

Curriculum Vitae of Mr. Dr. Axel Sauer

I. Personal Data

Family name: Sauer, Dr.
First names: Axel, Stephan
Date of birth: December 27, 1951
Place of birth: Wiesbaden, Federal Republic of Germany
Marital Status: Married
Nationality: German

II. Professional Experiences

- 2015 up to now Integrated expert of Centre for International Migration and Development (CIM) and National Bank of Ukraine (NBU) chief specialist, at NBU's Risk Management Department which acts as 2nd line of defense on NBU's supervision, operational and reserve management objectives.
Main areas of responsibility:
- Updating NBU's supervision "Framework for an asset quality review" by quantitative impact studies (QISs) and probability of default (PD) calculation on credit risk provision (IFRS 9 regulation);
 - Identifying global and domestic systemic important banks and financial institutions (G-SIB and D-SIB) at Ukrainian banking system;
 - Amending NBU's banking supervision "early" warning system, by credit, market and liquidity risks indicator and international best practice, to compare supervised financial institutions by snap-shot analysis;
 - Establishing at NBU's involved departments - Supervisory Review and Evaluation Process (SREP), referring hereby to European Central Bank (ECB) three lines of defense model, and Basel Committee on Banking Supervision (BCBS) recommendations.
 - Supporting NBU's Financial Stability Department (FSD) and revitalizing Ukrainian securities markets, by enhancing transparency at security pricing and delivery versus payment (DVP) processes. *Location:* Instytutska Street 13, Kyiv 01601, Ukraine, and D- 14469 Potsdam, Peter-Behrens-Str. 7, Germany.
- 2003 – 2015 Self employed consultant - since 2003 until 2015, guiding conventional commercial banks with micro-, small- and medium enterprise (MSME) clients, to improve their Finance (lending / funding) and Risk Management (MSME/RM) facilities, since 2009 advisor to Central Banks and registered as expert at European Bank for Reconstruction and Development (EBRD) consulting

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teams. Giving lectures, since 2014 on the topic -national and international banking supervision, at Frankfurt School of Finance & Management.

2012 – 2013

European Bank for Reconstruction and Development (EBRD) acting consultant.

Main areas of responsibility:

- EBRD consultant under EBRD's framework "Regional (TCS 35215): "The EBRD - Local Currency Financing and Markets Initiative - Enhancing Infrastructure and Instruments - No 1 - Kyrgyz Republic - Pillar 1b - Promoting Local Currency Bonds in ETC Countries", with the main responsibility to support MSME bank "Kyrgyz Investment and Credit Bank" (KICB) on the process to issue and to place the first local currency "corporate (bank) bond" in Kyrgyz Republic (KR). Assessing "new" financial product and addressing proposals to National Bank of Kyrgyzstan Republic (NBKR) on the regulatory treatment of corporate (bank) bond risk weights, liquidity criteria, and loss reserve provisioning.

2009 up to now

- Registered at EBRD's consulting teams – "targeted crisis response", EBRD's "Regional (TCS 29330)" medium-sized loan co-financing facility (MCFF), to EBRD's partner banks, and as expert (without mandate) on EBRD's – "External Supervisory Board Nominees Register of Experts".

2009 – 2012

Central Bank of Kuwait (CB) acting as the "Governor's Advisor" (e. g. hereby until February 2012, as advisor to His Excellency Sheikh Salem Abdul-Aziz Al Sabah), and as consultant to CB Executive Directors. *Location:* Al Seif – Aljazeera Centre, Salmiya, Avenue 56, Kuwait, until July 2012.

Main areas of responsibility:

- To advice CB on long-term strategies and the development of Kuwait's economic and financial system, in the fields of lending to micro, small and medium-sized entities (MSME).
- To amend MSME lending/funding capital markets regulatory, and banking (off- and on- site) sector supervision frameworks, did establish at CB - financial stability department (FSD), and did propose to take measures – e. g. "reconstruction and development portfolios" funded by CB, to overcome imbalances in Kuwait's economy (e. g. oil revenues account for more than 90 percent of state income).
- I did provide high quality advice to at CB responsible departments, to keep the local currency - Kuwait Dinar (KWD), in the status of a (completely) convertible, and stable currency, according to Kuwait's CB currency laws (e. g. KWD in circulation, has to be kept within mandatory KWD cover ratio (≥ 100) by the foreign currencies reserve and Gold). And to accommodate Kuwait's banking sector and local securities markets by security REPOs (repurchase agreement) with liquidity, hereby focusing on equity and debt markets, with appropriate (e. g. inflation not impacting) funds in local currency.
- I did implement IMF and World Bank recommendations (e. g. to allow the local market to diversify by issuing "new" product lines), to foster securities, foreign exchange (FX), and

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- standardized derivatives trading at primary and secondary markets, and did amend CB's regulatory standards for all types of financial markets intermediaries.
- I did implement, at CB on – site “risk based assessment” processes and “stress tests” referring to by World Bank and “International Monetary Fund” (IMF) promoted “CAMEL” and “BCOM” approaches and “Basel Committee on Banking Supervision” (BCBS) recommendations - e. g. the “International Convergence of Capital Measurement and Capital Standards (Basel II, standardized approach), June 2006”, and the “Enhancements to the Basel II framework, July 2009” on the “Capital Adequacy Assessment Process” (ICAAP) .
 - CB Executive Director Operations & Research Sector and myself did prepare proposals, to topics addressed by “Basel III: International framework for liquidity risk measurement, standards and monitoring, (December 2010)”, on “liquidity buffer”, and “liquidity coverage ratio” (LCR), with application focus on - “Kuwait’s” conventional and Islamic banks.
- 2003 – 2009 Self employed consultant for conventional banks with SME and Micro SME lending activities on transition countries, did develop local financial markets, and funding to real economic sector (e. g. to small and medium-sized business entities (SMEs)). *Location:* 2004 until December 2009 at various project locations.
- Main areas of responsibility:
- 2003 – 2004
- Seminars on risk management and regulatory compliance to the employees of Eastern European conventional banks at Serbia, Bulgaria, Ukraine, and Russia on by the BCSB given recommendations the “New Basel Capital Accord (Basel II)”.
- 2004 – 2005
- ProCredit Bank, Georgia, chief financial officer (CFO) with special responsibilities to Risk Management (RM) out of SME banking book loan portfolios, interest rate change risk, liquidity risks, market risks, and settlement risk on foreign currency exchange transactions, on local banking supervision eligible over the counter (OCT) derivatives, and on issuing local currency denominated corporate (bank) bonds, listed at Tbilisi stock exchange.
- 2005 – 2006
- ProCredit Bank, Romania, amending treasury front office by liquidity and market risk management tools in all MSME lending relevant currencies, and to launch in local currency the banks first, and in Romania fourth, publicly offered conventional corporate (bank) bond, listed at Bucharest stock exchange.
- 2006 – 2008
- ProCredit Bank, Kosovo implementing treasury front office functions, enabling the bank to manage market risks and to provide foreign currency exchange services to SME clients – by keeping the bank's daily revaluated open currency positions (OCP) close to zero levels, and to establish investment and liquidity guidelines/ratios to operate within by Central Bank and the board approved limits on EUR and USD bond portfolios.
- 2008 – 2009
- ProCredit Bank, Albania advisor to executive management with special tasks on treasury front office activities (Liquidity, FX and securities services), risk department (market and credit risks), and on SME project financing issues.
- 2008 - 2009
- Short term (up to three weeks) consultancies to ProCredit Bank, D. R. Congo, Kinshasa, addressed to treasury front office, and

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mobile payments departments, on liquidity and market risk management in all MSME lending relevant currencies, and on money transfer and FX services to MSME clients.

- 2001- 2002 The Association of German Public Sector Banks, Berlin, Germany; employed as Senior Manager/Division Manager.
- Securities trading and securities exchanges, corporate governance and regulatory compliance, participation in the drafting of German regulations on standardized security prospectus, and the prevention of insider trading and “market abuse”, as set forth in the EU - “Investment Services Directive” (ISD).
- 1995 – 2001 DG Bank (Deutsche Genossenschaftsbank) AG, Frankfurt a. Main, Germany; employed as Deputy Department Head, Consulting (Capital Markets) Group.
- Set up and managed the Consulting (Capital Markets) Group; duties did included client acquisition of savings banks, small commercial banks in Germany and co-operative banks in Austria, Italy and Spain, and to support the sales units of the principal departments “Capital Markets” and “Treasury”; managed a staff of four.
 - Presentations and seminars for customers on how to report to supervisor and how to book (under the accounting standards stipulated by the German Commercial Code, IAS or IFRS), “new” on and off balance sheet banking products (e. g. interest-rate and FX items, securities, and OTC derivatives (swap, cap, floor)).
- 1995 – 1997 DG Bank (Deutsche Genossenschaftsbank) AG, Frankfurt a. Main, Germany; employed as Vice President, Customer Support – to German co-operative banks.
- Set up and managed the group “Customer Support”; duties did include co-operative banks acquisition and sales of investment banking products, interest-rate and FX products, securities, derivatives, and OTC derivatives (swap, cap, floor) to co-operative banks in Germany; managed a staff of nine.
- 1989 – 1995 Schweizerische Kreditanstalt (Deutschland) AG, (“Credit Suisse”), Frankfurt a. Main, Germany; employed as Assistant Manager with General Power of Attorney (vice president, or “Prokurist”)
- Head of the “Asset & Liability Management” group; responsible for price risk management for all by Schweizerische Kreditanstalt (Deutschland) AG managed assets and liabilities with an original maturity of more than one year; managed a staff of four.
 - Marketing of, and own-account (proprietary) trading in, OTC derivatives (interest rate and foreign currency swaps, caps, floors) and futures (LIFFE, London); issuance of own borrower’s note loans, and own-account (proprietary) trading in private placements and borrower’s note loans in DEM, CHF and USD.
- 1987 – 1989 Schweizerische Kreditanstalt (Deutschland) AG (“Credit Suisse”), Frankfurt a. Main, Germany; employed as Manager with Special Authorizations (“Handlungsbevollmächtigter”)

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- Authorized to serve as a “centre of competence” (CC) for Credit Suisse, Zurich, Switzerland, and to Credit Suisse First Boston (CSFB), London, New York and Tokyo, in regard to DEM interest rate, and foreign currency swaps, and their use in capital market bond issues.

1984 – 1987 Berliner Handelsgesellschaft und Frankfurter Bank (BHF Bank K. a. AG, “BHF Bank”), Frankfurt a. Main, Germany; employed as Trainee with Special Authorizations (“Bevollmächtigter in IPO, and OTC derivatives”)

- Authorized to serve on “initial public offering” equity deals for clients of BHF Bank AG, Frankfurt a. Main, and as trader on “over the counter” (OTC) derivatives transactions in regard to exploit “arbitrage” trading opportunities.

III. Educational Background

1958 – 1963 Grammar School, Taunusstein, Germany
Degree: Exam for entering High-Schools,

1963 – 1968 Albrecht-Duerer School, Wiesbaden, Germany
Degree: Exam for entering business High-Schools,

1968 - 1972 Friedrich-List-Business School, Wiesbaden, Germany
Degree: B. A. equivalent to matriculation or High-School Exam for entering Universities,

1972 – 1973 Military Service,

1973 – 1979 Johann Wolfgang Goethe University, Frankfurt a. Main, Germany
Degree / Diploma: M.Sc. in Macro Economics / Diplom-Volkswirt (MA in Economics). Thesis: Human Capital and Income Distribution.

1979 – 1984 Johann Wolfgang Goethe University, Frankfurt a. Main, Germany
Degree: Ph.D. in Macro / Micro Economics with focus on Banking and Finance. Thesis: The Capital Asset Pricing Model applied on - pricing processes of initial - publicly at securities markets, offered equity products.

1984 - 1987 Berliner Handels- und Frankfurter Bank (“BHF-Bank”), Frankfurt a. Main, Germany. Degree: Certified Bank Officer.

IV. Languages Skills

<i>Language</i>	<i>Reading</i>	<i>Speaking</i>	<i>Writing</i>
German (native speaker)	5	5	5
English	5	5	5
Russian	3	3	2

Marked 5 to 1 for competence, 5 = excellent, 4 = good, 3 = fair

V. Computer Skills

Electronic Data Processing:

“Microsoft Office” products for economic modelling, cash management and funding simulation tools, and Treasury front office systems like Reuters, Bloomberg including middle office systems.

VI. Memberships

European Finance Forum (EFF) <http://www.eff.de>

VII. Publications

Aktienemissionsplanung und Emissionskurswertbildung: bei vollkommenem u. unvollkommenem Kapitalmarkt / Axel Sauer, - Frankfurt am Main; Bern; New York; Lang, 1984.

September 2012, comments on Basel Committee on Banking Supervision consultative document – “Fundamental review of the trading book”, May 2012, with focus to emerging market countries. <http://www.bis.org/publ/bcbs219/cacomments.htm>

January 2014, comments on Basel Committee on Banking Supervision second consultative document – “Fundamental review of the trading book”, October 2013.

<http://www.bis.org/publ/bcbs265/comments.htm>

Annex: Project experiences and key qualifications

1. Topic - Identifying systemic important financial risks at Tajikistan banking system, to undertake a review of NBT’s risk based banking supervision legislation

I am referring hereby to my experience at National Bank of Ukraine (NBU, 2015- 2017), particular on NBU’s risk department 2nd line of defense objectives to identify risks, out going from global and domestic systemic important banks (G-SIBs and D-SIBs), on the process to amend NBU’s “Framework for an asset quality review”, amending NBU’s credit risk model by quantitative impact studies (QISs) and by probability of default (PD) calculation, to assess e. g. by NBU’s supervised financial institutions disclosed credit risk provision.

And I do refer to my experiences at Central Bank of Kuwait (CB, 2009 – 2012) implementing “International Monetary Fund” (IMF) requirements according to IMF mission report “Financial Sector Assessment Program”(FSAP), and “Basel Committee on Banking Supervision” (BCBS) recommendations.

As NBT’s current regulations might be partly derived from BCBS recommendations, it could become an aim to NBT - to enhance effectiveness on off-site and on- site banking supervision legislation, by amending these regulations with systemic important financial risks objectives, and by the BCBS to the topic recommended prudential banking supervision which might include:

- Basel II (*Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version (June 2006)*),
- Basel 2.5 (*Enhancements to the Basel II framework (July 2009); Revisions to the Basel II market risk framework - updated as of 31 December 2010 (Feb 2011); Guidelines for computing capital for incremental risk in the trading book (July 2009)*);
- Basel III (*Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011, Basel III leverage ratio framework and disclosure requirements, January 2014, Basel III: International framework for liquidity risk measurement, standards and monitoring, December 2010 , Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools, January 2013, Basel III: Liquidity coverage ratio disclosure standards, January 2014 (rev. March 2014), Basel III: the Net Stable Funding Ratio – consultative document, January 2014*);
- BCBS - *Guidance for Supervisors on Market-Based Indicators of Liquidity, January 2014*; and
- BCBS - *Regulatory treatment of accounting provisions, issued for comment by 13 January 2017.*

2. Topic - Amending NBT's supervision early warning processes based on identified risks at Tajikistan banking system

On the challenge to improve by NBT banking supervision applied "early" warning system, as risk assessment of each financial institution and of the Tajikistan banking system as a whole, I am referring to NBU's for the Ukraine banking system identified credit, market and liquidity risks indicators, and international best practice benchmark indicators, used by NBU's departments to compare financial institutions by snap-shot analysis.

I do refer to my experiences with at Central Bank of Kuwait (CB) (2009 – 2012) implemented and applied „early warning” indicator „surveillance” systems - CAMEL (Capital adequacy, Asset quality, Market sensitivity, Earnings, Liquidity), and BCOM (Business Strength, Adequacy of Internal Controls & Risk Management, Organization, Management & Governance), to assess conventional and Islamic financial institutions.

And I am referring to the topic by BCBS recommended indicators at below documents:

- *Basel III (Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011,*
- *BCBS - Regulatory Consistency Assessment Program (RCAP) Assessment of Basel III G-SIB framework and review of D-SIB frameworks – European Union, June 2016 ,*
- *BCBS - Guidance for Supervisors on Market-Based Indicators of Liquidity, January 2014;*
- *Large exposures regulation – BCBS recommendation: Supervisory framework for measuring and controlling large exposures, April 2014;*

3. Topic - developing for NBT and implementing at NBT - Stress–Tests on as systemic important identified SIB financial institutions

On the topic Stress-Test on D-SIB, I am attempting to combine G-SIB and D-SIB approaches with my experiences on NBU's credit risk model, categorizing more than one hundred by NBU supervised financial institutions on their size of total exposure (credit default, foreign exchange, liquidity risks) into at first place ranking 20th D-SIBs, into second place ranking 40th D-SIBs and into other financial institutions. The NBU Risk department model does hereby take into consideration interconnectedness on intra-financial system assets and liabilities, emergency liquidity assistance (ELA) outstanding, the substitutability / financial institution infrastructure on payment activities, and complexity on notional amount of unsettled (not closed) foreign currency positions.

And to international applied best practice by Bank of England (BoE), were in March 2013, the Financial Policy Committee (FPC) recommended that regular stress testing of the UK banking system should be developed to assess the system's capital adequacy. The European Banking Authority (EBA) methodology and macroeconomic scenarios for the 2016 EU-wide stress test, the recommendations of the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) on stress testing of central counterparties (CCPs), and BCBS recommendations on global and domestic systemic important banks (G-SIB, D-SIB) outlined by the following documents:

- *EBA – EU-wide stress testing 2016;*
- *BIS – Principles for financial market infrastructures, CPMI papers No 101, April 2012;*
- *BIS - CPMI and IOSCO review of CCP stress testing, March 2015;*
- *BoE - Stress testing the UK banking system: Guidance for participating banks and building societies, March 2015;*
- *BoE - Stress testing the UK banking system: Key elements of the 2015 stress test, March 2015;*
- *BoE - Stress testing the UK banking system: Guidance on the traded risk methodology for participating banks and building societies, May 2015;*

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- *BCBS – Further details on the assessment of global systemically important banks, November 2016;*
- *BCBS - The G-SIB assessment methodology – score calculation, November 2014;*
- *BCBS - A framework for dealing with domestic systemically important banks, October 2012;*
- *BCBS - Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement, July 2013.*

4. Topic – supporting NBT on the process to establish Financial Stability Department (FSD) with special focus on securities markets

Hereby I am referring to my experiences at NBU's Risk department objective, institutional capacity building at NBU's designated financial markets stabilization departments, aiming to revitalize Ukrainian securities markets by enhancing transparency at security pricing and delivery versus payment (DVP) processes, through law enforcement by NBU and other to DVP and securities pricing processes involved Ukrainian supervisors. And to my assignment at European Bank for Reconstruction and Development (EBRD, 2012 - 2014) - Local Currency Financing and Markets Initiative - Enhancing Infrastructure and Instruments - No 1 - Kyrgyz Republic - Pillar 1b - Promoting Local Currency Bonds in Early Transition Countries (ETCs). Hereby I did assess the first corporate (bank) bonds, as eligible financial product to be issued via initial public offering (IPO) by Kyrgyz Investment and Credit Bank (KICB). KICB's first, second and third bond issues were successfully placed at Kyrgyz Republic (KR) investors and KR capital markets, being in compliance with supervision and provisioning regulations of KR banks and KR markets supervising authorities. And by taking reference to Pro Credit Bank bond issues offered as first IPO in Georgia, and fourth banking bond issue in Romania, both were placed successfully in 2004 (Georgia) and 2005 (Romania).

On the topic to establish at NBT - Financial Stability Department (FSD) as an instrument to assess "real economic" and "financial" sectors "interdependencies" and to provide recommendations on macro-economic stabilization measures, effecting "real economic" gross domestic product (GDP) growth, "financial" sectors growth and other for Tajikistan defined economic and "well fare" indicators, in a "stabilizing" manner. Here to I am referring to my experiences at Central Bank of Kuwait (CB) (2009 – 2012), NBU's in March 2016 established Financial Stability Board (FSB) and on BCBS recommendation and Central Banks financial stability reports:

- *Bundesbank – Financial Stability Review 2016;*
- *BCBS - Claudia Buch: Evaluation and macro prudential policy;*
- *Basel III (Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011;*
- *BCBS - Regulatory Consistency Assessment Program (RCAP) Assessment of Basel III G-SIB framework and review of D-SIB frameworks – European Union, June 2016 .*