

Public Organization Review

When the outcome is employability: leading indicators for the governance of labour market services
--Manuscript Draft--

Manuscript Number:	PORJ-D-17-00014R1
Full Title:	When the outcome is employability: leading indicators for the governance of labour market services
Article Type:	Manuscript
Keywords:	employability; labour market governance; performance measurement; policy and management cycle
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Funding Information:	

When the outcome is employability

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Answer: We provided a new version of the abstract (please refer to the MAIN document).

The authors

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When the outcome is employability: leading indicators for the governance of labour market services

Abstract

The aim of this paper is to explore the relationship between output, leading outcome, and lagging outcome indicators in the governance of labour market services. To support the definition of human capital development policies, the adoption of an intermediate outcome indicator of employability is proposed. By crossing data from a survey on workers' perception of their own employability with administrative data on individual employment conditions, this work tests the effectiveness of such indicator. Results suggest a positive relationship between subjective career success and outcome, confirming the importance of employability as a predictor of long-term labour market performance.

Keywords: employability – labour market governance - performance measurement — policy and management cycle

Introduction

1
2
3 The introduction of performance measurement tools in the public sector has been associated with the
4
5 diffusion of New Public Management (NPM) approach in Western Countries. There is not a strict
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7 definition of NPM universally accepted, however this concept can be associated with a growing
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9 emphasis on professional management, secondly, with the introduction of explicit measures of
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11 performance, than, with a focus on outputs and results and, finally, with an ever greater role played
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13 by private sector styles of management practice (Hood 1991). Nowadays, academics and policy-
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15 makers reach the awareness that the approach of measuring performance in public sector cannot be
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17 the same than in private sector. Therefore, the tools of private sector have to be adapted to the context
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19 of public sector that is characterized by both the presence of several masters and, consequently, by
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21 the need to fulfil multiple - sometimes contrasting - objectives (Dixit 2002). The first issue refers to
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23 the necessity to adopt a multi-stakeholder approach in order to face the needs of different principals:
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25 these include public service's users, payers for the service, politicians (at different levels of
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27 government), professional organisations, citizens, and taxpayers. The second issue is a consequence
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29 of the first: the public administrations have often several ends to achieve (i.e. increase both efficiency
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31 and equity in the delivery of public services), and the results arise at different times, in particular the
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33 effort and its effect may be too long to conduct meaningful research. The performance of public
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35 agencies is difficult to measure because of the need to take into account the outcome - a final effect
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37 envisaged - depending on too many factors not evaluable in the short term. What is identifiable,
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39 measurable, and reportable – but less significant – is the direct effects of the services, or the output.
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41 In the context of the governance of labour market, different actors are involved in the provision of
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43 services for workers, aimed at reducing unemployment. While the amount and the quality of services
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45 is the first output of the actors' network, the overall reduction of unemployment is the expected
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47 outcome of the overall policy. The conceptual connection between these outputs and outcomes is the
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49 employability, defined as the ability for individual to realize a sustainable working career path. Due
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1 to rapid changes in economic environment, and global economic crises the issue of employability is
2 assuming ever-greater importance. Careers are becoming more instable, flexible, and subject to
3 changes, as consequence the ability of being employable is decisive for individuals (Forrier and Sels
4 2003, Fugate et al 2004). Public policies, in different countries, mirror this trend shifting from the
5 paradigm of “work/first” – mainly focused on reducing the period of unemployment –, to the
6 “development of human capital” to sustain unemployed persons in the long term (Lindsay et al. 2007).
7 Through the assessment of an initiative of the Regional Labour Market Observatory of Lombardy
8 (LOL), the aim of this paper is to explore the relationship between output, leading outcome, and
9 lagging outcome indicators in the context of the governance of labour market services. In particular,
10 the adoption of an intermediate outcome indicator of employability to support the definition of human
11 capital development initiatives for the governance of labour market system, by central and local
12 governments is proposed.

13 **Performance measurement and the policy and management cycle**

14 Performance measurement can occur at different level: it may refer to the measurement of inputs,
15 outputs or outcomes; at the same time, it can refer to economy, efficiency or effectiveness. With
16 reference to the context of public services, these concepts can be represented in a wider policy and
17 management cycle based on an input-output representation of public service provision (Bouckaert et
18 al 1997, Bouckaert & Halligan 2007, Bouckaert & Van Dooren 2009, Van Dooren et al 2015) (Figure
19 1).

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Figure 1: The policy and management cycle in the input-output model

The policy cycle starts with the definition of strategic objectives that are general end purposes derived from the policy statement documents. These general aims are translated into operational objectives, than implemented through the management cycle. This second cycle includes the transformation, through the activities, of the inputs into outputs, and it is performed by public and private

1 organizations (or networks of actors) engaged in providing public services. While the inputs includes
2 the resources required to provide public services - such as human capital, infrastructure, and finances
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4 - the output is the result of service provision (i.e. number of graduated students for universities,
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6 number of out-patients for hospitals). When the outputs leave the service provider, it is expected that
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8 they will affect the overall society thorough positive outcomes that are events, occurrences, or
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10 changes in the initial conditions, behaviour, or attitudes of individuals. While the outputs are what
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12 the private or public actors do, the outcomes are the consequences of these actions. A further
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14 distinction can be made between intermediate outcome and final (or end) outcome focusing,
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16 respectively, on the accomplishments which are expected to lead to the final results and, on the ends
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18 of the policies ultimately desired (Hatry 2006). This distinction can be very important for the
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20 implementation of public policies. In fact, because of the time distance between the output delivery
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22 and the end outcomes, the development of performance measures focused on intermediate outcomes
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24 (leading indicators) allows to evaluate the implementation of policies *in itinere*, providing, through a
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26 first level feed-back loop, the information for potential corrections. However, the time distance
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28 between output and final results is not the sole barrier to the monitoring of public policies. These
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30 results, in fact, are also affected by contextual and environmental factors, making difficult the
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32 assessment of the success of single interventions. For instance, public initiatives for re-collocating
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34 human capital in labour market can be strongly affected by the overall economic environment that
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36 can facilitate or obstruct the demand of employers by private corporations. Finally, the comparison
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38 between the final outcome and the objectives is the policymaker's feedback loop that close the policy
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40 cycle. Different kinds of performance indicators can be derived from the input-output model focusing,
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42 alternatively, on input, output, intermediate outcome, and end outcome indicators (Bouckaert and
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44 Halligan 2008, Talbot 2010), and through the comparisons of the model's items, some rations
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46 indicators can be formulated, measuring different dimensions of productivity, economy, efficiency,
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48 effectiveness, and cost-effectiveness. Irrespectively of the focus of performance measurement, the
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50 characteristics of trustable indicators have been widely discussed. The usefulness of performance
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measures, in particular, depends on their reliability, validity, verifiability, intrinsic cost-effectiveness, relevancy, comparability, and aptitude to be attributable (Neely et al 1995).

With the aim to assess the relationship between employability and employment in the context of the labour market policies and governance, a specific focalization on both the nature of the indicators of intermediate and final outcomes, and the effectiveness assessment is provided. In this context, the distinction between lagging and leading indicators is crucial. Different authors in the field of strategic management (Kaplan and Norton 1997), public policies (Fryer et al 2009), economics and finance (Estella et al 1998), and operation management (Evans 2004), highlight the different nature of leading and lagging indicators. Lagging indicator are measures focusing on results at the end of a period, normally characterizing historical performance. Even if they are normally easy to identify and capture, their historical nature is not able to reflect current activities. According to Kaplan and Norton (1997), in the development of balanced scorecard, Lagging indicators and long-term strategic objectives are formulated for the strategic core issues of each perspective derived from the strategy of the business unit. Lagging indicators thus indicate whether the strategic objectives in each perspective were achieved. In contrast, leading indicators are performance indicators able to predict the outcomes. They are measures driving the performance of lag measures; normally focusing on intermediate processes and activities. Even if they are difficult to identify, leading indicators are predictive in nature and, facilitating the introduction of possible adjustments, they monitor if the tasks are being performed that will 'lead' to results. In contrast, lagging indicators monitor whether the results or outcomes that have been achieved.

The governance of labour market and the role of employability

The input-output model can be used to represent the governance of labour market. Figure 2 includes an example of the translation of the general aim of reducing unemployment into programs for the development of job opportunities for young people (policy cycle). The actor involved in the policy

1 cycle are national or/and local policy-makers potentially supported by different stakeholders, in the
2 perspective of participatory governance models (Osborne 2010).
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4 The programme fulfilment requires the design and implementation of appropriate initiatives thorough
5 the management cycle. In this second cycle, services' provision occurs through the transformation of
6 the inputs (financial resources and human capital) into counselling, training and career guidance
7 services. The output of this process is a certain number of young people that received these supporting
8 services. The actor involved in the management cycle as services' providers are, mainly, temporary
9 work agencies (TWAs), Public Employment Services (PES), Non Profit Organizations (NPOs), as
10 well as private companies. In particular, TWAs, PES and NPOs provides services aimed at favouring
11 human capital development directly, while private firms give to youth the opportunity to develop
12 skills and competences on-the-job. Out of the Management cycle, the output becomes – in the medium
13 term – the intermediate outcome of employability that is expected - after appropriate adjustment for
14 the general economic conditions - to be the leading indicator of the end outcome of young people
15 actually employed.
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37 Figure 2: The governance of labour market through the input-output model
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43 According to this approach, employability is the intermediate outcome of the policy and management
44 cycle model for the governance of labour market. It is assumed, in particular, that a performance
45 measures focusing on this intermediate outcome are more predictable of the end outcome than
46 performance indicator of output. Therefore – timeliest than the end outcome, and more significant
47 than the output based indicators – employability measures are leading indicator of labour market
48 performance.
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57 Employability is a concept that has become increasingly prominent in both national and international
58 policy debates. It concerns people's ability to be employed (Forrier and Sels, 2003; Fugate et al.,
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1 2004; Van der Heijde and Van der Heijden, 2006; Arnold and Rothwell, 2007; Fugate and Kinicki,
2 2008). More specifically, it is the capability to move self-sufficiently within the labour market to
3
4 realize potential through sustainable employment (Hillage and Pollard 1998), and this implies the
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6 development of capabilities to gain initial employment, to maintain it, and to obtain new employment
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8 opportunities, simultaneously. Moreover, employability is not reduced to the capability of a person
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10 to find and keep a job, but rather it implies the possibility to gain and maintain a satisfactory job, to
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12 achieve an adequate level of employment continuity, through more working experiences, and to
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14 realize a sustainable career growth in the long-term (Hillage and Pollard 1998). Different
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16 contributions stressed the importance of personal resources for individual employability, which
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18 typically include dimensions of human, social and psychological capital (Fugate et al., 2004).
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20 However, whether or not workers are employable may depend on a number of personal and contextual
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22 factors, some of which workers can and some of which they cannot directly influence (Forrier and
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24 Sels, 2003; Thijssen et al., 2008). Employability, in fact, is not only about individual resources and
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26 attributes, but it is the result of a process through which context-related and external factors, in
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28 addition to personal resources, may affect an individual's chance of career success in the labour
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30 market. In particular, the education system, labour market policies, employers' practices and
31
32 employment services play a critical role (e.g. Clark, 2007; Finch et al., 2013; Hodzic et al., 2015).
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34 Although the growing attention of both national and international policy debates for employability,
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36 lack of consensus emerges in relation to the way employability should be measured. As suggested by
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38 Forrier et al. (2015), three main approaches exist to assess employability. The first, assesses
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40 employability by looking at the job transitions realized by the individual in the internal and external
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42 labour market, including for example, transitions from school to work, from unemployment to
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44 employment, and from a job to another job within the same organization or across different
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46 organizations (Hillage and Pollard, 1998; Forrier and Sels, 2003; McQuaid and Lindsay, 2005).
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48 Within this approach, others measure employability through the sole transitions that allow an
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50 improvement of the employment conditions and suggest a career progression, in terms of salary, job
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1 position, job security and career prospects (Hillage and Pollard, 1998). The second approach, assesses
2 individual employability by looking at the personal strengths that increase an individual's chance in
3 the labour market. These include skills, knowledge, competencies and attitudes that help individuals
4 to deal effectively with changes in the labour market (Fugate et al., 2004; Akkermans et al., 2013; Van
5 der Heijde and Van der Heijden, 2006). Finally, some authors, focus on appraisal of employment
6 chances assessing employability in terms of the individual's perception of available employment
7 opportunities with the current employer or with another employer (De Cuyper & De Witte, 2011;
8 Rothwell and Arnold, 2007; Van den Broeck et al., 2014).

9 Following the discussion above, in this contribution, it is proposed to measure employability by
10 considering the dimensions of Subjective Career Success (SCS), Employability Skills (ES), Perceived
11 Employment Opportunities (PEO), and Perceived Organizational Support (POS), simultaneously.
12 While SCS is the measure of individuals' satisfaction with how well their past career met a range of
13 criteria important for them, ES refers to the transversal and psychological skills favouring the
14 employment process such as the openness to change and the meaning making, providing workers
15 with a sense of career self-management and promotes a proactive attitude to face changes. PEO
16 concerns, instead, the worker's perception of available job opportunities in the external labour market.
17 Finally, POS refers to the perceived contribution of the workplace conditions, and training on the job,
18 to the development of individual employability.

19 **The case of the Regional Labour Market Observatory of Lombardy**

20 With the aim to identify a predictive indicator of intermediate outcome for labour market, different
21 configuration of the employability concept in the context of LOL initiatives are tested. LOL is the
22 body of Lombardy Region responsible for gathering, updating, and assessing data of labour market
23 for ARIFL (Regional Agency for Education, Training, and Employment). The aim of LOL is to
24 provide information able to support regional policy-making for employability and vocational training.

1 The role of LOL and ARIFL have been defined through the Reform of the Education, Training and
2 Employment System in Lombardy (regional law n. 22/2006) resulting from the comprehensive reform
3 of the labour market implemented a few years earlier at the national level, which gave significant
4 autonomy to regional governments in these areas of policy. This reform reinforced the role of TWAs
5 which, authorized at the national level, have been involved in the implementation of active policies
6 for labour market through the access to public financing for the provision of intermediation,
7 temporary work, recruitment, training, carrier guidance and other employment services. Since 2003,
8 also other institutions are allowed to carry out intermediation activities, including private and public
9 universities, foundations, chambers of commerce, secondary schools, and business associations.
10 Following these developments, the regional law n. 22/2006 reformed training and employment
11 policies, with a reorganisation of the competences and roles of different institutions, and the definition
12 of specific measures aimed at increasing employment. This allowed the establishment of a market
13 with public and private bodies, both for profit and non-profit, where the role of public institutions has
14 been reduced. In fact, the regional government only maintains a role of coordination of the various
15 participating actors, and of monitoring, evaluation, and control through ARIFL.
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37 **Methodology**

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39 In order to verify the predictability of employability as intermediate outcome, a three-phase analysis
40 has been developed (Figure 3).
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49 Figure 3: Research design in the policy and management cycle model.
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55 In the first part of the analysis, the quality of services for labour market (output) and the intermediate
56 outcome of employability were jointly assessed, with the aim to verify, if and how, output affects
57 intermediate outcomes. The second phase is aimed to verify if the quality of services' input is able,
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itself, to predict the final outcome. Whether this condition was satisfied, this would mean that a survey on the perceived quality of services received would provide significant information for the evaluation of public policies *ex-ante*. In the third part, the relationship between intermediate and end outcome has been assessed, with the aim to measure the effect of different dimensions of the employability (SCS, ES, PEO, and POS) on the end outcome of employment continuity. Both in the second and third step, the effect of potential environmental conditions are considered.

Sample and procedures

Three main data sources have been considered. For the first step of the analysis, data was collected through a survey, which was submitted to people between 16-64 years old, residing in Italy, who found a job in the first semester of 2012 through the intermediation of one of the largest TWA in Italy. The purpose of this survey was to gain more insight into workers' perceptions of their own employability and its predictors. Within the latter, questions about the satisfaction for the services received by the TWA in 2012 have been included. As regards the employability dimensions the questionnaire was aimed to collect the perceptions of respondents 18 month later about their career success, their employment opportunities in the future, the workplace development opportunities received in the job they had done prevalently in the period and self-assessment of their employability skills.

The reference population counted for more than 28.000 persons, from which a representative sample of about 1200 individuals, stratified by gender, age, citizenship and local area was selected. A semi-structured questionnaire was submitted with the CATI method during June 2013; 1.034 workers were contacted and a high response rate was achieved, with about 50% of the workers responding to the questionnaire, resulting in a total 558 responses.

Successively, the results of the survey, with those of the LOL administrative database have been crossed. LOL administrative database contains the data that all public and private employers have to transmit to the relevant authorities in the case of hiring, extending, transforming and terminating

1 employer-employee relationships in Lombardy. The database includes information on individuals'
2 work experiences, usable to trace the history of a worker as regards to type of job contract, and the
3 number/length of each job contract. For each period, data concerning individual status – such as work
4 position, educational qualifications, employment sector, and province of residence – are available
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11 This process led to the extraction of 137 workers for whom it was possible to detect information
12 on their working experiences from 2012 and 2015 from the LOL database. In order to control for the
13 economic general conditions, data of the LOL database were finally matched with the unemployment
14 rate in the Lombard provinces provided by the national Labour Force Survey (ISTAT, 2015) which
15 includes labour market indicators disaggregated by regional and local areas.
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23 The need to integrate three data sources has led to the exclusion of the workers who no longer work
24 in the Lombardy region and for whom it was not possible to trace the work process carried out
25 between 2013 and 2015. Although limited, the final sample should be considered adequate for the
26 explorative nature of the study. Table 1 summarizes the descriptive statistics of the final sample. The
27 characteristics of the final sample ensures a good level of representation with respect to the reference
28 population in terms of gender, age, citizenship, education, and prevailing job contract.
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41 Table 1: Descriptive statistics of the sample
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46 ***Measures*** 47 48

49 The most of the study's variables are based on workers' perceptions and measured using five-point
50 Likert scales (1=completely disagree, 5=completely agree). Multi-item measures were used for these
51 variables, and the Cronbach's alphas (CA) was calculated with an acceptance level of 0.70.
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56 To measure the management cycle outputs, a set of fourteen questions aimed at capture workers'
57 perceptions on the *quality of services* (QS) they have received by the TWA in 2012 have been
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proposed. Starting from a review of the most relevant literature on employment services and employability (Benner et al., 2007), fourteen items have been built. The first eight items detect the satisfaction about the placement and on-the job services (screening, assessment, information, matching, training on-the-job, performance evaluation and welfare services), and the other six items detect the offers' of services aimed to support employment continuity, human, and social capital development, career guidance and active job search (CA= 0.86).

To measure employability, some proxies for SCS, ES, PEO, and POS have been considered.

SCS refers to individuals' satisfaction or otherwise with how well their career in the last 18 months (from January 2012 to June 2013) has met a range of criteria important to them. Even if career success and employability are usually considered different constructs, the career outcomes achieved can be considered as a proxy of individual employability (Hillage and Pollard, 1998). A scale was built considering four items selected aimed to detect the respondents' satisfaction with the advancement of their professional career in terms of skills development, professional growth, employment continuity, and income (CA= 0.71) (Greenhaus et al, 1990; Arnold and Rothwell, 2007).

ES includes ten items aimed at measuring skills which are considered particularly effective for managing the job placement, maintaining of employment, and achieving a sustainable working career path. According to the existent literature on employability skills (McQuaid and Lindsay, 2005), the dimensions considered in the survey included cognitive flexibility, personal initiative and goal orientation (CA= 0.7).

PEO is based on three items aimed at measuring the worker's perception of available employment opportunities in the labour market. In particular, respondents were asked to indicate their employment expectations for the next three year (De Cuyper and De Witte, 2011; Wittekind et al. 2010).

Employment expectations were built on three dimensions: getting a new job, getting a better job and find a job that fits with worker's qualification and past working experiences (CA= 0.89).

Finally, POS was used as a fourth proxy of individual employability. POS measures the perceptions of the respondents about the workplace development opportunities they have had in the prevalent job

1 (from January 2012 to June 2013). A scale was built including 12 items aimed to measure employers'
2 use of human resource development practices such as job enlargement, job enrichment, team-work,
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4 job rotation, horizontal mobility, mentoring, coaching and tutoring, performance assessment and
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6 feedback, career support (CA= 0.76) (Hackman and Oldham, 1975; De Vries et al., 2001; Knies and
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8 Leisink, 2014)..
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11 The end outcome, is measured in terms of Employment continuity (EC). EC measures the total
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13 number of days that the individual has worked in a certain period and identify the employment
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15 security experienced in the working career. EC is used to measure labour market outcomes in LOL's
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17 official report where it is also defined as "saturation index" (Lovaglio and Mezzanzanica, 2013).
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21 Employment continuity was then measured by the ratio between the total number of days worked by
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23 the individual in the period, which start from the date of the first job contract in 2012 and end in
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25 December 2015, and the total number of days observed in the same period.
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29 As controls of individual employability and employment continuity, variables related to the workers'
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31 personal and occupational characteristics have been considered. The criteria for personal
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33 characteristics includes controls for gender, citizenship, age and educational level. Within
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35 occupational characteristics, the prevailing employment in the observed period was considered using
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37 the following contract typologies (permanent, fixed-term, temporary agency work contract, and
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39 project work). The prevailing employment contract was built separately for the period between 2012-
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41 2013 and 2012-2015. In order to control for the economic general conditions, the unemployment rate
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43 in the worker's province of residence between 2012 and 2014 (mean) was taken into account.
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48 **Results**

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51 The mean scores for the four employability scales indicate that the respondents have a positive
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53 perception of their employability skills, when compared with the other three employability
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55 dimensions (Table 2).
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1 Results from the correlation matrix indicated that there is a statistically significant positive
2 relationship between the quality of services received from the TWA (QS) and all the four dimensions
3 of employability. Beside this, when looking at the relationships between the employability
4 dimensions and the employment continuity (EC), a statistically significant positive relationship only
5 exists between perceived career success and the employment continuity, while the other three
6 employability dimensions do not seem to be correlated with the end outcome. No statistically
7 significant relationship emerges even between the quality of services (QS) and the employment
8 continuity in the five years' observed period. Finally, some employability dimensions appear to
9 correlate significantly with the others and statistically significant positive relationships exist between
10 SCS and POS, and between POS and ES.
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26 Table 2: Means, standard deviations and correlation between the model variables, n=137
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31 To test the effects of the quality of TWAs' services on intermediate outcomes of employability four
32 standard multiple regression analysis have been performed. Gender, citizenship, age, education level
33 and prevalent employment contract (during 2012 and 2013) were entered in the equation as control
34 variables, together with the variable related to the quality of services (QS). Table 3 displays the
35 results of the regression analyses indicating that the variable included in Model 1, 2, 3 and 4 accounted
36 respectively for 56,4%, 38,3%, 45,4% and 54,9% of the variance in the subjective career success
37 (SCS) ($R^2=.564$), employability skills (ES) ($R^2=.383$), perceived employability ($R^2=.454$) and
38 perceived organizational support (POS) ($R^2=.549$). The quality of services (QS) is significantly and
39 positively associated to three out of the four intermediate employability outcomes considered. In
40 particular, QS is a predictor of subjective career success ($\beta=.544$ and $P<.01$), perceived organizational
41 support ($\beta=.513$ and $P<.01$) and employability skills ($\beta=.252$ and $P<.05$), while it does not
42 significantly affect the perceptions of individuals about their future employment opportunities (PEO).
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61 As regards to the personal and employment characteristics of workers, citizenships, age, prior
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1 education and prevalent job contract are predictors of intermediate employability outcomes. In
2 particular, being less than 31 years old and being between 41 and 50 years old is positively related to
3 subjective career success (respectively: $\beta = .380$, $P < .05$ and $\beta = .343$ and $P < .05$). Moreover, having
4 a higher education level (university degree) is a predictor of both subjective career success ($\beta = .089$
5 and $P < .10$) and perceived employability ($\beta = .200$ and $P < .10$). Finally, being Italian is negatively
6 associated with the perceived employment opportunities ($\beta = -.269$ and $P < .05$) while being employed
7 mostly with project work emerges to be positively associated to the perceived employment
8 opportunities ($\beta = .231$ and $P < .05$).
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10 In order to verify if the quality of services' is able to predict the final outcome a standard multiple
11 regression analysis has been performed to predict the employment continuity (EC) were the quality
12 of services (QS) and a set of control variables were included in the regression. Unemployment rate
13 between 2012 and 2014 is also included as control for the external economic conditions. Table 5
14 includes the results of the regression analyses.
15

16 The Model 5 explains 9,4% of the overall variance of the employment continuity ($R^2 = .094$) and the
17 quality of services does not emerge to be statistically significant in predicting the end outcome. As
18 regards to the control variables included in the regression, citizenship and prior education are both
19 significantly related to employment continuity. In particular, both being Italian and graduate
20 positively affects the workers' chance of a greater employment security in the observed five years
21 period (respectively: $\beta = .214$ and $P < .05$; $\beta = .200$ and $P < .05$).
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31 Table 3: Linear regression analyses of QS as predictor, and SCS, ES, PEO, POS, EC as
32 dependents.
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48 To test the effect of different dimensions of the employability on the end outcome of employment
49 continuity, a hierarchical regression analyses have been performed. SCS and the control variables
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1 were included in the Step 1, followed by ES in Step 2, PEO in Step 3 and POS in Step 4. Table 4
2 displays the results of the regression analyses.
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4 The final model explains the 14,2% of the overall variance of EC ($R^2=.142$). The findings show that
5 the subjective career success and the control variables together contribute the most to the explanation
6 of the variance in the end outcome ($\Delta R^2=.133$; $P<.05$). Moreover, employment continuity is predicted
7 by subjective career success as the relationship between the two variables is statistically significant
8 ($\beta=.205$ and $P<.05$). By contrast, the introduction of the other three variables of employability in the
9 next steps do not significantly contribute to increase the ability of the model in explaining the variance
10 of employment continuity (Step 2: $\Delta R^2=.001$; Step 3: $\Delta R^2=.008$; Step 4: $\Delta R^2=.000$). On the other
11 hand, employability skills (ES), perceived employability (PE) and perceived organizational support
12 (POS) do not predict the end outcomes, and the relationships between each of the three intermediate
13 outcomes and the employment continuity are always statistically not significant (ES: $\beta=-.035$ and
14 $P>.10$; PEO: $\beta=-.097$ and $P>.10$; POS: $\beta=.000$ and $P>.10$). With regard to the control factors that have
15 been included in the regression analyses the findings show that citizenship and educational level are
16 both significantly associated with the workers' employment continuity between 2012 and 2015. In
17 particular, being Italian positively predict the workers' labour market outcomes in the five year period
18 ($\beta=.214$ and $P<.05$). Finally, the chance to achieve a greater employment continuity is positively, and
19 at least significantly associated with being graduate ($\beta= .183$, $p < .10$).
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Table 4: Hierarchical regression analyses of SCS, ES, PEO, POS as predictors, and EC as dependent.

Discussion and conclusion

The aim of this paper was assessing the role of an employability index for the support of public initiative for labour market development. In order to find those presenting the characteristics of reliability and cost-effectiveness, using the guiding criteria of the outcome predictability, different configurations of potential employability indicators have been considered.

In the first phase, it has been verified if the employability index was related with the quality of services received. According to literature, four measures of employability are proposed: subjective career success, employability skills, perceived employment opportunities and perceived organizational support. The existence of a positive and significant relationship between output and outcome was a pre-condition for the development of the rest of the model. Our findings suggest that labour market intermediaries can play a significant role in enhancing workers employability, demonstrating the existence of a positive relationship between the quality of services provided by the TWA and three out of the four measures of employability outcomes. In particular, QS impacts on workers' SCS, the skills related with ES and the support received from the employers POS, while it does not affect PEO. This finding is important since it allowed to confirm the existence of the relationship between management cycle and policy cycle.

In the second phase, the existence of a direct relationship between output and final outcome has been tested. The analysis of this second step highlighted that there is no significant association between the output of the management cycle, and the final outcome. This suggests that the use of indicators based on the output –quality of services provided for the development of employment opportunities – is not able to predict the actual level of employment continuity in the five years period. This confirms one of the limitation of output performance indicator in the context of public services, and the need, for public organizations to evolve toward outcome measures.

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The empirical results of phase 1 and phase 2 then suggested the need to look for an intermediate indicator of outcome strongly related with the output indicators, on one hand, and able to predict the final outcome indicator, on the other hand. According to the results of the third analysis, only the index of SCS is significantly and positively related with the end outcome. These findings suggest that the best predictor of the end labour market outcomes is the perception on the accomplishment of desirable work-related outcomes at any point in a person's work experiences. On the contrary, the indicators that scholars often cited as appropriate to measure employability, in particular the employability skills and perceived employment opportunities, suffer for some personal characteristics that may distort the assessment of individuals' soft skills and their perceptions on future employment opportunities.

The existence of a positive relationship between SCS and end outcome can be considered in order to prepare a simplified version of the employability indicator. The use of wide surveys for the development of performance indicators, in fact, is in contrast with the adoption of cost-effectiveness criteria. Since ES, PEO, and POS do not affect the end outcome of employment continuity, the development of the employability indicator could focus exclusively on SCS, reducing, in this way, the efforts of data gathering.

With reference to the effect of contextual conditions, even if the introduction of a control for the economic environment conditions such as the local unemployment rate provides an incremental improvement of the overall predictability of the model, its contribution is marginal, since it is not significantly related to the end outcome.

In the light of this study results, some policies implications can be draft. They concern, first, the design and the implementation of a performance measurement framework supporting decision making in labour market. Secondly, they affect the more general issue of the effective governance and management of labour market services, performed, respectively, by local regulators, and intermediaries.

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With reference to the implications on the definition of performance measurement systems, the predictability of intermediate outcome indicators emerged from this research suggests to the policy-makers, at the apex of the governance cycle, the introduction of performance measurement system aimed at verifying *in itinere* the paths of human capital growth. In fact, while limiting the assessment to the evaluation of the quality of services provided is not useful to understand the implication of the management cycle on the long term outcomes of career stability (policy cycle), paying the attention to the employability indicators is useful in order to verify the implementation of employment policies. Furthermore, the results of this study highlight how the gathering process of the information – for the definition of employability indicators – can be implemented through a specific attention to the subjective career success perspective. According to our explorative research, in fact, the other dimensions of employability considered in literature seem to have no correlation with the end outcome. In the perspective of simplification and parsimoniousness, therefore, this suggests to focus on the subjective career success, leaving out the other dimensions affecting employability.

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With reference to the management cycle, the policies implications refers to the usefulness of introducing key performance indicators aimed at capturing the quality of service dimensions, instead of simplest indicators of inputs productivity and efficiency. Measuring the quality of services is more complex and time consuming than measuring efficiency; furthermore, the quality of services is not directly related to the end outcome. Nevertheless, this approach has the advantage to create a link between the management cycle, and the policy cycle, since the indicators of service quality are able to predict three out of four dimensions of employability, including the subjective career success.

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The need to face this twofold level of analysis – policy and management cycles – requires, finally, the design and implementation of performance measurement frameworks able to co-ordinate the informative need of the management cycle with those of the wider policy cycle. Since the labour market system includes the sum of the organizations providing services, the assessment of the conditions that affect the quality of performance measurement requires to focus, in particular, on the need to coordinate the macro-micro relationship between the governance of the system, and the

1 management of the services. Performance measurement systems are effective when they are able to
2 promote the alignment of the objectives between the policy-maker, the services providers, and the
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4 personnel of such organizations. Therefore, public regulators are called to promote such coordination
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6 reducing the barriers to the actual reception of the external standards among service providers. This
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8 implies the identification of KPIs is the definition of performance measure that can be comparable at
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10 system level, as well as perceived as useful at the level of individual organization.
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14 Moving from the policy implications for the definition of effective performance measurement system,
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16 to the policy implications for the overall effectiveness of labour market services, the results of this
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18 research show the importance of the role of the intermediaries of the management cycle in the
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20 development of human capital. Through their services, in fact, these actors are able to improve the
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22 level of employability and, consequently, the long-term work stability of individuals.
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26 Public policies aimed at reinforcing the role of TWA, PES, and NPO would help the provision of
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28 high quality services, moving the traditional perception of these actors as mere “labour
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30 intermediaries”, to those of “Human Capital Enhancer”, that are able to provide high value services
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32 for the long-life improvement of human capabilities.
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36 The results of this study provide inputs for further research.
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39 The model used to link the employability outcomes and the end outcome has shown a limited power
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41 in predicting the dependent variable and then the employment continuity. Although the final model
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43 included a number of control variables related with workers’ personal and occupational
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45 characteristics, the final R2 indicates the omission of other variables that could affect employment
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47 performance in the medium-long term. Further research is then needed, aimed at improving the
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49 overall effectiveness of the model looking for other potentially relevant variables. In particular, it
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51 would be reasonable to integrate the psychological perspective with the aim to predict the workers’
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53 career performances career, including for examples measures of individual resilience, motivation and
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55 work culture.
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1 Furthermore, the study only considers employment continuity as the end outcome. Even if it is
2 relevant and measures the number of days worked by the individual and their overall employment
3 security, it does not say nothing about the quality and progressions of a working career path. For this
4 reason, it would be appropriate to consider, next to the employment continuity, other more
5 “qualitative” measures, such as the transitions to stable contracts (e.g. transition from temporary to
6 permanent jobs), the career progression in terms of occupations and qualifications, and the salary
7 growth from the beginning to the end of an observed period.
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17 Finally, the results of this study should be considered in light of the limitations caused by a relatively
18 small number of observations and further research is required to investigate the extent to which the
19 findings of this study can be generalized to other occupational settings and/or to other countries.
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Indeed, results of these study are noteworthy and provide good challenges for future research and cross-validation in different settings and cross-culturally. As regards to Italy, other research should be conducted which focus on samples of workers different from the temporary agency workers. This will allow to test the existence of a relationship between the quality of services, employability variables and the employment performance in the long-term considering a wider and more representative population of workers.

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Figure 1: The policy and management cycle in the input-output model

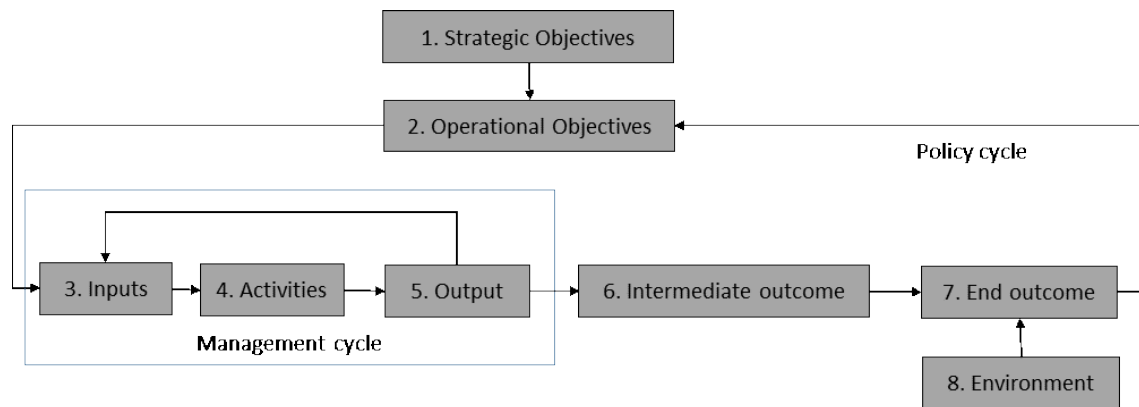


Figure 2: The governance of labour market through the input-output model

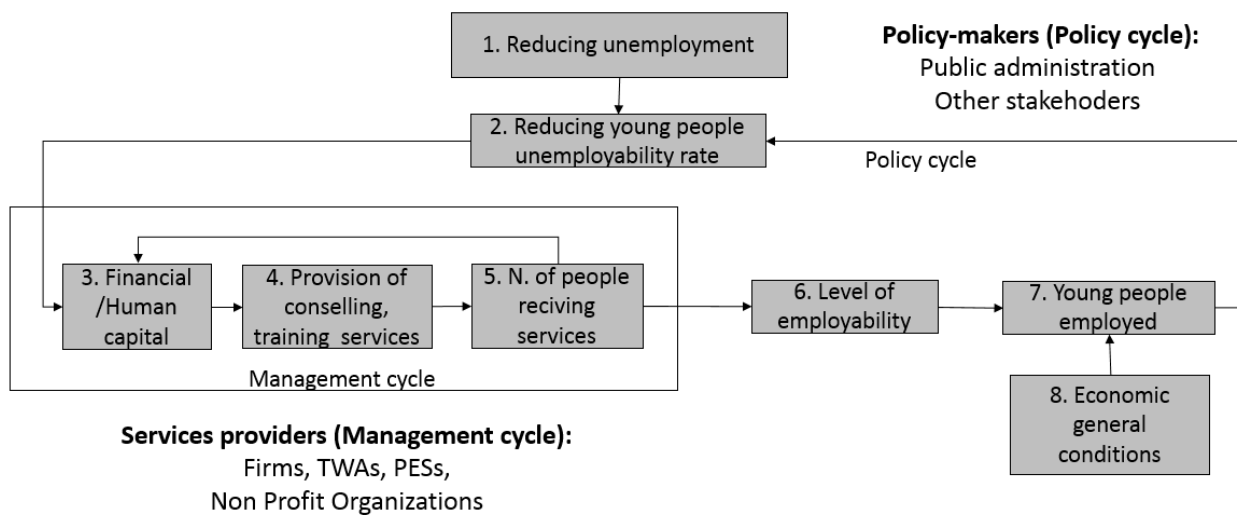


Figure 3: Research design in the policy and management cycle model.

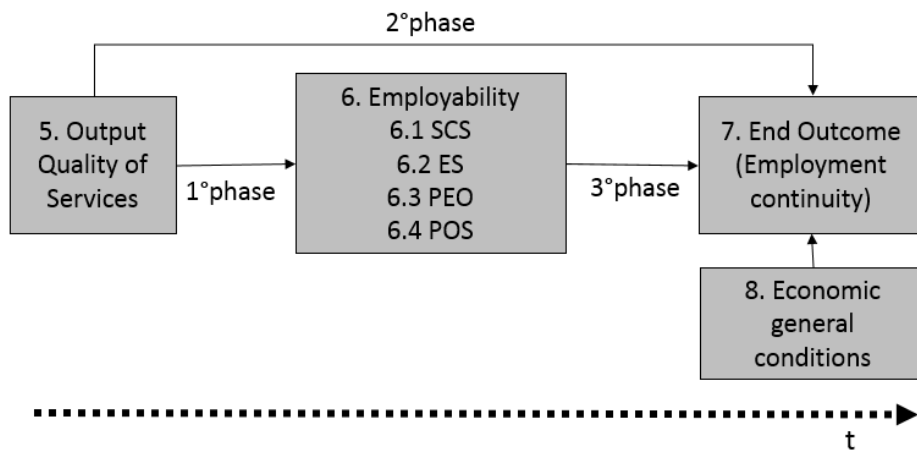


Table 1: Descriptive statistics of the sample

N. = 137	Mean	Standard Deviation	N. = 137	Mean	Standard Deviation
Male	0.46	0.50075	Permanent (12-13)	0.18	0.39357
<31	0.40	0.49341	Fixed-term (12-13)	0.50	0.50182
31-40	0.23	0.42466	TWA (12-13)	0.26	0.44176
41-50	0.27	0.44563	Project_work (12-13)	0.04	0.20539
>50	0.08	0.28374	Permanent (12-15)	0.30	0.460
Italian	0.88	0.32235	Fixed-term (12-15)	0.35	0.47883
Primary_education	0.35	0.48107	TWA (12-15)	0.31	0.46577
Secondary_education	0.46	0.50075	Project work (12-15)	0.03	0.18821
Tertiary_education	0.17	0.38152	Unemployment_rate (12-14)	7.98	1.16

Table 2: Means, standard deviations and correlation between the model variables, n=137

	N	M	SD	QS	SCS	ES	PEO	POS	EC
QS	137	2.52	0.67	-					
SCS	137	2.77	0.78	0.449**	-				
ES	137	3.49	0.48	0.201*	0.116	-			
PEO	137	2.16	0.86	0.174*	0.133	0.058	-		
POS	137	2.74	0.59	0.476**	0.546**	0.258*	0.128	-	
EC	137	0.64	0.32	0.050	0.201*	0.013	-0.086	0.079	-

** Correlation is significant at the 0.01 level (two-tailed).

* Correlation is significant at the 0.05 level (two-tailed).

Table 3: Linear regression analyses of QS as predictor, and SCS, ES, PEO, POS, EC as dependents.

	Model 1	Model 2	Model 3	Model 4	Model 5
	<i>SCS</i>	<i>ES</i>	<i>PEO</i>	<i>POS</i>	<i>EC</i>
Male	-0.024	0.013	0.079	-0.131	0,064
<31	0.380**	0.117	0.148	0.086	0,008
31-40	0.283	0.011	0.074	0.025	0,054
41-50	0.343**	0.141	0.041	0.003	0,113
Italian	0.029	-0.068	-0.269**	0.067	0,200**
Secondary education	0.024	-0.091	0.111	0.128	0,046
Tertiary education	0.089*	-0.025	0.200*	-0.030	0,214**
Fixed-term (12-13)	-0.070	0.007	0.069	-0.197	-
TAW (12-13)	-0.064	0.224	0.162	-0.126	-
Project (12-13)	0.019	-0.112	0.231**	-0.153	-
Fixed-term (12-13)	-	-	-	-	-0,100
TAW (12-13)	-	-	-	-	0,022
Project work (12-13)	-	-	-	-	-0,022
Unemployment rate (12-14)	-	-	-	-	0,101
QS	0.544***	0.252**	0.110	0.513***	0,019
R	0.564	0.383	0.454	0.549	0.307
R2	0.318	0.147	0.206	0.302	0.094

Standardized regression coefficients (Beta).

* $P < 0.10$

** $P < 0.05$.

*** $P < 0.01$.

Table 4: Hierarchical regression analyses of SCS, ES, PEO, POS as predictors, and EC as dependent.

	Step 1	Step 2	Step 3	Step 4
Male	0.056	0.060	0.065	0.065
<31	-0.020	-0.017	-0.021	-0.021
31-40	0.045	0.047	0.036	0.036
41-50	0.099	0.102	0.082	0.082
Italian	0.214**	0.214**	0.194**	0.194**
Secondary education	0.019	0.014	0.019	0.019
Tertiary education	0.183*	0.182*	0.196*	0.196*
Fixed-term (12-15)	-0.106	-0.113	-0.127	-0.127
TAW (12-15)	-0.004	-0.003	-0.003	-0.002
Project work (12-15)	0.001	0.001	0.000	0.000
Unemployment rate (12-14)	0.093	0.092	0.093	0.093
SCS	0.205**	0.209**	0.216**	0.217**
ES	-	-0.035	-0.032	-0.032
PEO	-	-	-0.097	-0.097
POS	-	-	-	0.000
R2	0.133	0.134	0.142	0.142
<i>Change in R2</i>	0.133**	0.001	0.008	0.000
<i>Full model R2</i>	0.142			

Standardized regression coefficients (Beta).

* $P < 0.10$

** $P < 0.05$.

*** $P < 0.01$.