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New Economic School Skolkovo Innovation Centre 3 Nobelya ul. Moscow 121205 Russia

PROFESSIONAL EXPERIENCE:

ACADEMIC POSITIONS

2018 – present New Economic School, Moscow, Russia

Vice-Rector for Corporate Projects, Vice-Rector for Strategic Development (till May 2021), Professor (since 2022), Member of the School Endowment Board

2012 - 2017European University at St.Petersburg, Russia

Department of Economics

Head of the Department, Barclays / JTI Professor of Applied Finance, Member of the **University Endowment Board**

FINANCIAL SECTOR

2008 - 2012Royal Bank of Scotland, Global Banking and Markets, London, UK

Vice-president, quantitative analytics group, front office, foreign exchange markets Responsibilities:

- new products and structures rollout, commoditisation
- management of the transition from ABN AMRO quantitative analytics libraries to RBS FX quantitative platforms
- novation of trades on ABN AMRO books to RBS trading books; reimplementation of structured products on RBS pricing systems
- FX smile-surface modelling (spline and SABR-type interpolation)
- implementation of a mixture type local volatility model with stochastic jumps in volatility for smile pricing of flow exotics
- implementation of various trading rule-of-thumb tools providing a fall-back modelling of the FX smile in single and multiple currency pair worlds
- various enhancements to the Heston stochastic volatility model (TS, double, 2 ccy, fast approximation, control variates, etc)
- enhancements to in-house local-stochastic vol model (PDEs, MCs)
- implementation of a new arbitrage free multi-ccy smile model
- development of a new method of extremely fast correction of broken correlation matrices

2005 - 2008ABN AMRO Bank NV, London, UK

Quantitative analyst, front office, foreign exchange markets Responsibilities:

- new investment strategies, products and structures rollout, commoditisation
- implementation of the Heston stochastic volatility model for long dated FX exotic contracts (incl. Fourier transform pricer, calibration to vanilla market, Monte Carlo pricer)

- development and implementation of multi-currency products (in particular, baskets, quantos, spreads, rainbows, etc)
- implementation of a "smile flipping" tool providing for a correct smile representation from different currency perspectives
- GARCH modelling of a correlation predictor tool
- testing and validation of new models and products; back-testing of certain fixed income investment strategies
- maintenance of an extensive C++ pricing library
- development of complicated pricing Excel spreadsheets for pricing multi currency exotic products (with an extensive use of VBA and C++ add-ins)
- quantitative support to traders and structurers on new and existing models
- liaison with model validation and IT to ensure efficient delivery and correct integration of quantitative model code

2000 N M Rothschild & Sons Ltd, London, UK

Summer Associate on the Financial Institutions Team, Investment Banking Division Responsibilities:

- research assistance with analysis of M&A in the European (in particular Hungary and the Czech Republic) banking sector
- research for client presentations

TEACHING

2020 - present New Economic School, Moscow, Russia

Courses: Lont-term Asset Management (graduate), Macroeconomics (executive), Modern Financial Markets (executive), ESG in Banking (executive)

2013 – 2017 InvestIN Education Ltd / University College, London, UK

The Young Investment Banking Professional programme

Regular one- and two-day workshops in *Investment banking* and *Securities trading* for graduates of British schools and BA-level students of UK universities

2011 – 2017 **European University at St.Petersburg**, Russia

Department of Economics

Courses (graduate): Financial markets and institutions, Asset pricing and portfolio management, Mathematics for economists, Applied financial modelling

2001 – 2004 University of Oxford, UK

Courses (undergraduate): *Macroeconomics, Mathematics for economists, Statistics* at Somerville, Exeter, New and Harris-Manchester colleges and the Department of Economics

TA / Script marking (graduate): Microeconomics

Involvement in admission and selection of undergraduate students

2001 Washington International Studies Council, Oxford, UK

Courses (graduate and undergraduate): *Business calculus* targeted at American students visiting Oxford

1999 St.Petersburg University for Economics and Finance, Russia

Higher School of Economics

Seminars in *Derivatives* to post-graduate students and business representatives

1998 – 1999 European University at St.Petersburg, Russia

Department of Economics

TA / Script marking (graduate): General equilibrium theory, Mathematics for economists, Econometrics

1996 **St.Petersburg State University**, Russia

Department of Applied Mathematics

Seminar (graduate): Algorithms and methods of scheduling theory

CONSULTING SERVICES

2021-2022 Sber Bank, Russia

Developing a model for accounting climate change risks in credit valuation

adjustments

2018 FC Zenit St Petersburg, Russia

Analysing the Club's financial fair play position in negotiations with the UEFA

2016 **Gazpromneft**, Russia

Developing a sorting/optimisation tool for selection of investment projects based on

their financials

EDUCATION & QUALIFICATIONS:

1999 – 2006 University of Oxford, St. Antony's College

MPhil (2001), DPhil (2006), Economics

Concentration: Macroeconomics, Econometrics, Labour Economics

Thesis: "Essays on Labour Markets in Eastern Europe"

1996 – 1999 European University at St. Petersburg, Russia

MA, Economics (top 15%)

Concentration: Macroeconomics of Transition, Labour Economics

1997 – 1999 St. Petersburg Institute for Economics and Mathematics, Russian Academy of Sciences

Incomplete PhD-level studies

Concentration: Macroeconomics of Transition, Labour Economics

1992 – 1997 St. Petersburg State University, Russia

MSc, Applied Mathematics (top 15%)

Concentration: Operational Research, Dynamic Optimisaton, Programming

Technologies

AWARDS and GRANTS:

• Vladimir Potanin Foundation (Russia)

A group research grant «Endowments and Foundations in the Times of Crisis» (2021-2023)

• Stepik Challenge (Russia / USA)

A grant towards creating a Massive Open Online Course in *Investment Banking* (2014)

Agency for Strategic Initiatives (Russia)

A special token of recognition for contribution to the *Global Education* programme run under the auspices of the President of Russia (2014)

• Overseas Research Student Award (UK) and James Watt Graduate Scholarship (UK)

in Economics at Heriot-Watt University, Edinburgh, Scotland (not taken since stayed in Oxford, 2001-2004)

• N M Rothschild & Sons Ltd (London, UK)

Scholarship in Economics for studying at the University of Oxford (1999-2003)

• Open Society Support Foundation (OSSF, Eastern Europe)

Research Support Scheme Individual Grant №824/1999 «Wage Differentials between the State and Private Sectors in Russia» (1999-2000)

HESP-Soros Foundation

Scholarship for studying at the European University at St.Petersburg (1997-1998)

• Economics Education and Research Consortium (EERC-Russia)

Group Research Grant №R96/1-095 «The Transformational Decline and Preconditions of Growth in Russia» (1997-1998), Research Development Grant №R98/1-240 «Wage Differentials in the Russian Economy» (1999-2000)

LANGUAGES:

Russian (mother tongue), English (bilingual proficiency), Italian, Spanish, French, Polish (good working knowledge), Finnish, Mandarin (beginner)

PROGRAMMING LANGUAGES:

C/C++, MS Visual Basic (industry-level proficiency), Ox, R, Python, Turbo Pascal (academic-level proficiency)

OTHER RESPONSIBILITIES:

Work in IT

- St. Antony's College, Oxford; graduate IT assistant (IT advice and consulting, 2002-2003)
- Oxford University Salsa Society; IT officer and webmaster (2001-2003)
- Organising Committee for the Goodwill Games'94, St.Petersburg, Russia, IT specialist (1994)
- Developer (Turbo Pascal, C, Autocad) in a number of private enterprises in St.Petersburg, Russia (1993-1996)

Voluntary work

- Calvert 22 Foundation, London, UK member of the board of trustees (2018 2019)
- European University at St.Petersburg Alumni (Europe) e.V. Association (Berlin, Germany) a founding member and vice-president (2008-2013)
- Atlanta Committee for the Olympic Games (ACOG), Atlanta, USA (security team work, 1996)
- Organising Committee for the Goodwill Games'94, St. Petersburg, Russia (IT team work, 1994)

SELECTED PUBLICATIONS / WORKING PAPERS:

ACADEMIC

- Endowments and Foundations in the Times of Crisis: A Comparative Analysis of the Russian, Swedish, and UK Markets (with C.Sprenger and S.Einarsson, in progress)
- When are Insurers Long Climate Change? (with K.Ilinski and A.Lobanov, in progress)
- Desynchronisation of Emerging and Frontier Stock Markets: A Comparison of Russia, Iran, and South Korea (with A.Romashko, in progress)
- Finding the Nearest Valid Covariance Matrix: The FX Market Case (with A.Minabutdinov and I.Manaev), Journal of Computational Finance, Vol. 24(2), September, 2020, pp. 103-127
- In the Mirror of Supermodels: Tales of Models in Financial Economics (with K.Ilinski), a 2-volume monograph, 910p., Nauka Publishers, 2020 (in Russian) A runner-up in the «PWC Business Book 2021 in Russia» competition
- Can Businesses Manage Economic Risks? Challenges for the Russian Financial Sector, a chapter in book «Future of the Russian Economy», ed. Ruben Enikolopov, Bombora, Moscow, 2020 (in Russian)
- Finance and Financial Reporting (with A.Kudriavtsev and S.Kollaida), a textbook for students in actuarial science, EUSP Press, 332p., 2016 (in Russian)
- State Regulations, Job Search and Wage Bargaining: A Study in the Economics of the Informal Sector, William Davidson Institute Working Papers Series 764, William Davidson Institute at the University of Michigan Stephen M. Ross Business School, USA, 2005
- Diverging Paths: Transition in the Presence of the Informal Sector, William Davidson Institute Working Papers Series 689, William Davidson Institute at the University of Michigan Stephen M. Ross Business School, USA, 2004
- Official Regulations and the Shadow Economy: A Labour Market Approach, William Davidson Institute Working Papers Series 524, William Davidson Institute at the University of Michigan Stephen M. Ross Business School, 2002
- Labour Supply, Informal Economy and Russian Transition, William Davidson Institute Working Papers Series 408, William Davidson Institute at the University of Michigan Stephen M. Ross Business School, USA, 2001

• Transformational Decline and Preconditions of Growth in Russia (with V.Matveenko & E.Vostroknutova), *EERC Working Paper Series 98-03e, EERC Research Network, Russia and CIS*, 1998

NON-ACADEMIC

- Numerous publications including *Vedomosti* (a leading Russian business daily), *Finans* (a now defunct Russian business magazine), where I ran regular columns in 2010 –2020, *Forbes* (Russia), *Harvard Business Review* (Russia), *CBonds Review*, the *UN Habitat Debate*, and on online-portal *Republic* (formerly *Slon.ru*)
- Other, non-economics related publications include contributions to the *American Alpine Journal* (annual 2012 issue) and the website of the *Russian Geographical Society*

OTHER INTERESTS:

In free time I enjoy reading and travelling. An avid mountaineer I have climbed (up to AD) in all major mountain ranges except for Antarctica. I am a member of the Russian «7 summits» club, the British Mountaineering Council, and the Russian Geographical Society