

The Impact of the Personal Direct Income Tax on the Romanian Agriculture. A critical analysis.

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Abstract. After several years in which the individual producers were except from tax payment for the personal agricultural income, in 2013 a new special *direct tax* was introduced in Romania. The paper aims to deepen the economic understanding of the potential consequences of this tax. It proposes a simple micro simulation model used to evaluate the tax revenue obtained by the state budget. It also investigates the potential outcomes at the farm level using different scenarios. The material is represented by the official statistic issued about the Romanian individual farms (number, size, livestock, and economic orientation). Results suggest that more than 900 thousands of individual farms will pay it which will increase the administrative tax-cost. The lack of farmer education and information is negative correlated with its effectiveness. The tax revenue is low, but it can bring positive results in decreasing the untaxed economy. For the subsistence and semi-subsistence individual producers the tax will act as negative incentives for crop-pattern diversification and farm-size increase. Thus it has to be follow by agriculture policy measure such as to sustain the small individual farms in their effort of becoming economic self-sufficient.

Keywords: direct income tax; micro simulation model; Romania.

INTRODUCTION

Agriculture is recognised to be one of the hard-to-tax economic sectors, together with the small business and services (Bird, 1983). The facts that limit the effectiveness of one fiscal-system are represented by the small scale farming, the spatial spread of the activity and several characteristics specific for the developing countries like the absence of a standard accounting-keeping system and the generalised cash-payment practices (Rajaraman, 2004). Nevertheless, agriculture taxation is important because it responds to several needs: (1) to generate revenues for supporting public expenditure; (2) to transfer resources from agriculture to other economic sectors; (3) to sustain environmental friendly and cutting-edge research; and not ultimately (4) to redistribute incomes within the agriculture sector (Khan, 2001). Especially after the Second World-War, agriculture was taxed through a series of *implicit taxes* like the non-tariff barriers, the import tariffs and the procurement programs affecting the output prices. This policy was supported by the idea of sustaining a rapid economic growth through transferring the agricultural surpluses to industrialisation (Saris, 1994). Such measures diminish the performance of the world-trade and increase the food-cost for consumers (Jensen, 2004), they becoming subject to major reforms in the World-Trade negotiations (Rutten *et al.*, 2013). Lately, the explicit taxes generalised, they being represented by: (1) the direct taxes on income (actual or presumed) and personal movable and immovable wealth or property and (2) the indirect taxes like VAT, excises, customs duties and export taxes, etc.

In the Romanian rural areas, an important part of the rural household revenue is obtained from agriculture. 42.2% represents the consumption of the own-produced

agricultural goods and 56.3% is cash revenues from which 24.7% represents agricultural incomes (Romanian National Institute of Statistics, 2012). A recent study provided by Dachim and Mosora (2012) showed that agricultural income is smaller in the regions with important semi-subsistence farm numbers. Moreover, 65.5% of the agricultural business is organized as individual holders without a juridical status (without a proper accounting system) and 34.5% as companies (Romanian National Institute of Statistics, 2012). This explained the important untaxed agricultural income (Jitea, 2010). Until 2013, the personal agriculture income remains untaxed. After a Governmental Regulation (Romanian Government, 2013), it become taxable starting with the 2013's financial year. The paper aims: to investigate which are the financial gains obtained by the Romanian budget after implementing the new-tax regulation; to analyse the limits of the new fiscal framework; and to evaluate the potential economic consequences on the individual producers.

MATERIALS AND METHODS

The outcomes of taxes reform can be evaluated by econometric estimations, computable general equilibrium models (CGE) or through micro simulation models (MSM) (Barrios *et al.*, 2013). The methodology largely depends on its aims and the data disposal. Econometric estimations can incorporate an important number of countries and tax types into simulations, the only limitation being an extended panel-data for model specification (Triest, 1998). A CGE model can take into account all possible interactions between the economic actors (producers, consumers and the rest of the world) when analysing the tax impact being employed for policy analysis purposes (Lofgren *et al.*, 2002). The MSMs use individual level data on households, persons, or corporates and they can be static, micro dynamic/macro static and dynamic (Feltenstein *et al.*, 2013). The static models are used to evaluate the tax revenue impact on short-term. These features qualified them for the purpose of the current research. The MSM model (1) developed here, calculates the agriculture tax revenue as a sum of the total taxable incomes from different individual agricultural activities ($I = 1$ up to n).

$$Tax\ Revenue_i = Tax\ rate * \sum_{i=1}^n (Taxable\ income\ base_i * Number\ of\ individuals) \quad (1)$$

Tab. 1

The elements of the agricultural income base

Income type	Taxable size	Presumed income	Income type	Taxable size	Presumed income
	- Ha-	Eur/Ha		- Heads or Ha-	Eur/Head
Cereals	> 2	101.8	Cattle production	>2	102.7
Oilseeds	> 2	103.9	Buffaloes	>2	73.9
Potato	> 2	657.6	Sheep	> 50	10.7
Sugar beet	> 2	158.0	Goats	> 25	10.7
Tobacco	> 1	240.4	Fattening pigs	> 6	12.7
Hops	> 2	336.3	Hives	> 75	9.1
Vegetables in field production	> 0.5	527.4	Poultry	> 100	0.7
Vegetables in protected spaces	> 0.2	1160.3	Flowers and ornamental plants	>0.3	2669.6
Dried pulses	> 1.5	181.6	Vineyards	>1	314.1
Fruit three growing	> 1.5	861.7	Shrubs	> 1	314.1

Source: Romanian Government, 2013

The taxable income is determined according to the income-type, the individual farm size and the presumed income (Tab. 1). The MSM model was initialised with data collected from different official Romanian and EU statistics about the farm structure, production type, size, etc. The last information that has to be introduced into the model is about the tax rate. According to the Fiscal Code, Romania uses a taxable flat rate of 16%.

RESULTS AND DISCUSSIONS

Results show that the new individual agricultural tax does not affect more than 70% of the producers because the tax excludes from payments the farms that are smaller than a minimum threshold (of 2 hectares for specific crop productions). They represent around 23% from the total agricultural area (Tab. 2). The concession is in line with the agriculture policy where this type of farms does not receive any direct subsidies. In the same time, the measure does not bring any positive incentives for the subsistence farms to increase their size such as to become more market orientated.

Tab. 2

The distribution of the utilised agriculture area and the number of individual farms in different size classes (2010)

Region	< 2 HA				2HA-4.9HA				5HA-9.9HA				10HA-19.9HA			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Romania	1,713,130	2,723,530	23.0	73.7	2,218,480	723,870	29.8	19.6	1,190,830	179,530	16.0	4.9	542,910	41,500	7.3	1.1
North-West	236,280	334,270	20.0	64.9	414,500	132,140	35.1	25.6	254,050	38,210	21.5	7.4	96,370	7,420	8.1	1.4
Centre	152,940	242,740	15.0	65.5	265,500	83,720	26.1	22.6	207,340	30,800	20.4	8.3	112,330	8,520	11.0	2.3
North-East	412,490	592,650	32.6	76.9	433,140	145,050	34.2	18.8	159,990	24,500	12.6	3.2	69,590	5,260	5.5	0.7
South-East	195,500	346,040	19.3	78.5	211,820	70,260	20.9	15.9	102,210	15,540	10.1	3.5	54,560	4,110	5.4	0.9
South - Muntenia	341,720	642,580	31.9	85.1	264,090	89,940	24.7	11.9	98,030	14,940	9.2	2.0	56,290	4,270	5.3	0.6
Bucuresti - Ilfov	9,900	27,220	43.3	93.3	4,460	1,550	19.5	5.3	1,670	260	7.3	0.9	1,080	80	4.7	0.3
Sud-West Oltenia	277,080	375,800	25.1	68.1	430,610	141,280	39.0	25.6	180,860	27,700	16.4	5.0	63,530	4,990	5.7	0.9
West	87,220	162,230	11.3	62.4	194,350	59,930	25.1	23.0	186,690	27,590	24.1	10.6	89,170	6,870	11.5	2.6
Region	20HA-29.9HA				30HA-49.9HA				50HA-99.9HA				> 100HA			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Romania	211,050	8,790	2.8	0.2	270,910	7,080	3.6	0.2	380,210	5,580	5.1	0.2	922,110	4,240	12.4	0.1
North-West	31,540	1,310	2.7	0.3	37,040	970	3.1	0.2	46,500	690	3.9	0.1	66,270	380	5.6	0.1
Centre	43,590	1,810	4.3	0.5	54,080	1,410	5.3	0.4	72,940	1,060	7.2	0.3	108,500	630	10.7	0.2
North-East	30,370	1,260	2.4	0.2	38,130	1,000	3.0	0.1	44,640	660	3.5	0.1	76,930	390	6.1	0.1
South-East	29,280	1,220	2.9	0.3	43,470	1,130	4.3	0.3	74,190	1,080	7.3	0.2	301,620	1,160	29.8	0.3
South - Muntenia	27,310	1,140	2.6	0.2	37,650	990	3.5	0.1	56,720	830	5.3	0.1	187,910	800	17.6	0.1
Bucuresti - Ilfov	590	20	2.6	0.1	930	30	4.1	0.1	1,410	20	6.2	0.1	2,800	10	12.3	0.0
Sud-West Oltenia	18,930	790	1.7	0.1	22,640	600	2.0	0.1	32,960	490	3.0	0.1	78,480	360	7.1	0.1
West	29,430	1,230	3.8	0.5	36,970	960	4.8	0.4	50,860	750	6.6	0.3	99,610	500	12.9	0.2

Source: Eurostat (2013).

(1) Utilised Agriculture Area in Ha; (2) Number of individual farms; (3) Utilised Agriculture Area in a specific size class in %; (4) Number of individual farms in a specific size-class in %;

The simulations made into the crop sector used the available official statistics about the utilised agricultural area and the individual farm numbers distribution into farm size classes. The minimum presumed income (Tab. 1) was then multiplied with the area comprised in different farm size classes from which the first 2 hectares were considered to be non-taxable. The most important share of revenues is expected to be obtained from farms with size smaller than 10 hectares and above 100 hectares (Tab. 3). The administrative tax burden will become highly important because more than 900 thousands of individual producers will have to declare their incomes to the fiscal authorities and also have to be controlled by them. This can be difficult to be done because the Romanian farmers do not have the knowledge and the traditions of doing that. On the other hand, the number of the administrative employees was limited through legislative regulation as a financial crisis consequence. Thus, probably an

administrative solution is to enclose the fiscal declaration to the one fulfilled annually for receiving the direct subsidies (Common Agriculture Policy payments). Moreover it is clear that an actual income tax system is unfeasible in Romania because the number of farms is high and they do not use any accounting system.

Tab. 3

Projected tax revenue in the crop sector (in Eur)

	2HA-4.9HA	5HA-9.9HA	10HA-19.9HA	20HA-29.9HA	30HA-49.9HA	50HA-99.9HA	> 100HA	Total
Romania	12,584,082.18	13,580,535.64	7,509,076.00	3,158,837.45	4,192,027.27	6,025,580.00	14,917,086.18	61,967,224.73
Nord-Vest	2,452,682.91	2,900,213.45	1,331,162.55	472,184.73	573,087.27	736,686.55	1,069,599.64	9,535,617.09
Centre	1,601,052.36	2,379,536.73	1,555,825.82	652,601.09	836,936.00	1,156,297.45	1,750,936.73	9,933,186.18
Nord-Est	2,335,453.09	1,812,164.00	964,452.00	454,714.55	589,904.36	707,297.45	1,243,321.82	8,107,307.27
Sud-Est	1,164,134.55	1,161,358.91	756,605.82	438,224.00	672,846.91	1,176,053.45	4,886,752.73	10,255,976.36
Sud - Muntenia	1,374,919.64	1,112,703.64	779,627.27	408,671.64	582,393.82	898,979.64	3,041,934.18	8,199,229.82
Bucuresti - Ilfov	22,205.09	18,776.36	15,021.09	8,980.00	14,204.73	22,368.36	45,389.82	146,945.45
Sud-Vest Oltenia	2,417,252.73	2,048,419.64	874,325.45	283,278.18	350,056.73	522,146.18	1,269,608.73	7,765,087.64
Vest	1,216,218.55	2,147,199.64	1,231,566.18	440,346.55	572,270.91	805,914.18	1,610,032.36	8,023,548.36

For the cattle breeding sector the MSM model shows that around 535 thousands individual producers will not be affected by the fiscal regulation (Tab. 4). The expected tax revenue is around 12 million euros but the administrative effort will be also important as it concern around 850 thousands individual producers. For the other animal breeding sectors the administrative burden together with the tax revenues are less important.

Tab. 4

Projected tax revenue in cattle breeding sector (in Eur)

	1 - 2 heads		3 - 9 heads		10 - 19 heads		20 - 29 heads		30 - 49 heads		50 - 99 heads		100 - 499 heads		over 500 heads			
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)		
Cattle breeding	535,371	170,999	706,934	11,964	153,517	2,976	69,540	1,964	72,119	1,020	67,200	246	37,659	1	665			
	6,011,491		2,134,684		1,047,468		1,123,292		1,073,363		612,242		10,921,		Total 12,013,461			
Sheep breeding	47,202	126,047	640,756	43,978	537,738	19,063	526,308	14,343	958,459	10,737	1,432,328	7,374	2,158,538	2,074	1,814,657			
	0		0		0		0		1,533,058		3,064,203		2,929,158,		Total 7,526,419			
Goat breeding	106,387	49,789	216,193	7,952	97,662	6,842	205,651	3,303	214,164	1,435	182,874	394	103,329	39	30,865			
	0		0		171,999		110,056		122,945		78,182		24,999,		Total 508,801			
Fattening pigs	1,319,652	295,491	1,225,971	32,523	503,202	700	43,541	148	18,269	34	8,587	5	2,837	5	16,183			
	0		35,000		625,986		79,941		35,318		17,034		5,704		32,823,		Total 831,806	

Source: Eurostat (2013).

(1) Number of farms; (2) Number of animals (heads);

The economic effects of the new tax were evaluated at the individual producers using a simple simulative model (Tab. 5). In this example we consider an individual producer that owes a subsistence farm of 2.7 hectares of arable land, 10 hectares of meadows and pastures, 3 cattle and 25 sheep. In the base line scenario where the crop-pattern is diversified towards cereals, potatoes and oilseed the tax burden will be equal with 16.4 Eur. If the farmer decide to specialise the crop production towards cereals then the tax cost will almost double. On the other hand, a farm size increase with only 2 hectares of arable land and several cows and sheep will increase the tax cost to almost 272 Eur/year. Thus, results suggest that the fiscal policy has to be accompanied with agricultural policy measures that can act as incentives for the subsistence and semi-subsistence farms such as to become economic self-sufficient and market orientated. Without such measures the tax on the personal agricultural income will act as a limitative administrative hamper.

Tab. 5

Tax pressure on an individual farm in different farm size scenarios and fiscal conditions (in Eur)

Scenarios	Cereals (ha)	Potatoes (ha)	Oilseeds (ha)	Meadows and pastures (ha)	Cattle (heads)	Sheep (heads)	Tax base (Eur)	Tax revenue (Eur)
Base line scenario	1.2	0.3	1.2	10	3	25	102.7	16.43
Specialisation scenario	2.7	-	-	10	3	25	173.96	27.83
Size increase scenario	1.7	1	1.7	10	4	60	1700.2	272.03

CONCLUSIONS

The individual agriculture income tax leaves untaxed more than 2.3 million hectares of land and 1.7 million individual producers. The presumed income system used by the fiscal system is the most appropriate one because the Romanian agriculture still presents structural shortcomings. Nevertheless the administrative cost to implement the tax is important. It has to be fallow by several appropriate agriculture measure to overcome its economic negative shortcomings represented by the crop-specialisation and farm-size negative tax cost incentives.

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