Report on the 9th Annual Financial Market Liquidity Conference*

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One of Hungary's key international conferences on finance, which has also featured prominent speakers from abroad, was held for the ninth time at the Corvinus University of Budapest. Similarly to previous years, the Annual Financial Market Liquidity Conference was organised by the Department of Finance at the Corvinus Business School, and the Game Theory Research Group of the Centre for Economic and Regional Studies of the Hungarian Academy of Sciences. The conference, which took place on 15–16 November 2018, was financed by the Foundation of the Department of Finance, and key supporters of the event included KELER CCP, OTP Bank, the Institute for Training and Consulting in Banking, the CFA Society Hungary, the Department of Finance at the Faculty of Economic and Social Sciences of the Budapest University of Technology and Economics as well as international companies and associations, such as Morgan Stanley, MSCI and the European Federation of Financial Analysts Societies (EFFAS). The programme of the two-day event included lectures by nine renowned foreign experts and one domestic invited expert, and the agenda was completed by a series of papers and posters submitted to the conference. The increasing prestige of the conference is reflected in the fact that the programme has been enlarged from year to year: at the 2019 event, participants could listen to a total of 47 lectures, and during the breaks they could see the results of another 20 research studies in poster form. The international character of the conference is best highlighted by the fact that its participants represented every continent: 170 university teachers, researchers, PhD students and analysts from 25 countries registered for the event. The speakers came from 21 countries representing 28 foreign and 6 domestic universities or research institutes.

The conference was opened by *Mrs Zita Zoltay-Paprika,* Dean of the Corvinus Business School. After greeting the speakers and attendants, she highlighted that the conference was becoming more and more successful, and reflecting the improvement in the standards and international reputation of the conference, even more journals than last year (including Studies in Economics and Finance, Finance

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Research Letters, Journal of Corporate Finance, Emerging Markets Review, Journal of International Financial Markets, Institutions & Money, Journal of Multinational Financial Management, Risk Management) had notified their wish to receive the papers of the participants on that occasion as well.

The keynote speaker of the opening plenary section was *Edward I. Altman*, the Max L. Heine Professor of Finance, Emeritus at New York University's Stern School of Business and Associate Editor of financial journals including the Journal of Credit Risk and the International Journal of Banking, Accounting & Finance. He gave his lecture 50 years after he first published his multivariable method for evaluating the financial status of US manufacturing companies. In view of the experience gained, the speaker placed the Z-score method developed by him in the wider context of developments in scoring systems. According to the literature, owing to its simplicity, repeatability and reliability, the Z-score method is still an essential and very widely used model for predicting bankruptcy, and the most frequently applied model for comparing results. In the basic 1968 model, calculating the Z-score clearly identified the thresholds for determining if a company was financially healthy or was at risk of default. These thresholds have been widely applied, but are no longer relevant, as bond markets have undergone a significant change, with leveraged loans receiving a boost and indebted companies taking out further loans, with competition increasingly globalised and with the changing distribution of credit ratings. Therefore, an enhanced version of the Z-score model taking account of changed circumstances is to be applied. At the end of his lecture, Altman mentioned where the world stands today in the credit cycle. He is of the opinion that we are now in a benign credit cycle characterised by an increase in credit portfolios and liquidity, low interest rates, a low likelihood of bankruptcy, and high recovery rates. However, he advised that the Z-score results for 2017, the excessive and global indebtedness of several sectors, certain international processes such as the slowdown in economic growth in China, the high likelihood of a recession in major economies and last but not least the general increase in interest rates should be read as cautionary signs.

Following this, lectures in parallel sections were held. The main topics were market microstructure, derivatives, macroeconomics, risk management and quality of life, asset pricing and investments. Theoretical and empirical examinations of market liquidity were also discussed. On the first day, four invited researchers gave lectures in parallel sections.

In the section concerned with the theoretical aspects of liquidity, *Alexander Szimayer*, Professor at the University of Hamburg, presented the effects of a firm's rating in a game theoretical model with asymmetric information. In his model, the informed player, i.e. the manager-owner of a firm decides whether to stay solvent by injecting new equity in low cash-flow states. Rating agencies as outsiders

learn the firm's quality (rating) and creditworthiness in presence of a measurement error regarding the firm's cash flow. All of this feeds back into the firm's strategic choice of staying solvent or defaulting on its debt. The main conclusion of the model is that the decisions of the two players – the rating agency and the firm – have a mutual influence on each other: rating affects the cost of finance, the firm makes its decision accordingly, which again affects rating. The rating agency rules out more and more reactions of the firm during this interaction, however, at a certain point, the actual option is over the estimation of the rating agency, and thus the rating agency overestimates the measurement error. Under consideration of these measurement errors, the firm delays its default decision, and consequently increases the value of own funds to the expenses of debtors (lenders).

In the section discussing the empirical issues of liquidity, the first speaker, *Niklas Wagner*, Professor at the University of Passau, presented a regression model to explain the extra yield on US stocks, using several liquidity[1] and risk[2] indicators. The speaker's key question was whether regression models based on these indicators allow better forecasting of extra yields on US stocks than the historical average model. The results show that in the period preceding the 2008 global financial crisis, models based on macroeconomic indicators and the TED spread performed better than historical averages. Besides the two indicators, during the financial crisis it was also possible to perform the forecast with the ARMA model, a method for time series analysis, while after the crisis all models based on the indicators performed better.

In the same section, *Igor Loncarski*, Associate Professor of Finance at the University of Ljubljana, examined in his lecture the features of insider trading in the foreign exchange market. An excellent illustration was the case of an inside trader prosecuted in Australia and an employee of the Australian Bureau of Statistics. In his presentation, he aimed at answering the question of how inside traders try to hide their insider information while reducing their losses from accidental market movements. In his study, he used spot currency pairs. He applied the CUSUM test (cumulative sum control chart) for identifying abnormal – insider – trading activities. In the period under review, the test monitors the instable movement of yields by tracking the cumulative sums of the error terms. He outlined that during the execution of their transactions, inside traders presumably try to select the trading dates – directly prior to the announcement of the insider information in question – when the direction of movements in the market is highly forecastable, and the risk of sudden exchange rate movements is low. The presented results confirmed the fact that regulatory authorities and actors interested in the surveillance of the

[1] Stock market liquidity: Amihud indicator, Roll-spread, funding liquidity: TED-spread – the difference between the 3-month LIBOR and the yield on the 3-month US Treasury Bill.
[2] VIX index, and macroeconomic and economy policy uncertainty

market must pay close attention to trading periods around announcement dates in order to be able to detect insider trading.

In the section focusing on the issue of risk management and quality of life, *Md Hamid Uddin*, Associate Professor at Taylor's University, Malaysia, gave a lecture on cybersecurity risks in the banking sector, which may bring a fundamental change in the general perception of bank stability directly linked to global financial markets. The speaker examined the relation between cyber risks and risks related to the performance and operation of the institution. He also pointed out the impact of cybersecurity disclosures on the governance of banks. Risks related to cybersecurity can be seen as a systematic risk – the focal point was on banks that connect the corporations of several sectors through their operations. Banks have to continuously improve their IT systems and therefore have to cope with increasing operating costs. Vulnerable IT systems increase the vulnerability of banks as well as their operational risks, eventually leading to decreased profitability. In the course of improving their IT systems, banks are also exposed to the risk that their IT security systems, due to external contractors mainly involved in development, will remain in the hands of an external party that may have access to confidential data including critical resources. Overall, it can be stated that the top management of banks play an important role in reducing cybersecurity risks.

The first day was closed by a plenary section. In the first lecture, *Seema Narayan*, Associate Professor at the Royal Melbourne Institute of Technology, discussed the indebtedness of US companies, drawing attention to the impacts of changes in the macroeconomic environment. The companies examined were S&P 500 non-financial companies. The speaker's model analysed the period between 2000 and 2018. The macroeconomic indicators included GDP growth and industrial production, the inflation rate, the nominal interest rate, and other financial factors consistent with the optimisation of the financing structures of the companies. The key conclusion of the analysis distinguishing between corporations with strong and with weak balance sheet positions is that the financial crisis had a much stronger impact on highly indebted companies than on those that are less indebted. In addition, further interesting conclusions can be drawn from the results: 1) when making short-term debt decisions, companies ignore the level of economic activity, 2) during recessions, inflation does not play a role in short-term debt decisions, 3) during recessions, smaller-sized, less indebted companies ignore the effects of tax savings stemming from the level of interest rates and lending.

The last speaker of the day was *Douglas Cumming*, DeSantis Distinguished Professor at the College of Business, Florida Atlantic University, and Editor-in-Chief of the Journal of Corporate Finance. He has published over 150 articles in leading refereed academic journals in finance, management and economics. In his lecture, Cumming talked about the relation between stock price manipulation and corporate finance

businesses such as fusions and acquisitions as well as innovation. In the literature, this topic is exclusively discussed in terms of market microstructure. The findings of his research highlight that manipulation is harmful and it affects not only market microstructure, but also management decisions. In the case of corporate fusions, he found that in addition to decreasing the purchase premium, price manipulations significantly increase the probability of withdrawing the tender offer. In his opinion, this negative effect could be reduced by regulating trading in the greatest detail. In respect of innovation, robust empirical results indicate that enhanced liquidity encourages innovation, but this positive effect may be undermined by manipulation.

The second day of the conference opened with a plenary section with two lectures delivered by renowned foreign invited experts. *Thomas Walker*, Professor of Finance at Concordia University, Montreal, examined in his lecture the role of social innovation, and in particular the financing of social issues. In his introduction, he presented an initiative in Canada implemented with the aim of providing locally grown fresh vegetables at available prices, on a sustainable basis and with a lower environmental impact by facilitating the development of local communities in areas which are difficult to reach. As a possible technological solution he mentioned aquaponic food production in which aquaculture and media-based crop production is accomplished in a symbiotic ecosystem. One of the most important questions is certainly how we can finance these social initiatives. The second part of the lecture presented a range of innovative financing solutions, including community, green or social impact bonds, long-term "patient" capital, solidarity guarantee as well social funds and solidarity-based FinTech solutions. These models lend targeted support to socially useful initiatives by keeping short-term or even long-term yield expectations at moderate levels and by linking financial return to social impact.

The second lecture of the plenary section was given by *Jonathan A. Batten*, Professor of Finance at University Utara Malaysia and Managing Editor of journals Emerging Markets Review and Journal of International Financial Markets Institutions and Money, and Co-editor of Finance Research Letters. He focused on the time-varying, dynamic co-movements among crude oil and major commodities, and their role in hedging market price risks. The speaker examined the relationship between West Texas Intermediate (WTI) crude oil and five agricultural commodities (corn, wheat, rice, sugar and cotton) and three metals (gold, aluminium and copper) in the period between January 1990 and June 2017. Using the results of the correlation analyses of yields, first he pointed out that primarily aluminium and copper had a positive correlation with oil prices. Then he presented the results of examining the hedging error of a portfolio of two elements comprising oil and a commodity. Analysing the time-varying hedge ratio requires the estimation of conditional variances and covariances in a modelling environment taking into account the volatility of the time series of the two elements as well as the delayed effects and cross effects. The

analysis pointed to the fact that the global financial crisis had a significant impact on hedge ratios which tended to increase primarily for copper and corn. Testing the efficiency of hedging, it was concluded that aluminium and copper provided the highest – but very time-varying – hedging effectiveness, and it significantly increased in the case of corn during the global crisis. Thus, Batten's key conclusion was that the time-varying co-movement among crude oil and major commodities allows for risk diversification by way of a portfolio that combines a long position in an asset with a short oil position. However, it requires continuous monitoring and rebalancing of the hedged position. The method can also be applied for reducing the exposure to the risk associated with a portfolio of non-sustainable energy assets.

On the second day, parallel sections were held where experts discussed subjects such as banking, social innovation, liquidity and high frequency trading, and topics related to corporate finance and liquidity, at both the theoretical and the empirical levels.

In the theoretical section, *Andras Bohak,* Head of Risk Management and Liquidity Core Research at MSCI, presented a lecture. He discussed the liquidity management of investment funds and its impact on investors. This subject is very topical given that both the rules of the Securities and Exchange Commission of the United States of America (SEC) and the guidelines of the International Organization of Securities Commissions (IOSCO) on liquidity risk management are encouraging US funds to manage liquidity risks more efficiently. The speaker defined the two major risks associated with the liquidity management of funds: dilution risk and the probability of a future liquidity crisis. He also presented the tools suitable for managing these risks. He explained that dilution occurs when due to the imbalance of the buy and sell side, the fund's assets are traded in the given asset market, and transaction costs are spread across the investors of the fund. Consequently, short-term investors in the fund, often traders, have a cost advantage over long-term investors.

At the end of the conference, in the name the organising committee, Barbara Dömötör expressed her hope that the 2018 conference had contributed to further increasing the professional reputation of the event. She thanked the speakers for their work, and the attendees for their participation. She also announced that the jubilee 10th Annual Financial Market Liquidity Conference to be held on 14–15 November 2019 was open for application (http://afml.uni-corvinus.hu).