Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic and Poland

Tomáš Heryán[1], Petra Růčková

FOREWORD: It is without any doubt that business decisions for sustainable development in tourism are affected by the financial decisions of financial managers. This chapter focuses on the issue of financial management decisions. Liquidity of a company has a key role within financial management among all industries, including tourism. However, the question still remains. What drives liquidity among those profitable hotels and travel agencies? The aim of the study is to estimate, how liquidity is affected by selected financial variables among profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. Through the following analysis financial data has been obtained from the annual reports of 1,690 medium-sized tourism companies collected within AMADEUS, the international statistical database. The estimated period is from 2006 to 2015. As the main estimation method, the Generalized Method of Moments (GMM) with panel data is deployed. Then a comparison is made between both the whole sample and these profitable hotels as well as travel agencies in selected countries.

KEYWORDS: Tourism, hotels, travel agencies, liquidity, panel GMM estimation.

[1] This study was supported by Silesian University in Opava within SGS/7/2018 'Analysis of the influence of selected aspects on the financial structure among enterprises in the conditions of Central and Eastern European countries'. The authors thank the anonymous referee as well as the editor for their constructive comments and suggestions. An earlier version of this study was presented at the 15th International Scientific Conference: Tourism – Research, Development and Education, Distance Learning Center of the International Business School, Sofia, Bulgaria, 15-16 June 2018, and authors are also thankful to conference participants for many helpful comments and discussions.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

1 Introduction

Do you think that financial ratios are useful also for tourism companies? Without a sufficient amount of liquidity no company is able to reach its goal, is it? The following chapter focuses on the microeconomic environment of the tourism business industry. Even though we would take into account liquidity and working capital management, or even the whole solvency of a company, all of that can be found among basic assumptions of the ability of the company to reach a profit or even to maximize the company's value as well as stockholders' wealth in the long-term. However, one crucial question still remains. What drives the liquidity among those profitable tourism companies? Certainly, there is evidence from a few key studies related to this particular issue of corporate liquidity (e.g. Chang 2018; Mun and Jang 2015; DeAlmeida and Eid 2014; Cagle, Campbell, and Jones 2013; Lins, Servaes, and Tufano 2010; Petersen and Rajan 1997). However, none of these studies have focused on tourism.

> "Although the working capital management is vital because of its impact on a firm's profitability and risk, and consequently, its value, it has received less attention than capital budgeting, capital structure, or dividend policy among literature (Chang 2018, 4). This study, therefore, focuses on working capital management. Working capital ratios are useful tools in appraising the financial strength and immediate solvency of a company. The financial analyst must rely on these ratios. From an operational point of view, however, the money manager's primary concern is with the current cash flows and those flows expected in the near future. The financial analyst can take a little comfort in a satisfactory working capital ratio when he does not have funds to meet an immediately due payment. The money manager may be able temporarily to postpone borrowing even when his net working capital position is low if the liabilities, such as tax liabilities or other payables, are not immediately due. On the other hand, the money manager who has a sizable net working capital that is primarily in inventories or accounts receivable might be forced to borrow funds in order to meet early obligations." [2]

The main contribution of this study is the first ever investigation of this issue among tourism companies, hotels and travel agencies in particular. Among recent research literature, more often than not, sophisticated methods such as econometric tools are used within investigating issues of corporate finance. However, the literature connected to tourism has either varied against traditional literature focused on corporate finance or even according to its methodology these tools are somewhat lacking. This study aims to estimate how liquidity is affected by selected financial variables among profitable medium-sized companies within tourism in Bulgaria, the Czech Republic and Poland. The estimation period is from 2006 to 2015, so we can see the relations during the period affected by the global financial crisis.

> "Financial ratios are intended to evaluate a company's operating, investing, and financing strategies considered in both historic and prospective contexts. The analysis may be done for a company over a period of time, or for a company in comparison to another firm or industry statistics at a specific point in time. In basic terms, a liquidity ratio is used to measure a company's ability to pay its bills on time. A liquidity ratio measures the company's capacity to meet short-term obligations out of its liquid assets. Working capital requirements can be defined as the difference between current operational requirements, such as inventories and accounts receivable, and current operational resources, such as accounts payable and accruals. Short-term creditors should use additional tests in considering the liquidity of two significant working capital items: receivables and inventories. Negative net liquid balance indicates a firm's dependence on short-term debt and may help to identify an important trend. A firm can experience liquidity problems even when profits are rising. In fact, strong growth in sales and working capital requirements can be a major cause of liquidity problems." [3]

A cash conversion cycle (CCC) and the impact of profitability and liquidity is usually estimated as the financial variables within issues connected to working capital management. This chapter has also focused on supplier credit. Though it has reached different conclusions to our estimations, either between countries, or even the two types of tourism companies, it is obvious that more attention should be paid to this particular issue. This chapter is structured as follows. Section 2 briefly reviews recent literature, which focuses directly on those selected financial variables. Section 3 describes data and methodology employed in the econometric analysis on panel data. Section 4 brings the empirical findings and their technical description. Section 5 concludes the study with a discussion on the empirical results.

[2] Sagan 1955, 122-128.
[3] Sherman, "Ratio Analysis for Financial Statements," 39–61.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

2 Literature review

This section reviews recent literature focused on issues connected with the liquidity as well as with the working capital management. Özbayrak and Akgün 2006 argue in their study that the CCC is an important metric to measure the length of time between cash payment for the purchase of resalable goods or an investment made for production and collection of account receivable generated by the sale of these purchased/produced goods. They use both instant and cumulative data to measure the CCC for a certain production period. If the production demand is known (deterministic) and the estimation of product cost, average accounts receivable, average accounts payable, sales revenues, raw material cost, WIP cost as well as average inventory level for raw material, work in process, and finished goods are typical budgeting problems the authors study herein. They investigated the two most common manufacturing planning and control strategies, namely push and pull, on the CCC in a manufacturing system. (Özbayrak and Akgün 2006, 535-537)

It is mentioned in Wang 2002 that management of a firm's CCC involves trade-offs between liquidity and operating performance. If the inventory conversion period is reduced too far, the firm risks losing sales due to stock–outs. Similarly, if the receivables conversion period is reduced too much, the firm risks losing business from customers requiring credit. Increasing the payables deferral period too much may result in losing discounts for early payments or flexibility for future debt. The study examines the relationship between liquidity management and operating performance, and that between liquidity management and corporate value for firms through the return on assets (ROA) as well as return on equity (ROE). Empirical findings for both Japan and Taiwan show a negative CCC–ROA and CCC–ROE relationship which is sensitive to industry factors. (Wang 2002, 159-162) It supports previous findings among the literature that a lower CCC corresponds with better operating performance. Zeidan and Shapir 2017 also found that shortening the CCC without affecting the operating margin or sales increases profits, free cash flow to equity and share prices. In their study, they formulate an approach to relate the CCC to enterprise value suitable to mature and stable companies. They assumed a constant operating margin and arrived at a linear relationship that decomposes operating working capital into revenue and CCC effects. (Zeidan and Shapir 2017, 205)

Nevertheless, according to the included inventory, it is not able to estimate the problem of the secondary insolvency within the examining of CCC. The risk of secondary insolvency arises from the probability that companies would pay its payables in a shorter period as opposed to a longer period when they receive cash from their receivables. From a short-term view, it is possible to do business while this particular situation is connected to additional costs. However, in the long term, it is not possible to run any business in this way, neither maximizing the profit nor maximizing the stockholder's value. Both are impossible if within a year average the risk of secondary insolvency exists. Therefore Petersen and Rajan 1997 focused the theoretical part of their study on the possibility to have a loan given by suppliers, or simply supplier credit. The discussion within this study is guided by three basic directions, which are (i) benefits of financial character, (ii) a view of price discrimination and (iii) a view of transaction costs. Compared with traditional lenders in the form of banks, the supplier may have a considerable advantage in the role of the lending provider, not only when examining the payment discipline, or monitoring or even enforcing the repayment of the loan. This clearly provides the supplier with an advantage over banks and other financial institutions. (Petersen and Rajan 1997, 662)

From the point of view of the financial benefits, Petersen and Rajan 1997 explain the commercial credit theory as well as the supplier credit exposure to three basic advantages. First, the procurement of information. The supplier may visit the customer's premises more often than banks. The size and timing of orders gives an idea of the buyer's sales status. Failure to use the early repayment discount, in the form of an addendum to the credit agreement, may also prompt the supplier to warn of a deterioration in the customer's creditworthiness. While the representatives of financial institutions are forced to collect information of a similar nature, the supplier is able to obtain information not only more quickly, but also at a much lower cost as it obtains it as part of normal business activities. Second, the advantage of the supply monopoly. In this case, it is the nature of the goods supplied, where there are few alternative economic resources to the supplier. Otherwise, the supplier may threaten the purchaser in order to reduce the debtor's creditworthiness by not delivering future goods and services. The threat may be taken more seriously if the buyer accounts for only a small portion of the vendor's sales. Banks have, on the other hand, more limited powers because the threat of raising the price of credit in the form of interest rates or even cancelling future funding has a little immediate effect on the borrower's operations. The ability of financial institutions to withdraw existing funds may in many cases be limited by bankruptcy laws. Third, the advantage of preserving asset value. In the event that the customer is in default with repayment of a loan, the supplier can immediately seize the delivered goods. The more durable the goods which are delivered, the better guarantees the supplier provides, and the longer the volume or the length of repayment of the supplier loan can be. In extreme cases, financial institutions may employ to the same procedure. However, it should be noted that goods other than financial assets and liabilities do not fall within the core business of

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

banks. In the case of a supplier with a good sales network, the costs of recovering the goods and reselling them are much lower than in the case of financial institutions. The advantage of the supplier vis–à–vis financial institutions also varies depending on the type of goods and the manner in which it is further regulated by the buyer. The less the inventory is immediately transformed by the customer into its production, the greater the guarantee for the supplier. (Petersen and Rajan 1997, 663-664)

From the point of view of the price discrimination, Petersen and Rajan 1997 argue, if business credit is the most cost-effective segment of the market, it becomes a truly effective means. The reason for the price elasticity of a commercial credit compared to a conventional loan is simply that the debt burden of the customer does not change and the goods are simply credited to the account. If this is the case, supplier credit reduces the price of the goods in question and is reflected in the customer's sector and, indirectly, in its demand. A business loan can also be offered, if the vendor does not have it, even though he cannot have any financial advantage over the banks. Given that the credit terms of many times are absolutely irrelevant to the quality of the buyer, the supplier has a discriminatory advantage especially in the case of low-quality borrowers. According to the authors, there is one more possible way of realizing the price discrimination, with suppliers with a large spread between variable and purely selling costs. These are the authors' incentives to provide a business loan, but without lowering the price of the merchandise compared to existing customers. Given that the profit on the next unit is higher in terms of lower sales costs for the supplier, they would be willing to expose themselves to credit risk unless it affects their resale. Assuming antimonopoly laws prevent direct price discrimination, the authors can use a highly valued business loan, which is aimed at customers who are at risk of delaying repayments. When buyers become ex-post aware of the overdraft of a business loan, they try to repay it in terms of future cash flows as soon as possible. On the other hand, such buyers can access this option because there is no other way to access financial resources. However, the commercial credit discriminative theory is also linked to the claim that a credit supplier does not discriminate in favour of a risky customer simply because consumer demand is more flexible in the short-term. The supplier may also have a long-term interest in the survival of a customer company. This is particularly so when it is virtually impossible to replace the customer. On the contrary, the supplier influences not only its net profit margin from the current sale, it also affects the present value of the profit margin from future sales through the provision of a supplier loan. (Petersen and Rajan 1997, 664)

From their last point of view, Petersen and Rajan 1997 explain the theory of supplier credit in terms of transaction costs. A business loan can reduce transaction costs for the payment of goods rather than pay each time the goods are delivered. The buyer can thus accumulate his obligations and pay once a month or quarterly. But there are other versions for any given view of minimizing transaction costs. There may be strong seasonal influences on the consumption of goods at production of the customer. However, in order to maintain a smooth production cycle, companies may be forced to produce the large supplies under these circumstances. However, this is related to two types of costs, the storage and the financing of such stock. Of course, the company could cut prices to achieve early sales, but in this case, the extra costs are much higher, especially in terms of future deals. The use of business credit seems optimal in terms of both seasonality and customer retention, and even in terms of supply from the supplier. Even the suppliers themselves are able to reduce the cost of storage if the customer is able to carry out inventory properly and in a timely manner. (Petersen and Rajan 1997, 665)

On the other hand, also previous studies (i.e. Chang 2018; Mun and Jang 2015; DeAlmeida and Eid 2014; Cagle, Campbell, and Jones 2013; Lins, Servaes, and Tufano 2010; Petersen and Rajan 1997), have proven the importance of liquidity, working capital (both as a static view) as well as the importance of the cash conversion cycle (a dynamic view), according to their significant impact on business performance. If we take into consideration the basics of the business within the tourism industry, we have to highlight activities such as the accommodation and travelling of clients even abroad. Due to the globalization and internationalization of the markets worldwide, we could argue that a majority of tourism companies have also focused on foreign clients. However, according to this fact clients are facing a higher level of competition among these companies. Kourtzidis et al. 2018 investigate a possible impact on the integration of tourism from the point of view of international visitor arrivals' convergence. More effective working capital management is connected with lower interests and therefore lower financial costs. Due to this fact it is possible to spend larger amounts of money on advertising or spend it on innovation and reconstruction. Finally, more arrivals would mean a better performance of tourism companies, as far as convergence is concerned.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

3 Data and methodology

Annual data has been obtained for 1,690 tourism companies from AMADEUS, the international statistical database. The estimated period is from 2006 to 2015. Particular numbers of medium-sized hotels and travel agencies from Bulgaria, the Czech Republic, and Poland are included in Table 3-1. However, just 1,099 companies have been found to be profitable. In particular, the amounts for the companies' earnings before interest and taxes (EBIT), turnover (both from their profit and loss statements), assets in total, current assets, inventories, short-term receivables, retained earnings, current liabilities, short-term payables (all from their balance sheets), have been collected. According to this data, it is able to explore the next few selected ratios used in equation (6).

	HOTELS		**AGENCIES**	
	all	*profitable*	*all*	*profitable*
Bulgaria	581	393	108	100
Czechia	421	187	158	131
Poland	312	201	110	87

Table 3-1: Number of tourism companies in selected countries.
Source: Authors' calculations in EViews 10 software.

The inventory turnover ratio represents the relationship between the cost of merchandise inventory sold and the ending inventory for the period. The inventory turnover ratio measures how efficiently the overall inventory is sold. (Sherman, "Ratio Analysis for Financial Statements," 61) The Days Purchases in Inventory is explored as in Zeidan and Shapir 2017 through equation (1):

$$DPI_{it} = \frac{365}{OT_{it}/IN_{it}}, \tag{1}$$

where DPI_{it} is days purchases in inventories of i companies at time t, OT_{it} means operating turnover and the variable IN_{it} is inventory or stock in the company.

The average collection period, also known as the days' sales outstanding, measures the time it takes to collect cash from customers once the sales have been made (Sherman, "Ratio Analysis for Financial Statements," 56). Many analysts calculate the average collection period by first finding the average credit sales per day and then dividing the average accounts receivable by the average credit sales per day. The Average Collection Period in days is examined according to Zeidan and Shapir 2017 through equation (2):

$$ACP_{it} = \frac{365}{OT_{it}/DR_{it}}, \tag{2}$$

where ACP_{it} means the average collection period of i companies at time t, OT_{it} is operating turnover and DR_{it} means debtors' receivables.

Days purchases in payables or the Average Purchase's Period is then explained simultaneously as in Zeidan and Shapir 2017 through equation (3) as:

$$APP_{it} = \frac{365}{OT_{it}/CP_{it}}, \tag{3}$$

where APP_{it} is the average purchase's period of i companies at time t, OT_{it} means operating turnover and CP_{it} is creditors' payables.

The operating cycle recognizes the total elapsed time from the ordering of raw materials through the receipt and availability of customer payments. As this time period increases, there are more opportunities for delays in processing or cash receipts to drain financial resources. However, at least partially offsetting the limitations in available cash are the payment policies of the company. Together, these measures create the cash conversion cycle, the amount of time from the outflow of cash until it is recovered. (Sherman, "Ratio Analysis for Financial Statements," 61) The Cash Conversion Cycle is calculated according to Zeidan and Shapir 2017 as well as Sherman 2015 within equation (4):

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

$$CCC_{it} = DPI_{it} + ACP_{it} - APP_{it} \,, \tag{4}$$

where CCC_{it} stands for the cash conversion cycle, DPI_{it} means days purchases in inventory calculated through equation (1), ACP_{it} the average collection period for debtors' receivables according to equation (2), and APP_{it} means the average purchase's period for creditors' payables according to equation (3).

According to the Petersen and Rajan 1997 and their discussion on the theory of supplier credit, it is possible to examine the average period of suppliers credit PSC_{it} through equation (5):

$$PSC_{it} = APP_{it} - ACP_{it} \,. \tag{5}$$

According to previous studies (Heryán and Tzeremes 2017, 14; Růčková and Heryán 2015, 709), the main estimation is a two-step model using the orthogonal deviations through the Generalized Method of Moments (GMM model) with panel data of medium-sized hotels and travel agencies. To reach the aim of this study the relations are estimated through equation (6):

$$L2_{it} = \beta_1 L2_{i(t-1)} + \alpha_{it} + \beta_2 ROA_{it} + \beta_3 ROA_{i(t-1)} + \beta_4 RER_{it} + \beta_5 RER_{i(t-1)} + \beta_6 PSC_{it} + \beta_7 PSC_{i(t-1)} + \varepsilon \,, \tag{6}$$

where $L2_{it}$ means the quick test for liquidity when inventories of *i* companies at time *t* are excluded from a share of current assets on current liabilities, ROA_{it} means return on assets calculated as the EBIT on total assets, RER_{it} means a retained earnings ratio on total assets, and PSC_{it} means the average period of suppliers credit. Symbols α_{it} and ε are a constant and residuals of panel regression, respectively. We employ the first lags of all exogenous variables. It is argued that applying a pseudo general–to–specific model reduction method in the application of the GMM estimator avoids multicollinearity problems (Akinci et al. 2013, 274). Because of the usage of this GMM specification it is able to include lagged endogenous $L2_{,i(t-1)}$ among the exogenous regressors.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

4 Findings

In Table 4-1 we see median values of all hotels compared to median values of those profitable hotels. It is certain that ROA median values are higher within those profitable hotels when years with negative EBIT are excluded. The most profitable seems to be BG hotels with the least profitable being CZ hotels. We see that L2 is higher among profitable hotels and its highest value remains with BG hotels as well. The least liquid seems to be PL hotels. Higher median values of profitable hotels are evident even for RER. However, in this case, the highest value remains with PL and the lowest with CZ hotels. Nonetheless, the most interesting case is apparent within the length of PSC. Better solvency is evident among BG and CZ hotels, whereas in the case of PL hotels the median is negative. This means that PL profitable hotels appear to be conducting business in a more risky manner because they might have been affected by the risk of secondary indebtedness.

		L2	ROA	RER	PSC
ALL	BG	1.01	1.47	37.05	12.17
	CZ	0.75	0.00	19.23	9.23
	PL	0.70	0.81	41.83	25.05
PROFIT	BG	1.27	5.78	47.90	5.30
	CZ	1.00	4.51	33.13	0.00
	PL	0.87	4.68	48.49	-2.98

Table 4-1: Median among all HOTELS compared to those profitable.
Source: Authors' calculations in EViews 10 software.

In Table 4-2 we see the results for panel regression models using Generalized Method of Moments (GMM). The first obvious thing is the positive impact of lagged L2 when this relation is stronger, except for those CZ hotels. The highest coefficient is evident among BG hotels. However, we cannot see any significant results between ROA and L2. On the other hand, we see a positive relation between RER and L2 among BG and PL hotels when it is stronger among profitable hotels. In the case of lagged RER among profitable PL hotels, the coefficient becomes negative. Only among the profitable CZ and PL hotels is there a significant relationship between PSC and L2. In the case of PL hotels, this relation is positive, whereas it is negative among profitable CZ hotels.

	HOTELS			**PROFITABLE**		
	BG	*CZ*	*PL*	*BG*	*CZ*	*PL*
$\beta_1 L2_{i(t-1)}$	0.4750 [a]	0.2362 [a]	0.3843 [a]	0.6509 [a]	0.2785	0.5103 [a]
$\beta_2 ROA_{it}$	-0.0018	0.0019	-0.0014	-0.0043	-0.0001	-0.0052
$\beta_3 ROA_{i(t-1)}$	-0.0022	0.0010	-0.0022	-0.0157	0.0030	-0.0009
$\beta_4 RER_{it}$	0.0043 [a]	-0.0006	0.0069 [b]	0.0346 [a]	0.0041	0.0290 [a]
$\beta_5 RER_{i(t-1)}$	0.0030 [b]	0.0007	-0.0048 [b]	0.0092 [b]	0.0003	-0.0172 [a]
$\beta_6 PSC_{it}$	-0.0001	-0.0001	0.0000 [a]	-0.0001	-0.0043 [a]	0.0012 [a]
$\beta_7 PSC_{i(t-1)}$	0.0000	0.0000	0.0000	0.0001	0.0000	0.0014 [a]
S-H test	0.2669	0.2512	0.4140	0.3104	0.6398	0.1708
obs.	581	421	312	393	187	201

Table 4-2: Panel GMM estimation output for HOTELS (dependent variable liquidity).
Note: Symbol [a] or [b] means statistical significance at 1% or 5% level.
Source: Authors' estimations in EViews 10 software.

In Table 4-3 we see median values among all travel agencies compared to median values among those profitable. We see similar characteristics in Table 2. Clearly, the median values for ROA are higher in the case of those profitable companies and we see that travel agencies are more profitable than the hotels. Even median values for L2 are higher in the case of profitable companies including travel agencies, which are in better financial condition according to their

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

liquidity than the hotels. RER median values are also higher among profitable tourism companies. The lowest median values are evident among those CZ tourism companies, simultaneously for ROA, L2, and RER. However, medians for PSC among BG and CZ travel agencies are equal to zero, whereas we see negative value among these PL agencies. Lower negative median value of PL agencies than in the case of PL hotels means that PL travel agencies might have been more affected by the risk of secondary indebtedness.

		L2	ROA	RER	PSC
ALL	BG	1.44	10.33	40.90	11.90
	CZ	1.18	6.21	23.76	1.55
	PL	1.30	7.63	37.29	25.49
PROFIT	BG	1.55	13.85	41.59	0.00
	CZ	1.24	10.19	25.91	0.00
	PL	1.44	11.43	42.43	-10.04

Table 4-3: Median among all TRAVEL AGENCIES compared to those profitable.
Source: Authors' calculations in EViews 10 software.

As we see in Table 4-4, the positive relation between L2 and its lagged values from the previous year is not as strong as in the case of the hotels. In the case of profitable BG and PL travel agencies, this relation has changed into the negative. The biggest difference between the results for hotels is that we see statistically significant results among ROA coefficients. These relations are negative, except for the profitable CZ agencies when it is positive. The stronger negative effect is obvious among profitable PL agencies. Positive relations between RER and L2 are evident in all cases while the stronger impact is obvious among profitable agencies. On the other hand, the negative impact of PSC is evident and much stronger among profitable agencies, except for the CZ agencies. This relation is stronger among profitable PL agencies. Lagged PSC values are positive, but closer to zero.

	AGENCIES			**PROFITABLE**		
	BG	*CZ*	*PL*	*BG*	*CZ*	*PL*
$\beta_1 L2_{i(t-1)}$	0.1212 [a]	0.1739 [a]	-0.1146 [a]	-0.0230 [a]	-0.0546	-0.1394 [a]
$\beta_2 ROA_{it}$	-0.0316 [a]	0.0023 [a]	-0.0224 [a]	-0.0336 [a]	0.0056 [a]	-0.0744 [a]
$\beta_3 ROA_{i(t-1)}$	-0.0200 [a]	-0.0020 [a]	0.0010	-0.0070 [a]	0.0001	-0.0168 [a]
$\beta_4 RER_{it}$	0.0423 [a]	0.0044 [a]	0.0085 [a]	0.0973 [a]	0.0161 [a]	0.1057 [a]
$\beta_5 RER_{i(t-1)}$	0.0094 [b]	0.0012 [a]	0.0037 [b]	-0.0261 [a]	0.0078 [a]	-0.0044
$\beta_6 PSC_{it}$	-0.0001 [b]	-0.0001	-0.0166 [a]	-0.0068 [a]	0.0004	-0.0347 [a]
$\beta_7 PSC_{i(t-1)}$	0.0024 [a]	-0.0013 [a]	0.0008	0.0044 [a]	-0.0001	0.0086 [b]
S-H test	0.7658	0.9028	0.2024	0.1040	0.2373	0.1656
obs.	108	158	110	100	131	87

Table 4-4: Panel GMM estimation output for TRAVEL AGENCIES (dependent variable liquidity).
Note: Symbol [a] or [b] means statistical significance at 1% or 5% level.
Source: Authors' estimations in EViews 10 software.

From a technical point of view, all time series with annual data at its level have been proven as stationary. The null hypothesis assuming unit root process has been rejected among all panel variables in both cases, common as well as individual case. Contrarily, the S-H test accepts the null hypothesis of orthogonality among all estimated GMM models. The problem of multicollinearity is not relevant in the presented case because the two-step GMM model has been estimated with orthogonal deviations and level data in panels (not their first differences). Any limitations within our modelling can be attributed to heteroscedasticity among models' residuals. However, it is not possible to run any tests for heteroscedasticity according to the panel GMM specification.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

5 Conclusion and discussion

The aim of this chapter focused on issues of financial management, was to estimate how liquidity is affected by selected financial variables among profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. Three financial variables were selected, return on assets (ROA), retained earnings ratio (RER), and the average period of suppliers credit (PSC). In the case of the hotels, the ROA coefficients were not statistically significant at all, whereas in the case of travel agencies a negative relationship was estimated between ROA and liquidity, especially among those profitable agencies. This can be caused by differences in the business requirements of the hotels and travel agencies. Hotels have to have a lot of tangible assets which make up a large share of total assets, whereas the agencies tend not to. A hotel's liquidity could be decreased to invest in tangible or intangible assets to increase their profitability. However, in the case of agencies, the relationship between liquidity and investments is more obvious. We can also argue that hotels are in many cases owned by parent companies from abroad or they are a part of multinational chains, while agencies do not have opportunities for such kinds of financing. Therefore, the relationship among ROA and liquidity is significant only in the case of travel agencies.

The relationship between RER and liquidity was estimated to be positive among hotels as well as travel agencies, while it was stronger among profitable agencies than in hotels. This means that even in times of the global financial crisis, agencies especially had to reinvest their profits back into their businesses. These relationships may be also connected to the differences in business opportunities of hotels and agencies. Travel agencies are able to make a profit from almost one activity, whereas hotels are able to explore more business activities on the market. The crisis affected tourism as well and it is obvious that travel agencies had to protect their businesses due to decreasing demand during these times more than hotels. Oppositely, lagged values were negative which means that these reinvestments were not regular.

Finally, a negative relationship was estimated between PSC and liquidity. This means that when liquidity is increasing, it is not a necessity to use other debt sources from creditors and conversely when liquidity is decreasing, tourism companies need other financial sources in form of the supplier credit. Of course, it is not a long-term relationship, therefore lagged PSC values are positive in a few cases. From the point of financial management decisions, it is obvious that within the medium-sized tourism companies is definitely better to decrease their liquidity while investing in profitable assets to increase their profitability. To support liquidity it is important for these medium–sized tourism companies to reinvest their profits back into their businesses. Nonetheless, the owners must be satisfied. Therefore, the general board meetings and decisions made there, are extremely important. Furthermore, it was evident that tourism companies were able to use debt financing in the form of maximizing the period of time they had to pay the suppliers credit while the liquidity was decreasing. However, it was not possible to do this as much as they would have liked due to relations with the suppliers.

> "While the money manager's operations are primarily in the area of cash flows, he must be familiar with what is being done with the control of inventories, receivables, and payables. Each of these accounts should soon affect his company's cash position. Excessive inventories can drain funds needed for other purposes or might require borrowing. On the other hand, an interruption of production because of inventory shortages might be more costly than the extra inventories." (Sagan 1955, 123)

However, the inventories have been excluded from the investigation within this chapter. Furthermore, when we take into consideration the fundamental differences between the business activities of hotels and travel agencies, it is clear that fixed assets play a completely different role in both. While hotels are burdened by land and buildings with a majority share of fixed assets on its total amount, the opposite is true among travel agencies where this share is of a minor nature. From this point of view, we can assume that long-term investments would no longer be made that would fundamentally change the share of fixed assets among hotels. On the other hand, in the case of travel agencies, we can assume that the character of their business activities would not change in such a strong way that the minority share of fixed assets would become the majority share. Nonetheless, it would be interesting to estimate the relationship between liquidity and the cash conversion cycle and employ a share of fixed assets on the total amount on the balance sheet within future research. A comparison between more European countries (e.g. Central and Eastern Europe), would benefit from further investigation.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

Literature:

Akinci, Dervis A., Roman Matousek, Nemanja Radić, and Chris Stewart. "Monetary policy and the banking sector in Turkey." *Journal of International Financial Markets, Institutions and Money* 27 (December 2013): 269-285. https://doi.org/10.1016/j.intfin.2013.08.001.

Cagle, Corey S., Sharon N. Campbell, and Keith T. Jones. "Analyzing Liquidity." *Journal of Accountancy*, May 1, 2013. https://www.journalofaccountancy.com/issues/2013/may/20126764.html.

Chang, Chong-Chuo. "Cash conversion cycle and corporate performance: Global evidence." *International Review of Economics and Finance* 56 (July 2018): 568-581. https://doi.org/10.1016/j.iref.2017.12.014.

DeAlmeida, Juliano Ribeiro, and William Eid Jr. "Access to finance, working capital management and company value: Evidences from Brazilian companies listed on BM&FBOVESPA." *Journal of Business Research* 67, no. 5 (May 2014): 924-934. https://doi.org/10.1016/j.jbusres.2013.07.012.

Heryán, Tomáš, and Panayiotis Tzeremes. "The bank lending channel of monetary policy in EU countries during the global financial crisis." *Economic Modelling* 67 (December 2017): 10-22. https://doi.org/10.1016/j.econmod.2016.07.017.

Kourtzidis, Stavros A., Panayiotis Tzeremes, Nickolaos G. Tzeremes, and Tomáš Heryán. "Integration of tourism markets in Australia: An international visitor arrivals' convergence assessment." *Tourism Economics* (first published May 11, 2018). https://doi.org/10.1177/1354816618776184.

Lins, Karl V., Henri Servaes, and Peter Tufano. "What drives corporate liquidity? An international survey of cash holdings and lines of credit." *Journal of Financial Economics* 98, no. 1 (October 2010): 160-176. https://doi.org/10.1016/j.jfineco.2010.04.006.

Mun, Sung Gyun, and SooCheong (Shawn) Jang. "Working capital, cash holding, and profitability of restaurant firms." *International Journal of Hospitality Management* 48 (July 2015): 1-11. https://doi.org/10.1016/j.ijhm.2015.04.003.

Özbayrak, Mustafa, and Mine Akgün. "The effects of manufacturing control strategies on the cash conversion cycle in manufacturing systems." *International Journal of Production Economics* 103, no. 2 (October 2006): 535-550. https://doi.org/10.1016/j.ijpe.2005.11.002.

Petersen, Mitchell A., and Raghuram G. Rajan. "Trade credit: Theories and evidence." *Review of Financial Studies* 10, no. 3 (April 1997): 661-691. https://doi.org/10.1093/rfs/10.3.661.

Růčková, Petra, and Tomáš Heryán. "The Capital Structure Management in Companies of Selected Business Branches of Building in Conditions of the Czech Republic." *Prague Economic Papers* 24, no. 6 (December 2015): 1-16. https://doi.org/10.18267/j.pep.515.

Sagan, John. "Toward a theory of working capital management." *Journal of Finance* 10 (May 1955): 121-129. https://doi.org/10.1111/j.1540-6261.1955.tb01259.x

Sherman, Eliot H. "Ratio Analysis for Financial Statements." In *A Manager's Guide to Financial Analysis. Powerful Tools for Analyzing the Numbers and Making the Best Decisions for Your Business*, edited by Eliot H. Sherman, 39-84. New York: American Management Association, 2015.

Wang, Yung-Jang. "Liquidity management, operating performance, and corporate value: evidence from Japan and Taiwan." *Journal of Multinational Financial Management* 12, no. 2 (April 2002): 159-169. https://doi.org/10.1016/S1042-444X(01)00047-0.

Zeidan, Rodrigo, and Offer M. Shapir. "Cash conversion cycle and value-enhancing operations: Theory and evidence for a free lunch." *Journal of Corporate Finance* 45 (August 2017): 203-219. https://doi.org/10.1016/j.jcorpfin.2017.04.014.

Heryán T. and P. Růčková, 2019. Financial variables affecting the liquidity of those profitable medium-sized companies within tourism in Bulgaria, the Czech Republic, and Poland. In: Mileva, S. and N. Popova, 2019. *Research, Development and Education in Tourism*. Chapter 11, pp 181-198. Cambridge Scholars Publishing. ISBN 978-1-5275-3719-4.

List of Abbreviations:

ACP	Average Collection Period
APP	Average Purchase's Period
BG	Bulgaria
CCC	Cash Conversion Cycle
CP	Creditor's Payables
CZ	Czech Republic
DPI	Days Purchases in Inventories
DR	Debtor's Receivables
EBIT	Earnings Before Interest and Taxes
GMM	Generalized Method of Moments
IN	Inventory
L2	The Acid test for liquidity
OR	Operating Turnover
PL	Poland
PSC	Period of Suppliers Credit
RER	Retained Earnings Ratio
ROA	Return On Assets
ROE	Return On Equity
S-H	Sargan-Hansen
WIP	Work in Progress

Ing. Tomáš Heryán, Ph.D.
Department of Finance and Accounting
School of Business Administration in Karviná, Silesian University
Univerzitní nám. 1934/3, 733 40 Karviná, Czechia
E-mail: heryan@opf.slu.cz

Doc. Ing. Petra Růčková, Ph.D.
Department of Finance and Accounting
School of Business Administration in Karviná, Silesian University
Univerzitní nám. 1934/3, 733 40 Karviná, Czechia
E-mail: ruckova@opf.slu.cz