

## CHOOSING BETWEEN DIRECT TAXATION OR INDIRECT TAXATION AS PRIME FISCAL TOOL WITHIN ROMANIA'S ECONOMY OF TODAY

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### Abstract

*This paper focuses on a central issue of fiscal policy applied anywhere in the world of market economies: the problem to determine which type of taxation, direct taxation or indirect taxation, is better suited to assure maximum efficiency for fiscal policy applied in Romania. Mathematics proves to be a very useful tool in this case too, given it is applied through a sound economic and logical reasoning, with important results. In other words, it is applied in order for this paper not only to state which type of taxation must be used preponderantly in Romania, especially today, in times of continuous economic and financial crisis, but, especially, to compute how to use it, in long term, not in the least to alleviate effects of economic crisis, and, why not, curb economic crisis itself.*

**Key words:** *taxation, elasticity, output, demand, offer.*

**JEL Classification:** *E27, H21, H26, Q11.*

### I. INTRODUCTION

Any firm, and, thus, as 'sum' of all firms, national economy in its entirety finds itself, in relation to a given impact of fiscal policy, in a rather unstable equilibrium (Atkinson and Stiglitz, 1976, pp. 55-75): if marginal revenues will not rise, from day to day, marginal cost will grow, given side effect of tax – be it newly introduced or just augmented. In other words, efficiency of a firm, respectively of entire economy will be reduced as a result of impulse given by fiscal policy to real economy, respectively as effect of fiscal pressure increase. Fiscal impulse is emitted, of course, for other goals, and for attaining other targets, but, willingly or not, result of economic activities being unfolded at levels of economic efficiency lower than optimal is also obtained.

The effect of taxes, respective of taxation, dubbed *efficiency loss of the tax* (or, with the same meaning, *deadweight loss of the tax*) makes one to remark that, if fiscal policy does not provide prerequisites needed for increasing value of taxpayers' incomes, in long term, it will supply enough energy to slow down, with success, economic growth.

### II. CONTENT

Amplitude of impact of 'applying' fiscal policy on a firm – this being said, as indispensable introduction for this analysis –, in the perspective fiscal impulse is emitted simultaneously with occurrence of (directly or indirectly) compulsory sustaining, or, to be more precise its financial effect on a firm, is measured starting from observing dynamics of sales/purchases in the market of *products* a firm produces, i.e. goods and/or services: inelastic demand of a product a firm produces, if its revenues are taxed – technically speaking – yields effect of 'shifting' identity for tax bearers, these being, for the most part, consumers (e.g. *non-firms*).

Inelastic offer, for a product obtained by a taxed firm, permits it, in practical terms, no chance whatsoever to be *not* affected by the tax – e.g. not to bear (main) impact of that tax (Eatwell, Milgate et al, 1996, p. 587).

In the case of elasticity of demand, respectively of elasticity of supply, it is noted that:

❖ elastic demand is equivalent to inelastic offer;

❖ elastic offer will have the same effect for a firm as inelastic demand has.

Through selling of a unit of product *a* part of fiscal debt is paid; sell of all production assures payment of entire debt. During selling – respectively, purchasing – fiscal debt is paid through firm’s collecting of price, respectively of the **net price paid by consumers** (McConnell, Brue et al, 2003, pp. 56-59).

If net (financial) impact of newly introducing/augmenting a tax is tax value itself, value collected by fiscal authorities through taxpayers’ incomes taxation, gross impact of a newly introduced or just augmented tax (or taxes – if they work in convergence) is price paid by consumers.

This price can be dubbed *price paid by consumers* ( $P_C$ ), price which is characterized by its rise, effected by firms, in order for it to be able to withstand the increase in fiscal pressure, rise followed by tax payment (carried out by firms – directly or indirectly). In counterpart, from perspective of aggregate offer, the price – the same price! – can be denoted as *price received by producers* ( $P_O$ ) (Gregory-Mankiw, 2009).

Be it raised *following* taxation a one and the same price, alike for producers and for consumers, should be, definitely, *the same*; but, though, for producers, *actually* collected price is smaller, because from it the amount due for state is deducted (as *paid/beared* tax) – amount denoted here as  $\Delta P_O$ .

Consumers pay, in fact, a bigger price, in other words a raised price – raised with the ratio of initial price value added to ‘their’ price by producers, ratio noted as  $\Delta P_C$ . In short, thus, the resultant of all these dynamics can be quantified as being equal to value of newly enforced/augmented, and collected, tax by the state (for price of a unit of product, *per* unit of product *sold*).

Value of this ‘unit’ tax, understood as ‘remainder’ of any transaction (e.g. sell/purchase) is equal to (where  $I_{mp}$  is value of tax *per* unit of product, and  $P$  stands for *initial* value of a product’s price):

$$I_{mp} = P_C - P_O = (P + \Delta P_C) - (P - \Delta P_O) = \Delta P_C + \Delta P_O \quad (1)$$

Computation of total value of paid tax ( $I_{mpT}$ ), in other words *paid* through selling of entire production, is obtained according to the following formula ( $Q_1$  denotes production value after introducing, or augmenting, a tax – or, the taxes):

$$I_{mpT} = Q_1 \times \Delta P_C + Q_1 \times \Delta P_O = Q_1 \times (\Delta P_C + \Delta P_O) \quad (2),$$

Value of efficiency loss of the tax, in accordance with demand elasticity, respectively offer elasticity, is quantified in this manner (McConnell, Brue et al, 2003, pp. 56-59):

$$I_{mp} = \Delta P_C + \Delta P_O = \frac{\Delta Q}{\eta_c} \cdot \frac{P}{Q} + \frac{\Delta Q}{\eta_o} \cdot \frac{P}{Q} \Leftrightarrow (3)$$

$$\Leftrightarrow I_{mp} = \frac{\Delta Q \cdot P \cdot \eta_o + \Delta Q \cdot P \cdot \eta_c}{\eta_c \cdot \eta_o \cdot Q} \Leftrightarrow (4)$$

$$\Leftrightarrow I_{mp} = \frac{P \cdot \Delta Q \cdot (\eta_c + \eta_o)}{\eta_c \cdot \eta_o \cdot Q} \Rightarrow (5)$$

$$\Rightarrow \Delta Q = \frac{I_{mp} \cdot Q \cdot \eta_c \cdot \eta_o}{P \cdot (\eta_c + \eta_o)} \cdot (6)$$

In conclusion, amplitude of efficiency loss of the tax can be computed using the formula below:

$$P_{eimp} = \frac{1}{2} \cdot \frac{I_{mp} \cdot Q}{P} \cdot \frac{\eta_c \cdot \eta_o}{\eta_c + \eta_o} \cdot I_{mp} \Leftrightarrow (7)$$

$$\Leftrightarrow P_{eimp} = \frac{1}{2} \cdot \frac{I_{mp}^2 \cdot Q}{P} \cdot \frac{\eta_c \cdot \eta_o}{\eta_c + \eta_o} \cdot (8)$$

Extremely important, from an economic point of view, end emerging from these formulae, are the following observations:

❖ value of this (efficiency) loss rises proportionally as the **square** of tax’ value rises;

- ❖ due to the fact in long term both aggregate demand and aggregate supply are, on average, elastic, *formula* itself of efficiency loss of the tax index proves size of this loss is as higher as aggregate demand, respectively aggregate supply are *more* elastic (Schiller, 2003, pp. 756-758).

It is always important whether main taxation method (tool) used in an economy is direct taxation, or indirect taxation, and all the more so in a time of economic and financial crisis (www.oecd.com). Furthermore, this dilemma, as regards mainly using *one* of two types of taxation can be solved, on one side, and, on the other side, *must* be solved, if one keeps in mind the issue of budgetary needs/expenses, especially if state's financial solidity and sturdiness are certainly not uncompromising, in long term.

Size of efficiency loss of the tax is observed, first thing, to have a dimension proportional with amplitudes of demand elasticity and offer elasticity concerning *products* made by real economy – a state of fact whether tax bearers are the producers or the consumers.

Romania's economy, including that of present year 2013, yields, through fiscal policy, to state budget amounts of money levied, in effect, using mostly indirect taxation (www.guv.ro), a type of taxation Romanian consumers must bear, fact which, considering most consumers earn wage type incomes at best *lightly* raised, in long term (as compared with recent increase in VAT quota, from 19% to 24%), is in itself an impressive feat.

Direct taxation, if and where is the *main* fiscal tool, in a market economy, has certain first hand advantages. Maybe most important of them all is the fact it allows to 'split' fiscal pressure *between* producers and consumers, in order for neither category of taxpayers to be especially 'crushed' by the fiscal pressure.

This is, perhaps, main reason because of which direct taxation **is** main fiscal tool in developed economies/states. In addition, efficiency loss of the tax – i.e. of both real economy and fiscal policy – is clearly smaller, compared with the case of predominant use of indirect taxation, due to fact that demand elasticity and offer elasticity evince, *on average*, a smaller negative influence, given certain facts:

- (a) producers, in theory, are not affected in what their *revenues* are concerned by taxes levied on consumption, given they only *pay* indirect taxes, not bear them;
- (b) an efficient direct taxation (e.g. an universal one, and affected only marginally by tax evasion) allows, in long term, for diminishing VAT quota, at least for some goods – that is, for goods indispensable for consumers (food, etc.) (Mendoza, Razin et al, 1994, pp. 297-323);
- (c) direct taxation is able to determine producers to increase prices of goods and services, but, in the same time, and as a consequence – at least as trend (if amplitude of sales does not diminish) – *wages too*, that is **consumers' incomes** (Atkeson, Chari et al, 1999, p. 11).

On the other side, though, the blatant incapacity of Romanian fiscal authorities to reduce, to a 'manageable' size, amplitude of tax evasion phenomenon (phenomenon that is sensibly manifesting in Romanian economy, be it said here, especially in operations concerning producing and selling of cereals, on one hand, and foodstuff, on the other hand) (www.mfinante.ro) makes Romanian fiscal policy to focus *not* on direct taxation. For that matter, except auto-consumption, if and where it can manifest in a market economy, consumers cannot fight back rises in indirect taxes' quotas through some form of tax evasion (Toader, 2007, pp. 90-91).

In counterpart, indirect taxation hits severely Romanian consumers, all the more so as a percentage of approximately 50% of their incomes, on average, gets spend on food and beverages. In this manner, these taxpayers cannot *defend* themselves but only marginally from side effects of indirect taxation, considering that (Văcărel, Bistriceanu et al, 2006, pp. 251-254):

- 1) consumers, in these conditions, cannot, on average, but scantily deposit (not to mention invest) any amounts of money for later use;
- 2) foodstuff market in Romania, is, again on average, at best indifferent to consumers, if not directly hostile to their interests;
- 3) indirect taxation does not allow for any deductible expenses, respectively tax-exempt expenses, neither – unlike direct taxation – it includes such a notion as a *tax-exempt minimum revenue*.

However, in this field, calculation brightens meanings behind these considerations; replacing the symbols which stand for demand elasticity and offer elasticity with *their (numeric) dimensions* – as measured in a market economy – is an operation that can indeed circumscribe size of efficiency loss of the tax, as Romanian (actual) value of this index is computed.

Values of demand elasticity ( $\eta_C$ ), respectively offer elasticity ( $\eta_O$ ) are – quantified, again, as average values – the following (Stiglitz, Walsh et al, 2002, p. 351):

- A)  $\eta_C = 0,58$ ;
- B)  $\eta_O = 0,70$ .

Thus, the amplitude of value of efficiency loss of the tax, knowing these values, is equal to:

$$P_{\text{eimp}} = \frac{1}{2} \cdot \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot \frac{0,58 \cdot 0,70}{0,58 + 0,70} \Leftrightarrow (9)$$

$$P_{\text{eimp}} = \frac{1}{2} \cdot \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot 0,32 \Leftrightarrow (10)$$

$$P_{\text{eimp}} = 0,16 \cdot \frac{I_{\text{mp}}^2 \cdot Q}{P} \cdot (11)$$

Inevitable conclusion of these calculations is that, *when one takes into account no more than realm of production, commercialization and consumption of food and foodstuff*, value of efficiency loss of the tax is sensible. Sensible enough, in fact, to enable, through a high (indirect) fiscal pressure, a low efficiency, firstly of real economy, but also of Romanian fiscal policy itself, *as a result of indirect taxation* (if mainly used).

On the other side, from direct (revenue) taxation perspective, in addition to these considerations, it can also be underlined the fact direct taxation is, in principle, *designed* so as to conserve – or to amplify – an ascendant trend of consumption *and* of economic growth.

### III. CONCLUSIONS

We consider all reasonings and calculations stated above to be able to quantify structure of main type of taxation *to be used* in this state.

A fiscal policy which focuses on – strictly speaking – revenue taxation is far more preferable to a fiscal policy built around consumption taxation, in present days, in Romania, due to the fact there are present, in Romania, two states of fact, malicious for both Romanian economy and Romanian society (Moşteanu, 2003, pp. 100-104):

- A) consumers' purchasing power is, even now, in fall of 2013, relatively (very) low;
- B) *real* unemployment rate (e.g. taking into account, rightly, from an social and politic point of view, Romanian citizens *emigrated* looking for a job are, themselves, the Romania's unemployed) is **extremely high**.

In practice, revenue taxation is advantageous for being able to 'diminish' impact of elastic, or inelastic, character of demand, respectively offer of goods and services, on value of efficiency loss of the tax on account of the fact that, not in the least, it induces an economic and social discipline among producers, for whom main tool of taxation used by Romanian state will record a different impact – at least for *them* –, but certainly an impact, a material one, and not just the impulse behind emitting a quip such as '*others bare/will bare*' main **fiscal burden** (Goolsbee, 1997, p. 144).

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