

Proposal of the Creation of Resources for the Maintenance of the Production Capability of the Agricultural Land Fund by Way of Tax Savings

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Anotace

Článek obsahuje návrh metodiky tvorby zdrojů, peněžních prostředků do zemědělství prostřednictvím daňových úspor. Ty jsou vytvořeny uplatněním odčitatelných položek od základu daně. K výpočtu odpočitatelných položek byla použita průměrná úřední cena zemědělské půdy za katastrální území a autory navržená „pozemková sazba“ (3,3%). Pozemková sazba byla vypočtena jako inverzní hodnota doby návratnosti investice do zemědělské půdy. Vypočtená daňová úspora dle příslušné daňové sazby a výše odčitatelné položky představuje částku 306 - 388 Kč/ha zemědělské půdy v závislosti na typu podnikatelského subjektu. Vzniklá úspora odpovídá např. kompenzaci za zrušené TOP-UP (2010) platby na zemědělskou půdu. I další rezervy v současném ekonomickém systému (nezdaněné zemědělské dotace) by mohly vést např. k ochraně zemědělského půdního fondu z hlediska kvantity a kvality. Uvedené výsledky mohou být důležité nejen z hlediska informačního, ale především metodologického. Příspěvek byl zpracován v rámci VZ MSM 6046070906 „Ekonomika zdrojů českého zemědělství a jejich efektivní využívání v rámci multifunkčních zemědělskopotravinářských systémů“.

Klíčová slova

Zemědělský půdní fond, produkční schopnost, bonitovaná půdně ekologická jednotka, daňová úspora, odčitatelná položka od základu daně, úřední a tržní cena zemědělské půdy, náklady.

Abstract

The article contains a proposal of the methodology for the creation of resources, monetary funds into agriculture by way of tax savings. Those are created by way of the utilization of items deductible from the tax base. The average official price of agricultural land for the cadastral area and a proposed “land rate” (3.3%) were used for the calculation of deductible items. The land rate was calculated as the inverse value of the return time for investments in agricultural land. The calculated tax savings according to the relevant tax rate and the amount of the deductible item constitutes the amount of CZK 306 - 388/ha of agricultural land depending on the type of business entity. The arisen savings correspond, for example, to the compensation for the cancelled TOP-UP (2010) payments for agricultural land. Other reserves within the current economic system (untaxed agricultural subsidies) could also lead, for example, to the protection of the agricultural land fund in terms of quantity and quality. The said results can be important not only from an information standpoint, but primarily from a methodological standpoint. The article was drawn up as part of VZ MSM 6046070906 “Economy of Resources of Czech Agriculture and Their Effective Utilization within Multifunctional Agricultural-Food Systems”.

Key words

Agricultural land fund, production capability, estimated pedologic-ecological unit, tax savings, item deductible from the tax base, official and market price of agricultural land, costs.

Introduction

The scope of land is fixed. The number of inhabitants on earth is growing, and so are their increased

demands for space and subsistence. Primarily quality agricultural land is and will be an appealing investment. The significance of agricultural land in the Czech Republic, as well as in the EU, is not

yet fully appreciated, despite the fact that according to Article No. 7 of the Constitution of the Czech Republic “the state is to see to the considerate utilization of natural resources and the protection of the natural wealth, the basis of which is land”.

The objective of the analyzed issue is to propose measures that would provide advantages for the purchase of agricultural land, primarily of arable land, as opposed to its renting, and, at the same time, find resources for the maintenance of its production capability.

The objective will be achieved (1) by way of the calculation of tax savings in the form of items deductible from the tax base (economic result) with demonstration of the impact of the proposal on business entities and government revenue and (2) proposal of calculation in which the subsidies paid to cropland not included in the taxable income of farms.

Deininger et al. (2004) emphasize that land markets act as a medium for the transfer of agricultural land from passive farmers to active farmers, or, more generally, from less effective farming to more efficient agricultural producers. The decline in the amount of quality agricultural land in China is addressed by Skinner et al. (2001). The decline and degradation of land is occurring in connection with the faulty interpretation of the legal framework for the protection of land with the growing transformation of agricultural land into commercial, industrial and residential areas in China. Reduced areas of cultivated land in China have been caused by the transformation into pastures and forests. This process is also taking place the other way around and thus, even with the transformation of agricultural land into building sites, food security has not been jeopardized. The author supports the opinion that it does not have to be so in the future either. Thanks to economic growth, cultivated land will be inevitably shifted to other purposes. It is then necessary to utilize land rationally for the preservation of the current level of food self-sufficiency and employment (Deng et al., 2006). The implementation of European agricultural policy that would support the maintenance of land with low intensity for production purposes is an ineffective manner in which to react to the negative consequences of the abandonment of land. In some countries, the process of specialization in production brings about the increased monotony of the countryside and the loss of biological diversity of agricultural land occurs. Abandoned localities

with a high natural value can have further ecological benefits (Renwick et al., 2012). Models that create scenarios for the future utilization of land confirm that, in industrial regions, it will be necessary to utilize land in an intensive manner. However, that requires improvement of the ties between agriculture, forestry, the energy sector, innovation technologies and agro-environmental policies (Lambin et al., 2000). The European Union (EU) has set ambitious goals for itself for an increase in the utilization of renewable energy resources. Germany is the leading country in the world in the production and consumption of biodiesel (two fifths of world production). However, going forward, this state will be difficult to sustain in terms of the negative impact on the environment and in view of the global shortage of agricultural land (Bringezu et al., 2009). Authors Bartolini and Viaggi (2011) established what the intentions of farmers are in relation to the extent of farmed agricultural land. Approximately 26% of farmers in the EU who intend to continue to remain in agriculture state the intention to increase the extent of their own as well as rented land within the next ten years. Approximately 5% of farmers state the intention to decrease the amount of rented land. According to a survey by Raggi et al. (2012), there are 15.4% of farmers in the EU who intend to leave agriculture under the current form of EU Common Agricultural Policy (CAP). The scope of variability within the analyzed states is relatively broad in regard to this decision. In Poland, with the existing form of the CAP, 3.6% of farmers will leave farms, and 35.7% of farmers in the Netherlands will do so.

Autors Viaggi et al. (2010) state, that the financial stability of agricultural businesses is secured by subsidies. Payments for the support of income reduce the resources reallocated toward prospering farms and it is not desirable that they help to maintain the activity of economically weak farms.

The economic situation of European agricultural businesses is not favorable. Development within recent years shows that agriculture in the EU is characterized by a continuing decline in the number of agricultural businesses and work forces. There is a continual process present consisting in the termination of the activities of agricultural businesses. The number of agricultural businesses in the EU 27 between the years 2003-2007 decreased on average by 9%; in some countries, the rate of decrease was more than double as compared to the EU average (European Commission, 2010).

Lindstrom (2008) presents options of aid that are not typical instruments of subsidy policy. He supports tax benefits in the United States that are provided to those owners of land who will support the protection of nature on private land – by way of a reduced inheritance tax, land tax and income tax deductions. Ravenscroft (1999) points out the growing dimension of rented land in Europe. Ravenscroft examines the changing nature, form and structure of agricultural renting in various social, political and economic contexts. The renting of private land is a significant element of the agricultural environment that exists and has an impact worldwide. Despite the fact that it is difficult to establish a comprehensive overview of the scope of rented land on a global level, data on the European Union show that in some countries, rental agreements represent as much as 70% of agricultural area. However, rental relations are not comparable to ownership relations in terms of the quality of the agricultural land. Duke et al. (2004) describe the agricultural land market in Slovakia. Traded land plots are smaller than 5 ha. and are of a low quality. It is very difficult to obtain information on transactions pertaining to land, as they are registered by cadastral authorities. This information is protected by laws on the protection of privacy that are very strict. Agricultural land markets are very weak and market prices of land are undervalued. For example, the interest rate from savings exceeds the rate of return from agricultural land. That leads to a low demand for agricultural land and it is very difficult to use agricultural land in order to secure an investment loan. That sends the signal onto the agricultural land market the signal that land is perceived as a disadvantageous investment. The authors of the article criticize the fact that the basis for the calculation of taxes is official (administrative) prices and not market prices. It is a matter for consideration whether one can agree with the authors when they criticize high fees for the transfer of land for non-agricultural use and do not agree with legal regulations that complicate foreign ownership of land. They consider them to be types of interventions that explain the inelasticity of the land market and the low prices of agricultural land. Marks-Bielska (2013) focuses on the agricultural land market in Poland. Farming in Poland is carried out on private and family farms (84.84%). In addition, 80.34% of surveyed farmers in the study by Marks-Bielska confirmed that they will pass their land on to their children or grandchildren. The motifs presented

by the lessees and purchasers of agricultural land are the following: (1) the desire to establish a new farm or to expand a current one, or, (2) investments in regard to the anticipated increase in prices of agricultural land, and (3) in order to obtain aid from EU funds. Nevertheless, after 1989, the agricultural land market was formed through factors such as primarily the following: respect for the land as a multifunctional factor of production, the support of ownership rights to land which are a significant precondition for increases in the effectiveness of farming on agricultural land and the possibility of integration into the EU.

Ryan et al. (2001) emphasize that direct payments have a positive effect on the amount of rent, as they increase the revenue from agricultural production. That increases the demand for agricultural land. A differing opinion is presented in the Czech Republic by Vigner (2011). Vigner states that aid is a part of revenues and thus has a significant effect on the creation of net added value, income and profit of a business. The inclusion of aid into revenues increases the rental effect and thereby also the tax on the land, which is derived from the official price in the Czech Republic.

Material and Methods

The article utilizes the basic methods of research, such as analysis and synthesis of documents, the study of secondary data: the Income Tax Act No. 586/1992 Coll., as amended, Act No. 151/1997 Coll., on the Appraisal of Assets including annexes with estimated pedologic-ecological units and assigned official prices.

Further, research reports of the Institute of Agricultural Economics and Information (IAEI) in the area of the analysis of the production capability of land in the Czech Republic from the period of 1998-2004, the database of the Czech Statistical Office (Agrocensus), the database of IAEI (FADN), were utilized. Were processed data from the database of the Creditinfo Company Monitor, (Collected by Creditinfo Czech Republic, s.r.o.; data in the years 2006 – 2010)

The authors of the article utilize the assumption that resources for the purchase and maintenance of the production capability of land, primarily of arable land, can be created through the effective utilization of tax savings, for example by way of items deductible from the tax base.

In order to ascertain the period for which the investment expenditure will be gradually applied, the correlation according to Valach was used:

$$T = \frac{I}{NRRE} \quad [year] \quad (1)$$

T Return time on the investment

I Investment expenditure for purchase of land

NRRE Net annual rental effect = HRRE – income tax

The gross annual rental annual (HRRE) represents the difference between the normative value of production from a hectare in CZK with the given structure of crops and the given hectare yields and the sum of normative inputs for their production. HRRE is utilized in the correlation because there is a direct proportion between it and the official price of agricultural land (OPL). OPL is established on the basis of the capitalization of a normatively determined HRRE of agricultural land. (ŠTOLBOVÁ, 2004).

The land rate (R_{land}) was calculated as the inverse value to the value of the investment return time:

$$R_{land} = \frac{1}{T} \quad [%] \quad (2)$$

R = Proposed “tax-land rate”

T = Investment return time [years]

The amount of the item deductible from the tax base of farmers who are individuals and legal entities X_{land} is derived from the proposed tax-land rate (R_{land}).

$$X_{land} = R_{land} * PL_c \quad [CZK] \quad (3)$$

X_{land} Item deductible from tax base

R_{land} Proposed “tax-land rate”

PL_c Average official price of agricultural land for the cadastral area

Tax savings (TS)

$$TS = X_{land} * \text{tax rate for income of legal entities and individuals} \quad [CZK] \quad (4)$$

Legal entities = businesses according to Act No. 513/1991 Coll., the Commercial Code, as amended; Income tax rate for legal entities = 19% p.a.

Individuals = agricultural businesses according to Act No. 252/1997 Coll., on Agriculture, as amended, and individuals conducting business in agriculture

on the basis of a trade licensing authorization – Act No. 455/1991 Coll., the Trade Licensing. Income tax rate for individuals = 15% p.a.

Income Tax Act No. 586/1992 Coll., as amended.

Results and Discussion

In the Czech Republic, 76.7% of agricultural land is rented (CSO, 2012a). The ownership relationship to land ensures a manner of farming in consideration of the quality and protection of agricultural land, and thus it is necessary to strengthen new ownership relations in regard to land. In 2010, the Supporting and Guarantee Agricultural and Forestry Fund (SGAFF) supported the purchase of 2,790 ha of non-state agricultural land. (MOA, 2010). The amount of aid funds pertains to only 2.64% of traded agricultural land. It is appropriate to seek constantly new alternative aid solutions in view of the fact that financial situation of farmers is negatively affected by the following factors:

- (1) Until 2010, the State Agricultural Intervention Fund (SSIF), as part of direct aid, paid out “National Supplementary Payments for Direct Support (Top-Up)” for agricultural land. For 2012, National Supplementary Payments (Top-Up) were cancelled by Cabinet Decree No. 107/2012 Coll. and replaced with “specific support according to Article 68 of Council Regulation (EC) No. 73/2009. “Specific support” does not pertain to agricultural land. (EU Council, 2009)
- (2) The reduction in tax benefits of agricultural business relates to the planned change in the maximum threshold for tax expenditures of businesses. As of now, agricultural businesses utilize 80% of applicable expenditures from the value of income. Such value will likely be decreasing in the future.
- (3) As of now, farmers in the Czech Republic pay only 40% of the consumption tax on the price of fuel. In 2013, the paid consumption tax will increase to 60%. In plant production, for the analyzed year 2010, 85.71% of consumed diesel is consumed in agriculture. The Czech Republic does not decide alone on the amount of the consumption tax in the case of diesel in agriculture. Discussions regarding the cancellation of the subsidy on the consumption tax will take place in accordance with the rules of the EU (MOA, 2012).

- (4) A further general negative feature in agriculture is wage disparity. The overall economic revival in 2010 was also reflected positively in agriculture; wage growth slightly exceeded growth in industry as well as in the national economy. Nevertheless, wage disparity only got up to 77% of the national economy (CSO, 2012b).
- (5) Wage disparity is reflected in the decline in the number of agricultural entities in the Czech Republic. Just in the period from 2000 to 2010, the number of agricultural entities decreased from 26,539 to 22,864 entities, whereby only in the group of individuals the decline was enumerated at 3,933 entities (CSO, 2012a).
- (6) In terms of quantity, there is a decline of approximately 5 ha. of quality agricultural land per day, without pressure being exerted on the part of the state for the utilization of “brownfields” and reserves in urban city areas. Correctly set standards for agricultural practice, e.g. by way of direct payments and tax benefits, can affect the negative development not only (1) in the jeopardizing of agricultural land by erosion, which is currently at a level of approximately 50% for arable land, but also (2) in the stopping of the decline in the amount of quality agricultural land (MoA, 2010).
- (7) With the correct technological procedure, agricultural land is not depreciated and therefore there is no reason to amortize it. The business entity thus does not have the opportunity to include an investment for the purchase of agricultural land gradually into costs and thus lower the tax base.

In order to maintain self-sufficiency in the food area in the Czech Republic and for the growth of export of agricultural commodities, it is appropriate to support interest in agricultural business. This

statement must also be understood in connection with the growing world demand for food.

1. Proposal of Items Reducing the Income Tax Base

1.1. Proposal of Calculation of Basic Tax-Land Rate (R_{land})

One of the options of how to support the purchase and protection of agricultural land and also positively reflect such fact into the area of income tax, is to apply expenditures for the purchase of agricultural land in items deductible from the tax base. In current legal practice, the acquisition price of land becomes a one-time tax cost only upon its sale (Art. 24(2)(t) of the Income Tax Act).

In the theoretical section of the proposal, the period for the possible application of expenditures associated with the purchase of land is calculated. An annual tax rate is proposed – a “tax-land rate - R_{land} (%)”.

The calculation is based on the assumption that the sought return time will at least correspond to the average investment expenditure return time on the acquisition of agricultural land. The investment expenditure is set in the amount of the official price of land in such a way so that it correlates to the production capability of the land. It is paid from the net normative effects (NRRE) created through agricultural activity. The solution utilizes the official price of land which is derived from the estimated quality of the agricultural land. That allows for the objective establishment of the amount of the deductible item for the specific case.

The investment return time was established from the average official price for the cadastral area of CZK 61,849/ha and the average NRRE = CZK 2,010/ha. The calculated time $T_1 = 30.77$ years was, for the purposes of the methodical procedure, adjusted to a time of $T_2 = 30$ years. From the average official price

Average official price (PL_c)	NRRE	Calculated time T_1	Adjusted time T_2	Tax-land rate R_{land}
[CZK/ha]	[CZK/ha]	[year]	[year]	[%]
(a)	(b)	(c) = (a)/(b)		
61 849	2 010	30.77	30	3.3

Source: Own processing according to:

- 1) Average official price of agricultural land for the cadastral area $PL_c = CZK 61,849/ha$ (MoA, 2010, p. 77)
- 2) $NRRE = HRRE * (1-D)$; Income tax rate $D=19\%$; average $HRRE$ in the Czech Republic = CZK 2,482/ha (Voltr, 1998)
- 3) T [year] - Method: correlation /1/
- 4) R_{land} [%] - Method: correlation /2/

Table 1: Proposal of calculation of annual “Tax-Land Rate” - R_{land} (%).

of CZK 61,849/ha, accepting the return time of 30 years, it is possible to apply 1/30 of the investment expenditure annually as a deductible item. That corresponds to 3.3% of the average official price of the land per year. $R_{land} = 3.3\%$ is understood as the tax-land rate that will be applied in the calculation of the amount of the item deductible from the tax base for acquired arable land.

The proposal works with the notion that the tax-land rate for permanent grass lands should be zero (Table 2). The subsidy policy of the EU implements a great number of programs for the maintenance of permanent grass lands with the goal of the implementation of the non-production functions of agriculture. SAPS¹, subsidies into LFA (Less Favored Areas), for agro-environmental measures, into ecological agriculture and for protected lands within the “Natura” program are paid out for the maintenance of permanent grass lands. Financial aid from EUR 154.49 to 806.49/ha. can be obtained for permanent grass lands. For arable land, the resources are in the amount of EUR 154.49 – 329.05/ha. (SSIF, 2012). The substantial funds for the maintenance of permanent grass lands then also represent a significant part of the economic result of agricultural enterprises for such areas (FADN, 2010).

The proposal works with the option that the item deductible from the tax base will be utilized by each

¹ In new member countries, a simple (unified) single area payment scheme is utilized (SAPS). The amount of the payment is calculated for each state on the basis of agricultural production.

new acquirer of land according to the estimated quality of the land.

1.2. Calculation of Item Deductible from Tax Base for Individuals and Legal Entities and Its Effect on Tax Savings of Businesses

If an agricultural business applies the item deductible from the tax base (economic result), its average tax savings, converted to 1 ha. of arable land, will be as follows (Table 3).

The average annual tax savings of individuals after the application of the proposed item deductible from the tax base is CZK 306 CZK/ha and CZK 388/ha for legal entities.

It is appropriate to compare the results with other aid paid out per hectare of agricultural land. In 2011, the Czech Republic cancelled national supplementary support on agricultural land in the amount of CZK 514.10/ha. The application of deductible items would be a corresponding compensation for owners of arable land. It would be appropriate to allocate resources obtained in the proposed manner back into agricultural land.

1.3. Effect of Proposed Tax Savings on the Income of the State Budget of the Czech Republic in 2010

Variant No. 1: Tax Measures Pertain Only to Newly Implemented Transactions in Regard to Arable Land.

The application of the item deductible from the tax base for individuals and legal entities will reduce

Type of land	Type of rate	Tax-land rate R_{land}	Adjusted time T_2
		[%]	[year]
Arable land; land of vineyards, hop gardens and fruit grove	basic	3.3	30
Permanent grassland, other area	-	0	0

Source: Authors

Table 2: Proposed tax-land rate (R_{land}) according to the adjusted return time (T_2).

Entrepreneur	Average official price (PL_c)	Item deductible from tax base (X_{land})	Tax savings (TS)
	[CZK/ha]	[CZK/ha]	[CZK/ha]
	(a)	(a)* R_{land} = (b)	(b)* income tax rate
Individuals	61 849	2 041	306
Legal entities	61 849	2 041	388

Source: Own processing according to:

- 1) Average official price of agricultural land for the cadastral area $PL_c = CZK 61,849/ha$ (MoA, 2010, p. 77)
- 2) R_{land} [%] = 3.3% p.a. – Method: correlation /2/
- 3) X_{land} [CZK/ha] – Method: correlation: /3/
- 4) TS [CZK/ha] – Method: /4/
- 5) Income tax rate for individuals = 15% p.a, income tax rate for legal entities PO = 19% p.a

Table 3: Tax savings (TS) of agricultural businesses in 2010.

the income into the state budget of the country from business entities that:

- a) carry out the purchase of agricultural land in cash or by way of a long-term investment loan,
- b) apply costs both in the actual amount (Income Tax Act, Art. 23 to 33), as well as by way of a flat deduction (Income Tax Act, Art. 7(7)).

In 2010, 105,838 ha were traded, i.e. approximately 2.5% of the agricultural land fund. Of that, 27,582 ha of state land were sold for an average price of CZK 5.99/m². The SGAFF supported, within the program “Purchase of Land”, transactions having a volume of 2,790 ha. of land for an average price of CZK 9.53/m². Other purchased land was, according to the representative inquiry of the Institute of Agricultural Economics and Information (IAEI), conducted for CZK 9.65/m². The average selling price of agricultural land was calculated by way of the weighted average, in the amount of CZK 8.65/m² (MoA, 2010). In 2010, arable land was represented in the conducted transactions with 63 percent (IAEI internal inquiry, 2012). The Czech Surveying and Cadastral Institute does not state the type of acquirer within the analyzed transactions in regard to agricultural land (individual or legal entity). A sectional survey among 5 districts conducted by the IAEI based on purchase agreements shows that agricultural legal entities purchased 30% of traded land, on average, within the 2008-10 period. This

percentage representation was used in the estimate of changes of income within the state budget of the Czech Republic (Table 4).

In the event that the tax obligation of all individuals and legal entities is greater than 0 and in the event that business entities apply tax savings associated with the acquisition of agricultural land, income for the state budget will decrease by CZK 30.9 mil. In terms of restricting the expenditures of the state budget and seeking out new and additional income, every proposal reducing the income into the state budget is difficult to push through. However, a reduction in the income in variant no. 1 comprises only 0.2% of subsidies paid out from the resources of the Czech Republic into agriculture (MoA, 2010).

Variant 2 – Application of the Proposal to All Arable Land Owned by Individuals, Legal Entities

Variant No. 2 represents a more significant reduction in the income for the state budget, but is more comprehensive in terms of the significance for agriculture. It includes business entities that have acquired arable land:

- a) through a purchase from their own or others’ resources (investment loan),
- b) within the transformation of agriculture and conduct business activity,
- c) by way of inheritance or gift and conduct

Item deductible from tax base						
Area of traded arable land	Selling price of agricultural land	Price traded of arable land (total)	Tax-land rate (R _{land})	Item deductible from tax base (X _{land})		
				Total /100%/	Individuals /70%/	Legal entities /30%/
[ha]	[CZK /ha]	[thousand CZK]	[%]	[thousand CZK]	[thousand CZK]	[thousand CZK]
(a)	(b)	(a) * (b) = (c)	(d)	(c) * (d) = (e)	(e) * 0.7 = (f)	(e) * 0.3 = (g)
66 677.94	86 500	5 767 642	3.3	190 332	133 233	57 100
Reduced income into the state budget						
Income tax rate for individuals		Income tax rate for legal entities		TS for individuals	TS for legal entities	TS (total)
				(f) * 15% = (j)	(g) * 19% = (k)	(j)+(k)
[%]		[%]		[thousand CZK]	[thousand CZK]	[thousand CZK]
15		19		19 985	10 849	30 934

Source: Own processing according to:

- 1) Area of traded arable land = 66,677.94 ha (63% of the traded 105,838 ha of agricultural land. (V. Jelinek, IAEI survey, 2012; MoA 2010))
- 2) Selling price of agricultural land for the year 2010 established by way of a weighted average: CZK 86,500/ha
- 3) X_{land} [CZK/ha] – method correlation /3/
- 4) TS [CZK/ha] – method correlation: /4/

Table 4: Effect of proposed changes on income of state budget 2010 – variant no. 1.

business activity thereon.

In variant no. 2, official prices of agricultural land from tax returns for the year 2010 are used, according to surveys by the CSO. The prices set out in tax returns are governed by the Ordinance of the Ministry of Agriculture No. 427/2009 Coll. – List of Cadastral Areas with Assigned Average Prices of Agricultural Land. With the implementation of the proposal, the owners of arable land have similar tax benefits in comparable production conditions. The same starting conditions are also established for those who acquired land in previous periods for a reduced price. Table 5 sets out the amounts of tax savings of farmers that, at the same time, represent the amount of financial resources by which the income into the state budget will be reduced.

Table 5 contains the theoretical change in the amount of paid taxes, as the basis is the assumption that the tax savings will be applied by every business. Individuals and legal entities paid CZK 1,992 mil. in income tax into the state budget for the year 2010 (MoA, 2010). The total tax savings with the utilization of the average official price (2010) is theoretically in the total amount of CZK 168.090 mil. (8.44% of the paid tax). With the value of annual income tax paid by individuals into the state budget being in the amount of 444 mil., individuals can theoretically reduce their tax obligation by CZK 83.469 mil. (18.79% of the paid

income tax). In 2010, legal entities paid income tax in the amount of CZK 1,548 mil. into the state budget. The implementation of the proposal would save them CZK 84.622 mil. in income tax (5.47% of the paid tax). With the application of items deductible from the tax base for businesses owning arable land, the state budget will reduce its tax income by a maximum of 168.090 mil. This value comprises 1.14% of agricultural subsidies paid from the Czech budget for the year 2010.

In order to optimize the conclusions, the Creditinfo database (data for the years 2004-2010) was used, which enables one to obtain a set of businesses for which the proposals are realistic. The database for that period contains a total of 16,605 agricultural legal entities (for example, in the year 2004: 1,789 entities; in the year 2005: 1,946 entities; 2008: 2,677 entities; and, for example, for the year 2010, the database contains 2,360 agricultural legal entities). In 2010, 3,083 legal entities were registered in agriculture (CSO, 2012a), and therefore the inclusion of legal entities in the database for individual years is considered to be sufficiently representative. Out of the analyzed 16,605 entities, according to the available accounting statements, 3,751 entities had a zero due legal entity income tax, which represents 22.59%. We can thus say that the proposed measures pertain to 77.4% of legal entities that pay income tax into the state budget.

Item deductible from tax base						
Entrepreneur	Acreage owned arable land	Official price of agricultural land (PL _c)	The average value of owned land	Tax-land rate (R _{land})	Item deductible from tax base (X _{land})	
					Individuals	Legal entities
	[ha]	[CZK/ha]	[thousand CZK]	[%]	[thousand CZK]	[thousand CZK]
	(a)	(b)	(a) * (b) = (c)	(d)	(c) * (d) = (f)	(c) * (d) = (g)
Individuals	272 637	61 849	16 862 326	3.3	556 457	
Legal entities	218 213	61 849	13 496 256	3.3		445 376
Reduced income into the state budget						
Income tax rate for individuals	Income tax rate for legal entities		TS for individuals	TS for legal entities	TS (total)	
			(f) * 15% = (j)	(g)*19% = (k)	(j) + (k)	
[%]	[%]		[thousand CZK]	[thousand CZK]	[thousand CZK]	
15	19		83 469	84 622	168 090	

Source: Own processing according to:

- 1) Farmed agricultural land (CSO, 2012a)
- 2) Average official price of agricultural land for the cadastral area PL_c = CZK 61,849/ha (MaA, 2010, p. 77); used for the valuation of arable land owned by individuals and legal entities.
- 3) X_{land} [CZK/ha] – method correlation /3/
- 4) TS [CZK/ha] - method correlation /4/

Table 5: Effect of proposed changes on income of the state budget 2010 – variant no. 2.

The theoretical tax savings for legal entities can thus be reduced from CZK 84.622 mil. to the real value of CZK 65.497 mil.

The analyzed sample of tax entities from the sphere of individuals, acquired by way of surveying individual financial authorities in Czech Republic, is not representative enough to the extent that its results could be used for conclusions. However, the partial results show that income tax on individuals is paid by approximately 44% of entities in Czech Republic.

2. Proposal of Changes in Terms of Subsidies That Are Included in Revenues of Agricultural Businesses

If we assess the economic significance of agriculture as a sector of the national economy, i.e. its share in the GDP, then all of the profit of this “clean sector” is generated by way of agricultural land. The current system and the manner of the provision of aid in agriculture distorts, to a great extent, the actual situation also in terms of the value of land and thereby its rational utilization and protection. Aid, whether on a Union level or from national resources into agriculture, is a part of revenues and thereby affects net added value in agriculture, income and profit. Aid into agriculture is a significant item for the balancing of disparities and social differences in relation to other sectors of the national economy. However, in terms of agricultural land, this manner only balances out the differences in the production capability of land, but does not deal with the issue of the protection of agricultural land. A typical example is payments per area, so-called SAPS, which could be rationally utilized in agriculture in terms of the protection of the agricultural land fund. Aid for farmers should be utilized in the full amount, i.e. it should not

be included in revenues and thus taxed twice. By aid being included in revenues, taxes on land are also increased at the same time and thereby also rent (Vigner, 2011). It is not right for the state to take away a part of subsidies in this way in the form of tax on income, which is often achieved in agricultural businesses only thanks to subsidies.

In order to demonstrate the proposal, direct SAPS support, paid out per 1 hectare of agricultural land, was selected. The intention is to exempt from taxation that aid which directly relates to agricultural or arable land. It is appropriate to allocate financial resources from such acquired opportunities back into the land in such a way so that the production capability of agricultural land does not decrease. Land cannot be made and the long-term strategy of every state should be its protection and maintenance for future agricultural utilization.

In the event of the exclusion of SAPS from taxation, a financial resource in the amount of CZK 609-772/ha is created, according to the type of business. The theoretical decrease of the income for the state budget as a result of proposed tax benefits for farmers owning arable land is CZK 334.4 mil. This value comprises 2.26% of agricultural subsidies paid from the Czech budget for the year 2010.

Discussion and Conclusion

Approximately 77% of agricultural land in the Czech Republic is rented. Such fact affects the approach of farmers to the protection and effective utilization of agricultural land. The proposed tax instruments can enable the creation of partial resources that can make agricultural businesses more effective and create funds for the support of

	Arable land	SAPS/ha of agricultural land	Income tax on direct aid SAPS	Income on the state budget from SAPS (Arable land)
	[ha]	[CZK/ha]	[CZK/ha]	[thousand CZK]
	(a)	(b)	(b) * Income tax rate = (c)	(c) * (a)
Acreage owned arable land (individuals)	272 637	4060.8	609	166 069
Acreage owned arable land (legal entities)	218 213	4060.8	777	168 363
Total	490 850			334 432

Source: Own processing according to:

- 1) Farmed agricultural land (CSO, 2012a)
- 2) Tariff SAPS/ha (The state agricultural intervention fund, available: www.szif.cz)
- 3) Income tax rate for individuals FO =15%, income tax rate for legal entities =19%

Table 6: Income tax on direct aid SAPS and the effect on income on the state budget for the year 2010.

the quality of agricultural land.

The defined objective was achieved by way of proposing a methodical procedure for the deriving of the annual land rate (R_{land}) in the amount of 3.3% for a period of 30 years. For such period of time, a tax benefit can be applied (Table 2). On the basis of such land rate and average official land prices the amount of the item deductible from the tax base of agricultural businesses was established. The application of deductible items would create tax savings per one hectare of arable land in the amount of CZK 306-388 depending on the type of business entity (Table 3). In view of the amount of the calculated savings, it is necessary to view such resource as only one of the partial resources coming into agriculture. In the event that direct aid, paid out per 1 hectare of agricultural land (SAPS), will not be taxed, the tax savings per one hectare of arable land will be increased by a further CZK 609-771/ha. (Table 6).

The funds gained by way of the proposal appear to be compensation for the cancelled TOP-UP payments for agricultural land in the amount of CZK 514.10/ha., paid out in the Czech Republic until 2010. At the same time, the created resources are also capable of covering a part of some material costs expended for agricultural production. For example, the consumption of purchased fertilizers for the year 2010 was in the amount of CZK 1,949/ha. (FADN, 2010).

The application of the land rate in the amount of 3.3% would, in the said example of the year 2010, theoretically create a reduction in the income of the state budget in the amount of CZK 168.090 mil., which constitutes 1.14% of agricultural subsidies paid from the Czech budget for the year 2010. (Variant no. 2, Table 5).

A reduction in the income for the state budget of the Czech Republic, upon the acceptance of both tax proposals, would, in aggregate, theoretically mean a maximum of CZK 503.5 mil., which represents a new partial resource of funds aimed at businesses that own arable land. (Table 5, Table 6).

By way of our own investigation according to the Creditinfo company database, it was established that the tax savings could be achieved for 77.41%

of agricultural legal entities that pay income taxes into the state budget.

The proposal of the authors can be a benefit for another reason as well. Because of the fact that the presented tax savings are not of a cost nature, they do not affect the assessment basis for the calculation of social security and health insurance, and thereby the amount of levies for social security and health insurance into the state budget is not affected either.

Trends within recent years show that worldwide losses of agricultural land and natural disasters cannot be sufficiently compensated in the future through the intensity of agricultural production, which also has its limits. In a short time, the situation in terms of supply and price of agricultural commodities can be opposite. The proposals for dealing with such a situation, contained in the article, are based on current trends, which means that aid that is provided to farmers for extensification in areas where agricultural land fulfills non-production functions can soon be necessary in order to maintain the production function of agriculture. The proposals in this article take into consideration such development which cannot be taken care of immediately, but rather needs to be dealt with a certain time in advance. Therefore, going forward, the examined issue can be dealt with, for example, on the basis of a change in the legislative framework, pertaining, for example, to the leasing of agricultural land. In the Czech Republic, the leasing of land is only conducted in the form of operative leasing. The purchase of agricultural land could be conducted not only in the form of a long-term loan, but by way of financial leasing (long-term renting). Leasing installments would thereby be reflected in tax-deductible costs. The conditions for the application of leasing in the purchase of agricultural land would thereby be adjusted so as to be in line with other long-term tangible assets purchased by way of leasing.

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