Implementation of a Negative Income Tax. Estimation of net cost and poverty and inequality effects

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Introduction

We analyse the feasibility and consequences of a Negative Income Tax (NIT), introducing two changes in the tax-benefit model: the removal of non-contributory benefits and the introduction of a NIT.

We have simulated a NIT on STATA using the 2014 Spanish EU-SILC database (income data, 2013), writing our own model. We made sure that different proposals are revenue neutral, taking into account both the 2013 Spanish Income Tax and the removed benefits. Among different proposals we have chosen the one that produces better results in terms of inequality and poverty reduction. Finally, we have replicated this proposal, now using EUROMOD (updated 2012 database and 2013 model with appropiate changes).

Unfortunately, we found strong discrepancies between these two methods. This is a serious problem, because these discrepancies could lead to take wrong decisions concerning income tax reform.

A NIT proposal (ii)

- Personal allowance, to be deducted from gross income: equals 10,869€ for every adult, and 3,261€ for children. The allowance for an adult can be derived from equation (1), and the quantity for children is 30% of the adult allowance.
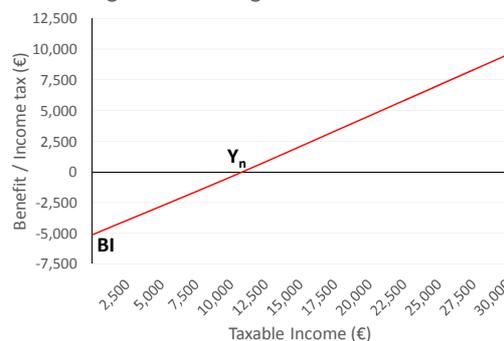

Figure 1: The Negative Income Tax

Comparing 2013 Spanish IT & NIT

	2013 Income tax (EUROMOD)	NIT (EUROMOD)
Taxable Income	307,444	451,570
Work allowance	38,206	-
Tax base	271,345	451,570
Personal & family allow.	94,386	439,061
Income tax	51,795	14,518
Noncontributory benefits	-	25,431
TOTAL FUNDS RAISED	51,795	39,949

Source: Adiego et al. (2016) and own calculations

Taxable Income is greater in NIT (it is not allowed to deduct any allowance) and also Personal and Family Allowances (they are the negative part of the scheme). Tax collection is strongly reduced, even considering savings in non-contributory benefits. Accordingly with EUROMOD data, the described reform will need 11,846 millions of euros of additional resources.

A NIT proposal (i)

Our proposal for a negative income tax is quiet simple. We consider only individual taxation, including every source of income. We remove tax allowances (except the personal one, needed for the NIT) and tax credits.

A NIT can be defined using three parameters, having two degrees of freedom (Figure 1):

$$BI = Y_n * t_i \qquad (1)$$

Basic Income (BI) is the result of multiplying taxable income (Y_n, gross income minus personal allowance) times tax rate (t_i).

The selected parameters are :

- Basic Income: is the benefit received by an individual without any income. It amounts 5 180.6 € per year. As we have removed every non-contributory benefit, we need to substitute them by a single, universal benefit, that equals the current non-contributory pension benefit.

- Tax rate: the usual NIT consider a 50% tax rate, but we try to slightly improve progressivity. We have used three different tax rates: 47% when income is below the break-even point (negative tax rate), 50% for the first 21 000 €, and 60% beyond this quantity.

Comparing NIT under different sources of data

Table 2: NIT using different databases and schemes (Spain, all regions but País Vasco and Navarra[a])

(millions of euros)	1. NIT (2014 EU-SILC)	2. NIT (EUROMOD)	(2/1)
Taxable income	483,370	416,205	86.1%
Personal and family allowances	415,311	412,327	99.3%
Income tax	45,108	9,648	21.4%

[a] Is very common in Spanish micro-simulation analysis to exclude País Vasco and Navarra, because these regions have their own tax system.
Source: own calculations.

Taxable Income results clearly underestimated when using EUROMOD data. But the estimation of Personal and family allowances is quite similar using both databases, because they mainly depend on population. The combined result produces an income tax under EUROMOD that accounts 21.4% tax collection using 2014 EU-SILC.

If we are not aware of this strong underestimation, the parameters of the income tax reform should have changed a lot. Under our simulation, the average tax rate for positive tax bases is 51.67%. But if we try to adjust tax rates to produce a revenue neutral tax reform, we should increase average tax rate up to 58%. Obviously, the impact of this reform would be much stronger.