Recognising and certifying lifelong skills: impact on labour market integration of the unemployed

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SUMMARY

The process for recognising, validating and certifying (RVC) non-formally or informally acquired lifelong learning, launched in 2000, is now part of mainstream education and training policies in Portugal.

This article aims to determine how much the labour-market behaviour of the RVC-certified unemployed differs from that of other unemployed persons, using an econometric estimate of conditional and unconditional models, supported by a purpose-built longitudinal database.

A comparative analysis of the certified unemployed from 2001 to 2003 and those registered at job centres at the end of 2003 supports the hypothesis that RVC favours the transition between unemployment and employment, especially where (very) long-term unemployment is concerned.

The role of RVC in encouraging the unemployed to transit to inactivity to undertake formal learning, however, is less clear.

Introduction

The Portuguese skills recognition, validation and certification system (SRVC) was set up in 2001 (under Order in Council No 1082-A/2001 of 5 September) to guide adults of over 18 years of age who do not have the ninth year of schooling – ISCED 2 (Unesco, 2006) – towards processes allowing their non-formally and informally-acquired lifelong

learning skills to be recognised, validated and certified. The ultimate objective was to reduce shortfalls in educational qualifications and to help to eliminate the 'undercertification' prevalent in Portugal that was partly responsible for the very unfavourable national education attainment indicators recorded since 1986 by the OECD (2007) (MTSS/ME, 2005).

The first steps in setting up the SRVC system were taken in 2000, with an invitation from ANEFA (Agência Nacional de Educação e Formação de Adultos ([1]), the national adult education and training agency) to 10 very diverse types of organisation (schools, training centres and NGOs) with the objective of setting up the first SRVC teams. This led to the creation in 2000 of six SRVC centres with observer status whose pioneering work was crucial in designing and making the SRVC system operational, notably in developing the first guidance documents supporting recognition of non-formally or informally acquired lifelong learning skills (CIDEC, 2004).

Originally developed along bottom-up and decentralised lines, an approach typical of the Leader and Equal Community initiatives (rural development and the promotion of equal opportunities respectively), the SRVC system matured and consolidated during the structural funds programming period 2000-06. Funded by the education operational programme (Prodep III) under the Community support framework for Portugal, the SRVC system developed rapidly from the six initial centres to 22 in 2001, 73 in 2005 and 182 in 2006 (OQCA, 2007 b) (Education OP, 2007).

In parallel, in the first two years (2001-02) some 3 754 adults were certified (CIDEC, 2004), a figure that rose in 2003 to 8 570 (CIDEC, 2007). From 2001 to 2004 the total number of people certified was 24 659, reaching a cumulative total by 2006 of 64 943 (CIDEC, 2005) (Education OP, 2007). This highlighted the Portuguese government's strong political commitment to SRVC.

The SRVC system took on a much higher profile from 2005 with the new opportunities initiative, which was part of the national employment plan and the technology plan. The expansion of the network of SRVC centres – meanwhile renamed new opportunities

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([1]) In 2002 ANEFA's responsibilities were transferred to the Ministry of Education's Direcção-Geral de Formação Vocacional (DGFV, the Directorate-General for Vocational Training], and since 2007 have been managed by the ANQ – *Agência* Nacional para a Qualificação [National Qualifications Agency], overseen by that ministry and by the Ministério do Trabalho e da Solidariedade Social (the Ministry for Labour and Social Security).

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centres – became a national priority, a target of 165 centres in operation in 2006 being established (and largely exceeded), then 500 for 2010.

At the same time, and for the same target date, the new opportunities initiative established the ambitious objective of certifying 650 000 adults (in accumulated terms), 345 000 with secondary education-equivalent diplomas (ISCED 3). Hence the objective was set of expanding the SRVC process (and the respective key skills benchmark) to the 12th year, based on the premise that the 'fundamental investment' to be made in Portugal in connection with education and training was 'secondary level schooling' (MTSS/ME, 2005).

The secondary level key skills benchmark was ultimately adopted in 2006 (Education OP, 2007), while in 2007 the human potential agenda – one of the three thematic agendas of the national strategic reference framework 2007-2013 – enshrined lifelong learning and SRVC in particular as core elements of Portuguese human resources development policies (OQCA, 2007a).

SRVC became part of mainstream education and training policy in Portugal due at least partly to its positive effects both on adult self-esteem and on adult relationships with the labour market and with lifelong formal learning.

In 2003 the national authority responsible for adult education (the DGFV, now the ANQ; see footnote 1) carried out a preliminary study (CIDEC, 2004) on the impact of SRVC on the post-certification pathway of the first adults to complete the respective SRVC process (in 2001-02). It used a postal survey to identify the SRVC beneficial effects in reinforcing personal variables (such as self-esteem) and in adult relationship with the labour market. In 2004 the same (slightly improved) questionnaire was used with adults certified in 2003, the respective results (CIDEC, 2007) confirming the information collected previously.

The results of these two studies emphasised the capacity of the SRVC process to activate the unemployed. Around one third of the adults certified, whether in 2001-02 or 2003, who were unemployed when they enrolled, were in paid employment six months after completing the process; others were studying or on training courses and were therefore activated. As an econometric model estimate showed, such activation of the unemployed was brought about by strengthening certain personal variables – such as self-awareness, self-esteem or the definition/reconstruction of career plans – which

the SRVC process makes possible and promotes (CIDEC, 2004 and 2007).

These results suffer, however, by not being cross-referenced with other unemployed persons. It is, therefore, important to ask whether the labour-market behaviour of the SRVC-certified unemployed is different from that observed for the unemployed as a whole.

This article seeks to provide fundamental answers to the question through comparative study of labour-market behaviour by SRVC-certified unemployed and the unemployed registered at IEFP (Instituto do Emprego e Formação Profissional, the Portuguese public employment service) job centres.

The first step was to identify the reference framework for the research (Section 2). The following two parts (Sections 3 and 4) describe the econometric models adopted and the data used in the respective estimates. The principal results of the research are presented in Section 5 with Section 6 setting out concluding remarks.

Reference framework

The methodology for testing whether two (or more) labour market states are behaviourally identical uses longitudinal data and was originally formulated by Flinn and Heckman (1982 and 1983). The idea underlying the test is very simple: duly controlling for individual differences, if the transition rate from state x to state z is the same as the transition rate from state y to state z (for destination state z as a whole), then the origin state (x or y) is irrelevant in determining the rate at which individuals enter z (as a whole). An application of this methodology to the study of the labour-market behaviour of the unemployed and the inactive in Portugal can be found in an article by Centeno and Fernandes (2004).

In this application a four-state model is considered: employment (E), SRVC-certified unemployment (R), other unemployment (U) and inactivity (N). In this model the unemployment states R and U will be equivalent if at the same time:
- the transition rate from R to E is equal to the transition rate from U to E:
$$h_{re} = h_{ue}$$
- the transition rate from R to N is equal to the transition rate from U to N:
$$h_{rn} = h_{un}$$

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As an initial (null) hypothesis, it was considered that SRVC certification does not introduce a positive behavioural differentiation in the unemployed. The econometric model described in the following section seeks to test that hypothesis in the light of an alternative hypothesis in which at least one of the two above conditions is not fulfilled. This would lead to an acceptance that the SRVC-certified unemployed behave differently from other working-age people who do not have a job.

Econometric models

The two conditions referred to in the previous section were tested using two types of analysis. First, the empirical transition rates from unemployment (R or U) to states E and N were calculated, and were then adjusted in a second model for observable individual characteristics and unemployment duration.

In the second analysis model the likelihood ratio test was applied. This compares the maximised values of the log likelihood function under the null hypothesis – $L(H_o)$ – of states R and U being the same and under the alternative hypothesis – $L(H_a)$ – of the states being different, based on the following statistic (Griffiths et al., 1993):

(1) $$\lambda_{LR} = 2[\, L(H_a) - L(H_O)] \sim \chi^2_{(G)}$$

where G is the number of restrictions in the model under the null hypothesis.

The starting point was to estimate, for men and women separately, two variants of a duration model: a first associated to the null hypothesis (restricted model), in which the regression parameters relating to the variables of individuals belonging to the two origin states being tested (R and U) were forced to equality; and a second variant relating to the alternative hypothesis (unrestricted model), in which the regression parameters can vary freely between the two origins. The respective values of the log likelihood function were then used to calculate statistic (1), the behavioural identity of the two origins being verified by comparing that statistic with the critical values of the χ^2 distribution with a number of degrees of freedom

identical to the number of parameters which, in the restricted model, did not vary freely compared to the unrestricted model ([2]).

A competing risks model was estimated with a constant 'baseline hazard' by spells (see Kalbfeisch and Prentice, 1980, and Fernandes, 2004) using the Gauss programme for that purpose.

Data

Calculation of transition rates between states and the estimate of a competing risks model required a special database to be set up with longitudinal data that would enable the SRVC-certified unemployed to be compared to other unemployed persons.

Two sources of information were used for this: one was the data collected by the CIDEC (2004 and 2007) in the postal surveys of adults certified between 2001 and 2003 (above), and the other was the individual records previously anonymised in the database of the unemployed registered at the IEFP job centres, stored in the respective *Sistema de Informação e Gestão na Área do Emprego* (SIGAE, the employment information and management system).

To ensure maximum compatibility between information from two different sources, the unemployed who had only completed basic education recorded in the SIGAE at the end of 2003 were considered, noting that many of the transitions observed by the CIDEC occurred between 2003 and 2004, given that the majority of certifications (prior to 2004) occurred in the final quarter of 2003 (see CIDEC, 2007). In both cases only the transitions occurring over the same duration (six months) were considered.

Identical quality control procedures were applied for both sources of information, notably in the treatment of either left-censored observations (in which the duration of unemployment is unknown) or right-censored observations (unemployed who were no longer observed, without knowing whether they transited in the meantime to employment or inactivity states).

As can be seen from Table 1, the 598 SRVC-certified unemployed are essentially females (around 72 %) of at least 35 years of age (59 %), who are married (65 %) and have children (69 %). The 72 000-plus unemployed registered at job centres are more

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([2]) This econometric implementation strategy has been used by Jones and Ridell (1999, 2000, 2002).

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Table 1. **Descriptive statistics from the database of the unemployed**

Variable	SRVC-certified unemployed		Unemployed registered at job centres	
	No	%	No	%
Men	166	27.8	32 377	44.9
Women	432	72.2	39 728	55.1
Under 25 years of age	59	9.9	23 298	32.3
25-34 years of age	184	30.8	19 925	27.6
35-44 years of age	231	38.6	13 346	18.5
45-54 years of age	102	17.1	10 163	14.1
55 and over	22	3.7	5 373	7.5
Married	390	65.2	31 496	43.7
No children	184	30.8	59 329	82.3
One child	177	29.6	7 360	10.2
Two children	201	33.6	4 190	5.8
Three or more children	36	6.0	1 226	1.7
Total records	**598**	**100.0**	**72 105**	**100.0**

Sources: CIDEC (2004) (2007) and IEFP – SIGAE.

balanced in terms of gender (55 % women) and civil status (44 % married). This sample is also younger (60 % under 35 years of age), and a lack of children predominates (82 %).

This heterogeneity between the two samples led to analyses that were conditional on the individuals' observable characteristics (competing risks duration model, see Section 3), with a view to filtering the results obtained from the differences observed.

Empirical results

Analysis not conditional heterogeneity

Table 2 shows unemployment exit rates for SRVC-certified individuals and those registered at job centres transiting to employment or inactivity, split into men and women ([3]).

([3]) The empirical transitions presented in Table 2 were calculated as:

$$h_{ij} = d_{ij} / r_i$$

where: $d_{ij} \equiv$ Number of individuals initially in state i who transit to state j; r_i Number of individuals initially in state i; i, $j = E, R, U, N$ with the notation interpretation introduced in Section 2.

Table 2. **Unemployment exit rates (%) by gender according to the destination state for the SRVC-certified unemployed and those registered at job centres**

Gender	% of SRVC-certified unemployed who transited to states of:			% unemployed registered at job centres who transited to states of:		
	Employment (*hRE*)	Inactivity (*hRN*)	Total (*hR.*)	Employment (*hUE*)	Inactivity (*hUN*)	Total (*hU.*)
Men	27.11	6.63	33.74	15.29	2.92	18.21
Women	26.85	3.70	30.55	13.80	3.79	17.59

NB: the rates refer to six-month observation periods.
Sources: CIDEC (2004) (2007) and IEFP – SIGAE.

The first results to be noted concern the greater probability of the SRVC-certified unemployed transiting to employment compared to the unemployed registered at job centres, either for men (27.11 % compared to 15.29 %), or for women (26.85 % compared to 13.80 %). In other words, on average and disregarding the heterogeneity observed for the two samples, the completion of an SRVC process seems to have a favourable effect on the ability of the unemployed to find work, irrespective of gender.

This type of beneficial effect of SRVC is also observed for exits to inactivity, but only for men (6.63 % compared to 2.92 %, see the same table). Exit rates to inactivity for women are similar, and are slightly higher for women registered at job centres (3.70 % compared to 3.79 %). SRVC, therefore, seems to favour transitions in particular to formal learning (studying and/or training) only for men.

Calculations of exit rates to employment conditional on unemployment duration (Kaplan-Meier estimators, see Kalbfeisch and Prentice, 1980) are shown in Figures 1 and 2 respectively for men and women.

Both figures show that work is generally found in the first six months of continuous unemployment for most of the unemployed registered at job centres (basic education only). In the particular case of SRVC-certified adults, however, the most significant transitions occur for individuals who have been unemployed for over 12 months, this result being particularly evident for women (Figure 2).

This significant result confirms the evidence collected previously in studies (CIDEC, 2004 and 2007) suggesting that the effects of the SRVC process were particularly intense in activating the long-term and very long-term unemployed.

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Figure 1. **Transition rate to the state of employment (%) given the duration of unemployment (Kaplan-Meier estimators) for the SRVC-certified unemployed and those registered at job centres: men**
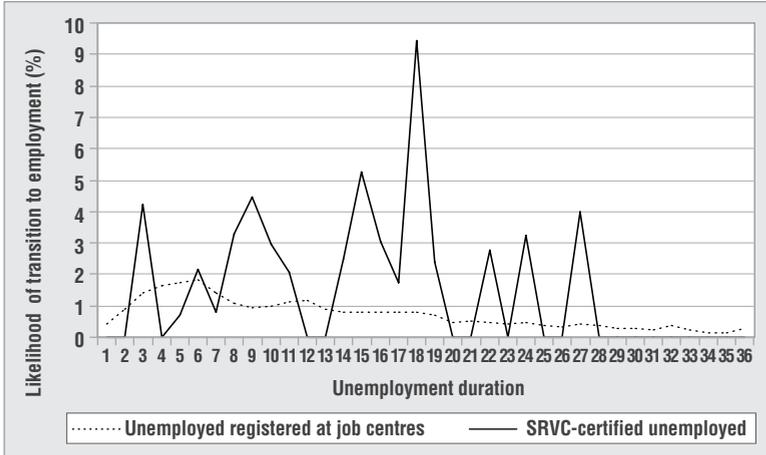
Sources: CIDEC (2004) (2007) and IEFP – SIGAE.

Figure 2. **Transition rate to the state of employment (%) given the duration of unemployment (Kaplan-Meier estimators) for the SRVC-certified unemployed and those registered at job centres: women**
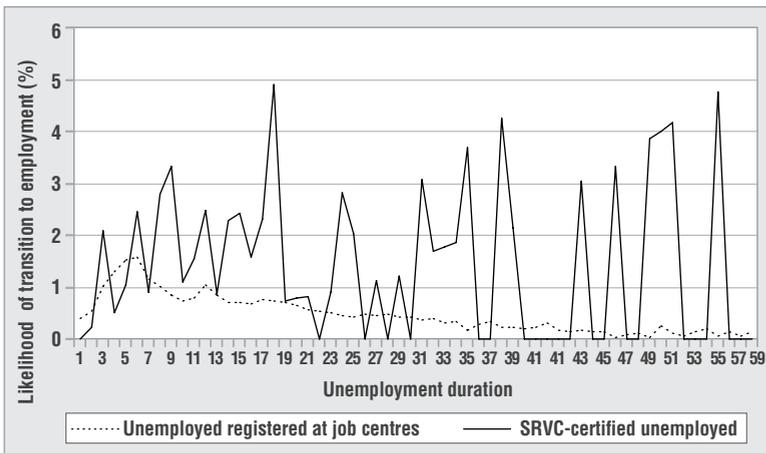
Sources: CIDEC (2004) (2007) and IEFP – SIGAE.

Analysis conditional on heterogeneity

Table 3 shows the estimates of the coefficients and percentage values (*p-values*) ([4]) for the variables considered in the unrestricted duration model (whose parameters vary freely between states *R* and *U*) for men. These estimates are organised in linear form by competing destination (*E* and *N*).

The sign and statistical significance of the coefficients (the latter measured by the percentage values indicated in the final column of Table 3) show that age and married status generally reduce the probability of exiting from unemployment, either to employment or to inactivity (negative sign significant to 1 % or 5 %). However, family responsibilities (number of dependent children) increase the likelihood of those transitions (positive sign significant to 1 %).

The fact that the unemployed person has been SRVC-certified has a beneficial effect on the transition to employment, provided the man is married (negative sign significant to 10 %), as occurs

Table 3. **Estimated coefficients by destination state of unemployment exits: unrestricted duration model, men**

Exit destination	Variable	Coefficient	Standard deviation	T-ratio	P-value	
Employment (E)	Age	-0.0532	0.0016	-32.955	0.0000	***
	Married	-0.2335	0.0305	-7.644	0.0000	***
	Children	0.6679	0.0164	40.653	0.0000	***
	SRVC-certified – Age	0.0032	0.0131	0.247	0.4026	
	SRVC-certified – Married	-0.0189	0.2249	-0.084	0.4666	*
	SRVC-certified – Children	-0.4964	0.1248	-3.978	0.0000	
	SRVC-certified – Constant	0.9629	0.4186	2.300	0.0107	**
Inactivity (N)	Age	-0.0350	0.0028	-12.713	0.0000	**
	Married	-0.0475	0.0575	-0.825	0.2048	***
	Children	0.4227	0.0330	12.794	0.0000	***
	SRVC-certified – Age	-0.0062	0.0344	-0.180	0.4284	
	SRVC-certified – Married	-0.0023	0.6318	-0.004	0.4985	
	SRVC-certified – Children	-0.0066	0.3303	-0.020	0.4921	
	SRVC-certified – Constant	-0.0012	1.1814	-0.001	0.4996	

NB: ***, ** and * denote non-acceptance of the null hypothesis for a level of statistical significance of 1 %, 5 % and 10 % respectively.

Sources: CIDEC (2004, 2007) and IEFP – SIGAE.

([4]) The *p-value* is a statistic indicating the probability of the null hypothesis being rejected in relation to a particular coefficient, even though it is true. Thus the lower its value, the stronger the evidence favouring the rejection of the hypothesis of a particular coefficient differing from zero.

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in most cases analysed. An effect specific to the certification was also isolated (associated to the SRVC-certified – constant variable), with a negative sign (significant to 5 %).

Certification does not appear to influence the transition of unemployed men to inactivity, since none of the coefficients associated to SRVC-certified are statistically significant (see Table 3). The unconditional result obtained in Section 5.1 – which suggested a beneficial effect of SRVC in terms of exit to inactivity – is not confirmed after filtering the heterogeneity observed for men in terms of age, civil status, number of children and unemployment duration.

Generally similar results were obtained for women (see Table 4). In particular, certification also does not appear to influence transitions to inactivity (in this case it is consistent with the unconditional results of Section 5.1), although it encourages placement in employment (the coefficient of the SRVC-certified – constant variant is positive and significant to 5 %). SRVC also influences women's transitions to employment when associated with dependent children, inhibiting such transitions (the respective coefficient is negative and significant to 1 %).

Table 4. **Estimated coefficients of unemployment exits by destination state: unrestricted duration model, women**

Exit destination	Variable	Coefficient	Standard deviation	T-ratio	P-value	
Employment (E)	Age	-0.0532	0.0016	-32.955	0.0000	***
	Married	-0.2335	0.0305	-7.644	0.0000	***
	Children	0.6679	0.0164	40.653	0.0000	***
	SRVC-certified – Age	0.0032	0.0131	0.247	0.4026	
	SRVC-certified – Married	-0.0189	0.2249	-0.084	0.4666	
	SRVC-certified – Children	-0.4964	0.1248	-3.978	0.0000	***
	SRVC-certified – Constant	0.9629	0.4186	2.300	0.0107	**
Inactivity (N)	Age	-0.0350	0.0028	-12.713	0.0000	***
	Married	-0.0475	0.0575	-0.825	0.2048	
	Children	0.4227	0.0330	12.794	0.0000	***
	SRVC-certified – Age	-0.0062	0.0344	-0.180	0.4284	
	SRVC-certified – Married	-0.0023	0.6318	-0.004	0.4985	
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	SRVC-certified – Constant	-0.0012	1.1814	-0.001	0.4996	

NB: ***, ** and * denote non-acceptance of the null hypothesis for a level of statistical significance of 1 %, 5 % and 10 % respectively.

Sources: CIDEC (2004, 2007) and IEFP – SIGAE.

As was observed for men, age generally hinders women's unemployment exits, a contrary effect being observed when there are dependent children. The woman being married also discourages transitions to employment and to inactivity, though in the latter case the coefficient is not statistically significant (see Table 4).

Table 5 shows the *p-values* of the likelihood ratio test of the statistic (1). Both for men and for women, there is evidence for rejecting the (null) hypothesis of behavioural identity between SRVC-certified unemployed and the unemployed registered at job centres.

The evidence is stronger for women because the p-value is close to zero. Even for men, however, the null hypothesis for a level of significance of 7.1 % is rejected.

Conclusions

Studies (CIDEC, 2004 and 2007) had already suggested the positive effects of the SRVC process in activating the unemployed after strengthening certain personal characteristics of the individual such as self-esteem, self-respect and self-awareness, and after life and/or career plans were reconstructed. Those studies, however, did not compare the results obtained with the labour-market behaviour of the other unemployed.

Table 5. **Test of the likelihood ratio of behavioural identity between SRVC-certified unemployed and the unemployed registered at job centres**

Gender	No of observations	χ2	Degrees of freedom	P-value	
Men	32 543	14.3498	8	0.0710	*
Women	40 160	33.8158	8	0.0000	***

NB: *** and * denote non-acceptance of the null hypothesis for a level of statistical significance of 1 % and 10 % respectively.

Sources: CIDEC (2004, 2007) and IEFP – SIGAE.

This article sought to remedy that shortcoming by applying a methodological approach that has already been applied in various contexts to test behavioural identity between the SRVC-certified unemployed (2001-03) and the unemployed registered at job centres (at the end of 2003).

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The results confirm the beneficial effects of SRVC in the transition of the unemployed to paid employment, in particular, with transition rates for both sexes significantly higher for SRVC-certified adults. In addition, the highest transition rates between these adults are recorded for long or very long-term unemployment (over 12 and 24 months respectively), whereas this occurs for durations close to six months among the unemployed registered at job centres.

These results are robust insofar as, even when the heterogeneity of the unemployed (in terms of age, civil status, number of children and unemployment duration) is controlled, the positive effect of SRVC in transitions to employment continues to be observed.

The role of SRVC in encouraging the unemployed to transit to inactivity, particularly to pursue formal learning, seems less clear. Some evidence was collected for men but, after controlling heterogeneity, it was diluted. This result may arise from expectations that the SRVC process was to be extended to secondary level skills, since they already existed in 2003 and may have restricted the pursuit of studies and/or the uptake of vocational training courses by adults certified up to 2003 (see CIDEC, 2007).

Nevertheless, the application of a statistical test provides empirical evidence for rejecting the hypothesis of behavioural identity between the SRVC-certified unemployed and other unemployed persons. SRVC introduces a differentiation in the unemployed that favours their labour-market activation, even for more problematic segments such as women and/or the long and very long-term unemployed.

Care should be taken in interpreting these results since they refer to adults certified up to 2003. Since that time, not only has the universe of SRVC-certified adults expanded substantially – with the expansion of the new opportunities centres network and extension of the process to the 12th year – but also labour market conditions in Portugal have deteriorated.

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