

Insolvency of the Hotels Among Visegrad-Plus Countries

Tomáš Heryán

Abstract The paper has focused on the problematic of corporate insolvency among hotels in Visegrad-PLUS countries. Visegrad Group, well known as V4 (Czech Republic, Hungary, Poland and Slovakia), is negotiating with two possible new members, Austria and Slovenia. However, the problem of insolvency affects the hotels as well. The aim of the study is to investigate how is the solvency of the hotels among V4 PLUS countries affected by their liquidity and the relations with their debtors. As the main estimation method it has been used GMM regression with pooled data of hotels from selected countries. It is obtained annual data for the hotels' balance sheets and the profit and loss statements from Bureau van Dijk's AMADEUS international statistical database. It is argued that turnover of creditors' claims is positively affected by turnover of debtors' receivables among hotels in all selected countries. In some cases even current liquidity has a significant impact on that. The situation is the most obvious in the case of the hotel industry of Hungary and Slovenia, two economies whose companies are considered as the most affected by the corporate insolvency due to Creditreform agency. Finally, there are some ideas for future research in that area.

Keywords Insolvency • Receivables of debtors • Claims of creditors • Hotel's liquidity • GMM panel regression • Visegrad group PLUS

1 Introduction

Development of infrastructure has been mentioned within the V4 Trust–Program for the Czech Presidency of the Visegrad Group, which took the period from July 2015 till June 2016 (Visegrad group 2015). Until the end of the Czech presidency the Czech president Miloš Zeman had negotiated with Austria and Slovenia whether or not they would like to join the Visegrad Group. With better infrastructure will also increase the tourism in these countries. But how is the financial health

T. Heryán (✉)

Department of Finance and Accounting, Silesian University in Opava, School of Business Administration in Karvina, Karviná, Czech Republic
e-mail: heryan@opf.slu.cz

among the hotel industries of those Visegrad-PLUS countries? In according with the annual report of Creditreform agency, however, the problem of insolvency is the biggest in both Commerce and Services from the key economic sectors across the Europe. These two sectors includes hotels and catering (only when sectoral information was lacking, the relevant figures have been included under the Services).

Current study fills the gap within the research of hotel industry among European countries. Whereas the previous study proved that there are some significant relations between earnings and relationships of both, debtors as well as creditors within the hotel industries in Visegrad countries, current study has focused on the financial relations in V4 PLUS countries. The article contributes to the literature by providing a comparison between hotel industries of V4 (Czech Republic, Hungary, Poland and Slovakia) PLUS two different countries (Austria and Slovenia) from the financial point of view. The aim of the study is to investigate how is the solvency of the hotels among V4 PLUS countries affected by their liquidity and the relations with their debtors.

The study is structured as follows. Next Sect. 2 reviews a few literature sources connected with the financial problematic of the hotel industry. Section 3 describes the data as well as used methodology of the GMM modelling. In Sect. 4 there are highlighted some important findings within the discussion on empirical results. Finally, Sect. 5 concludes the paper.

2 Literature Review

Chou (2013) investigated causal relationships between tourism spending and economic growth in ten transition countries in the period from 1988 till 2011. Panel causality analysis, examined dependency and heterogeneity across countries (including V4 countries), is used herein. His results support the evidence on the direction of causality. He mentioned that the relation between tourism spending and economic growth for developing as well as developed countries has been highly researched over the past few decades. In examining causal relations within the tourism spending and economic growth, he employs the causality approach with pooled data instead of the method with time series, since pooled data sets include analysis not just from the time dimension but also the cross-section analysis. According to that, non-stationary panel tests (unit root, cointegration and causality) have become highly usable econometric methods during last few years. (Chou 2013)

It is argued by Dwyer et al. (2004) that the role of tourism for economies is well recognized. As the result, when the tourism could have changed or policy shifts have been considered, there is an interest in determining which impact on the economy it can have both, they mentioned as well. Nevertheless, this approach to economic evaluation typically undertaken in the tourism context, is still incomplete and misleading. Among others they argue a few interesting research questions as: (i) Which impact could a change in domestic or international tourism, have had on

the economic activities? (ii) Which impact could the increase in outbound tourism, have had on domestic activities? (iii) Which impact on activities within one economy could have intrastate tourism had? (Dwyer et al. 2004)

It is argued by Atan and Arslanturk (2012) that tourism is the world's largest business industry as well as almost the fastest growing one, accounting for over one-third of the value of total trade services across whole world. They also argue that this business industry, in past few decades, has started to be important source of income to these still undeveloped economies. On the other hand Turkey as well as its aspect of tourism has started to be within a few countries' attention, those undeveloped economies in particular. Recent literature contains a number of papers connected with both, tourism and economic growth nexus using a type of research methods i.e. Granger causality, cointegration as well as regression analysis with panel data. However, there are not almost any study incorporating input-output analysis according to them. According to their opinion, in Turkey, tourism is growing so fast and its contribution to the economy is therefore significant. According their results, especially according to the hotel and restaurants indicators' significance, that business sector can definitely be transformed into a growth of whole economy and selected sectors can benefit from that which should be equally vibrant. Identification of such sectors is important for policy implications as they may constrain the growth impact of tourism due to them. Their analysis shows that hotel industry has important and significant impact on the economy. Even though the tourism is not a key sector in the economy, activities of travel agencies indicators, tourism sector has high backward linkage in the economy, as well. According to their results, it is also obvious that entire input of other selected business sectors to the output in the tourism has been very high and the tourism sector has been in a system of nurturing other sectors therefore. Hence the tourism business sector as well as hotel industry will support the production in other business sectors, with a considerable impact on the growth.

Onețiu and Predonu (2013) argue whether the efficiency can be a fundamental development and the tourism can be an integral part of economic activities, then it should be considered as key factors both, social and economic development of their state. Within this study they intend to investigate economic and social efficiency which could increase the tourism within the country. As the first, to show the economic efficiency of the tourism business industry in Romania, they started from the principle of the economic efficiency, by comparing its effects with the effort. Secondly, activities of tourists, using resources available to that, generate not just economic, but even social effect. Both effects have been analysed in their study and therefore both economic and social factors as well as their effects and also efficiency of each component simultaneously. Furthermore, they investigated what indicators can affect the economic as well as social efficiency, according to the generalized method for determining both types of the efficiency. As the last but not least, they argue that tourism is very closely related to the culture and civilization, and their interdependent relations. Using the natural resources, human and financial placed at its disposal, tourism can really generate these economic and social indicators what may rise the economic efficiency, progress and civilization. Finally,

they considered that problematic with particular relevance and importance to economic development and the growth of entire social welfare (Onetiu and Predonu 2013).

3 Data and Methodology

The paper has obtained annual data from Amadeus statistical financial database of hotels from Visegrad countries (Czech Republic, Hungary, Poland and Slovakia) PLUS two different countries (Austria and Slovenia). Time series are from 2005 till 2014. In particular it has been used selected variables from hotels' financial statements as their Turnover, Debtors and Creditors and Other current assets which includes debtors' receivables as well as the cash and cash equivalents (excluded the stocks), and all current liabilities, all in EUR. Numbers of hotels for each country included in the database are in the parentheses: Austria (4950), Czech Republic (1484), Hungary (1881), Poland (4194), Slovakia (786), and Slovenia (421). Nevertheless, in according to the missing data we have been able to use only 397 Austrian, 905 Czech, 146 Hungarian, 822 Polish, 463 Slovak and 263 Slovenian hotels within cross-sections of our panel estimations.

As the first it has been examined three variables for each country, current liquidity $L2_{it}$, turnover of debtors' current receivables TRD_{it} and turnover of creditors' claims TLC_{it} , in according to eqs. (1), (2) and (3):

$$L2_{it} = \frac{\text{current assets}_{it}}{\text{current liabilities}_{it}}, \quad (1)$$

$$TRD_{it} = 365 / \left(\frac{\text{Turnover}_{it}}{\text{Debtors}_{it}} \right), \quad (2)$$

$$TLC_{it} = 365 / \left(\frac{\text{Turnover}_{it}}{\text{Creditors}_{it}} \right), \quad (3)$$

where $L2_{it}$ means current liquidity of hotel i at time t in each country, *current assets* _{it} have excluded the stocks, TRD_{it} means turnover of current receivables of debtors (simply $Debtors_{it}$), TLC_{it} means turnover of current claims of creditors (simply $Creditors_{it}$), finally $Turnover_{it}$ is total revenues taken from the profit and loss statement of the hotel.

As the main estimation method it is used Generalized Method of Moments (GMM) as in Růčková (2015). It is described through next eq. (4):

$$\begin{aligned} TLC_{it} = & \beta_1 TLC_{i(t-1)} + \alpha_{it} + \beta_2 TRD_{it} + \beta_3 TRD_{i(t-1)} + \beta_4 L2_{it} \\ & + \beta_5 L2_{i(t-1)} + \varepsilon_{it}, \end{aligned} \quad (4)$$

Table 1 Corporate insolvencies in V4 PLUS

	2010	2011	2012	2013	2014	% Change 2013/2014
Austria	6657	6194	6266	5626	5600	-0.5
Czech Republic*	5559	6753	8398	6021	3563	-40.8
Hungary**	17,487	30,757	50,224	46,397	60,637	+30.7
Poland	665	762	908	926	864	-6.7
Slovakia	830	870	866	880	831	-5.6
Slovenia	510	675	595	941	1302	+38.4

*Since 2013 some bankruptcies by self-employed persons are included under private insolvencies

**Bankruptcies and other liquidations

Source: Author's illustration from Creditreform (2015)

where endogenous dependent variable is TLC_{it} of hotel i at time t within each country, among exogenous regressors as the first there is lagged $TLC_{i(t-1)}$ due to using of GMM estimation method. Akinci et al. (2013) proved that applying a pseudo general-to-specific model reduction method within the application of the GMM estimator avoids the problems with multicollinearity. Therefore, the pseudo general model includes the current and first lagged value of all regressors, i.e. $TRD_{it}, TRD_{i(t-1)}, L2_{it}, L2_{i(t-1)}$. Symbols α_{it} and ε_{it} are a constant and residuals of the estimation.

The investigated issue focuses on the problem of insolvencies among European companies. Therefore we see those corporate insolvencies in V4 PLUS in Table 1. We see that countries with worst problems, where the hotels are affecting to the insolvency issue, are Slovenia and Hungary. Creditreform (2015) has argued that Slovenian economy (+38.4%) and the Hungarian (+30.7%) both economies are, however, the negative leaders within this group due to the highest insolvencies in total. In Slovenia, the economic growth is stronger in comparison to the growth which was expected. The insolvency problem there remains fragile, which has been affected by the economic situation in Italy as well as in Austria. Enterprises in Slovenia have been suffering with a credit squeeze, as well. The Austrian GDP growth in 2014 was just 0.3%, which was considerably lower than in whole EMU, which was not enough to have any notably favourable influence on the insolvencies' development. Hungary has earned from the usage of those European Union structural funds in 2014. It has been increased the investment activity of a public in Hungary. Hungarian private consumption was insufficient, however. Otherwise, especially marked declines in the number of insolvencies in the 2013/14 period have been investigated by the Czech Republic (-40.8%). In 2014, the Czech economy is picking up again and the GDP has increased after recession which affected the economy 2 years. Their export increased very much and due to that the Czech economy has increased as a whole. Last but not the least, Poland has reported decreasing of Polish insolvencies (-6.7%). That fact means slow but real recovery for whole Polish economy (Creditreform 2015).

4 Discussion on Empirical Results

From the results among all three Tables included in Appendix we could have concluded interesting findings according to a stationarity. Whereas non-stationary time series have been proved within our data for all variables at the levels, in the first differences all selected time series have been proved as stationary. Therefore selected relations are estimated at the first differences of all variables.

The term solvency of a company means an ability to pay all its debts. Therefore it has been investigated, how is the ability of hotels to pay their creditors affected by both, their liquidity and turnover of debtors' receivables. In Table 2 we see impact of selected variables on the period in which V4 PLUS hotels are able to pay claims of their creditors. In according with arguments of Creditreform (2015) it would be interesting start with analysing the results of Hungary and Slovenia, two countries which are considered as the most affected by increasing of insolvency.

Hungarian hotel industry is affected by decreasing current liquidity of the hotels, $L2_{it}$ as well as lagged $L2_{i(t-1)}$ from previous year. The results suggest the biggest impact with negative sign on the period TLC_{it} in which the hotels are able to pay their creditors. The case of Slovenian hotel industry is difficult. Whereas liquidity does not matter, the turnover of creditors' claims TLC_{it} is positively affected most by period TRD_{it} in which debtors pay their receivables to the hotels. When the period TRD_{it} increases then the period TLC_{it} will increase extremely. However, Hungarian hotel industry suffers from the lower demand and low liquidity, but Slovenian hotels suffer from worse payment behaviour of their debtors.

Nevertheless, if we take a look at the Slovak hotel industry we see that the problem of increasing period TRD_{it} is bigger than in Slovenia. Their hotels can suffer from worse payment behaviour of hotels' debtors. Moreover, the case of Slovakia varies as the only one with positive impact of lagged $TLC_{i(t-1)}$ from the previous year. In all other cases β_1 of $TLC_{i(t-1)}$ is negative, which means that TLC_{it} will change next year in opposite way. It should be common, because it is impossible still minimize or maximize that period. Therefore it oscillates each other year due to the organizing of relations with hotels' debtors.

On the other hand, the situation in both Polish and Austrian hotel industry is similar to the Hungarian due to sign and high of $\beta_4 L2_{it}$. Big difference is just insignificant lagged $L2_{i(t-1)}$ against to Hungarian hotel industry. In according to

Table 2 Estimation output for hotels of V4 PLUS countries

	CZ TLC_{it}	HU TLC_{it}	PL TLC_{it}	SK TLC_{it}	AT TLC_{it}	SL TLC_{it}
$\beta_1 TLC_{i(t-1)}$	-0.0064*	-0.0009*	-0.0361*	0.6863*	-0.4224*	-0.1006*
$\beta_2 TRD_{it}$	1.0701*	0.0002*	0.8887*	5.1322*	1.1470*	2.7110*
$\beta_3 TRD_{i(t-1)}$	1.1151*	0.6626*	0.0792*	-4.0684*	0.4557*	0.2213*
$\beta_4 L2_{it}$	-2.0706	-73.1146*	-27.9536*	-1.7036*	-15.9065*	-0.0997
$\beta_5 L2_{i(t-1)}$	8.7018*	-51.6970*	5.5819*	0.5115	7.2305*	-0.1650

Note: Symbol * means statistical significance at 1% level

Source: Author's calculations

that a possible insolvency among hotels in Austria and Poland is not so serious, yet. We see also the biggest negative impact of $TLC_{i(t-1)}$ in Austria. It would mean that Austrian hotels are the most active in the organizing of relations with hotels' debtors.

Finally, the case of the Czech hotel industry seems to be the most stable. Its negative β_1 of $TLC_{i(t-1)}$ is close to zero. Similar impact of TRD_{it} as well as $TRD_{i(t-1)}$, the both is close to 1.00. And positive β_5 of lagged $L2_{i(t-1)}$ assumes that TLC_{it} increases if current liquidity has increased in previous year (it is connected with increase of the business risk). There is no evidence of significant higher impact of any regressor.

5 Conclusion

The aim of the study was to investigate how is the solvency of the hotels among V4 PLUS countries affected by their liquidity and the relations with their debtors. It was concluded that lower current liquidity affected negatively hotels' solvency in Hungary (which is facing to the problem of the corporate insolvency due to Creditreform agency), but also in Poland and in Austria. The length of turnover of debtors' receivables would negatively affect the solvency in Slovakia and Slovenia (which was also facing to the corporate insolvency in 2014).

In general, it has not been argued that all hotels of those V4 PLUS countries suffered by highlighted problem of insolvency. Nonetheless, estimated results suggest that many of the hotels can suffer by insolvency. It has been differentiated between two reasons why the hotels could be insolvent. However, some of them can be affected by the both, lower level of demand connected with lower level of current liquidity as well as bad payment behaviour of hotels' debtors connected with the increasing of period when they can use money to pay their debts.

In the future research it can be beneficial to compare the financial situation of hotel industries within all Central and Eastern European (CEE) countries. It should be highlighted that the problematic of hotels' financial management is also connected with the corporate governance and sometimes with the foreign direct investments or franchising among international hotels' chains.

Acknowledgement This research was financially supported by Silesian University in Opava within the project IGS 21/2016 called "Mezinárodní hotelové řetězce".

Appendix

Table 3 Panel unit root test for stationarity: summary (at levels)

Method	$L2_{it}$	Cross	Obs	TRD_{it}	Cross	Obs	TLC_{it}	Cross	Obs
Austria									
<i>Null: Unit root (assumes common unit root process)</i>									
Levin, Lin & Chu test	0.0000	1872	12,420	0.0000	65	363	0.0000	68	360
<i>Null: Unit root (assumes individual unit root process)</i>									
Im, Pesaran and Shin W-stat	0.0000	1728	11,988	0.0000	53	327	0.0000	49	303
ADF—Fisher Chi-square	0.0000	1867	12,405	0.0000	65	363	0.0000	68	360
PP—Fisher Chi-square	0.0000	1867	12,732	0.0000	65	369	0.0000	67	363
Czech Republic									
<i>Null: Unit root (assumes common unit root process)</i>									
Levin, Lin & Chu test	0.0000	753	4713	0.0000	505	3180	0.0000	510	3209
<i>Null: Unit root (assumes individual unit root process)</i>									
Im, Pesaran and Shin W-stat	0.0000	676	4482	0.0000	452	3021	0.0000	454	3041
ADF—Fisher Chi-square	0.0000	752	4710	0.0000	505	3180	0.0000	510	3209
PP—Fisher Chi-square	0.0000	752	4803	0.0000	505	3246	0.0000	509	3278
Hungary									
<i>Null: Unit root (assumes common unit root process)</i>									
Levin, Lin & Chu test	0.0000	112	667	0.0000	117	710	0.0000	148	1015
<i>Null: Unit root (assumes individual unit root process)</i>									
Im, Pesaran and Shin W-stat	0.0000	91	604	0.0000	100	659	0.0000	140	991
ADF—Fisher Chi-square	0.0000	110	661	0.0000	117	710	0.0000	148	1015
PP—Fisher Chi-square	0.0000	110	674	0.0000	117	725	0.0000	146	1028
Poland									
<i>Null: Unit root (assumes common unit root process)</i>									
Levin, Lin & Chu test	0.0000	759	4155	0.0000	719	3981	0.0000	687	3862
<i>Null: Unit root (assumes individual unit root process)</i>									
Im, Pesaran and Shin W-stat	0.0000	613	3717	0.0000	587	3585	0.0000	570	3511
ADF—Fisher Chi-square	0.0000	759	4155	0.0000	719	3981	0.0000	687	3862

(continued)

Table 3 (continued)

Method	$L2_{it}$	Cross	Obs	TRD_{it}	Cross	Obs	TLC_{it}	Cross	Obs
PP—Fisher Chi-square	0.0000	759	4247	0.0000	719	4066	0.0000	687	3933
Method	$L2_{it}$	Cross	Obs	TRD_{it}	Cross	Obs	ZAV	Cross	Obs
Slovakia									
<i>Null: Unit root (assumes common unit root process)</i>									
Levin, Lin & Chu test	0.0000	456	2835	0.0000	403	2480	0.0000	412	2525
Null: Unit root (assumes individual unit root process)									
Im, Pesaran and Shin W-stat	0.0000	415	2709	0.0000	366	2369	0.0000	372	2405
ADF—Fisher Chi-square	0.0000	453	2823	0.0000	403	2480	0.0000	412	2525
PP—Fisher Chi-square	0.0000	453	2870	0.0000	403	2521	0.0000	412	2562
Slovenia									
<i>Null: Unit root (assumes common unit root process)</i>									
Levin, Lin & Chu test	0.0000	249	1110	0.0000	235	1068	0.0000	236	1041
<i>Null: Unit root (assumes individual unit root process)</i>									
Im, Pesaran and Shin W-stat	0.0000	214	1005	0.0000	210	993	0.0000	211	966
ADF—Fisher Chi-square	0.0000	248	1107	0.0000	235	1068	0.0000	236	1041
PP—Fisher Chi-square	0.0000	248	1115	0.0000	235	1075	0.0000	236	1047

Note: Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality

Source: Author's calculation in EViews 9.5

References

- Akinci, D. A., Matousek, R., Radić, N., & Stewart, C. (2013). Monetary policy and the banking sector in Turkey. *Journal of International Financial Markets, Institutions and Money*, 27, 269–285.
- Atan, S., & Arslanturk, Y. (2012). Tourism and economic growth nexus: An input output analysis in Turkey. *Procedia—Social and Behavioral Sciences*, 62, 952–956.
- Chou, M. C. (2013). Does tourism development promote economic growth in transition countries? A panel data analysis. *Economic Modelling*, 33, 226–232.
- Creditreform. (2015). *Corporate insolvencies in Europe*. [online]. [2016-06-14]. Available from http://www.creditreform.cz/fileadmin/user_upload/CR-International/local_documents/cz/Presseartikel/analyse_EU-2014-15_englisch.pdf
- Dwyer, L., Forsyth, P., & Spurr, R. (2004). Evaluating tourism's economic effects: New and old approaches. *Tourism Management*, 25(3), 307–317.

- Onețiu, A. N., & Predonu, A. M. (2013). Economic and social efficiency of tourism. *Procedia—Social and Behavioral Sciences*, 92, 648–651.
- Růčková, P. (2015). Dependency of return on equity and use of finance sources in building companies in V4 countries. *E+M Business Administration and Management*, 18(3), 73–83.
- Visegrad group. (2015). *V4 trust-program for the Czech presidency of the Visegrad group (July 2015–June 2016)*. [online]. [cit.2016-06-15]. Available from <http://www.visegradgroup.eu/documents/presidency-programs/20152016-czech>.