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Poverty and Labour Market Participation of Public Assistance Recipients in Cyprus

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Panos Pashardes, Alexandros Polycarpou

Executive Summary

This paper investigates the depth of poverty and the employment behaviour of public assistance recipients in Cyprus. The main objective of the study is to reach practical policy conclusions for a more efficient economic and social support of public assistance recipients, encourage their participation in the labour market and eliminate their dependence on state support.

About 80% of public assistance recipients live in households with incomes below the poverty line. The risk of poverty is higher for recipients who are drug addicts, unemployed and orphans or abandoned by their parents. In addition, the risk of poverty increases with the number and age of public assistance recipients and their dependents, bad health condition and living without a spouse. In contrast, the risk of poverty is lower among public assistance recipients with at least one family member in work. Also, large discrepancies in equivalised income are observed between different groups of recipients. In several cases recipients live in families with average equivalised income well above the poverty line, reflecting the failure of the public assistance benefit system to target those in need.

About participation in the labour market, the main reasons reported by recipients for not participating are health problems and inability to work. On the other hand, unwillingness to work is not reported as a major factor in the decision of public assistance recipients not to participate in the labour market. The main factors stated by the recipients as encouraging them to work are higher wages and more flexible hours. In addition, psychological support, care services for dependants and improvement of their work qualifications are also stated as reasons for starting work. Almost all recipients report that they are not willing to take up an unpaid job for work

^{*} We would like to thank the Social Welfare Services of the Ministry of Labour and Social Insurance for allowing us to use results contained in the report "A Study on the Identification and Registration of Persons Helped by Social Welfare Services who Face a High Risk of Poverty and Social Exclusion" (in Greek), June 2009, ISBN: 978-9963-32-206-0. We would also like to acknowledge the use of data drawn from the EU Statistics on Income and Living Conditions (EU-SILC) and stress that Eurostat has no responsibility for the results and conclusions of this paper.

experience and/or charity. This suggests that the recipients do not think that experience gained from unpaid work in the labour market or in the voluntary sector can be useful in finding gainful employment in the future.

The econometric analysis confirms the effect of well known obstacles to the labour market integration of public assistance recipients: bad health, old age, low education and limited work experience. The analysis also shows the negative effect of non-labour income, like public assistance benefit, on employment participation; and the positive effect of work experience. In addition, public assistance recipients are found to have non-realistic perceptions about the going wage rate and other labour market conditions that drive them away from the labour market.

A large number of policy conclusions emerge from the analysis in this paper, including the increase of training courses, provision of child care facilities and the need for physiological support and better information about the true conditions in the labour market. In addition public assistance benefit entitlement policy should give more incentives for work or actively looking for a job while receiving the benefit; and there should be penalties for public assistance recipients abandoning their job without a convincing reason. It is also important for the employment incentives to take account of the labour supply elasticity associated with different categories of public assistance recipients. The strong collaboration between competent authorities is also important for jointly designed and implemented measures to integrate public assistance recipients in both the labour market and the society.

The expansion of public assistance entitlement in 2006 made the benefit less targeted; while the subsequent increase in the level of the benefit created large income inequalities and disincentives for employment among public assistance recipients. More effective procedures are needed for targeting and for documenting the criteria which substantiate eligibility for the benefit.

CONTENTS

ΠΕΡΙΛΗΨΗ.....	VIII
1. INTRODUCTION	11
2. POVERTY AMONG PUBLIC ASSISTANCE RECIPIENTS	13
2.1 Depth of poverty	13
2.2 Factors associated with large depth of poverty	15
3. LABOUR MARKET PARTICIPATION.....	18
3.1 Probability of employment	19
3.2 Perceptions about the labour market	22
4. CONCLUSIONS AND POLICY IMPLICATIONS.....	23
REFERENCES	27
APPENDIX.....	29
RECENT ECONOMIC POLICY/ANALYSIS PAPERS	30

Φτώχεια και Συμμετοχή στην Αγορά Εργασίας των Λήπτων Δημοσίου Βοηθήματος στην Κύπρο

Πάνος Πασιαρδής, Αλέξανδρος Πολυκάρπου

ΠΕΡΙΛΗΨΗ

Σε αυτή την μελέτη αναλύεται η ένταση της φτώχειας ανάμεσα στους λήπτες δημοσίου βοηθήματος (ΛΔΒ), καθώς και τα εμπόδια ένταξής τους στην αγορά εργασίας. Απώτερος στόχος είναι η εξαγωγή συμπερασμάτων πολιτικής για μια πιο αποτελεσματική οικονομική και κοινωνική στήριξη των ΛΔΒ και απεξάρτησή τους από το δημόσιο βοήθημα με ένταξη στην αγορά εργασίας.

Το 80% των ΛΔΒ ζει κάτω από το όριο της φτώχειας. Τη μεγαλύτερη ένταση φτώχειας αντιμετωπίζουν άτομα με πρόβλημα εξάρτησης (αλκοόλ/ναρκωτικά), οι άνεργοι και τα ορφανά. Η ένταση της φτώχειας αυξάνεται με τον αριθμό και την ηλικία του λήπτη και των εξαρτωμένων του, την κακή κατάσταση της υγείας τους και τη μη ύπαρξη συζύγου. Αντίθετα, η ένταση της φτώχειας είναι μικρότερη ανάμεσα σε ΛΔΒ με τουλάχιστο ένα εργαζόμενο μέλος στην οικογένεια. Γενικά, οι μεγάλες εισοδηματικές διαφορές μεταξύ των ΛΔΒ, και το γεγονός ότι μεταξύ των δικαιούχων υπάρχουν άτομα σε οικογένειες (κυρίως πολυμελείς) με μέσο εισόδημα 72% πάνω από το όριο της φτώχειας, δείχνουν την αδυναμία του υφιστάμενου συστήματος να στοχεύει αυτούς που έχουν πραγματικά ανάγκη.

Όσον αφορά τη συμμετοχή των ΛΔΒ στην αγορά εργασίας, ο λόγος που δηλώνεται με τη μεγαλύτερη συχνότητα για μη συμμετοχή είναι τα προβλήματα υγείας και η συνεπακόλουθη ανικανότητα για εργασία. Αντίθετα η απροθυμία για εργασία δεν αποτελεί σημαντικό παράγοντα μη συμμετοχής των ΛΔΒ στην αγορά εργασίας. Παράγοντες που δηλώνονται με τη μεγαλύτερη συχνότητα από τους ΛΔΒ ότι θα τους ωθούσαν στην αγορά εργασίας είναι υψηλότερος μισθός και πιο ευέλικτο ωράριο. Ακολουθούν η ψυχολογική στήριξη, οι υπηρεσίες φροντίδας για εξαρτώμενα άτομα και η βελτίωση των επαγγελματικών προσόντων. Σχεδόν όλοι οι ΛΔΒ δηλώνουν ότι δεν θα εργάζονταν χωρίς αμοιβή, κάτι που δείχνει ότι δεν θεωρούν ότι η εθελοντική εργασία θα τους πρόσφερε χρήσιμες γνώσεις και εμπειρίες.

Η οικονομετρική ανάλυση βεβαιώνει τα βασικά εμπόδια στην απασχόληση που δηλώνονται από τους ΛΔΒ, όπως είναι η κακή κατάσταση της υγείας, η μεγάλη ηλικία, η χαμηλή μόρφωση και η περιορισμένη επαγγελματική εμπειρία. Επιπλέον, αναδεικνύει την αρνητική επίδραση των εισοδημάτων από πηγές εκτός εργασίας (όπως είναι το δημόσιο βοήθημα) στην πιθανότητα απασχόλησης, και τη θετική

επίδραση της επαγγελματικής εμπειρίας. Επίσης, προκύπτει ότι ένας σημαντικός λόγος μη συμμετοχής των ΛΔΒ στην αγορά εργασίας είναι οι μη ρεαλιστικές προσδοκίες τους, ιδιαίτερα η υπεραισιοδοξία τους για το ύψος του μισθού που θα τους προσφερόταν αν αποφάσιζαν να εργαστούν.

Από τη μελέτη προκύπτουν πολλά συμπεράσματα πολιτικής για ένταξη των ΛΔΒ στην αγορά εργασίας, για παράδειγμα περισσότερη κατάρτιση, ενημέρωση, φροντίδα για εξαρτώμενα πρόσωπα, ψυχολογική στήριξη. Επίσης, περισσότερα οφέλη όταν εργάζονται ή ζητούν ενεργά απασχόληση και αυστηρότερες ποινές όταν εγκαταλείπουν την εργασία τους χωρίς σοβαρό λόγο. Είναι, επίσης, σημαντικό τα κίνητρα απασχόλησης να λαμβάνουν υπόψη τα ιδιαίτερα χαρακτηριστικά των διαφόρων ομάδων για να είναι αποτελεσματικά. Παράλληλα, προτρέπειται συνεργασία των αρμόδιων υπηρεσιών ώστε μαζί με την απασχόληση να επιδιώκεται και η ένταξη στην κοινωνία.

Τα αποτελέσματα της μελέτης συνηγορούν υπέρ της εισαγωγής πιο αποτελεσματικών διαδικασιών στόχευσης και εξακρίβωσης του δικαιώματος στο δημόσιο βοήθημα. Η επέκταση των κριτηρίων που ορίζουν τους δικαιούχους με την αλλαγή του νόμου το 2006 μείωσε τη δυνατότητα στόχευσης. Αυτό, σε συνδυασμό με τη μετέπειτα αύξηση του ύψους του δημόσιου βοηθήματος, έχει δημιουργήσει μεγάλες εισοδηματικές ανισότητες και αντικίνητρα για εργασία ανάμεσα στους ΛΔΒ.

1. INTRODUCTION

The literature on public assistance recipients focuses mainly on labour market participation and examines how barriers to employment can be circumvented by active labour market policies (ALMPs). Empirical evidence from various countries suggests that the most important obstacles to the labour market participation of public assistance recipients, include: physical/mental health problems (Taylor and Barusch 2004, Lee and Vinokur 2007, Burtless 1997); low level of education and/or market experience (Perkins 2007, Ayala and Rodriguez 2007, Lorentzen and Dahl 2005, Baider and Frank 2006); inability to find a job or the low quality jobs offers (Lee and Vinokur 2007, Sheldrick et al 2004); existence of dependants and unavailability of care services (Lee and Vinokur 2007, Sheldrick et al 2004, Burtless 1997, Keane and Moffitt 1998); old age (Dahl and Lorentzen 2003, Walker and Shaw 1998, Gustafsson and Voges 1998); alcohol or drug addiction (Taylor and Barusch 2004, Ayala and Rodriguez 2007, Perkins 2007, Baider and Frank 2006); transportation difficulties (Lee and Vinokur 2007, Burtless 1997); and long-time dependence on public assistance benefit (Sanderfur and Cook 1997, Dahl and Lorentzen 2003).

Different ALMPs for public assistance recipients have been applied in different countries (Peters 2007). Their common characteristics are:

- more strict criteria for public assistance benefit entitlement and less generous benefits to make employment more attractive;
- conditioning public assistance entitlement to participation in ALMPs and search for work; and
- closer cooperation between services in charge of public assistance and employment.

The short-run results of these policies appear to be promising, but their long run outcomes have not been fully studied yet. The most promising policies appear to be the ones combining labour market participation and social inclusion through cooperation of the competent public services.²

² It is commonly accepted that some social assistance recipient with serious physical or psychological health problems cannot become completely independent from public assistance and the best ALMPs for them are the ones targeting part-time employment and/or social work.

The network of social protection in Cyprus is intended to secure a decent standard of living for every person legally residing in the country and not having the recourses to satisfy his/her basic needs. At the same time the Public Assistance Law incorporates in-work benefits and other incentives encouraging employment, social inclusion and independence from on state support. For example, persons with disabilities and single parents are entitled to public assistance even when employed full-time. ALMPs are pursued by the Ministry of Labour and Social Insurance (MLSI) and the Human Resource Development Authority (HRDA) with a view to increase the labour market participation of various population groups, including women, single parents, new graduates and persons with disabilities. For public assistance recipients, in particular, a program administered by Social Welfare Services (SWS) in cooperation with the EU, run projects that offer training to public assistance recipients and, upon completion, place them in the labour market in subsidised job positions.

This paper investigates the increased risk of poverty and the labour market behaviour among public assistance recipients in Cyprus, applying descriptive and econometric techniques to data collected from 3000 public assistance recipients via questionnaire³ and combined with data drawn from the EU Statistics on Income and Living Conditions (EU-SILC) dataset.

The empirical analysis in the paper focuses on public assistance recipients in Cyprus, in particular estimating and assessing:

- (i) how various personal and household characteristics relate to their risk of poverty and social exclusion among;
- (ii) objective and subjective difficulties associated with their abstention from the labour market; and
- (iii) the effect of various factors on their decision not only to enter but also exit the labour market.

The conclusions drawn from this analysis are used to reach conclusions about policies that can make the public assistance benefit system more effective towards combating poverty and social exclusion, promoting labour market activation and reducing dependence on state benefits.

³ More details are given in Appendix.

Section 2 of the paper examines the characteristics associated with the depth of poverty among public assistance recipients; Section 3 analyses the factors affecting their labour market behaviour and Section 4 concludes the paper and makes policy recommendations.

2. POVERTY AMONG PUBLIC ASSISTANCE RECIPIENTS

This paper adopts the notion of relative poverty and defines as poor households with *equivalised* income below a threshold called *poverty line*.

- The household income is equivalised when divided by the number of household members weighted by their age. In the EU the equivalised income is calculated by dividing the household income with a number equal to 1 plus 0.5 times the number of household members aged above 13 (excluding the head) plus 0.3 times the number of household members aged up to 13.⁴
- The poverty line in the EU is defined at 60% of the median equivalised household income. On the basis of this definition the poverty line in Cyprus in 2005, calculated from the 2006 EU-SILC data, was 8713 euro. Using the nominal GDP growth rate between 2005 and 2008 and assuming this rate was the same across all income groups, the poverty line in 2008 (the year data analysis refers to in this paper) was around 10960 euro.

2.1 Depth of poverty

Table 1 reports the *depth of poverty* among public assistance recipients, which is defined here as the percentage increase of equivalised income required to reach the poverty line: the higher this percentage, the lower the equivalent income relative to the poverty line; hence, the greater the depth of poverty. A negative depth of poverty indicates that the household is above the poverty line.

On average, public assistance recipients live in households with equivalised income 17% below the poverty line. The poorest 10% of them live in households with equivalised income at least 53% below the poverty line; while the equivalised income of the poorest 25% needs to be approximately doubled in order to reach

⁴ Household income in this study is the gross income from all sources.

the poverty line. Notably, about 20% of public assistance recipients live in households with equivalised income above the poverty line.

Table 1: Depth of poverty by income group

Income centile	5%	10%	25%	50%	75%	90%	95%	Mean
Depth of poverty	53%	53%	33%	28%	7%	-26%	-54%	17%

Table 2 reports the poverty rate⁵ and the depth of poverty by the reason for receiving public assistance benefit. One can interpret the numbers reported in this table as a measure of the failure of the public assistance benefit to combat poverty: a high poverty rate and/or depth of poverty show how far the benefit falls short of helping persons in need; whereas a poverty rate below the population average and/or a negative depth of poverty show how far public funds are wasted, in the sense that social assistance benefits are paid to households that do not need them.

On the basis of the interpretation above the results reported in Table 2 suggest that the public assistance system:

- fails completely in the case of drug addicts, as all individuals in this group have income below the poverty line and, on average, the highest depth of poverty;
- falls short of helping other population groups in need, i.e. the unemployed, deaf, alcoholic, mentally impaired, orphan/abandoned children and single parents;
- benefits persons not in need, particularly those living in large families whose equivalised income is on average 72% above the poverty line and their poverty rate (at 13%) three percentage points below the population average (16%).

⁵ The poverty rate shows the percentage of people who live in households with equivalised income below the poverty line.

Table 2: Poverty and depth of poverty by reason for receiving public assistance benefit

Reason for receiving the benefit	Number of individuals	Poverty rate	Depth of poverty
Single parent	299	83%	19%
Divorce/Separation	221	33%	-19%
Orphanage /Abandonment	16	94%	42%
Alcoholism	12	92%	40%
Unemployment	158	99%	31%
Old age	28	79%	24%
Drug addiction	19	100%	43%
Social problems	51	71%	7%
Deafness	36	94%	22%
Intellectual impairment	380	90%	21%
Large families (3+ children)	15	13%	-72%
Physical disability	384	76%	11%
Blindness	39	72%	6%
Physical disease	548	83%	22%
Psychological disability/illness	668	84%	24%
Other	14	93%	33%
Total	2888	80%	17%

2.2 Factors associated with large depth of poverty

It follows from the results reported above that social policy in Cyprus has to become better targeted. This requires observed characteristics associated with higher poverty and social exclusion to be identified and taken into consideration when deciding the criteria for eligibility to social assistance benefits.

In this sub-section we use regression analysis to estimate a quantitative association between various personal and household characteristics with the depth of poverty among public assistance recipients. The results from this estimation are reported in Table 3: the last column shows the increase, in percentage points, of the depth of poverty associated with the corresponding characteristic described in the first two columns. It should be noted that (i) the comparison is made with the characteristic in parenthesis and (ii) when all other characteristics are held fixed. The stars next to the numbers indicate the statistical significance (reliability) of the estimated effect: no stars indicate the lowest and three stars the highest statistical significance.

The results in Table 3 suggest that gender does not have a statistically significant effect on the depth of poverty. This may seem strange since women often appear in statistics to be more vulnerable to poverty than men. Nevertheless, here we are not comparing poverty between men and women but how far men and women in poverty are below the poverty line. Also, we estimate how much gender *on its own* affects the depth of poverty. In other words women may be poor not because of

Table 3: Estimated percentage effect of characteristics on the depth of poverty

Gender of head	(Female)	
	Male	0,4
Marital status of head	(Widow(er))	
	Single	12,9***
	Married	-1,9
	Divorced/Separated	7,1***
Dependents	(No dependants)	
	Number of dependents	1,7*
	Youngest dependent: 0-5 years	6,4*
	Youngest dependent: 6-12 years	8,5***
	Youngest dependent: 13-18 years	12,5***
	Number of dependents with health problems	-4,5***
Age of head	(Between 55 and 65 years)	
	Between 15 and 24 years	-2,8
	Between 25 and 34 years	-8,1***
	Between 35 and 44 years	-10,9***
	Between 45 and 54 years	-7,4***
Education of head	(Lower than elementary)	
	Elementary	6,3***
	Lower secondary	3,3*
	Higher secondary	1,4
	Tertiary	0,5
Health condition of head	(Good)	
	Fair	5,5***
	Bad	4,3***
	Number of health problems	0,9
Economic status of head	(Pensioner)	
	Working full time	-41,0**
	Working part time	-25,1**
	Unemployed	-19,7*
	Disabled/unable to work	-20,4**
	Housewife	-17,4*
	Student	-21,1**
	Year of experience in the labour market	-0,3***
Spouse's economic status	(No spouse)	
	Working full time	-20,8***
	Working part time	-14,8***
	Pensioner	12,5
	Disabled/unable to work	-5,0
	Housewife	-14,5***

their gender but because they have characteristics associated with higher poverty, like single parenthood, low-paid jobs etc. Thus, decreasing the depth of poverty among female public assistance recipients requires measures targeting not women themselves but the characteristics associated with higher poverty. Otherwise, social funds will be wasted on benefits paid to women not in need.

As regards marital status, households with single or divorced/separated head are deeper in poverty compared to those with married or widow/er head. For example,

single persons are 12,9 percentage points below the level of poverty experienced by households with a married head.

The number and, in particular, the age of dependent children is also associated with increased depth of poverty among social assistance recipients. Here we should explain that this result does not contradict our previous finding that the social assistance recipients with large families are largely above the poverty line: as in the case of gender, (i) we measure not poverty but the depth of poverty; and (ii) the low poverty among these families can be due to other reasons, most probably the generous not means-tested child benefit. Not means-tested and/or discretionary benefits received for dependants with special needs may also be behind the decreasing depth of poverty with the number of these dependants.

The age of household head also appears to be significantly associated with the depth of poverty among social assistance recipients. In general, age of head between 25 and 54 years is associated with lower depth of poverty compared to younger (15-24) or older (55-65) age head. As one would expect, higher education of the household head is also associated with a lower depth of poverty, as is his/her better health.

Among all characteristics of households receiving social assistance, the ones related to the economic status of the head have the greatest variation in their impact on the depth of poverty. Particularly large, 41 percentage points, is the difference in the depth of poverty between households with full-time worker head and households with pensioner head. Between these two extremes are households headed by persons in other economic status categories (working part-time, unemployed, disabled etc).

More years of experience in the labour market appear to decrease the depth of poverty among social assistance recipients. Given that it is conditional on labour market participation, this empirical finding implies that social assistance recipients with more years of labour market experience have higher labour income.

The economic status of the spouse is also significantly associated with the depth of poverty of households receiving social assistance: compared to single adult households, the presence of a working spouse reduces the depth of poverty by 20,8 percentage points. The presence of a spouse in the household is associated with smaller depth of poverty, even when she/he is not working or is working part-time.

3. LABOUR MARKET PARTICIPATION

The probability of public assistance recipients entering (and staying in) the labour market has been the subject of a large body of economic and sociology literature.⁶ In this section we report estimates we have obtained from data collected via questionnaire to show how various factors affect the probability of labour market participation among public assistance recipients in Cyprus. The ultimate goal of our analysis is to draw conclusions about policy incentives that can be used to encourage labour market participation.

Table 4 reports information on the willingness of public assistance recipients to work.

- Part A of the table presents the reasons given by public assistance recipients for not participating in the labour market: 72,7% site health problems, while 44,2% site inability to work - also justified on bad health.⁷ Other reasons stated for not participating in the labour market are the care of dependants (7,5%), studies (6,8%) and inability to find a job. It is also worth mentioning that only 3,7% of the public assistance recipients declare that they do not wish to work. Thus, unwillingness to work does not appear in our data to be a major factor determining the decision of public assistance recipients not to participate in the labour market.
- Part B of Table 4 shows that only 5,3% of public assistance recipients are willing to take up an unpaid job for work experience and/or charity. This suggests the vast majority of public assistance recipients probably do not think that experience gained from unpaid work in the labour market or the voluntary sector can be useful to them in finding gainful employment in the future.
- Part C of Table 4 reports reasons stated by public assistance recipients for starting work. Readiness to work for a higher wage than that offered in the market is declared by 47%, whereas 44,2% are prepared to start work under more flexible working hours. From the policy point of view, it is particularly interesting to note that

⁶ Comprehensive surveys on this literature include Danziger et al 1981, Hoynes 1997, and Moffit 2002.

⁷ The percentages do not add up to 100 because the interviewees could state more than one reasons for not participating in the labour market. Among those who declare inability to work, 19% describe themselves mentally impaired, 16% physically disable, 24% having some other physical disease and 31% psychologically disable/ill.

32,2% point to psychological support and 22,4% to care services for dependants as reasons for starting work. Furthermore, 13,9% state improvement of their work qualifications as reason for starting work, whereas about half this percentage state as reason for doing likewise improvement of public transport . Notably, a large percentage by public assistance recipients (26,4%) declare that nothing can make them go to work. This figure is comparable to that reported in other countries and represents mostly persons facing serious health problems like chronic disease and physical/mental disability.

Table 4: Willingness to participate in the labour market

A. Reasons for not participating in the labour market	
Unwillingness (do not want to work)	3,7%
Inability to find a job	5,4%
Health problems	72,7%
Care of dependants	7,5%
Studying	6,8%
Low offered wage	0,5%
Working hours	0,7%
Lost of public assistance benefit	0,3%
Alcoholism /drug abuse	0,7%
Inability to work	44,2%
B. Reasons for taking an unpaid job	
Work experience	2,4%
Social contribution	2,9%
No reason	94,7%
C. Reasons for starting working	
More flexible hours of work	44,2%
Higher wage	47,0%
Care services for dependants	22,4%
Improvement of work qualifications	13,9%
Improvement of public transportation	7,0%
Psychological support	32,2%
No reason	26,4%

3.1 Probability of employment

In the previous subsection, the association of employment probability with household/personal characteristics is inferred by the willingness declared by public assistance recipients to enter the labour market. In this sub-section this association is estimated by econometric (Probit) analysis using the data described in the Appendix. For comparison we also report estimates we have obtained for the general population by applying the same econometric analysis to data drawn from the 2006 EU-SILC database.

The results are reported in Table 5, where the first two columns list personal and household characteristics; the third column shows the change (in percentage points) of the employment probability for persons in the general population associated with a change in these characteristics; and the last column shows the same change for public assistance recipients. The change in employment probability corresponds to the change in characteristic relative to the one in parenthesis, while all other characteristics held fixed. The stars next to the numbers indicate the statistical reliability (significance) of the estimated effect: no stars indicate lowest and three stars highest statistical significance.

Commenting on the results, we can say that there are similarities but also differences in the effect of personal and household characteristics on the employment probability in the population and public assistance recipients. For instance, persons below the age of 55 have higher probability of employment than older individuals in both the general population and public assistance recipients. This difference, however, is larger between members of the latter group. For example, a public assistance recipient in the 55-65 age group has 32 percentage points lower probability of working than a recipient in the 15-24 age group, while the corresponding difference in the population is 23,5 percentage points.

Education has a smaller effect on the employment probability in public assistance recipients than in the general population. For example, public assistance recipients with tertiary education have 8 percentage points higher probability of employment than those with up to elementary education; whereas in the general population the corresponding figure is 21 percentage points. In contrast, the years of labour market experience increase the probability of employment less in public assistance recipients than in the general population.

Public assistance recipients in fair and bad health have a lower employment probability by 7,6 and 13 percentage points, respectively, compared to those in good health. The corresponding figures in the population are 2,4 and 22,2 percentage points. Bad health does not appear to have a sizeable negative effect on the employment probability among members of the public assistance group probably because the employment probability in this group is low even for individuals in good health.

Each additional dependent person increases (by 8,5 percentage points) the employment probability of public assistance recipients, but does not have a significant employment probability effect in the population. The opposite is true for the effect of spouse working on the employment probability.

Table 5: The effect of characteristics on employment

Characteristics		Population	Public assistance recipients
Gender	(Female)		
	Male	4,3	-2,3
Age of head	(Between 55 and 65 years)		
	Between 15 και 24 years	23,5***	32,0***
	Between 25 και 34 years	30,3***	32,8***
	Between 35 και 44 years	26,3***	31,5***
	Between 45 και 54 years	14,7***	17,8***
Education/ Experience	(Below elementary)		
	Elementary	7,2*	-3,1
	Lower secondary	9,5**	2,3
	Higher secondary	17,4***	8,0***
	Tertiary	21,0***	6,0*
	Training programs		
	Years in the labour market	0,9***	1,1***
Marital status			
	Single	1,5	-3,7
	Married	-2,1	5,3
	Divorced/Separated	0,1	6,5
Health condition	(Good)		
	Fair	-2,4	-7,6***
	Bad	-22,2***	-13,0***
Dependants	(No dependants)		
	Number of dependants	-0,3	8,5***
	Youngest dependent: 0-5 years	-3,4	-5,9**
	Youngest dependent: 6-12 years	2,3	-4,1
	Youngest dependent: 13-18 years	4,9	-1,4
	Dependants with health problems		
Spouse working	(No spouse/spouse not working)		
	Spouse working	7,3***	-1,4
Non labour income (in €1000)		-0,1**	-2,1***
Number of observations		2625	2888

The negative employment probability effect of non-labour income is larger (2,1 percentage points for every 1000 euro per annum) among public assistance recipients than in the general population (only 0,1 percentage for every 1000 euro per annum). This reflects the negative effect which social benefits, in general, have on the employment probability of the recipients.⁸

⁸ Similar results are reported in Pashardes and Polycarpou (2009).

3.2 Perceptions about the labour market

The participation of individuals in the labour market is affected by their perceptions about the going wage rate and other labour market conditions, such as the working environment, future career prospects, transport etc. In this section we investigate how the subjective perceptions of public assistance recipients about the conditions prevailing in the labour market are associated with their employment probability.

In particular, we assess how "far" from (or "close" to) market reality are the perceptions of not working public assistance recipients, by comparing their "subjective" probability of employment, computed from the estimates in Table 5, with their "objective" probability of employment, estimated from the difference between (i) the wage they expect to be offered if they decide to work and (ii) the minimum wage they are willing to work for. The greater this difference the smaller the employment probability and expressed as a standardised normal distribution gives the "subjective probability" of each non working public assistance recipient.

On average, the actual probability of public assistance recipients to enter the labour market is 16,2% and the subjective probability 52,8%. The difference of -36,7 percentage points, shows the extent to which public assistance recipients over-estimate their employment probability because they expect a wage well above the level offered in the labour market. To identify characteristics associated with over-optimistic wage perceptions and low employment probability, we estimate a regression equation where the dependant variable is the difference between the objective and subjective employment probabilities and the independent variables the demographic and other characteristics of the public assistance recipients. The estimation results are reported in Table 6.

Characteristics that contribute to over-optimistic wage and, thereby, low employment probability appear in Table 6 with a negative sign: elementary education level, non-married, fair/bad health, multiple health problems, working spouse and high non-labour income. In general, most misinformed about the conditions in the labour market are the recipients who are more distanced from the labour market: older persons, persons with low level of education or health problems etc. The opposite is true for younger persons and persons with more labour market experience gained from participation in training programs and/or previous employment.

Table 6: The effect of characteristics on over-optimism of the probability of employment

Characteristics	Differences in probabilities
Gender	(Female) Male
	6,3**
Age	(Between 55 and 65 years)
	Between 15 and 24 years
	10,0**
	Between 25 and 34 years
	14,9***
	Between 35 and 44 years
	19,3***
	Between 45 and 54 years
	6,1*
Education/Experience	(Lower than elementary)
	Elementary
	-7,1**
	Lower secondary
	-3,7
	Higher secondary
	5,5
	Tertiary
	5,5
	Training programs
	8,1**
	Years in the labour market
	1,0***
Marital status	(Widow(er))
	Single
	-12,3**
	Married
	5,8
	Divorced/Separated
	-2,5
Health condition	(Good)
	Fair
	-6,5**
	Bad
	-14,5***
	Number of health problems
	-1,9**
Self esteem	(High)
	Low
	-3,0
	Very low
	0,2
Dependants	(No dependants)
	Number of dependants
	6,5***
	Youngest dependent: 0-5 years
	-2,6
	Youngest dependent: 6-12 years
	-0,9
	Youngest dependent: 13-18 years
	5,7
	Dependants with health problems
	-2,5
Spouse working	(No spouse/spouse not working)
	Spouse working
	-12,4***
Use care services	
	3,7
Non labour income (in €1000)	
	-0,8**
Number of observations	
	668

4. CONCLUSIONS AND POLICY IMPLICATIONS

In this paper we examine the depth of poverty among public assistance recipients, the factors that affect their risk of poverty, labour market perceptions and probability of employment. The main objective of the study is to reach useful and practical policy conclusions for (i) increasing the efficiency of the current public assistance system by improving the targeting of benefits and (ii) eliminating the

dependence of public assistance recipients on the state benefits by removing obstacles to their labour market participation.

Our empirical findings show that 80% of public assistance recipients are below the poverty line. There are also large discrepancies in equivalised income between different groups, reflecting the failure of the public assistance benefit system to target those in need. For example the system falls short of helping groups deep in poverty, like drug addicts, the unemployed, mentally impaired persons, orphan/abandoned children and single parents. In contrast, it helps individuals living in large families, whose average equivalised income is well above the poverty line and their poverty rate below the population average.

Factors shown in the international literature to have a negative effect on the probability of labour market participation among public assistance recipients include old age, lack of work experience, low level of education and bad health. Findings in the literature also suggest that participation in professional training programs does not necessarily lead to integration in the labour market and long-term employment. Low-paid employment is a major factor contributing to the exit of public assistance recipients from the labour market after they find employment upon completion of a training program.

The internationally prevailing obstacles to the labour market integration of public assistance recipients (i.e. bad health, old age, low education, limited work experience) also hold true for Cyprus. In addition, we find dependent children and low self-esteem to also lower the probability of employment in Cyprus, probably reflecting the lack of adequate and affordable child-care facilities and psychological support. Our analysis shows that health related problems is the reason most often presented by public assistance recipients for giving up employment, followed by low remuneration, inflexible working hours, difficulties in adapting to the working environment, distance from home and transportation costs.

A large number of policy conclusions emerge from the analysis in this paper, including the following.

- Public assistance recipients should be given more incentives to take part in training programs and be instructed to assess the conditions in the labour market (probability of employment and wage) objectively, so as to be prepared to exploit their employment opportunities.
- Policies aiming at increasing the labour market integration of public assistance recipients should place more emphasis on more attractive in-work benefits, the

provision adequate and affordable child-care facilities the improvement of self-esteem and the creation of a suitable (materially and otherwise) working environment.

- Practical ways to strengthen the collaboration between competent authorities should be sought so that measures for the integration of public assistance recipients in the labour market are jointly designed and implemented with measures for their integration in the society.
- Objective criteria should be introduced for determining how incapacity to work can be established and ranked. The benefits paid to those who can work should then be differentiated in favour of those who are in or actively looking for employment.
- The period over which the public assistance benefit is gradually withdrawn upon employment should be extended with parallel introduction of penalties (e.g. reduced benefit for a period of time) when a public assistance recipient abandons her/his job without a satisfactory reason.
- The employment incentives should take account of the labour supply elasticity associated with different categories of public assistance recipients. For example, these incentives should be differentiated in favour of single parents because they incur higher child care costs from labour market participation than other households.
- More effective procedures should be applied for documenting the criteria which substantiate eligibility for public assistance; and more strict penalties should be imposed on those claiming/receiving public assistance benefit on the basis of misleading/deceptive information.
- A study to investigate the extent to which public assistance is (i) taken up by not eligible persons and (ii) not taken up by eligible persons is urgently needed. Ways to assess the overall economic situation of public assistance recipients objectively also need to be investigated.
- Public assistance should reduce differences of adult equivalent income between its recipients. However, reduction in income inequality should be pursued separately among working and not working recipients to avoid erosion of employment incentives.
- Given the poor public transport network in Cyprus, alternative cost-effective transportation options for public assistance recipients should be considered, so

as to improve their standard of living and, more importantly, facilitate their integration in the labour market.

A general comment about the public assistance system in Cyprus is that government efforts so far have focused mainly on the expansion of coverage, increase in benefits and the improvement of administrative competence. The waste of human capital and the social injustice caused from giving benefits to non-eligible persons (especially after the expansion of public assistance entitlement in 2006 and increases in the benefit level that followed) have not been investigated.

Making evidence-based recommendations for specific improvements to the current public assistance system in Cyprus is beyond the scope of this paper. For this one needs to study aspects of the system mentioned above and, also, the labour market effects of various types of discrimination, minimum wage, automatic indexation of salaries and wages and other institutional factors.

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APPENDIX

Data description

The following tables describe the data selected via questionnaire from 3000 public assistance recipients in Cyprus and used in the empirical analysis in the paper.

Table A1: Person who answer the questionnaire by gender

	Male	Female	Total
Recipient of public assistance	1171	1717	2888
Spouse	80	32	112
Total	1251	1749	3000

Table A2: Public assistance recipients by age and gender

	Male	Female	Total
Between 15 and 24	267	193	460
Between 25 and 34	272	324	596
Between 35 and 44	252	454	706
Between 45 and 54	256	453	709
Between 55 and 65	204	325	529
Total	1251	1749	3000

Table A3: Public assistance recipients by marital status and gender

	Male	Female	Total
Married	410	157	567
Divorced/separated	127	917	1044
Non-married	675	572	1247
Widowed	25	91	116
Total	1237	1737	2974

Table A4: Reason for receiving public assistance benefit by gender

	Male	Female	Total
Unemployment	22	26	48
Physical or psychological disability/illness	963	991	1954
Care of dependent individuals	37	182	219
Alcohol and other drug addiction	38	7	45
Divorce/separation/single parent/widow/no spouse	33	470	503
Other	135	57	192
Total	1228	1733	2961

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