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MACRO, STRUCTURAL, MICRO FACTORS AND THE VARYING
EMPLOYMENT/OUTPUT ELASTICITY**

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LABOUR AND PRODUCT MARKET DYNAMICS : MACRO, STRUCTURAL, MICRO FACTORS AND THE VARYING EMPLOYMENT/OUTPUT ELASTICITY

Paolo Piacentini*

Abstract: “Employment and unemployment are determined in the product market, not the labour market”. Thirlwall (1993) put this statement at the first place in a list of six fundamental propositions of Keynesian Economics. This view remains central in a Keynesian approach in the macroeconomic assessment of employment activation, and marks the distance from ‘mainstream’ Labour Economics, engaging in partial analyses of the labour market, modelling for solutions of a stronger or weaker notion for some ‘equilibrium.’ However, while keeping firm the Keynesian direction of causality, a stylized fact evidenced for the Italian case, of a wide instability of employment/output elasticity, suggests us further investigation, for the employment outcomes in the medium run and over cyclical episodes. That’s to say, the quantitative result for additions (reductions) of labour use, given a percentage rise (contraction) of ‘GDP’ , widely differ amongst the countries, or within the same country in diverse epoch or cyclical episode. When employment is simply measured in terms of unadjusted numbers, this is mainly to be ascribed to the possibility of a ‘fractal’ partition of a total labour, into diverse segments for intensity and continuity of use, given the increasing resort to part-time, discontinuous, and short-term contracts for labour engagements. However, even after accounting for the variability of working time , and measuring employment in standardized units, elasticity differentials still appear and more ‘employment friendly’ patterns of growth show their reverse side, a lesser capability of enhancing productivity growth. Differentials in the employment content of output need then to be further explained. Structural composition of the economy and its dynamics, accounting for the composition effects within total employment outcomes, is introduced. After the ‘structural’ factors, it remains eventually to be questioned whether we should admit a residual influence of the institutional arrangements in the exchange of labour , in influencing ‘labour intensity of growth.’ The paper is finalized to first stage discussion addressing to the fundamental question, upon ‘why the employment intensity of growth varies over time and space”.

Keywords: Demand for labour, Variable employment, output elasticities

JEL codes: J23, J63

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1. Preface

This text pursues an eclectic line of reflection around the determinants of employment activation in the aggregate economy, recalling ‘stylized facts’ referred to recent trends in the Italian case. The motivation behind this work is the conviction that diverse levels of analysis and theoretical approaches are jointly involved for a correct understanding of the actual trends in labour markets: in the first place, the ‘macroeconomic fundamental’, binding labour activation to output and final demand; second, the relevance of sectoral composition and structural dynamics of the economy; third, eventually, the influence of the institutional frame and regulation of the labour exchanges.

In the paper, rather simple frames of analysis are matched with empirical evidences, in an attempt at proposing a rationale for the interpretation of the facts. In this, we shall follow precisely the succession of ‘macro—structure—micro’ for the ordering of arguments.

In this order, the fundamental ‘Keynesian’ viewpoint of the direction of macroeconomic causation, going from the (demand-side) activation of product market to employment/unemployment outcomes, is affirmed in the first instance; then, the evidence of the variability of the ‘employment content of output’, over time and cyclical episodes, is evidenced, suggesting the influences of the sectoral composition and structural dynamics of the economy; third, eventually, the evolution of the regulation, and in particular the measures allowing for more ‘flexible’ modes for use, and disuse, of labour, are recalled, leaving open a question upon the possible channels of a retraction for the frame of ‘Micro’ options to the ‘Macro’ outcomes.

The text, as a whole, finalizes eventually to encouraging a renewed discussion, upon one topic which remains, in our opinion, critically central for the prospects of economic and social evolution of Italy, namely the shortfalls in the quantitative and qualitative results of the employment activation.

2. The Macroeconomic causation: Keynes against the (neo) classics

“Employment and unemployment are determined in the product market, not the labour market.” Thirlwall (1993) put this statement at the first place, within a list of “Six Fundamental propositions” of Keynesian economics; effective demand, and not some solution for an equilibrium’ on the aggregate labour market, determines the volumes of labour absorption of economy. Real wages, within this vision, do not determine, but are rather determined as a ‘post,’ at levels compatible with the productivity of labor associated with the volume of employment.

This standpoint remains crucial and contrasts to ‘mainstream’ Labour economics, engaging in partial analyses of the labour market and modelling for some equilibrium solution. More recently, this literature has focused on market, and information, imperfections, in quest for realism beyond perfectly competitive paradigm. Nevertheless,

even ‘weak’ or state-contingent equilibria, when defined on the aggregate labour market, would immediately propose a norm for the notion of a ‘potential’ (e.g. non-inflationary, or wage-efficient, etc.) output, the initial step to a ‘supply-side’ dominant view for macroeconomic causation.

Keynes himself, in Ch. 18 of the “*General Theory*”, a summary recall of the main concepts of the book, writes:

“..our present object is to discover what determines at any time the national income of a given economic system, and (which is almost the same thing), the amount of its employment; which means in a study as complex as economics, in which we cannot hope to make completely accurate generalizations, the factors whose change mainly determine our question”.¹

The connection between levels of production and absorptions of labour, in any given period, is set essentially as a technical proportion, and may be explicated through an expression for an ‘employment function’, otherwise the ‘inverse’ reading of a short-run production function. However the ‘*caveat*’ included in Keynes’ phrase, ‘almost’, has here been underlined by us. Besides, ‘at any time’ and ‘given economic system’ recall the analytical boundaries of a short-term analysis, for given states of technologies and institutional settings of the country under investigation. ‘Almost’, in the quotation, thus encourages us to suggest further steps, for the consideration of the range for variability, within requirements of labour broadly determined by final output, for the numbers and compositions of total employment.

Here below, only the essential feature for the expression of a short-run ‘employment function’ are described, referring to previous text for a more detailed presentation (Piacentini (2018).

Developing, broadly, from the notions in Keynes, “*General Theory*”, *Ch. 3*, for the values of aggregate supply and aggregate demand defined at first in nominal terms:

$$Y^S = P\pi N \quad [1]$$

$$Y^D = C + I + G + (X - M) \quad [2]$$

(‘P’ is the price index, ‘ π ’ is product per worker, and conventional symbols of the income/expenditure account are used for the components of the aggregate demand in nominal terms.)

Imposing $Y^S = Y^D$ and solving for ‘N’, we obtain the central expression for a labour activation, as ‘justified’ by final demand:

$$N = \frac{1}{\pi} \left(\frac{1}{1 - [c_{\Pi} + (c_W - c_{\Pi})\lambda](1 - \tau) + m} \right) \frac{A}{P} \quad [3]$$

¹ Keynes(1936), p.147.

(‘A’ aggregates for the total of an ‘exogenous’ or autonomous demand; differential propensities to consume out of labour and non-labour incomes are introduced, with ‘ λ ’, the labour share, becoming a relevant parameter in the expression of ‘Employment multiplier’).

The expression essentially says, within approximations, that if the propensities to consume, and other parameters in the ‘multiplier’ are given in the short-run, labour activation is proportional to the real amount of “A/P”, the autonomous components of demand, and inversely proportional to “ π ”, the average productivity of labour of the economy within the reference period. In dynamic terms, the expression would then say that, with invariant multiplier, labour demand in the economy may increase over a period only if real autonomous demand increases more than the average productivity of labour. We believe this to be a general, robust result, since elaborated directly from the identities of the National Accounts explicating for the variable of our interest, employment, without introducing any ‘ad hoc’ hypothesis for the behavioural functions.

Nevertheless, the power of the expression is only a starting point, since it refers to the aggregate result in a given configuration of the economy; in the words of Keynes,

“...given the existing skills and quantity of available labour, the existing quality and quantity of available equipment, the existing technique,...., as well as social structures including the forces, other than our variable set forth below, which determine the distribution of national income”.²

To all these, we would add sectoral composition and patterns of specialisation of the economy in the reference time.

As a first step further, we must observe that, over time and across countries, we observe wide variability, given total requirements of labour given in ‘hours’, for its repartition between numbers in employment and average hours of work, with the average product of labour appearing as the result of this composition. We turn now the attention upon this variability, with the occasional reflections and the illustrative evidences focused on the Italian experience in the more recent decade.

3. The expansion of atypical labour and the variable employment/output elasticity

When labour activation is measured in terms of numbers in employment, workers at diverse regimes of time are added as single units; the total number is obviously influenced by the composition of the hour regimes. Employees working shorter hours than the standard, full-time or with discontinuities of application and remuneration over time, have been significantly on increase in most countries, also as the result of trends in participation and regulation reforms, more permissive towards ‘flexible’ regimes of labour use. Italy may be a well relevant example in this trend, as for the increase and diversification of regimes of work, as allowed by regulation and contractual practices. Although the trend,

² Ibidem, p.245.

for significant increase in the use of part-time and term engagements may be dated back to the 1990's, the main thrust has come in the more recent years. Illustrative evidences are in the tables below.

TABLE 1: EMPLOYMENT IN ITALY: TOTALS AND FULL TIME EQUIVALENTS (FTE) (000,s)

| | TOTALS | FTE |
|------|--------|--------|
| 2008 | 25,360 | 25,006 |
| 2009 | 24,942 | 24,322 |
| 2010 | 24,783 | 24,118 |
| 2011 | 24,879 | 24,129 |
| 2012 | 24,782 | 23,820 |
| 2013 | 24,338 | 23,240 |
| 2014 | 24,357 | 23,284 |
| 2015 | 24,516 | 23,440 |
| 2016 | 24,848 | 23,768 |
| 2017 | 25,318 | 23,945 |
| 2018 | 25,371 | 24,125 |
| 2019 | 25,509 | 24,152 |
| 2020 | 24,954 | 21,666 |
| 2021 | 25,092 | 23,307 |

In table 1, the range of observation has been restricted to the years following 2008, chosen as the 'peak' of cyclical output and employment before the onset of the effects of the 'double dip' of the economy, following Financial Crisis first and then the restrictions imposed during National Debt crisis by the measures of adjustment imposed within the European Union's 'Stability Pact' rules. The two series in the table show the evolution of employment in terms of unadjusted numbers, and estimates in terms of standardized 'full-time equivalent' units. The divarication between the series is easily detected; when unadjusted employment eventually recovered the 'peak' of 2008 after ten years in 2018, the standardized FTE number was well still below with respect to maximum. In the 'trough' year of the double-dip recession, 2014, index for unadjusted employment was down to 95.9 (with 2008=100), while FTE numbers had fallen to 92.6, with its trough anticipated of a year, 2013. The attempts at containing dismissals through use of short-time working regimes is evident. The successive, indeed not brilliant, recovery was abruptly interrupted by the onset of the pandemics. The ratio FTE/E, between the two measures of employment, in fact fell through the whole period, from 0.98 in 2008, to 0.954 in 2013, to 0.947 in 2019. Statistical sources say that the hours of work of the full-

time worker remained almost constant around 41 hours per week, and therefore the fall in the ratio is wholly to be attributed to increasing shares of atypical work arrangements.

Further evidence may be produced for this point; we believe that the most impressive are available from the administrative data on labour market flows. The table which follows is a selection from data on registered hires under the diverse typologies of contracts, as made available from the National Insurance (INPS) registers.

TABLE 2: NEW HIRES BY TYPE OF CONTRACT

| | 2015 | 2017 | 2019 | 2021 |
|---------------------|-----------|-----------|-----------|-----------|
| Hirings with: | | | | |
| Permanent contract | 2,009,000 | 1,176,000 | 1,350,000 | 1,154,000 |
| Temporary contract | 3,463,000 | 4,812,000 | 3,224,000 | 3,151,000 |
| Apprentice contract | 177,000 | 285,000 | 348,000 | |
| Seasonal contract | 598,000 | 686,000 | 759,000 | 920,000 |
| Dispatched temps | | | 930,000 | 1,016,000 |
| 'intermittent' work | | | 657,000 | 612,000 |

The data evidences say that, although still a minority in the total stock of all persons in employment,³ 'atypical', short-term contracts for the hiring are by now the condition forced to the large majority of a workforce in their entries, or re-entries, into job market. For the more recent years the dataset gives further details on other typologies of atypical work, such as workers dispatched from 'temps' agencies, and 'intermittent' work. The numbers are self-evident; more recently, in 2021 at the exit from 'lock-down', atypical contracts have gained further ground, with a rise in particular for the 'seasonal' contracts.

The process of legislative change, started in the late 1990's, has progressively enlarged the range of options, and loosened restrictions, in particular for the practice of the term contracts' reiteration, without stabilizing the worker into permanent status. We refer to specialized literature, for the political history of flexibilization/ deregulation of the Italian labour market.⁴ What matters, for our further argumentation here, is the fact that, in the actual circumstances, the employers have almost full options for enforcing short-term, conditional conditions for hiring. About 60% of the matches consisted in very short engagements, with less than three month duration, and this mostly in the sectors of

³ The most recent estimate, at December 2022, by ISTAT ("Statistiche Flash:Occupati e Disoccupati"; 31/1/2023) gives a percentage of 83% for dependent workers classified as with a 'permanent' status; this contrasts with the flow-data on job activation showing an overwhelming majority of term contracts, as illustrated in Table 2, further below.

⁴ Cirillo et al. (2017), Liotti (2020), among others.

marketable services. Labour market ‘rigidities’ persist, if ever, for those elder cohorts of workers having once entered permanent contracts with protection clauses, or delimited segments of workers, e.g. in the Public sector.

As last, but not least, evidence we report for Italy the estimated values of employment/output elasticity. We stress in particular on periods of recovery from a cyclical trough; the main episode of the 2010’s is compared with experiences earlier in time.

TABLE 3: EMPLOYMENT/OUTPUT ELASTICITY: ITALY

| | $\Delta Y/Y$ | $\Delta E/E$ | $(\Delta E/E)/(\Delta Y/Y)$ |
|-----------------|--------------|--------------|-----------------------------|
| Recession: 2009 | | | |
| After 2 years | 2.2 | 0 | 0 |
| Recession: 2013 | | | |
| After 2 years | 1.1 | 1.2 | 1.09 |
| After 4 years | 3.5 | 3.7 | 1.06 |
| Recession: 1995 | | | |
| After 2 years | 4.9 | 0 | 0 |
| After 8 years | 8.1 | 0.8 | 0.10 |
| Recession: 1975 | | | |
| After 2 years | 9.3 | 1.5 | 0.16 |
| After 4 years | 18.2 | 2.9 | 0.16 |

The numbers in the table confirm that the years of recovery, following the ‘austerity recession’ of 2012-13 had exceptional characteristics, for the values of an employment elasticity out of norm and even slightly over the unit value, implying decreasing average product per worker over time. The contrast with the experiences in the past is quite impressive.

A ‘job-rich’ recovery appears to us, mainly, supported but the surge of ‘short-jobs’. Part, in this number, might have originated from the ‘emergence’ of work which would otherwise have remained undeclared (in the “black” labour market), now coming into surface because of relaxing regulations, or improvement in statistical detection. International comparative analyses for variability of the employment elasticities would require further research; the occasional evidence reported in the Appendix table 4, the Italian case of the 2010’s appears, again, out of norm. This calls for further lines of reflection upon circumstances and influences behind this result.

4. Sectoral composition and dynamics matter: a consumer service driven growth?

The intensity of labour quite obviously differs among the trades and occupations, according to the different availabilities of technologies allowing labour saving and increase in productivity, for the diverse production processes. At one extremum, in industries with flow productions, human intervention is by now delimited to residual control tasks; on the other hand, many services to consumer still require person to person interactions unfeasible to be performed by 'automata'. Higher and lower labour content for similar values of a measured GDP and its growth then correlate with sectoral compositions and structural dynamics of the economy. Benchmark reflections on the point date back in time.⁵ The possible operation of a 'Baumol's law', combined with 'Engel's law', would imply rising shares for 'superior' goods in the consumers' baskets, and jobs in labour intensive service sectors displacing those in the automatizing industries, or routine office processes. The employment elasticity in the aggregate is due to rise if these trends are operative.

The intuition should be confirmed by comparative evidence; economies at the diverse stages of development, or with diverse patterns of specialization, though within a general trend towards 'terziarization', will observe diverse combinations for labour intensities of growth and productivity gains. Besides, though we do not enter here considerations for the qualitative compositions of employment, we are aware of the fact that the sectoral pattern of growth and structural dynamics imply consequent evolutions in the compositions for task, skill, autonomy, etc. demanded to the workforce, and thus in general in the quality of employment activated by the economy. 'Job rich' growth in quantitative accounts may not be equally rich in the opportunities offered to workers with higher qualifications and aspirations.

A systemic analysis, matching sectoral patterns of demand and evolving composition of work appears on the need, to allow for more comprehensive 'take' of the peculiar experiences in our country in the recent years.

A rigorous scheme for the analysis of sectorial composition and structural dynamics was formulated in the works of a major Italian economist, Luigi Pasinetti. In one of his works (Pasinetti, 1993), he developed an 'extremized' scheme, to represent a 'Pure labour production economy', with vertically integrated 'sectors' broadly associable to the categories of a consumption need and where labour inputs are the only final factor of production, directly or indirectly used, while income from activated employment drives the dynamics of demand.⁶ The key interaction becomes then, for each 'sector' the one between the demand generated by each employed worker (pro-capita consumption, 'c_i') and the technical coefficient ('l_i') i.e., the total (direct and indirect) labour input requirement per unit of the good 'I' produced. The sum of the products of l' and 'c' over the economy, $\sum l_i c_i$, will then give the *employment rate* of that economy. Given technical

⁵ Baumol (1967); Engel's seminal statistical enquiry dates back to 1857, and originally concerned the share of expenditure on food decreasing with higher income.

⁶ In Pasinetti(1993), Ch. II, pp.15-26, the essential features of a 'pure labour' model are formulated.

progress, technical coefficients fall over time in diverse measures amongst sectors; consumption requirement may rise, however with a decreasing rate, approaching some ‘satiation’ level. Structural dynamics follows from this, with sector (or better, ‘consumption/final demand category’) where pro-capita demand grows more (less) than productivity showing increases (decreases) in labour absorption.

Though within its abstraction (‘pure labour economy’) Pasinetti’s vision appears, in our opinion, evocative in underlying the fact that the ultimate force activating the circuits of economy are the final demand linked to consumers’ (and collective) categories of ‘needs’, with the interaction of this demand evolution with technical progress driving rates and compositions of employment activation.

More implementable frames for empirical assessments of this intuitive vision may be at this point in call. In an earlier work (Piacentini, 1988), I had developed a simple decomposition algorithm for the sectoral contributions to employment dynamics, with application however to the conventional, ‘horizontal’ branches of current statistical disaggregation. The scheme is briefly recalled.

Starting from the identity decomposing total employment, ‘L’, into sectoral components ‘L_i’ (i = 1,2,...,n) , we can write the sectoral contributions to total employment variation:

$$\Delta L / L = (\Delta L_1 / L_1)(L_1 / L) + \dots + (\Delta L_n / L_n)(L_n / L)$$

With additional passages for the explication of employment elasticities we get to

$$\Delta L / L = \sum_i (\Delta L_i / \Delta Y_i) (Y_i / L_i) (L_i / L) (\Delta Y_i / Y_i) = \sum_i \varepsilon_i l_i g_i \quad [4]$$

where $\varepsilon_i = (\Delta L_i / \Delta Y_i)(Y_i / L_i)$; $l_i = L_i / L$; $g_i = \Delta Y_i / Y_i$. The final expression summarizes the growth of employment as the result of the composition of sectoral elasticities, sectoral shares, and sectoral rates of growth. The expression allows comparative, inter-period analyses of sectorial contributions to the structural dynamics of employment.

We add here few more occasional considerations for the Italian evolution, as hints calling for solid confirmation, through more systemic evidences. The experience of 2020’s lock-down, and successive reopening of the economy, might have unveiled the fragilities of the Italian labour market, already imbedded in the patterns of structural dynamics and specialization of the regional economies. We refer, essentially, to the increasing relevance of employment absorbed in consumer services, in particular those associated with the demand for leisure, mobility, sociality, ‘wellness’, of residents and tourists. An approximate number of 1,600,000 jobs in the single branch of ‘Accommodation and catering’ has been estimated; this is remarkable, also when compared with the numbers in other major branches: 4,700 thousand in Manufacturing, 1,330 in Construction.

The number includes dependent employment and self-employed. In my opinion, to this trend has contributed a legislative reform in 1998, liberalizing the concession of commercial licenses, and de facto allowing free entry in the area of public establishments

for the catering in the urban and touristic environments. Over the decennium 2008-2019, according to a statistical survey diffused by the association of the category, there has been increases of 27 % for the restaurants with service; 40 % for ‘take-away’ catering facilities, 10 % for ice-cream parlors. For other services (e.g. hair stylists, beauty centers, gyms, etc.) for which no association of operators exist, we are not able to report figures. In Italy, it has been estimated that there is one point of food and drink administration each 180 inhabitants, as compared with 1/300 in France and 1/450 in Germany.⁷

The years under consideration coincide with the period marked by ‘double-dip recession’ and the laborious exiting from it, entailing processes of downsizing (and offshoring) of manufacturing activities, and ‘austerity’ measures impacting on public services, in particular through the block, or high restriction, to new entries in public employment for administration, schools, health service. This pattern brings to a revival the debate on Italian Dualism’ in the 1950’s or 1960’s, and in particular the concept of ‘sponge’ tertiary activities, sustaining an otherwise weak employment creation capability of the economy. At that time, the ‘sponge’ withheld excesses of artisans, small shops, in the rural and other smaller communities; nowadays, it feeds the inflation of B&Bs, drinking places, wellness centers, within tourism and leisure oriented contexts. My opinion, in conclusion, is that abnormal values observed for the employment/ output elasticity for the aggregate economy, discussed in the previous section, connect to this patterns of sectorial dynamics, which may be labelled in more extreme cases as a ‘tourism monoculture’, in the places of higher attraction for their natural or art endowments.

5. New dualism and the ‘Liquid’ labour market

The service activities just referred are also those employing higher shares of part-time, seasonal, or otherwise unstable, employment; ‘monoculture’ economies are vulnerable to shocks, as revealed dramatically but the pandemic experience. The common sense argumentation may now go in the direction of a value judgement upon the ‘oversizing’ of particular activities in the diverse territorial contexts, with associated negative prejudice about the poor quality of the implied pattern of the demand for labour, while globalization and ‘austerity’ were downsizing other activities with higher room for skilled work. This would be coherent with the other major ‘stylized fact’ in recent Italian evolution, the coexistence of flows of emigration of schooled young cohorts, and immigration from out of UE contexts of unskilled (or anyway compelled to unskilled job) workforce, filling the gaps of domestic availabilities for these tasks. Further exercise of quantification and qualification, for the incidences of ‘Baumol’ and ‘Engel’ effects in the economy, is called for.

The implication for a new, dualistic structuring of the labour market was already underlined, when we observed the evidence of the “churning” of a high turnover for short-

⁷ See the data produced by “Confesercenti”, the sector’s employer association, in: <https://www.confesercenti.it/blog/2018/07/10>.

term contracts, while of a majority of workforce force still resisted in statuses classified as ‘permanent’ , or better, under open ended contracts. The concluding sections of this text are addressed to a general reflection, and attempt at rationalizing, for the interactions of ‘macro, ‘structural’, and, eventually, ‘micro’ choice factors contributing to these patterns of employment activation.

The ‘micro’ considerations now enter at the last, in the list of arguments, and this is by choice. The ordering reflects, in my opinion, the correct succession of causal determinations. The influence of ‘micro’ environment influencing employer’s options, and the conditionings of institutional contexts, come, indeed, after the impacts of the general level of macroeconomic activity and the inherited sectoral compositions affecting structural dynamics.

The long-lasting debate over impacts of employment protection legislations seems to have found an agreement, on the fact that ‘reforms’ fostering flexibility for the hiring and firings at the margins of the job markets, and more permissive frameworks for the implementation of temporary/contingent work contracts, will rise cyclical and frictional mobility through rises of turnover rates of labour.⁸ But there is less agreement, whether the higher rates of entry and exit might result, on the medium run, in net additional gains for the employment rate of the economy. I would express, on this point, a somewhat eclectic position: a) remaining convinced that the quantities of labour absorption remain basically given as ‘derived’ demand from the dynamics of the final markets, b) ‘employment intensity of growth’ is basically influenced by sectoral patterns, c) ‘deregulated’ contexts enhance the intensity of the cyclical swings and may bring forth excesses of a frictional mobility , with shorter duration of job-matches not in principle beneficial to sustain productivity growth; d) about the point on ‘net’ employment creation, within the more deregulated contexts, I am not able to give a definite answer, though I would be inclined to admit that marginal amounts of contingent work might ‘emerge’ (out of existing ‘black’ labour, or as additional option for employers) in more permissive contexts. In concluding, while ‘macro’ remains dominant, some ‘micro’ is needed, e.g. in the accounting for substitution effects among jobs with different contractual options and length of engagement.

The question becomes, at this point, what might be an useful ‘micro’ for the further developments of the analysis. In this, I will avoid conventional notions of ‘marginal product’ and their implied wage-employment trade-offs. Marginal value product remain an unmeasurable and irrelevant concept in practical decision, and positions and inclinations of the schedules, if ever, are conditional on final demand, at any level of the analysis: aggregate, sectoral, or the particular firm.

An analytical frame, inspired by the literature on investment decisions for firms in the real activity, and moreover, for the financial investor, may suggest more intriguing hints for further reflection.

⁸ OECD(2004), is a reference survey, perhaps needing an update.

For the demand for labour, at the micro level, we should consider as unit of analysis the marginal employment decision of a single firm. This latter may in effect be assimilated to a decision of a 'micro' investment in the 'job-match', involving an ex-ante evaluation for 'present values' of the match, as forthcoming from expected flows of revenues and costs associable to that match.

We have been accustomed for a long time to consider the exchanges of labour as involving 'contractual' markets, where obligations between the parts extend over definite or indefinite time horizons of the match. As extreme abstraction, and extending flexibility to the limit, we might imagine on the contrary labour exchanges taking place in a pattern now approaching a 'spot' market, where the 'short jobs' gain more and more diffusion. Extreme flexibility would then configure at its limit a sort of a 'Liquid labour market', where the options for the hirings of labour are, in any period, reversible at low cost.

The most important example of a 'Liquid market' in the actual operations of the economy is that of modern financial markets, for the trading of assets entitling the owner to flows of future income from repayment and interest charges, plus expectations for capital gains. In liquid markets, each option or item of investment is continuously 're-valuated', in the market day or even shorter intervals, for the adjustments in expected values of the holdings in changing market environment. Should, at any moment of time after initial decision to 'hold', emerge a negative value for the expected returns of an asset, the 'hold' option should be 'terminated'. In the financial 'short' trading, in fact, hold and leave decisions are taken in fractional times, tending at limit to a 'continuum'.

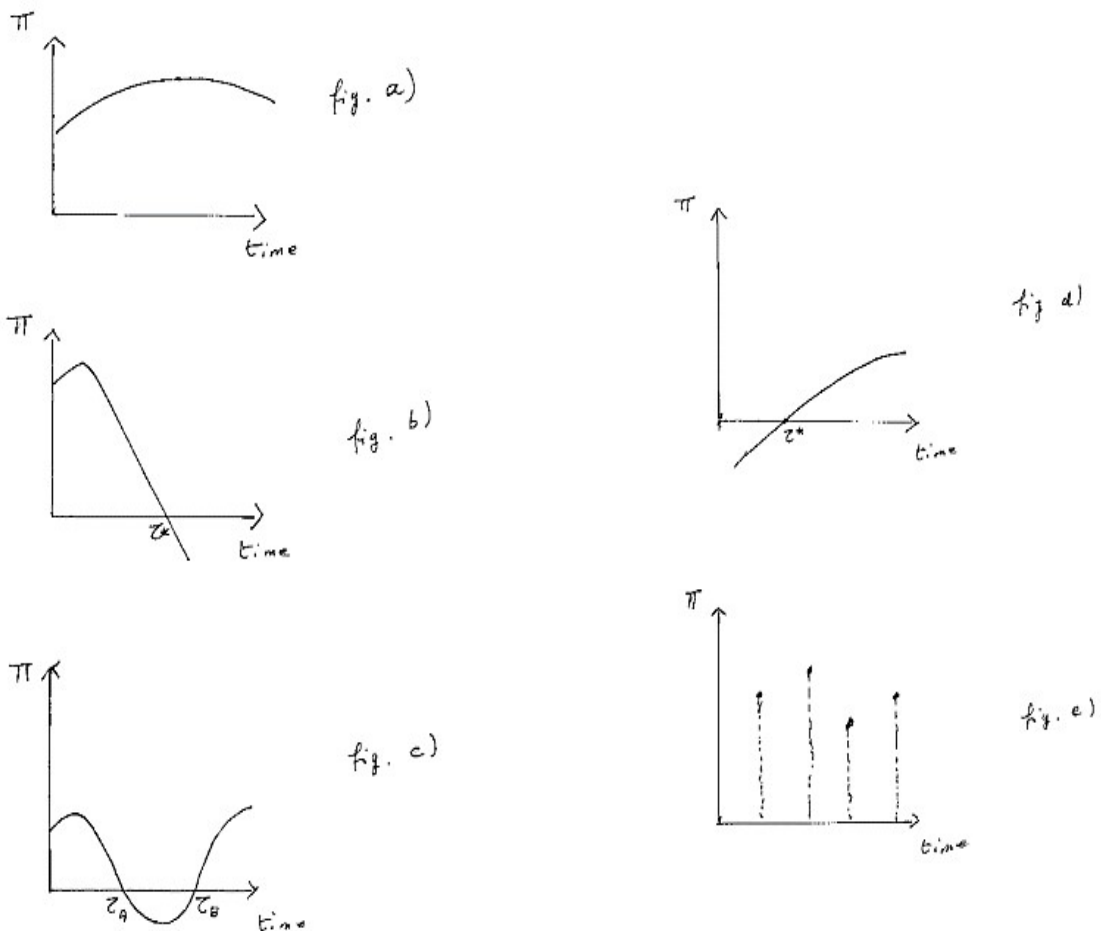
'Job-matches', hopefully, will never approach the status of liquid investments in the financial markets; however, the microeconomic logic of financial investor's evaluations may become evocative of the behavior of employers in the short-term manpower management. 'Day-markets' for use (and disuse) of labour do exist in advanced economies at present; "vouchers" of one hour of work worth 10 euros were sometimes introduced in Italy as legal instruments for uses of occasional labour; from 'Minijobs' in Germany, to 'Arbaito' workers in Japan, the cases elsewhere are quite varied. Last, but not least, in the platforms governing the 'Jig-economy', the engagement of the worker is limited to the execution of a single task, say the delivery of food somewhere; no further obligation exists for the employer, beyond the payment of the tariff for the piece of work. These peculiar markets realize, in my opinion, in full the species of a 'spot' market. 'Contractual' markets for other workers may persist and resist, with Unions and pro-labour policies endeavouring in the defense of protective regulation. The actual outcome, as a whole, is the incredible segmentation of diverse labour market regimes, with varieties which, perhaps, were not experienced in the older times.

In applying thus to job-matches notions in use for decisions in financial investment holdings, we draw in particular the inspiration from the seminal work of J.R. Hicks (1973) for the notion of a 'capital value' of any investment in process, defined as "*..the value of*

the remainder of the process, at any date in its course”;⁹ at the point, after initial decision of investment at time “0”, the expected present value of continuing the investment hits the horizontal axis, a profit maximizing investor in conditions of free exit should, as from Hicks, “at the point where the curve intersects the horizontal axis the process will be terminated”.¹⁰

The figures roughly sketched below describe, intuitive profiles for taxonomy of ‘investment curves’ for diverse typologies of jobs.

FIGURES a)-e): TAXONOMY OF INVESTMENT CURVES



In a) an ideal path for a stable employment maintaining value over time to the employer is described; in b) we describe the path for a ‘seasonal’ or term contracts : at t^* season is over, or the task completed, and there is no additional value expected from by

⁹ Hicks(1993), p.18.

¹⁰ Ibidem, p.19.

retaining the worker; in c) we think at the pattern of a job subject to cyclical fluctuation for its profitable exploitation; in conditions of full flexibility, the employer would fire at τ_A and rehire at τ_B ; given the social costs involved in employment fluctuations, policy and regulatory institutions may act to mitigate mobility: subsidizing short-term lay-offs or reduced working hour regimes (the case of the “Cassa Integrazione” scheme in Italy); in d), we have intuitively signaled the possibility of a match that would develop its positive potential only after a period, implying losses, of ‘training on the job’ or other initial developmental phase; a far sighted employer may forecast positive net values forthcoming after some time and ‘invest’ on the worker; others, with a ‘short-time’ horizon, would reject this opportunity; e) is an attempt at description of the extreme case for a ‘liquid’ labour market, as approached in a “Jig-economy” match, paid by the ‘piece’ of task carried out: the value curve reduces to punctual positive values at irregular succession of moment of time, i.e. when demand is detected by the algorithm and a worker is dispatched; in all other time, no activation, no cost to the employer, no gain for the worker.

Within a narration which is limited to intuitive descriptions, temptations to draw definite conclusions or policy suggestions should better be avoided. The concluding notes which follow are a summary of these reflections, with proposals and interrogations left to further research.

6. Concluding notes

We have sketched three frames in order, which were seen as relevant for the quantitative and qualitative assessment of the conditions of a national labour market. Patterns in the numbers of gross and adjusted employment, its elasticity to output, and composition effects, were reported as stylized facts associable to the frames of analysis. Ambitions for exhaustive synthesis, or rigorous modelling, are out the scope of this text. The considerations which follow here should be thought as a provisional attempt at the assembling of the arguments.

Within these limits, my opinion is that the frames, ‘Keynesian’ Macro, Structural Dynamics, and ‘Job-matches’ as a micro investment decision, should not be seen as contrasting each other, but rather as complementary tools for the ‘take’ of a complex phenomenon, the employment activation.

In the quotation from the “General Theory”, reported earlier, an adverb, “almost”, was included by Keynes himself, implicitly referring to further influences on employment outcomes beyond the basic correlation to output. A Keynesian consensus would broadly agree that in the initial summary presentation of the theory, in Ch. 3, Keynes referred to the short period (“*In a given situation of technique, resources and factor costs...*”),¹¹ to which we would add distribution, influencing average propensity to consume, and

¹¹ Keynes(1936), p.24.

structural composition of the economy. Within these parametric settings, an ‘employment function’, or the inverse of a production function, catches the relevant direction of causality. The proportionality, in this latter, between indexes of output and employment is in fact respected as far as the expression of the ‘multiplier’ remains parametrically given. The other parameter, the average product of labour, however, may be more immediately sensitive to changes. In fact, any ‘technical’ requirement of a labour input expressed in hours can be performed by diverse compositions of workers with diverse regimes: full-time and part-time, continuous or discontinuous application, etc., with the higher shares of workers working less hours affecting in an inverse proportion the value of average productivity. Standard statistics do provide estimates for employment in full time equivalents; but even with correct measures for the volumes of work, the parameters of an aggregate labour/output relationship will remain invariant over some interval of time only if some ‘steady state’ dynamics with proportional sectoral growth is assured. While acceptable in the short-run, within a medium-term, in which structural changes are occurring, labour elasticity and average productivity will be affected by the patterns of sectoral growth. If a ‘Baumol’ effect prevails over a period, average productivity will grow less and a higher employment elasticity of growth will result. The qualitative implications, for the shares of ‘good’ or ‘bad’ jobs, and the longer-run implications for productivity and growth potentials of the economy, remain further aspects to be explored.

The concluding message is that the frame of analysis, for an ex-post assessment or ex-ante projection for the uses of labour, should be adjusted to the length of the horizon in time, and the extent of the details, to which the analysis addresses. Fully aggregative setting may then work in the conjuncture outlooks in comparing economies, or the same economy over evolution experiences, the parametric changes for aggregate correlations, linked to the patterns of structural growth, should not be overlooked.

We come, eventually, to the ‘micro’ decision of employment, as these may be influenced by the regulatory frames, and in particular by the more ‘permissive’ norms allowing ex-ante, or ex-post, ‘terminating condition’ for the uses and disuses of labour by the employer. The possibilities intuitively illustrated, that when the legal, or contractual regulations loosen the constraints upon ‘termination’ point for a job-match, short-term engagements which might not have been activated otherwise by the employer might now come in force. This is a sensitive topic, since the argumentation in the mainstream literature for policy orientations towards ‘flexibilization reforms’ are in fact based upon the quite trivial expectation about this behaviour in the demand for labour.

Some ‘caveat’ should be posed at this point; first, and in particular in the historical context of Italian experiences, it is to be questioned how much of these possible ‘short’ options always imply new matches, or simply legalize earlier practices for contingent hire on ‘black’, or otherwise out of fiscal, contractual, etc. norm, labour markets. Some may consider the simple ‘emergence’ into a legal frame of black jobs however a positive evolution. But beyond this opinion, there is a further, and more difficult, assessment in front of the extension of forms and practices of short matches. Do these jobs really represent additions, at the ‘margin’, into the market of segment of potential workforce,

otherwise unemployed or discouraged from participation, or might also entail 'substitution' effects crowding out other options, for the contractual frames assuring greater stability of jobs and income prospects for the workers, and nevertheless positive values to the employers along longer spans of time? As in financial markets, where 'short-term' speculative trades may endanger longer-term investment options, may the 'short' options for labor use crowd out better jobs ?

The metaphor of a 'liquid' labour market, approaching the spot' exchange conditions of a financial market, was used as an extremizing example; however, some species of a 'liquid' labour were identified in the actual situation.

If displacement effects do coexist with 'marginal' addition effects, in the flow of emerging job-matches, the evaluation, for the policy and social implications, becomes controversial. Options which would have assured higher productivity and earning potential emerging out of long-term engagement, with the implied training, improvement, career, etc., may be displaced by options of contingent use of labour 'in the moment of time' assuring an immediate value gain and avoiding costs and obligations. Labour requirement, as example, might be called in through 'missions' dispatched by temporary work agencies, and there is no shortage for forms of 'subcontracting' of work involving lesser duties and freer termination for the employer. However, the possibility could not be excluded, that deregulation might have allowed matches otherwise left unexplored, between the 'marginal' employer and the 'marginal' worker, in those segments of labour force accepting the conditions of a contingent work, willingly or because of the lack of other opportunity.

From the point of view of our previous analyses, the possibility that margins of contingent work practices may be facilitated within deregulated contexts should not be seen as conflicting with the previous view, that labour demand is essentially derived by the levels and growth of final, effective demand, and that structural dynamics matters for the patterns of specialization influencing quantitative elasticities and qualitative compositions of employment. Extension on the margin of contingent labour exchanges may then also be seen as contributing to the apparent rise for the elasticities of employment, lowering average products for the aggregate economy. However, a question may be posed at this point: when an additional job-match is set, should not this imply however an addition also to the total output servicing additional demand ? This would reverse the 'causal' direction between product supply and demand. But as a fact, additional service output on the margins of aggregate supply should be seen as entailing a lowering of the final 'price' of some services to consumers or other clients on the demand side (including opportunity costs, e.g. of the time for shopping, etc.). Eventually is the demand which is stimulated by the availability of an innovation in the modes of a service provision, and it is finally always the response of demand side that allows supply activation. In the expression of the basic 'employment function', the marginal addition to demand and employment may be read as resulting from a (marginal) lowering of the 'Price of the aggregate supply' ("P", in the expression [1]). Otherwise, the availability

of new forms of intermediation of goods (delivery, network applications, etc.) may act enhancing consumption propensities, with an increase in the value of the multiplier.

Even when having admitted the additional effects from the extension of the shorter ends of work engagements, the other implications, both in terms of renewed forms of dualism/discrimination amongst categories of workers, and in terms of general productivity and qualities of work in the economy, which may negatively affect the working of the labour market as the main “Social institution” allowing the ‘reproduction process’ in the economy and the society,¹² should not be overlooked.

Appendix

ELASTICITIES IN SOME EUROPEAN COUNTRIES

TABLE 4: EMPLOYMENT/OUTPUT ELASTICITIES AFTER THE YEAR OF CYCLICAL THROUGH IN THE RECENT EXPERIENCE OF SOME EUROPEAN COUNTRIES

| | $\Delta Y/Y$ | $\Delta E/E$ | $(\Delta E/E)/(\Delta Y/Y)$ |
|---------------|--------------|--------------|-----------------------------|
| GERMANY 2009 | | | |
| After 2 years | 7.6 | 1.7 | 0.22 |
| After 4 years | 8.6 | 3.5 | 0.41 |
| FRANCE 2009 | | | |
| After 2 years | 4.0 | 0.9 | 0.42 |
| After 4 years | 4.7 | 1.6 | 0.34 |
| SPAIN 2013 | | | |
| After 2 years | 5.7 | 4.1 | 0.72 |
| After 4 years | 11.9 | 9.2 | 0.77 |
| U.K. 2009 | | | |
| After 2 years | 3.1 | 1.3 | 0.42 |
| After 4 years | 6.5 | 3.0 | 0.46 |

¹² As from Solow(1990); the greater economist from a neoclassical school, however less dogmatic than many successors in the brand, would affirm that: “Among economists, it is not obvious at all that Labor as a commodity is sufficiently different from artichokes or rental apartments, to require a different mode of analysis”.

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