

LIQUIDITY AND STABILITY OF AGRICULTURE IN THE CZECH REPUBLIC*

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This article is based on empirical research and 2007–2012 statistical data from joint stock companies which were active in the agriculture sector of the Czech Republic. It deals with the wider aspects of liquidity and stability using suitable liquidity indicators and a vertical financial analysis over a sufficient period of time providing valid results for assessing liquidity and stability of agriculture in relation to cyclic fluctuations. The vertical financial analysis was performed to determine the liquidity structure at current assets and short term debts. Then convenient indicators of current ratio, quick ratio, and cash ratio were applied and interpreted in relation to cyclical deviations and agriculture specifics. From the viewpoint of liquidity measured using the current ratio, agriculture in the Czech Republic is stable and the current ratio values bear witness to solid liquidity, whereby the short-term assets exceed the short-term external funds. Research is to show whether the agriculture sector is liquid and whether the liquidity indicators provide the basis for solvency in the given field.

financial analysis, current assets, short term debts, current ratio, quick ratio, cash ratio



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INTRODUCTION

At present, the agriculture sector is under examination from several different points of view. The current knowledge is not only oriented towards the efficiency of enterprises, but mainly towards their stability and liquidity. It is not only about whether the given economic sector is efficient, but whether the given efficiency is sustainable. The basic foundation for the maintenance of efficiency is liquidity, the foundation stone of which is solvency, without which it would not be possible to maintain an enterprise as a going concern. The present authors have decided to investigate the area of liquidity with regard to the critical period of the financial and economic crisis with the aim

of revealing the stability of the agriculture sector in relation to cyclic fluctuations in the years 2007–2012. The goal was to investigate stability of the agriculture sector via its liquidity in the years when the entire economy experienced a slowdown. The authors have examined the liquidity indicators, specifically the most common liquidity indicators such as the current ratio, the quick ratio, and the cash ratio with regard to the Czech accounting standards, the specifics of the agriculture sector, and the issues of the Czech economic environment. The authors have followed up on their previous research concerning the significance of the structure of current asset liquidity entries (see Lánský, Mareš, 2015), where the significance of the liquidity structure was emphasized from the

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viewpoint of the important possible default indicators, and on the research by Mareš (2014) where a suitable liquidity measuring methodology was selected.

A chain crisis began in the financial markets in the USA in the summer of 2007. The first phase of the transition of the crisis to the Czech Republic took place in the period from August 2007 to September 2008, but with a minimal impact on the Czech economy (Řezábek, 2009). Řezábek (2009) stated that the second phase of the crisis took place in the period September–November 2008 and it affected the Czech Republic's financial system 'by means of a regional fall in trust'. However, the transition of the crisis from the financial sector overseas to the real economy overseas has had and will have consequences for the real economy in the Czech Republic. The growth of the Czech economy up to the third quartile (3Q) 2008 gradually slowed and a significant turning point occurred in 4Q 2008; according to the Czech Statistical Office the growth was only 1.0% (Řezábek, 2009).

The present study is based on the earlier investigation into the issue of liquidity and solvency by Mareš (2014). Liquidity can be defined as the ability to cover one's short-term debts with short-term assets. The issue of liquidity only focuses on the short-term horizon, which means that is associated with short-term assets and liabilities (Mareš, 2014). Solvency, on the other hand, means the ability to satisfy one's liabilities (short-term external funds) at a given moment. Solvency is therefore closer to the issue of cash flow (Mareš, 2014).

The benefit of examining the liquidity indicators for the entire agriculture sector lies in the fact that it enables the comparison of the results of individual enterprises with a representative for the entire sector, as well as mutual comparisons between companies, and it also refers to the stability of the given sector and its liquidity. The authors are aware of the limiting factors of the statistical variables in the accounting statements (see Blaha, Jindřichovská, 2006) and of the disparities in the concepts of liquidity and solvency and in the contents of the individual liquidity indicators (see e.g. Synek, 2014).

The issue of liquidity has been dealt with from a methodological point of view by Mareš (2014), who indicated how to correctly define solvency and liquidity with regard to the Czech environment and the Czech accounting standards and how to calculate the liquidity indicators. The study by Tóth et al. (2013), concerning with the area of benchmark values for liquidity ratios in Slovak agriculture, is a significant empirical study. Using descriptive statistics, the authors described the liquidity performance of more than 1100 enterprises in the period 2004–2011. However, they did not concern themselves with the situation in the Czech Republic and their study does not take into account reporting in the Czech Republic. The present authors differ from Tóth et al. (2013) in

the use and contents of the liquidity formulae. While Tóth et al. (2013) used the term 'current assets' to include at the same time long-term receivables, we consider long-term receivables to be an entry which should not be taken into account, because the other *current assets* or *current liabilities* entries are all short-term, i.e. payable within one year. Nevertheless, the article by Tóth et al. (2013) does not concern itself with the area of stability and with the relationship of agriculture to cyclic fluctuations. It does mention the significance of examining liquidity in a wider context, but does so without any direct connection to cyclic fluctuations and only for small-scale farming (Fenwick, Lyne, 1999). The results suggest that liquidity is important, while imperfect land markets, information costs and high transaction costs are also significant inhibiting factors. Investments in literacy and language skills, vocational training and business and financial management skills may improve income opportunities for rural people and hence enhance their ability to invest, save and borrow (Fenwick, Lyne, 1999). Madden (2000) analyzed the issue of liquidity of farmers in association with bank loans, household consumption, and capital expenditure. Another study dealing with the issue of agriculture in a wider context and proposing a solution which in our opinion would have a significant impact on the liquidity and extension on the solvency of small and medium-sized farmers is by McMichael (2013). The author stated that a long-standing agrarian crisis of the neoliberal era, punctuated by the global 'food crisis' of 2007–2008, has recently focused development agency attention on incorporating smallholder products into commercial outlets to expand global food supplies. A key instrument proposed to achieve this goal is 'value-chain agriculture', designed to connect producers to markets (McMichael, 2013). Similar statements can be found in the study by Madden (2000) called 'Ag finances improve, but farmers still struggling'. The authors are aware of the specifics of the agriculture sector. As mentioned by Poláková et al. (2015), agri-business is often very diversified and can be concerned with the whole range of agricultural output: the ownership of land, the agricultural production process, the manufacture of agricultural machinery, the processing of the product, and its shipment. This sector has many specifics which need to be taken into account. Russell, Langemeier (2015) also pointed out that the agriculture sector is characterized by investment in expensive and highly-specialized equipment. The Russian agriculture sector was analyzed by Bezlepkiná, Lansik (2003) in a significant study dealing with the impact of both production (land, labour, capital, materials) and financial (debts and budget transfers) determinants on the productivity. However, the authors of this article have adopted a position on liquidity based on its short-term nature, i.e. maturity within one year, but they are also

aware that liquidity is an expression of indebtedness in the short-term horizon and that agriculture is a specific sector. 'Agriculture is a unique sector, because it is associated with negative outcomes stemming from imperfectly predictable biological and climatic variables. These variables include natural adversities (for example, pests and diseases), while climatic factors are not within the control of agricultural producers. So in agriculture it is very important to identify and evaluate risk, only then decisions made in farm will bring profit and other positive results' (Gírdžič, 2012).

Subsidies are of high importance in evaluating liquidity and stability, they are considered an efficiency indicator (e.g. Vlačíková, Nágllová, 2015). Tóth et al. (2014) also discuss the efficiency. Bojnec, Latuffe (2011) deal with the effects of subsidies on finance, liquidity, and stability: 'Further analyses reveal a non-significant impact of investment subsidies received by farms, but a positive impact of operational subsidies for small farms only, on the alleviation of financial constraints'.

As mentioned above, liquidity is a cornerstone for maintaining efficiency of an enterprise and for solvency. Efficiency of an enterprise is projected in results of a management and it can differ according to regions and business of agricultural enterprises. Losová, Zdeněk (2014) stated that the dependence of a management result on subsidies is highest in mountain Less Favoured Areas (LFA). Enterprises focused on arable farming are the least dependant on subsidies but their management results are most affected by other external management conditions, mainly by climatic conditions and prices development.

The present authors are aware of the risk from the viewpoint of insolvency which would be caused by a low or instable liquidity, but at the same time also of the fact that low liquidity may also be caused by low efficiency in the individual agriculture sectors. According to Vlačíková, Nágllová (2015), the economic situation of organic farmers (but not biodynamic farmers) is more favourable than the economic situation of conventional farmers.

MATERIAL AND METHODS

The use of suitable liquidity ratio indicators for agriculture with regard to the Czech environment, the specifics of agriculture, and the Czech accounting standards has been arrived at on the basis of a comparison of the previous research and with regard to the issue at hand. These ratio indicators, including their structure, were then tested on the statistical cohort of the agriculture sector in a suitably long time period which has a sufficient predicative ability in relation to the used statistical method. This was based on statistical data which is available in the commercial registers via the Bísnode (2015) database. Therefore

the used data may be considered sufficiently valid with regard to the research into stability and the time period when the cyclic development took place. The methods of investigation may be considered using the indicators to be sufficient in relation to the previous research undertaken by other authors (see Blaha, Jindřichovská, 2006; Syněk, 2014; Lánský, Mareš, 2015, and others).

Based on the Czech Accounting Standards No. 563/1991 Coll. the companies in the Commercial Register should publish their financial statements. The financial statements are published by being filed in the collection of documents and since 2006 must be submitted in electronic form. A company may be fined for the failure to publish its financial statement.

The legal obligation to annually publish financial statement is neglected or partially neglected by a number of enterprises. The enterprises either do not hand in their financial statement at all or they hand it without important data. As stated by Lánský et al. (2015), the situation of legal form enterprises is different. Joint-stock companies are the best. Up to 70% of them have handed in the financial statement at least once. Totally 87% of joint-stock companies in agriculture, forestry, and fish farming sectors have handed in the financial statement at least once. The situation of other legal forms is bad to such extent that accessible data lack any information value on the given segment of enterprises. For the purpose of this study, only the enterprises handing in a correctly filled-in financial statement for 6 subsequent years were acceptable. For this reason, just joint-stock companies were dealt with.

We have analyzed the financial statements of joint stock companies in the agricultural, forestry, and fish farming sectors. This area is designated as Section A according to the CZ-NACE statistical classification of economic activities.

The Albertina database (Bísnode, 2015) downloads the financial statements from the collection of documents, processes them, and provides them in user friendly formats (such as .xls for MS Excel). The data acquired from this database were used throughout the present research. Before-tax values (due to different approaches of the economic units when creating adjusting entries) were used and financial statements containing irreparable errors were excluded for the purpose of our research.

The number of joint stock companies submitting financial statements in the individual monitored years 2007–2012 was 618–699. Totally 788 joint stock companies submitted the financial statements at least once during this period. In this study only data from the 430 joint stock companies, which submitted their financial statements each year of the monitored period, were analyzed. If we had included 2013 in our research, the number of analyzed companies would have fallen to half the current number and it was for this reason

Table 1. Descriptive statistics of current assets (in thousands of CZK)

		2007	2008	2009	2010	2011	2012
Current assets	average	56 622	59 258	55 946	54 334	59 416	62 367
	Q1	21 226	21 489	19 289	18 940	19 758	21 129
	median	41 193	42 044	38 420	38 007	40 450	41 068
	Q3	72 058	72 462	65 791	66 626	75 949	79 295
	maximum	699 853	651 295	571 626	687 521	694 350	727 599
Inventory	average	28 045	30 657	28 382	27 235	29 580	30 896
	% of CA	47.1	50.0	49.9	48.1	48.2	48.2
	Q1	9 715	10 585	9 043	8 451	8 496	8 633
	median	20 838	22 480	20 938	19 633	21 885	21 970
	Q3	36 933	40 317	36 390	34 593	39 569	39 936
Long-term receivables	maximum	349 917	349 014	243 532	286 452	328 729	348 092
	average	1 316	1 201	1 352	1 040	1 125	1 145
	% of CA	2.0	2.2	2.8	2.9	2.1	2.3
	Q1	0	0	0	0	0	0
	median	0	0	0	0	0	0
Short-term receivables	Q3	54	84	110	87	20	20
	maximum	71 633	92 429	139 155	49 025	50 380	54 700
	average	19 267	20 986	18 816	18 482	20 844	21 155
	% of CA	33.8	34.5	31.0	32.5	34.0	32.2
	Q1	5 813	6 125	4 820	5 090	5 297	5 462
Short-term financial assets	median	12 198	12 338	9 622	10 210	10 826	11 278
	Q3	21 705	22 061	18 002	18 861	22 609	23 940
	maximum	306 444	311 806	314 348	345 589	342 159	396 977
	average	7 992	6 413	7 395	7 575	7 865	9 168
	% of CA	17.1	13.3	16.3	16.5	15.7	17.3
Short-term financial assets	Q1	1 720	781	1 058	882	1 109	943
	median	4 854	3 020	3 574	3 342	3 498	3 810
	Q3	10 249	7 239	8 906	8 865	9 860	9 323
	maximum	72 822	156 843	70 022	89 305	97 970	159 582

Q = quartile, CA = current assets

source: authors' own calculations on the basis of available data (Bisnode, 2015)

that we did not include 2013 and the following years in the research.

In this study we have investigated current assets and current asset sub-entries, short-term debt, and three liquidity indicators: the current ratio, the quick ratio, and the cash ratio. We wanted to add more ratios such as the cash conversion cycle, inventory turnover, average collection period, average payment period, but we were limited by the scope and the maximal size of this paper. That is why we selected the most important ones (source: Mareš, 2014):

Current assets (CA) are equal to the sum of the inventory (I), long-term receivables (LTR), short-term receivables (STR), and short-term financial assets (STFAss) as expressed by equation (1).

$$CA = I + LTR + STR + STFAss \quad (1)$$

Short-term debt (STD) is equal to the sum of short-term bank loans (STBL), short-term liabilities (STL), and short-term financial aid (STFAid) as expressed by equation (2).

$$STD = STBL + STL + STFAid \quad (2)$$

All the three investigated liquidity indicators have STD in their denominators, but they differ in their numerators. The current ratio has the sum of I, STR, and STFAss in its numerator as expressed by equation (3). The quick ratio has the sum of STR and STFAss in its numerator as expressed by equation (4). The cash

Table 2. Descriptive statistics of the short-term debt (in thousands of CZK)

		2007	2008	2009	2010	2011	2012
Short-term debt	average	22 755	27 258	25 092	25 775	27 473	27 977
	Q1	5 603	5 989	5 913	5 830	6 066	5 717
	median	12 041	13 240	12 271	12 640	12 911	13 186
	Q3	23 505	27 042	24 818	27 262	27 192	28 673
	maximum	762 343	744 682	505 142	493 351	486 459	450 126
Short-term bank loans	average	4 936	6 310	6 387	5 332	5 931	6 076
	% of ST_D	12.1	13.0	15.7	14.5	15.7	15.8
	Q1	0	0	0	0	0	0
	median	0	10	246	106	165	289
	Q3	2 800	4 047	5 000	4 480	5 000	4 960
maximum	377 489	278 000	262 604	262 302	229 976	217 312	
Short-term liabilities	average	17 555	20 438	18 068	19 755	21 278	21 554
	% of ST_D	86.8	85.5	82.7	83.8	83.1	82.7
	Q1	4 782	5 179	4 632	4 393	4 759	4 707
	median	10 278	11 038	9 585	10 137	10 095	10 953
	Q3	19 724	21 536	19 367	21 781	21 646	21 764
maximum	384 854	481 563	233 174	304 207	391 522	400 344	
Short-term financial aids	average	264	509	636	688	263	345
	% of ST_D	1.1	1.5	1.6	1.7	1.2	1.5
	Q1	0	0	0	0	0	0
	median	0	0	0	0	0	0
	Q3	0	0	0	0	0	0
maximum	49 043	44 668	66 738	105 112	20 700	45 544	

Q = quartile, ST_D = short-term debt

source: authors' own calculations on the basis of available data (Bisnode, 2015)

ratio has the cash (C) and bank accounts (BA) in its numerator as expressed by equation (5).

$$\text{current ratio} = \frac{I + STR + STFAss}{STD} \quad (3)$$

$$\text{quick ratio} = \frac{STR + STFAss}{STD} \quad (4)$$

$$\text{cash ratio} = \frac{C + BA}{STD} \quad (5)$$

RESULTS

The analysis of the current assets was carried out. Initially, we calculated the average value of the individual sub-entries and subsequently also their relative frequency in relation to the sum entry.

Table 1 presents the average values of the individual entries of the current assets for joint stock companies from the agriculture, forestry, and fish farming sectors in the period 2007–2012. The stated values are in thousands of Czech crowns (CZK). The arithmetic means of the entries of the current assets from the individual 430 companies in the given year y were used for the calculation of the values in Table 1. Equation (6) has been used to calculate the average value of short-term receivables $\overline{STR}(y)$ in year y and the calculation of the other entries is analogous

$$\overline{STR}(y) = \frac{1}{430} \sum_{i=1}^{430} STR_i(y) \quad (6)$$

The line ‘% of current assets (CA)’ includes the average values of the shares of the individual entries in the CA in relation to the total CA. We initially calculated the relative shares of the values of the individual entries in the CA in relation to the overall

Table 3. Average values of liquidity indicators

	2007	2008	2009	2010	2011	2012
Current ratio	2.43	2.13	2.18	2.07	2.12	2.19
Quick ratio	1.20	1.01	1.04	1.01	1.04	1.08
Cash ratio	0.32	0.21	0.28	0.28	0.28	0.32

source: authors' own calculations on the basis of available data (Bisnode, 2015)

CA for the individual companies and we then calculated the average from the thus acquired values; an example of this calculation is presented in equation (7). This summary better reflects the average status of the individual companies than a weighted average of the values which we would have acquired by calculating the shares of the average values. Equation (7) provides the calculation of the average value of $\tilde{STR}(y)$ for the share of the short-term receivables (STR) in relation to current assets (CA) entry in year y . The calculations for the other entries are analogous.

$$\tilde{STR}(y) = \frac{1}{430} \sum_{i=1}^{430} \frac{STR_i(y)}{CA_i(y)} \quad (7)$$

Median is the 215th value out of 430 values, when we sort ascending all values of the given individual entry. Maximum is the 430th value, Q1 (first quartile) is the 108th value, and Q3 (third quartile) is the 322nd value. Minimum was omitted, because all minimal values were zero.

When comparing the median and the average, we found out that the CA volume went up or down without the influence of company size in the years 2007–2012.

The changes median and quartiles copy the average. On the basis the trends and changes of median and quartiles in given years, we assume that our results in the stock companies could be applied to other agricultural business forms.

Table 2 contains the average values of the individual short-term debt entries for joint stock companies from the agriculture, forestry and fish farming sectors in the period 2007–2012. The stated values are in thousands of CZK. The arithmetic mean of the values of the entries of the CA for the individual 430 companies in the given year served for calculating the values in Table 1. The calculation was analogous to the calculation given using equation (6).

The line '% of short-term debt (ST_D)' contains the average values of the shares of the individual ST_D entries in relation to the total short-term debt. We initially calculated the relative shares of the values of the individual short-term debt entries in relation to the short-term debt for the calculation of the values in the line '% of ST_D' and we then used the acquired values to calculate the average. An example of the calculation of this average is stated in equation

(7). Median, maximum, Q1, and Q3 were calculated analogously as in Table 1.

Table 3 contains the average values of three liquidity indicators (the current ratio, the quick ratio, and the cash ratio) for joint stock companies from the agriculture, forestry, and fish farming sectors in the period 2007–2012. When calculating the values in Table 3, we used equations (3), (4), and (5), in which the average values of the individual entries acquired in accordance with equation (6) were applied.

DISCUSSION

This paper proceeds from the authors' previous researches (e.g. Lánský, Mareš, 2015) and follows up with other researches which they critically assessed, e.g. Tóth et al. (2013), Fenwick, Lyne (1999) (research on small-scale farming in KwanZulu-Natal), Madden (2000) (research on farmers' financial situation), McMichael (2013) (research on value-chain agriculture), Poláková et al. (2015) (research on a business model for Czech agribusiness), Russell, Langemeier (2015), etc. We highly value the study of Tóth et al. (2013) stating: "The best enterprises are improving the liquidity, but most of the companies remain unchanged. Further research is needed to divide the set of enterprises according to the legal form and type of production (animal or crop production) to find out the reason for differences in liquidity". However, we have adopted a position on liquidity based on its short-term nature, i.e. maturity within one year, but they are also aware that liquidity is an expression of indebtedness in the short-term horizon and that agriculture is a specific sector. We consider the above mentioned articles important for further research, however almost without the specification of the Czech Republic or without the context of economy crisis.

The research results (Table 3) clearly show that the current ratio fell during the period of the crisis which consequently led to a reduction of liquidity in this indicator. However, the fall cannot be considered dramatic in comparison with 2007 and it was insignificant in the period 2008–2012. We can therefore conclude that, from the viewpoint of liquidity measured using the current ratio, agriculture is stable and the current ratio values bear witness to solid liquidity, whereby the

short-term assets exceed the short-term external funds. It is, however, necessary to take into account the fact that the data is available at the end of the accounting period and we therefore do not have an overview of liquidity throughout the entire accounting period. In the case of liquidity measured using the quick ratio, we can also speak of a fall in 2008 in comparison with 2007, when the Czech economy was affected by the crisis, but this fall is also insignificant in the overall period 2008–2012. The quick ratio can be interpreted as the liquidity of short term assets without inventory to short term debt. We have also looked for answering the question how is the agriculture liquid without its least liquid entries (inventory) and from this viewpoint it may be concluded that the ability to cover short-term debts without inventory was 100% in all of the monitored years. From this viewpoint liquidity may be considered sufficient and the agriculture sector stable. Table 3 also shows a fall in the cash ratio in 2008, but for all that the fall was balanced in the following years from the stability viewpoint. Given the fact that it is also necessary to perceive the liquidity indicators in association with the vertical financial analysis, a vertical financial analysis of the individual components of the current assets in the monitored years was performed with the conclusion that the long-term receivable entry is immaterial in relation to the percentile representation in the current assets and that we can note a slight rise in inventory (we have proceeded from the obvious assumption – unsellable inventory) and a fall in short-term financial assets (for example caused by a reduction of money as a consequence of unsellable inventory or a fall in the sale price for inventory or both of the above) as a consequence of the crisis. Nevertheless, the investigated variables throughout the entire period are of no material significance. We can therefore speak of strong stability with regard to the vertical financial analysis. When investigating the structure of short-term indebtedness by means of the short-term debt, the authors proceeded from the significance of the individual entries such as non-interest bearing and interest bearing debt. Table 2 shows that short-term liabilities predominate over interest bearing debt which is expressed via short-term bank loans. We can therefore conclude that the agriculture sector is stable from the point of view of its financing thanks to the preference for non-interest bearing debt over interest bearing debt, which could place a burden on the stability of the enterprises in a crisis period as a result of the interest payments.

Our subsequent investigations will focus on liquidity in a wider context, for example in relation to cash flow or with regard to the bargaining power of farmers in relation to suppliers and customers. Another models examining the sustainability of the field of agriculture and the individual enterprises in agriculture focussing on the wider context of the agricultural market with a connection to the financial and non-financial ef-

iciency indicators are needed. In the wider context, their construction will then be based on household consumption and capital expenditure concerning the agriculture sector which have already been analyzed e.g. by Madden (2000).

CONCLUSION

The present research revealed that the agriculture sector in the Czech Republic is liquid. This conclusion is supported by the applied indicators of the current ratio, the quick ratio, and the cash ratio on the basis of which solvency in the given field may be assessed. We can also speak of stability of the individual liquidity entries expressed by means of their percentile representation in the summarizing entries for current assets and short-term debt; this applies from the point of view of both liquidity and stability. With regard to the given period and the impact of the crisis on the economy in general, it is possible to speak of a negligible or neutral influence not only on the individual liquidity indicators, but also on the individual entries which the agriculture liquidity indicators consist of and as such there are no significant fluctuations in liquidity and the values can therefore be considered to be good from the viewpoint of liquidity and stability.

REFERENCES

- Bezlepkin I, Lansik A (2003): Liquidity and productivity in Russian agriculture: farm data evidence. International Association of Agricultural Economists, Durban.
- Bisnode (2015): The Albertina B2B database of companies. Bisnode Česká republika, a.s. <http://www.albertina.cz/>. Accessed 26 November, 2015.
- Blaha ZD, Jindřichovská I (2006): How to evaluate financially healthy companies. Management press, Prague. (in Czech)
- Bojnc Š, Latruffe L (2011): Financing availability and investment decisions of Slovenia farms during the transition to a market economy. *Journal of Applied Economics*, 14, 297–317.
- Czech Accounting Standards (2016): Entrepreneurs, non-profit organizations, municipalities, regions, contributory organizations, state organizational units, state funds. Nakladatelství Sagit, a.s., Ostrava. (in Czech)
- Fenwick L, Lyne M (1999): The relative importance of liquidity and other constraints inhibiting the growth of small-scale farming in KwaZulu-Natal. *Development Southern Africa*, 16, 141–156.
- Girdžiūtė L (2012): Risks in agriculture and their assessment methods. In: Proc. Annual 18th International Scientific Conference Research for Rural Development 2012, Jelgava, Latvia, 197–202.

- Lánský J, Mareš D (2015): The structure of current asset liquidity entries in the mining and extraction sectors. Hradec Economic Days, Hradec Kralove, 123–129. (in Czech)
- Lánský J, Kotěšovcová J, Dlasková G (2015): Completeness of items of financial statements for joint stock companies by branches of CZ-NACE. Hradec Economic Days, Hradec Kralove, 114–122. (in Czech)
- Lososová J, Zdeněk R (2014): Key factors affecting the profitability of farms in the Czech Republic. *Agris on-line Papers in Economics and Informatics*, 6, 21–36.
- Madden T (2000): Ag finances improve, but farmers still struggling. *Fedgazette*, October 2000 issue. <https://ideas.repec.org/a/fip/fed-mga/y2000ioctp15nv12no.4.html>. Accessed 26 November, 2015.
- Mareš D (2014): Liquidity and solvency. *Slovak Journal of Public Policy and Public Administration*, 1, 260–268. (in Czech)
- McMichael P (2013): Value-chain agriculture and debt relations: contradictory outcomes. *Third World Quarterly*, 34, 671–690. doi: 10.1080/01436597.2013.786290.
- Poláková J, Kolářková G, Tichá I. (2015): The business model for Czech agribusiness. *Scientia Agriculturae Bohemica*, 46, 128–136. doi: 10.1515/sab-2015-0027.
- Řezábek P (2009): The impact of the financial crisis on business in the Czech Republic, the Czech National Bank. www.cnb.cz/cs/verejnost/pro_media/.../rezabek_20090317_caki.pdf. Accessed 26 November, 2010. (in Czech)
- Russell L, Langemeier M. (2015): Austrian business cycle theory: evidence from Kansas agriculture. *Quarterly Journal of Austrian Economics*. 18, 22–39.
- Synek M (2014): An analysis of the evaluation of companies according to the Schmalenbach method adjusted for Czech companies. http://nb.vse.cz/~synek/Methodika_Schmalenbachdoc. Accessed 10 October, 2014. (in Czech)
- Tóth M, Čierna Z, Serenčák P (2013): Benchmark values for liquidity ratios in Slovak agriculture. *Acta Oeconomica et Informatica*, 13, 1–8.
- Tóth M, Lančarič D, Piterková A, Savov R. (2014): Systematic risk in agriculture: a case of Slovakia. *Agris on-line Papers in Economics and Informatics*, 4, 185–193.
- Vlašicová E, Náglová Z (2015): Differences in the financial management of conventional, organic, and biodynamic farms. *Scientia Agriculturae Bohemica*, 7, 89–97. doi: 10.1515/sab-2015-0024.

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