

Evidence on the Incentive to Work

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Introduction

This note assesses recent evidence on the incentive to work. It discusses the measures by which economists gauge work incentives and outlines the results of various empirical studies. Despite a relatively generous welfare net and the costs associated with working, most of the evidence suggests that the majority of unemployed people would be better off in a job.

Replacement Rate

A key measure of the financial incentive to work is the 'replacement rate' (RR) – the ratio between net income out of work and net income when in work.

$$\text{Replacement Rate} = 100 \times \frac{\text{Out of work family disposable income}}{\text{In work family disposable income}}$$

For example, if an unemployed person's income is €100 when unemployed compared with €200 when employed, the replacement rate is simply 50%. The higher this rate, the more likely an unemployment trap can emerge where an individual's out of work disposable income compares favourably with in work disposable income, undermining the incentive to work.

Table 1 below shows replacement rates at 67% of the average wage for the OECD, with Ireland highlighted. It appears that replacement rates are highest for married couples, both with and without children. These figures suggest the rates in Ireland are significantly below other OECD countries.

Table 1: Replacement rates for six family types in the OECD¹ in 2011

OECD Countries	67% of AW					
	No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Australia	31	54	53	57	66	64
Austria	55	57	79	71	73	85
Belgium	85	73	84	85	74	86
Canada	64	66	81	77	78	84
Chile	56	56	78	58	58	78
Czech Republic	65	65	88	67	67	88
Denmark	83	84	91	88	86	92
Estonia	55	58	78	63	58	79
Finland	57	57	78	73	67	83
France	69	65	84	67	67	84
Germany	59	59	87	72	71	91
Greece	49	54	75	58	63	80
Hungary	71	71	86	73	73	88
Iceland	76	77	88	82	80	90
Ireland	50	81	75	64	75	81
Israel	84	84	92	83	85	93
Italy	68	72	84	76	74	87
Japan	68	66	85	73	68	86
Korea	55	55	78	57	55	78
Luxembourg	83	82	90	89	89	93
Netherlands	76	78	84	71	81	81
New Zealand	37	62	50	59	66	64
Norway	67	69	84	90	74	86
Poland	52	54	76	86	59	77
Portugal	75	75	92	77	76	91
Slovak Republic	62	58	85	72	57	82
Slovenia	85	84	93	85	88	96
Spain	79	76	90	77	75	89
Sweden	66	66	83	74	70	84
Switzerland	75	72	85	86	85	91
Turkey	53	53	79	52	52	79
United Kingdom	19	30	60	48	56	68
United States	60	59	81	53	50	83

Source: European Commission

¹http://ec.europa.eu/economy_finance/db_indicators/tax_benefits_indicators/documents/tbi_database.xlsm

Similar statistics are available from the Department of Finance², which reports replacement rates for various levels of in-work income, given in Table 2. These calculations of in-work income take account of income from employment, taxation, PRSI, income levy, spouse's entitlement to jobseeker's allowance, family income supplement and one parent family payment. A replacement rate of 70% or above is considered a danger zone (shaded in grey). 2010 figures show disincentives to take up employment at low income levels even where in-work income at these levels may be supplemented by social welfare payments such as the Family Income Supplement and jobseeker's allowance for the spouse. The bottom panel also points toward a disincentive for the spouse to take up work at the minimum wage when the other half of the couple is in employment.

Table 2: Single and double earner replacement rates 2010

Jobseeker One-Earner Basic Replacement Rate 2010					
	NMW	67% AIE	AIE	150% AIE	200% AIE
Gross:	€17,542	€22,415	€33,455	€50,183	€66,910
Single	64%	53%	40%	30%	25%
Couple	70%	65%	60%	44%	37%
Couple + 1Child	73%	69%	63%	49%	42%
Couple + 2 Children	76%	72%	66%	55%	46%
Couple + 3 Children	78%	75%	69%	61%	51%
Couple + 4 Children	79%	76%	70%	64%	56%

Jobseeker Two-Earner Basic Replacement Rate 2010					
(Based on Spouse 1 earning at various levels and Spouse 2 potentially taking up NMW job).					
	NMW	67% AIE	AIE	150% AIE	200% AIE
Couple	74%	72%	66%	72%	76%
Couple + 1Child	80%	77%	72%	74%	78%
Couple + 2 Children	85%	82%	77%	75%	78%
Couple + 3 Children	87%	85%	81%	76%	79%
Couple + 4 Children	86%	86%	87%	79%	80%

Source: Department of Finance

² <http://taxpolicy.gov.ie/wp-content/uploads/2011/06/10.04-Replacement-Rates-2010.pdf>

Such calculations are somewhat simplistic as they rely on hypothetical examples of in-work income. In their 2011 paper, Callan *et al*³ seek instead to predict the in-work income of someone who is unemployed based on their characteristics (age, education, marital status, gender). Individual level data is compiled from a large sample of Irish households and compares household disposable incomes under situations of employment and unemployment. Their analysis finds that average potential earnings of the unemployed in Ireland are close to two thirds of average wages. Replacement rates calculated in this paper for single unemployed individuals in 2007 are 46% (at 67% of the average wage) and 33% (at 100% of the average wage). These were among the lowest in the OECD for that year, but one should bear in mind that this is for single persons only. Table 3 shows the distribution of replacement rates for Ireland in 2011 – it gives the percentage of unemployed persons in various replacement rate intervals.

Table 3: Estimated distribution of unemployed persons in receipt of Jobseeker’s Benefit or Assistance

Replacement Rate category		
More than	Less than	%
	<20%	5.3
>20%	<30%	13
>30%	<40%	18.8
>40%	<50%	20.5
>50%	<60%	19.2
>60%	<70%	4.4
>70%	<80%	5.9
>80%	<90%	7.8
>90%	<100%	1.6
>100%		3.4
Total		100

Source: Callan *et al* 2011

³ [Tax, Welfare and Work Incentives](#), Tim Callan, Niamh Crilly, Claire Keane, John R. Walsh and Áine Ní Shúilleabháin

The bulk of individuals face a replacement rate of less than 60% (i.e. 8 in 10 unemployed individuals), while only 3% have a replacement rate of over 100% (that is, they would earn more unemployed than in employment).

The authors also compare 2011 replacement rates with those in 1987, 1994, 2000 and 2008 (adjusted for wage growth/decline in the intervening years). The most striking result is that the number of 2011 replacement rates above 70% are significantly lower than in 1987, 1994 and 2008, while for replacement rates above 90%, 2011 and 2000 are very similar. Over time, the incidence of high replacement rates was highest in 1987 and 1994, and fell between 2008 and 2011. The authors conclude that these results suggest that measures taken between 2008 and 2011 served to maintain a significant incentive to work for most unemployed people.

Costs of Working

One aspect not considered in Callan *et al* (2011) is the day to day outlays involved in maintaining a job. In their 2012 Working Paper, Crilly *et al*⁴ seek to capture the costs such as childcare, transport and meals which are incurred by choosing to work. The authors contend that replacement rates constitute an imperfect measure of work incentives because replacement rates compare gross income levels before subtracting costs of working which may pose a disincentive to work. Similar research undertaken by the Institute for Fiscal Studies in the UK showed that work related expenses have a negative and important effect on work incentives.⁵

The authors estimate the average extra weekly expenditure on food, clothing and transport for a single employed person is €177.82 – about 5 times that of an unemployed person, for which it is €35.39 (in the case where neither person has children). The difference amounts to €142.43 per week and €6,836.64 annually. For an employed principal breadwinner with one child under five, the additional cost is

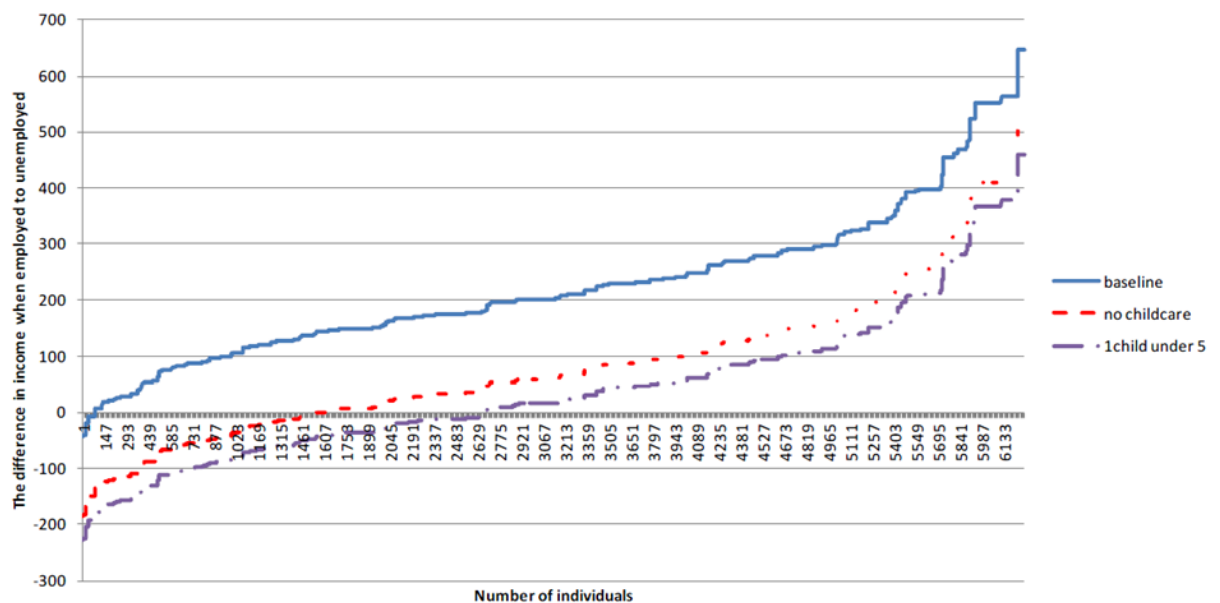
⁴ [The Costs of Working in Ireland](#), Niamh Crilly, Anne Pentecost, Richard Tol

⁵ [Financial Work Incentives in Britain \(2006\)](#)

€227.83, which is €185.86 more than for an unemployed principal breadwinner with one child under five. These figures rise as more children under five are in the household, increasing to about €9,000 per year for one child under the age of five. The graph below plots the differences in weekly income when employed against being unemployed.

Figure 1: Difference in Weekly Income When Employed Against Being Unemployed

(€)



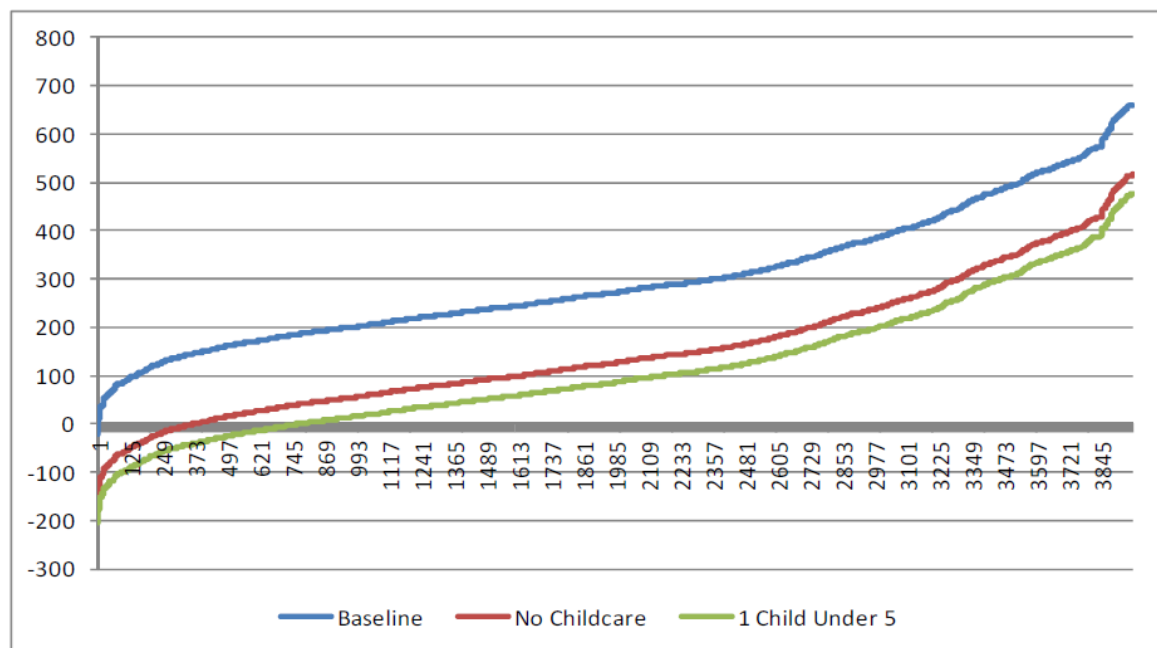
Source: Crilly et al 2012

Figure 1 (taken from the paper) shows that under the baseline scenario 81 (1%) individuals out of the 4,028 included in the sample have higher incomes when unemployed. This compares to 1,554 (25%) individuals when the additional costs are included without childcare and 2,686 (44%) individuals with childcare for one or two children under five years old; the latter of which is just under half of the sample. This number falls to 1,635 (26%) with no children under 5 years old. The authors conclude that costs of working in Ireland are high and this may provoke a significant disincentive to work.

Criticisms of ‘The Costs of Working in Ireland’

In a critique of ‘The Costs of Working in Ireland’, Seamus McGuinness and Philip O’Connell⁶ argue that the estimation of income from returning to work is understated because it does not control for the age of an individual, part time and full time workers and type of employment. The estimations of costs, meanwhile, related solely to full time workers. McGuinness and O’Connell re-estimate income by accounting for age, work experience – using a more detailed data set – and focus specifically on full time employed and unemployed persons. Figure 2 shows the incentive to work in a full-time position using the costs initially estimated in Crilly *et al* (2012) but with re-estimated income.

Figure 2: Re-estimated Difference in Weekly Income: Full-Time Employees and Unemployed



Source: McGuinness & O’Connell 2012

⁶ [Note on “The Costs of Working”](#) Seamus McGuinness & Philip O’Connell

Figure 2 shows that the estimated percentage of individuals for whom being in unemployment pays more than the costs of taking employment is different from the earlier estimation (compare with Figure 1) – its pays for only 9% with no children and 19% for individuals with one child under five – substantially lower than the original estimates.

The latest estimates of the incentive to work come from Callan *et al* 2012⁷ in an update of their 2011 paper referenced above. As in their earlier work, income in and out of work is predicted on the basis of individual characteristics. However, the authors include estimates of the costs associated with working – namely transport and childcare costs – using more detailed and recent data than used in Crilly *et al* (2012). Interestingly, the work-related transport costs are found to be lower than in the Crilly *et al* paper, but the cost of childcare is found to be significantly higher. The authors find that the fraction of people with a young child that are better off not in work is between 12% and 13%, compared to 44% in Crilly *et al* and 19% in McGuinness & O’Connell. For people without a young child, only 4% are found to be better off, as opposed to 15% in Crilly *et al* and 9% in McGuinness & O’Connell. Table 4 shows how the inclusion of estimates of the costs of working impact on the fraction of unemployed people facing high replacement rates.

Table 4: Impact of Costs of Working on Replacement Rates of the Unemployed

Replacement rate above:	before in-work costs	after in-work costs
>70%	28.5%	34.6%
>80%	20.3%	23.7%
>90%	14.3%	17.5%
>100%	7.8%	12.0%

Source: Callan *et al* 2012

⁷ [Work Incentives – New Evidence for Ireland](#) T. Callan, C. Keane, M. Savage, J.R. Walsh and K. Timoney

Looking more generally at the impact of high replacement rates, the authors note that replacement rates in 2005 were higher than they are today, but the unemployment rate was only 4% in 2005 compared to 14% currently. This suggests that Ireland does not have a generalised problem of high replacement rates damaging incentives to work. Moreover, 6 out of 10 people facing high replacement rates (over 70%) in 2011 are found to be in employment. Of those who are estimated to be worse off in employment, 3 out of 4 have a job.

These results highlight the limited nature of analyses based on the use of replacement rates. Replacement rates only ever capture a snapshot at a point in time, whereas many people endure periods where it may not pay to work in the expectation that their wages will be higher in the future.