

Report on the 8th Annual Financial Market Liquidity Conference*

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Hungary's major international conference on finance, which has featured prominent speakers also from abroad for many years, was held for the eighth time at the Corvinus University of Budapest. The Annual Financial Market Liquidity Conference was organised by the Financial Research Centre of 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 17–18 November 2017, was financed by the Foundation of the Department Finance, and key supporters of the event included the Budapest Stock Exchange, KELER CCP, OTP Bank, the Institute for Training and Consulting in Banking, CFA Society Hungary 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 five renowned foreign and three domestic invited experts, and the agenda was supplemented by a series of papers and posters submitted to the conference. The attendants could listen to a total of 35 lectures, and the results of 10 further research studies were presented in poster form. The speakers came from 15 countries – ranging from the USA to Australia and including Brazil and Japan – representing 29 foreign and 6 domestic universities or research institutes. Some 180 participants registered for the event, and the audience included university teachers, analysts, researchers and PhD students from more than 20 countries representing 34 foreign and 21 domestic universities and institutes.

The conference was opened by *Mrs. Zita Zoltay-Paprika*, Dean of the Corvinus Business School. She greeted the participants, speakers and attendants, and thereafter highlighted that – reflecting the successes and improvement in the standards and international reputation of the conference – even more journals than last year (including *Studies in Economics and Finance*, *Finance Research Letters*, *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.

* The papers in this issue contain the views of the authors which are not necessarily the same as the official views of the Magyar Nemzeti Bank.

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The keynote speaker of the conference was *Andrew Karolyi*, who is of Hungarian origin, Harold Bierman Jr. Distinguished Professor at the SC Johnson College of Business, Cornell University, and who also serves as Executive Editor of the *Review of Financial Studies*, one of the top-tier journals in finance. Karolyi gave a highly professional lecture on the so-called “home bias” phenomenon, i.e. the bias in investor behaviour towards domestic financial products. Defining this distortion as the discrepancy between the share of domestic products in a portfolio and the weight of the country in the global market, he pointed out using Hungarian and international data that this phenomenon can be considered to be global. According to figures from an IMF survey of 2010, the level of home bias in Hungary is 60 per cent. This means Hungarians overinvest in domestic assets to the same extent as the Swiss or the French. He pointed out, however, that this phenomenon hinders investment efficiency. Providing an overview of the root causes of this phenomenon, he also presented the findings of his own repeated survey among researchers in the field. Respondents ranked informational disadvantages as one of the key factors, followed by mismeasurement of benefits and behavioural-based explanations. At the end of his lecture, Karolyi mentioned that models assuming a difference between domestic and foreign investors in interpreting information could describe and explain the phenomenon. He also mentioned that the latest research among international investment fund managers corroborated the key role of informational advantages/disadvantages in overweighting domestic products.

In the plenary section after the keynote lecture, *Jonathan A. Batten*, professor at the Australian Monash University and Managing Editor of several journals (*Emerging Markets Review*, *Journal of International Financial Markets Institutions & Money*, and *Finance Research Letters*) gave his lecture on the co-movement between oil and stock markets, and on how oil transactions help to hedge against stock market risks. A shift towards the use of green energy sources and the fight against global warming through the reduction of greenhouse gases has put pressure on the oil market. These developments affect investors’ portfolios that include energy shares. In the context of the above, the speaker summarised the findings of a research studying the Asian markets between 1990 and 2017. The empirical results show that after the global financial crisis, the close co-movement between stock market indices and oil prices cannot be generalised, and the degree of correlation between oil and stock markets changes over time. As a result of this, in a significant part of the period analysed, the two markets – under regular market conditions – could be regarded as “segmented”, which allowed investors to hedge risks resulting from one market by using the other market. The benefits of diversification by holding oil and stock portfolios could be realised, enabling investors to make positive risk-adjusted returns. Batten highlighted that new technologies, such as horizontal drilling and hydraulic fracking, present challenges for investors through the predictability of

prices, and systemic risks induced by decarbonisation would be high in periods when energy markets closely follow the trends observed in other markets.

The second lecture of the plenary section was given by *Thorsten Hens*, professor at the University of Zurich and adjunct professor at NHH – Norwegian School of Economics. Hens examined the role of high-frequency trading embedded in an evolutionary model in which trading strategies adapt to each other. He presented two evolutionary models; one of them included high-frequency traders, whereas the other did not. Based on the findings, as a result of the presence of high-frequency traders, active speculators suffer serious losses, while the impact on passive investors following a buy-and-hold strategy is negligible. On the whole, this encourages investment in the market portfolio and considerably reduces overall turnover. However, the development of other market measures shows that all this has no significant impact on the quality and efficiency of the market.

In the closing lecture of the plenary section, *András Bohák*, Vice President in MSCI's Risk and Regulation Research Team presented the application of MSCI's Liquidity Metrics model that the company developed in the US municipal bond market. The attendants heard a lecture on the special features of a market which usually collects contributions to finance community projects, and where there are a lot of bonds, but most of them are never traded, and buy or sell bids are never placed for them. This latter anomaly poses a real challenge in the modelling of risks, and this is what MSCI's Liquidity Metrics model offers a solution for. In the market examined, 349 groups of municipal bonds can be identified with this methodology. Floating-rate instruments of 30-year maturity with interest rates adjusted daily or weekly (puttable VRDO instruments) represent a major group. In addition, four main groups of the issuing states can be distinguished, with one of them being the group that consists of the states of California and New York. Some other group formation features: taxation of bonds (burdened with tax or not), interest rates (fixed, floating), aim of the issuance and finance. A further characteristic is that the distinguished groups (the ratings of bonds) are not sufficiently homogenous. On the whole, Bohák emphasised that although data are important, it is even more important to understand the market and interpret the data correctly.

Following this, lectures in parallel sections were held. The lectures classified in eight sections were focused on the aspects of behavioural economics, bank runs, issues relating to taxation on securitisation and transactions, commonality in liquidity, the spilling over and the effects of predictability and liquidity, lending and interbank market, risks of investments, and theories and experiments relating to liquidity. Two invited researchers gave lectures in the parallel sections.

The section concerned with the aspects of behavioural economics included the presentation by invited speaker, *Niklas Wagner*, professor at the Finance and

Financial Control Research Group of the University of Passau and Editor-in-Chief of the journal *Studies in Economics and Finance*. The intertemporal risk-return relationship is not clear-cut in the literature: there are examples of positive, negative and insignificant relationships. Wagner presented the findings of the study on the relationship between these two financial concepts. An important feature of the presented analysis is the consideration of the effect of trading breaks, since it has been pointed out in the literature that investors expect premium over non-trading periods due to a lack of opportunity for trading. The lecture was supported by data on yields on exchange-traded investment funds, with market premium broken down to premium over trading and non-trading periods, so we could observe that the pricing of risk premium is significantly different for trading and non-trading periods. In these latter cases, risk premium is positive and significant, even if the effect of the control variables is taken into account.

In the section concerned with lending and interbank market, *Gábor Vigh*, Head of the Counterparty Exposure Modelling Group at Morgan Stanley gave a lecture on the change in the difference between LIBOR and Overnight Indexed Swap (OIS) rates. This difference used to be negligible until 2007, but then the global crisis increased it due to the significant credit and risk premiums priced into LIBOR rates. As a new development, the prices of instruments linked to LIBOR rates started to take stochastic differences. Such a divergence in the two rates demanded a review by the market of its modelling assumptions, pricing, and hedging strategies. The speaker presented the findings of his research work on the effects of the stochastic LIBOR-OIS spread, including the difference of the distribution of future client exposures that the model with a stochastic spread shows, compared to the deterministic spread prevalent in markets.

The conference was closed with a plenary section. The first lecture of the section was given by *Christoph Kaserer*, professor at the Technical University of Munich. Kaserer discussed how open-end investment funds and exchange traded funds (ETFs) – the prices of which always follow the price trends of a product (stock exchange price index of a country, raw material, etc.) – affect stock market liquidity. The presented analysis examined the relationship observed in the German market between 1 July 2002 and the end of 2014. In a sample of more than 3,000 trading days, an improvement in market liquidity was observed. Based on liquidity-motivated trading of portfolio managers managing open-end investment funds, the study revealed that trading such funds had a positive effect on market liquidity in Germany. Furthermore, open-end investment funds' contribution to market liquidity has become stronger since the financial crisis in 2008–2009. In addition, it was also observed that the positive effect was mainly driven by highly skilled/highly effective mutual fund managers through their information processing ability. At the same time, ETFs did not affect (or negatively affected) market liquidity, which

leads back to the mechanism of ETF's creation and redemption process as well as the involvement of market makers.

The conference's closing lecture was given by *Imre Kondor*, member of the Parmenides Foundation, Pullach/Munich and London Mathematical Laboratory and the Complexity Science Hub Vienna, Honorary Professor at the Corvinus University of Budapest on the theme of portfolio optimisation. The typical task of portfolio optimisation is to maximise the expected yield of the portfolio using fundamental indicators (covariance matrix and the vector of expected yields), while minimising the variance. The speaker focused on the type of variance optimisation which is based on the sum of the absolute values of the weights of financial instruments. A limitation of the optimisation is that compared to the number of assets in the portfolio, data are usually insufficient to assess the input parameters of the optimisation. In order to address this mathematical problem (the singularity of the covariance matrix), standard softwares (R, Matlab) use regularisation techniques. However, unfortunately, not only university student users, but also risk and asset managers are usually unfamiliar with the details of these problem-solving algorithms built into the programmes, as well as with the risks and scope for errors arising from their use. In the course of the optimisation process, *the ratio (r) of the number of assets in the portfolio to the length of the time series (the size of the sample)* is an important control parameter. The key conclusion of the lecture is that the interval of ratio r where the optimisation of the portfolio is feasible can be extended with a limit based on absolute values, however, results are still not favourable. If the number of assets in the portfolio is significantly lower than the sample size, the value of r is small, and the regularisation has no role to play. However, if the value of the ratio r is adequately large (exceeds the critical $r=2$ value), the estimation error is so large that optimisation becomes senseless.

At the end of the conference, *Barbara Dömötör*, chair of the organising committee expressed her hope that the 2017 conference had contributed to further increasing the professional reputation of the event and had covered themes and launched debates that would be worth addressing again at the next year's conference. She thanked the speakers for their work, and the attendants for their participation. She also announced that the next, 9th Annual Financial Market Liquidity Conference to be held on 15–16 November 2018 was open for applications (http://www.uni-corvinus.hu/index.php?id=liquidity_conference), and was looking forward to welcoming everyone back.