptively sketched with different indicators, such as the EPL-GAP (Barbieri and Cutuli, 2016), the EPL index on temporary employment and the LMR index. Even if these last two indexes are provided by distinct sources and refer at least partly to different dimensions of regulation, still they display a specular trend and, relatedly, a high correlation (>.8). On the one side, with the OECD EPL index on temporary employment, reference is made to hiring procedures of non-permanent workers (the higher the score, the stricter the regulation). On the other side, with LMR index, reference is made to a broader set of institutional characteristics including minimum wage, hiring and firing regulations, centralized collective bargaining, mandated cost of hiring, mandated cost of worker dismissal, hours regulation included in the index as further possible forms of labour market rigidity (Aleksynska and Cazes 2014). Precisely for these differences, the specular trend and the high correlation displayed by the two indexes suggest a twofold substantial interpretation. Firstly, they confirm how the progressive labour market de-regulation has been almost exclusively targeted on temporary contract, thus increasing the normative dualism across distinct (contractual) segments of the workforce. Secondly, they confirm that the institutional dimension mostly affected by the reform activism has been the definition of hiring and firing costs, while the relative weight of other possible institutional changes on the overall strictness of regulation has been actually negligible.

Consistently with changes in normative constraints and in the relative costs of permanent vs temporary contracts, over the period between 1994 and 2016, Italy displayed a step increase of the share of temporary employment, doubling from around 7% to around 14% of dependent employment. In terms of distribution across groups, this trend came with a relevant concentration of temporary positions on youths, equally distributed among genders, while a modest increment and a substantial stability are displayed by core workforce age groups, especially for those aged more than 55. Obviously, these patterns can be conceived as an indirect result of the political option of sheltering permanent employment and the already existing labour market positions against de-regulation of their employment legislation. A further relevant aspect is the time pattern of the diffusion of temporary employment. Leaving apart the prompt response of temporary employment shares to normative changes of 1997 and 2003, it is worth noting how the increments were generally associated to years of positive economic growth (such as those occurred in the 1994-2001 and 2004-2007 periods). As it will become clear in the following analysis, the multivariate empirical evidence indicates that this co-occurrence of temporary employment diffusion and positive GDP growth must be interpreted in terms of mere association. Loosely speaking, it does not imply that the expansion of temporary employment has constituted a determinant of economic growth or that it played a direct role in explaining the reduction of unemployment rates in the years before the crisis. This simple descriptive is nonetheless informative since it makes evident that temporary employment has not been only used as a tool for potential labour market adjustment in context of economic uncertainty. Temporary employment rather progressively
earned its stripes of main hiring strategy independently from the economic cycle, and the shares of temporary employment kept growing in phases of economic expansions, despite the potential room for contractual conversions of those already employed on a temporal basis. In other terms, these dynamics are consistent with (and possibly mirror) a combination of demand side pressures for labour costs reductions and low bargaining power of new hires. Moreover, and interestingly enough, also the time-path of the reforms appear largely independent from the economic cycle and clearly not in line with expectations according to which liberalization measures on permanent employment tend to occur more likely in period of expanding economies. Considering the overall share of temporary employment, the trend tended to become flatter (or even slightly negative) in periods of economic retrenchment (such as with the 2008 crisis). More precisely, the share of temporary employment displayed a significant drop in the immediate aftermath of the intense GDP and employment drop of 2008-2009, while it recovered in the following years, in a phase of still-ongoing economic crisis, depicting a “first-out, first-in” scenario. During the economic crisis temporary employment was the first one in suffering a contraction in the initial and more intense phase of employment retrenchment. Temporary workers clearly played a buffer role in comparison to permanent ones. At the beginning of the downturn, the latter were indeed able to maintain unchallenged their occupational levels, and over time suffered, at least in relative terms, a minor employment retrenchment. When, subsequently, the economic crisis protracted, the share of temporary employment segment began to recover, due to the increasing exposure to unemployment risks also for permanent contracts and to the prevalent shares of temporary positions among the new hires. This pattern indicates that temporary employment represented a relevant adjustment lever for firms during the first phase of employment contraction and that they were used as a “low risk” re-investments strategy at the end of the most severe phase of the downturn. If our interpretation is correct, a reinforced trend of substitution of temporary workers for permanent ones can be expected as a by-side consequence also of the current Covid-19 crisis, especially in case of slow recovery pace. However, apart from the dynamics associated with the negative phase of the economic cycle, the dynamic of substitution of temporary workers for permanent ones and the presence of lock-in effect in temporary employment has to be seen as a fruit of a long lasting process that has been found to be at work also even independently from the crisis (Barbieri et al. 2018). This consideration holds also in a comparative perspective and provides support for the arguments hinging on labour market segmentation, being the outflow from temporary employment significantly lower than in other EU labour markets, with a within-three-year transition rate from temporary to permanent contracts below 30% (Oecd, 2014). According to the segmentation argument, the more diverse the normative constraints connected with hiring and firing workers in temporary and permanent contracts, the stronger the demand for temporary workers and the disincentive to upward contractual conversions.

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6 Looking at the recovery trend from the crisis empirically at stake, it has to be recalled how Italian prolonged and severe economic recession was still persisting in 2016, as Italy’s GDP had still to catch-up its pre-crisis (2007) levels (OECD, 2016).

7 It has been also shown that the normative segmentation of the labour market represents an issue not only in terms of social inequality. Indeed, labour market dualism can exert a detrimental influence on the aggregate level in terms of...
That being said, there are reasons to expect that this holds particularly during economic downturns, at least in light of empirical evidence showing that the effects of de-regulation measures targeted on temporary employment tend to be stronger in periods of high unemployment (Kahn, 2010). At the moment of writing, after a phase of relative normative stability, the economic crisis that affected the Italian economy with significant losses in terms of industrial production, overall productive capacity and employment, ended up renewing the debate concerning the policy tools at hand to improve economic and employment recovery. That’s why the proposed analysis on the role of labour market regulation under distinct economic conjunctures gains further relevance in current Italy, at least since LM de-regulation, as argued, has been considered and mis/used as the main relevant policy to tackle workforce exposure to long unemployment spells, and even more to foster employment creation, employment recovery, and firm competitiveness.

**Data and methods**

As anticipated, aim of this analysis is to shed light on the role played by the labour market de-regulation in shaping both employment chances and temporary employment diffusion in the Italian labour market along almost two decades and more specifically in concomitance with different economic conjunctures. In order to tackle our research question, we make use of eleven bi-annual cross-sectional datasets of the Survey on Household Income and Wealth (Bank of Italy, SHIW data) as well as of their longitudinal components\(^8\). Data include information on the main personal and labour-market-related characteristics of employees (full time, part time workers, and temporary workers) and self-employed, in the Italian labour market.\(^9\) The models having employment as dependent variable rely on about 69 thousands individuals, both men and women, aged between 18 and 65. Those having temporary employment condition as dependent variable, while applying same age selection, rely instead on about 30 thousands individuals, being the outcome variable available only since 2000 and being referred solely to employees. The dataset is an unbalanced panel; the number of observations for each unit varies between 1 and 11, and about 50% of the units are followed for a period between 4 and 12 years. Following a multivariate approach and relying on micro level data we control for compositional effects in terms of sex and education, so to take into account the changing structure of the (potential) workforce associated to the increase of female participation and to educational expansion occurred in the two decades under productivity growth (Battisti and Vallanti, 2013), job quality (Garibaldi and Taddei, 2013), and investments in human capital (Cutuli and Guetto, 2013, Barbieri et al. 2014).


\(^9\) Data from the Survey on Household Income and Wealth are distributed in cross sectional form within international datasets appropriately harmonized. In particular, since 2010, the survey provides data for Italy for the Household Finance and Consumption Survey (HFCS), coordinated by the European Central Bank. Moreover, from several years the Bank of Italy participates in the Luxembourg Income Study and in the Luxembourg Wealth Study.
Moreover, adopting a longitudinal approach and looking at time-varying normative indexes allows to estimate the contribution of labour market de-regulations net of other related institutional factors and separately from period effects. We use micro panel data, applying Linear Probability Random Effect Models, allowing both between-units and within-units variation to concur to the estimates. Two dichotomous micro level dependent variables are investigated: the self-reported employment condition in the reference year (1 if mainly in employment, 0 otherwise) and the contractual condition (1 if in temporary employment, and 0 otherwise). All the models control for age, age-squared, sex, education (compulsory, secondary or tertiary level) and geographical area (for northern, central, and southern regions). As already mentioned, in all models labour market de-regulation is accounted for by means of the LMR index, which constitutes the main variable of interest. A specific control is added to account for other possible regulative confounders, here captured in all the models by the inclusion of Business Freedom Index, a proxy for product market de-regulation stemming from the same source of the LMR measure. Period effects are accounted for by means of four dummy variables (1995/2000; 2002/2006; 2008/2012; 2014/2016). Given the focus on the recent negative economic conjuncture, all models focusing on the interplay between LMR and macroeconomic conditions are augmented with a fine-grained control aimed to capture alternate macroeconomic conjunctures, i.e. the inflation-adjusted real GDP per capita, anchored to its value in 1994 (i.e. in the year preceding the starting point of our observational window).

**Empirical results**

In what follows we provide a summary of the main results. First, concerning the influence of LMR on (temporary) employment chances. Second, testing for its heterogeneity over the economic cycle, so allowing for an explicit interaction between LMR and macroeconomic conjuncture, here captured by real GDP per capita. In the same vein, the influence of actual diffusion of non-standard employment is investigated by looking at changes in the outcome variables at stake in response to two factors. First, focusing on the previous micro-level exposure to spread of temporary positions in the reference group. This is proxied by cell-specific lagged percentage of fixed term contracts (FTC), once defined the reference group by the combination of detailed geographical area (North East, North West, Centre, South, Isles), age-class (18/24; 25/34; 35/44; 45/54; >54) and educational level (compulsory, secondary

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10 We refer here to potential workforce since modelling employment chances we include in the analytical sample also persons-spells of inactivity (as inactive people belong to the population at risk of entering the LM). The only persons-spells excluded from the sample are those referred to individuals reporting to be out of labour market being students, pensioners, or well-off. The main pattern of results remains anyway largely unchanged even limiting the analysis to active population, so focusing exclusively on person spells reporting employment or unemployment as main labour market condition in the reference year.

11 Indeed, even if in case of single country studies unobserved heterogeneity at the country level is less relevant than in (especially cross sectional) comparative analyses, a longitudinal approach is here to be preferred since it allows to better grasp the net influence of regulative dimension on labour market functioning.
and tertiary). Second, allowing for the interaction between group-level diffusion of temporary employment and the macroeconomic conjuncture (once again our real GDP measure).

A first finding emerging in table 1 shows that the process of labour market de-regulation undergone in Italy between 1995 and 2016 has not been related with significant increments of the employment opportunities experienced by the workforce. On the contrary, along the entire observational window, net of other control variables, in M1 and M3 the LMR contribution to the overall employment growth revealed to be slightly negative indicating, if any, a negative influence of the progressive de-regulation of temporary employment.

Tab.1 - Random effects LPM on employment and temporary employment chances, years 1995/2016

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>M1 Employment</th>
<th>M2 Temporary</th>
<th>M3 Employment</th>
<th>M4 Temporary</th>
<th>M5 Employment</th>
<th>M6 Temporary</th>
</tr>
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<td>0.05***</td>
<td>-0.03***</td>
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<td>Age²</td>
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<td>0.00***</td>
<td>-0.00***</td>
<td>0.00***</td>
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<tr>
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<td>0.01</td>
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<td>2014/2016</td>
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<td>0.02**</td>
<td>0.03***</td>
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<td>-0.00***</td>
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<tr>
<td>LMR x GDP per capita</td>
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<tr>
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<td>47,050</td>
<td>26,805</td>
</tr>
</tbody>
</table>

Source: SHIW data. Note: M1, M3 cover the years between 1995 to 2016. M2, M4, cover the years between 2000 and 2016. M5 and M6 due to the inclusion of lagged FTC share variables cover the observation window between 2002 and 2016. *** p<0.01, ** p<0.05, * p<0.1

Consistently across the different models, the rest of coefficients in table 1 are in line with expectations and confirm previous results in the literature with respect to the effects of age, education and sex, as well as the relevance of within-country heterogeneity. Coming to the distribution of the effect of labour market de-regulation according to the economic cycle, M3
shows how increasing de-regulation has been associated with negative effects on aggregate employment especially in a context of economic downturn, as firms were incentivized to reduce temporary staff members, plausibly preferring numerical flexibility over functional flexibility.

A graphical representation of this first estimation of the interplay between LMR and GDP can be found in the top left of Figure 1. Interestingly enough, once accounted for the heterogeneity of LMR role over the business cycle, the second macro regulative variable, i.e. BSR (here interpreted as a proxy of product market flexibility) showed a positive correlation with employment trends. Even if beyond the specific focus of this contribution, this evidence confirms previous research results (Barbieri et al. 2018) and corroborate the reading that product market rigidities (rather than the regulation of hiring and firing legislation in itself) had a role in explaining at least part of the poor performances of the Italian labour market in the last decades. Keeping constant the specification of M3, in M5 the actual lagged cell-specific exposure to temporary employment takes the place of the de-jure labour market de-regulation. The rationale behind this strategy is threefold. First, looking at temporary employment concentration allows to directly analysing the mid-term occupational influence of higher workforce exposure to the contractual flexible arrangements that have been normatively introduced, over time. Second, it permits to test indirectly for the influence of labour market de-regulation even in periods of relative normative stability, somehow overcoming the shortcoming of relying exclusively on normative changes. Third, by means of variations in temporary employment diffusion (both over time and according to socio-demographic characteristics) it makes possible to look at occupational consequences of group-specific temporary employment diffusion, depending on the economic conjuncture. That said, the estimates in M5 (graphically reported in the bottom left panel of table 1) suggest that the higher exposure of the workforce to temporary employment did not come, on average, with an increase of the overall employment opportunities between 2000 and 2016. On the contrary, M5 higher values in lagged group-level concentration of FTC were associated with lower employment chances, being this trend more pronounced in periods of economic downturns. This is consistent with the idea that employment retrenchment and, as we will show, substitution effects associated with previous temporary employment diffusion come into play and tend to exacerbate in period of economic uncertainty.
Fig. 1 - Effects on linear predictions. **Left top panel:** LMR and GDP per capita on employment chances; **right top panel:** LMR and GDP per capita on FTC chances; **left bottom panel:** lagged group exposure to FTC and GDP on employment; **right bottom panel:** lagged group exposure to FTC and GDP on FTC chances.

Retaining the specification of the models presented so far, in M2, M4 and M6 we specularly look, conditionally on employment status, at the contractual composition of the dependent employment, focusing once again on both de-jure LMR and the actual group-exposure to fixed-term contracts. The overall pattern of results (M2) confirms that net of period fixed-effects, the normative changes occurred between 1995 and 2016 have been accompanied by a significant increase in the exposure of the Italian workforce to temporary employment. Along the entire observational window, the net contribution to the amount of temporary employment appears to be positive and significant. Considering this result jointly with the empirical evidence of M1, it is, therefore, possible to argue that the reforms of the Italian employment legislation concurred to a modification of the contractual composition of dependent employment, taking the shape of significant substitution of temporary employment for a permanent one. This evidence recalls the responsibility of the institutional reforms implemented by the past governments (both centre-right/left orientation) in the progressive dualization/segmentation of the Italian labour market. Once again, consistently across the different models, the rest of coefficients in M2-M4 and M6 appear in line with our expectations and confirm previous findings in the literature concerning within-country heterogeneity and the relevance of main micro-level factors (more specifically, it emerges the over-representation of young individuals and women in the secondary labour market).
Additionally, the estimates are consistent with a u-shaped distribution of temporary employment risks according to the individuals’ educational endowments, thus confirming the relatively higher risks of temporary employment also for those with tertiary education. Interestingly enough, the BSR coefficients, contrary to what we found with respect to LMR, do not indicate the presence of substitution dynamics of temporary workers to permanent ones but are rather compatible with a scenario of a moderate positive influence on the overall employment rate. Thus, de-regulating the product market seems to constitute a much better option – compared to LM de-regulation and LM de-regulation at the margins – at least with regard to employment creation and the employment/equality trade-off.

Coming to the pro or countercyclical role of the LMR in modifying the contractual composition of dependent employment, somehow in light with the descriptive analysis, M4 and the top-right panel of table 1 show that the influence of LM de-regulation and demand-side incentives in favour of temporary employment are de facto “inelastic” to – and largely independent from – the economic cycle. Finally, M6 and the bottom right panel of table 1 indicates instead the positive influence of previous exposure to FTC positions, especially in concomitance with the economic downturn. In holding this true, the responsiveness of group-specific FTC exposure to (adverse) economic conjunctures reveals how, depending on macro-economic conditions, micro-level contractual lock-in dynamics and group-specific barriers to contractual mobility can gain further relevance, with obvious consequences in terms of increasing labour market segmentation, social stratification of risks and growing inequalities between distinct cohorts and workforce segments.

**Conclusions**

In the light of the previous discussion and of our empirical analysis, it is possible to provide an overall evaluation of the process of labour market de-regulation underwent in Italy during the last years, as well as of the responsiveness of segmentation and stratification dynamics linked to the interplay between institutional and contextual factors on the one side and macro-economic trends on the other one. The empirical evidence concerning the process of reforming (de-regulating) the labour market and the employment legislation adds on previous research findings and teaches us at least two lessons. The first one is that reducing labour costs by means of temporary employment and insisting on numerical flexibility can be considered as much as short-range remedies that do originate neither good jobs nor effective employment growth. The second is that, notwithstanding it is often advocated as a policy tool favouring labour market adjustment, the increase in temporary employment and the parallel weakening of labour regulation, results in deeper labour market dualization and higher social inequality. The analyses we provided show that the protracted process of labour market de-regulation, and particularly the LM reforms largely supply-side driven, that insist on secondary LM de-regulations (easing the hiring of temporary workers), did not represent a solution. On top of this, at least prospectively we have to underline how these undesirable outcomes proved to be *largely pro-cyclical*, not to say, as widely recognized in socio-
economic literature, that the normative segmentation came with mid-term micro-level negative consequences of prolonged entrapment in temporary employment, under-investment in human capital development and, broadly speaking, increases in intergenerational inequality, not merely in terms of occupational opportunities.

Two further points are worthy of consideration: first, the pattern and the results of labour market de-regulation over the business cycle; second, the weight of employment legislation within the broader institutional setting related to labour market dynamics. On the one side, the diffusion of temporary employment shares has been pronounced both in phases of economic growth and in contexts of GDP retrenchment, being the demand for flexibility more a tool for reducing labour costs than a second-best solution for the need of extended probation periods in presence of information asymmetry. One the other side, there is evidence that the diffusion of temporary employment in times of crisis not only exerts a negative influence on the overall employment chances of the workforce, but it gives rise to further reductions of permanent employment shares. Consequently, the stickiness of temporary employment exposure at the group level is not independent on the business cycle and lock-in and stratification dynamics appear rather to be fostered by economic downturns. All in all, the overall pattern of results does not offer empirical support for the claim of a positive nexus between LM efficiency and LM de-regulation. It rather confirms that temporary employment diffusion could have had (paradoxically?) a role in reducing, if any, the resilience of the Italian labour market to the crisis. That said, it can be concluded that despite representing the main labour market policy over the last twenty years, the progressive decrease of employment protection legislation and the parallel process of LM segmentation, have largely failed in producing the expected results on employment creation and unemployment reduction and, prospectively more importantly, such “LM strategy” – still aggressively advocated by the entrepreneurial associations - does not seem suitable to promote faster or inclusive recovery from the current Covid-19 economic and occupational crisis.

The evidence of our analyses suggests that other factors and other domains (product market rigidities, scarce productivity, underdevelopment of training, low human capital investments, null support to female employment etc.) are plausibly at the basis of the gap between the performances of the Italian labour market and the ones of other affluent countries. Unlikely enough, these factors, whose possible interactions with labour market regulation certainly deserve further investigations, have unfortunately remained so too far out from the stringent policy agenda of Italian reforms.
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