

**FEDERAL STATE BUDGET EDUCATIONAL  
INSTITUTION OF HIGHER EDUCATION  
“LOMONOSOV MOSCOW STATE UNIVERSITY”**

FACULTY OF ECONOMICS

«APPROVED»

Dean of the Faculty of Economics, MSU

professor \_\_\_\_\_ A.A.Auzan

«\_\_\_» \_\_\_\_\_ 2021

**COURSE SYLLABUS**

**Course title:**

**EXCHANGE RATE ADJUSTMENT**

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**Level of higher education:**

MASTER STUDIES

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**Field of study:**

38.04.01. ECONOMICS

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**Mode of study:**

FULL-TIME

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Course syllabus is considered and approved by  
*the Educational and Methodological Council of the Faculty of Economics*  
(minutes № \_\_\_\_\_, date)

Moscow 2021

The course syllabus is developed in accordance with the self-established MSU educational standard (ES MSU) for implemented main professional educational programs of higher education for Master's degree in the field of study 38.04.01. Economics

ES MSU is approved by the decision of MSU Academic Council dated December 28, 2020, minutes №7

Year (years) of enrollment: 2021 and forthcoming

### 1. Place and status of the course in the structure of the Master program

Course status: *elective*

Trimester: 3

### 2. Course Prerequisites

*This discipline is based on the knowledge and skills acquired as a result of studying following courses:*

- English language
- Macroeconomics (advanced level)
- International Economics
- Statistics
- Econometrics (advanced level)

### 3. Intended learning outcomes (ILO) of the course associated to the required competencies of the graduates

Competencies of graduates (codes)	Indicators of achievement of competencies	Intended learning outcomes of the course (module) associated to the required competencies of the graduates
UC-5. Capable of applying modern communication technologies, including ones in a foreign language (foreign languages), for academic and professional interaction	UC-5.I-1. Compiles documents (letters, essays, abstracts, etc.) for academic and professional interaction in accordance with the norms of Russian and foreign languages	UC-5.I-1.A-1. Able to find and analyze the information necessary for the qualitative performance of academic and professional tasks and the achievement of professionally significant goals, including ones in a foreign language
		UK-5.I-1.A-2. Able to compose, edit in Russian and/or a foreign language, perform a correct translation from a foreign language into Russian and from Russian into a foreign language of various academic and professional texts
	UC-5.I-3. Participates in academic and professional discussions, including in a foreign language(s)	UC-5.I-3.A-1. Able to perceive and analyze information in Russian and foreign languages in the process of academic and professional interaction
	PC-1.I-1. Carries out an independent applied or	PC-1.I-1.A-1. Able to formulate a research question

	fundamental research project in the field of economics	(goal and objectives of the study) PC-1.I-1.A-2. Able to position their own research in the relevant scientific literature PC-1.I-1.A-4. Able to carry out their own research and present its results in the form of a full-fledged scientific text, article
PC-2. Capable of designing / developing plans and methodological research programs, independently developing tools and determine the theoretical and methodological basis of the study.	PC-2.I-1. Carries out the development of a plan for scientific research on economic topics	PC-2.I-1.A.1. Able to develop a plan for scientific research
	PC-2.I-2. Carries out methodological development of scientific research on economic topics	PC-2.I-2.A-1. Able to choose from existing or develop their own version of research methods
	PC-2.I-3. Carries out an independent selection and development of tools necessary for the analysis of economic data	PC-2.I-3.A-1. Ability to analyze and select research tools
PC-3. Capable of generalizing and presenting scientific results within the framework of a separate study	PC-3.I-1. Generalizes the data obtained in the framework of research in the field of economics	PC-3.I-1.A-1. Able to summarize the results achieved in the course of research
		PC-3.I-1.A.2. Able to interpret and present the results obtained in various professional communities
PC-7. Capable of using various sources of information to conduct economic calculations and build economic forecasts	PC-7.I-1. Carries out an independent search, collection and processing of data necessary for conducting economic calculations and building economic forecasts	PC-7.I-1.K-1. Knows the main sources of information for conducting economic calculations and building economic forecasts, including official sources of macroeconomic statistics and Russian regional statistics
		PC-7.I-1.A-1. Able to search and collect data, including determining the required volume and format of data, as well as the degree of detail, as well as to generate data, poll and conduct an experiment
	PC-7.I-2. Applies modern methods for selecting sources of information and assessing their quality	PC-7.I-2.A-1. Able to select appropriate sources of information according to given parameters and evaluate the quality of these sources
PC-9. Capable of managing research on the analysis of economic processes, assessing the dynamics of socio-economic	PC-9.I-1. Plans and organizes research on economic processes	PC-9.I-1.K-1. Knows data collection methods and approaches to calculating the main indicators of economic development, methods for analyzing

indicators and indicators of economic development, as well as the preparation, development and implementation of proposals in the field of state economic policy and strategic decisions at the micro and macro levels	PC-9.I-2. Develops proposals in the field of state economic policy and carries out their approbation	qualitative and quantitative data
		PC-9.I-2.K-1.Knows approaches to assessing the regulatory and actual impact of state economic policy measures, represents the limitations of using these approaches in practice
		PC-9.I-2.A-1. Able to identify stakeholders, evaluate the regulatory and actual impact of government economic policies, and develop a plan to test the best alternatives
SPC-1. Capable of analyzing the socio-economic situation, identifying issues and suggesting ways to solve them with the use of economic policy instruments	SPC-1.I-1. Uses relevant data and methods to assess a situation, analyze alternative ways to solve issues considering the interests of stakeholders	SPC-1.I-1.A-1. Able to identify topical issues in various areas of economic policy
		SPC-1.I-1.A-2. Able to identify stakeholders and evaluate their interests when analyzing possible ways to solve current issues
SPC-2. Capable of formulating goals and objectives, assessing the consequences of implementing various types of economic policy, including competition policy, social policy, monetary policy, fiscal policy, etc.	SPC-2.I-1. Formulates goals, objectives, performance indicators of economic policy	SPC-2.I-1.A-1. Able to apply quality criteria when formulating goals and objectives of economic policy
		SPC-2.I-1.A-2. Able to formulate performance indicators for the goals and objectives of economic policy as well as to assess the distorting effect of indicators

#### 4. Workload of the course by types of activity

The workload of the discipline is 4 ECTS: 144 academic hours, including 72 academic hours of contact work with a professor, 72 academic hours of self-directed studies.

5. **Learning format** full-time, with the use of educational platform On.Econ

6. **Content of the course structured by topics (sections) indicating the number of academic hours allocated to them and types of training**

Title and brief content of sections and topics of the course (module),	Total (hours)	Including	
		Contact work (work in contact with a	Student self-directed studies

Form of assessment for the course (module)		professor) Types of contact work, hours				Types of self-directed studies, hours		
		Seminars	Group consultations	Individual consultations	Total	Individual tasks	Project	Total
Topic 1. Theory of exchange rate determination.	16	4		4	8	4	4	8
Topic 2. Exchange rate policy.	14	4		4	8	2	4	6
Topic 3. Exchange rate management.	14	4		4	8	2	4	6
Topic 4. International reserves management. Optimal currency areas and exchange rate adjustment.	20	4		8	12	4	4	8
Topic 5. External debt management	16	4		4	8	4	4	8
Topic 6. Optimal currency areas	16	4		4	8	4	4	8
Topic 7. Currency crises and international monetary system.	20	4		4	8	6	6	12
Current assessment — <i>mid-term test</i>	16	4		4	8	4	4	8
Midterm assessment — <i>written examination</i>		4				8		
<b>Total</b>	144	72				72		

### Brief content of the course topics

#### Topic 1. Theory of Exchange Rate Determination.

1.1 Introduction to the Discipline. Topics for Projects.

- 1.2 Nominal and Real Exchange Rates.
- 1.3 Ballasa-Samuelson Effect.
- 1.4 Equilibrium Real Exchange Rate and Intertemporal Budget Constraint in an Open Economy.
- 1.5 Canonic Exchange Rate Theories.
- 1.6 Behavioral Exchange Rate Theories.

### **Main literature:**

1. Nidhaleddine Ben Cheikh, Younes Ben Zaied, Houssam Bouzgarrou, Pascal Nguyen  
Nonlinear Exchange Rate Pass-Through: Does Business Cycle Matter? // *Journal of Economic Integration*, Vol. 33, No. 2 (June 2018), pp. 1234-1260
2. Miloš Rajković, Predrag Bjelić, Danijela Jaćimović & Miroslav Verbič. The impact of the exchange rate on the foreign trade imbalance during the economic crisis in the new EU member states and the Western Balkan countries // Published online: 27 Feb 2020  
(<https://www.tandfonline.com/doi/full/10.1080/1331677X.2019.1708771>)
3. Flaschel P., Hartmann F., Malikane C., Proaño C. A Behavioral Macroeconomic Model of Exchange Rate Fluctuations with Complex Market Expectations Formation // *Computational Economics*. April 2015, Vol. 45, Issue 4, pp. 669–691. – URL: <https://link.springer.com/journal/10614/45/4/page/1>

### **Additional literature:**

1. Bergin P.R. Conditional PPP and Real Exchange Rate Convergence in the Euro Area // 2016 NBER Working Papers No. W 21979
2. Frenkel J.A. On the Mark: A Theory of Floating Exchange Rates Based on Real Interest Differentials // *The American Economic Review*. 1979. Vol. 69, No 4, pp. 610 – 622
3. Haidar J.I. Currency Valuation and Purchasing Power Parity // *World Economics*. 2011. Vol.12, pp.1-12
4. Ricci L.A., Milesi – Ferretti G. M., Jaewoo L. Real Exchange Rates and Fundamentals: A Cross – Country Perspective” // IMF Working Paper, 2008, No 08/13
5. Taylor A. M. and Taylor M. P. The Purchasing Power Parity Debate // *Journal of Economic Perspectives*. 2004. Vol. 18. No 4, pp. 135–158.

### **Topic 2. Exchange Rate Policy.**

- 2.1 Goals, Targets and Instruments of Exchange Rate Policy.
- 2.2 Foreign Exchange Interventions.
2. Capital Control.
  
- 2.4 Mundell Inconsistent Trinity.
- 2.5 Inflation Targeting Versus Exchange Rate Targeting.

### Main literature:

1. Hernán Rincón-Castro, Norberto Rodríguez-Niño, Jorge Hernán Toro-Córdoba.  
Are Capital Controls and Central Bank Intervention Effective?// *Investigación Económica*, Vol. 79, No. 313 (JULIO-SEPTIEMBRE DE 2020), pp. 31-50  
(<http://www.scielo.org.mx/pdf/ineco/v79n313/0185-1667-ineco-79-313-31.pdf>)
2. Michael B. Devereux Eric R. Young Changhua Yu A New Dilemma: Capital Controls and Monetary Policy in Sudden Stop Economies// 2015.  
NBER Working Papers No.W 217917
3. Shu Lin, Haichun Yet “What to target? Inflation or Exchange rate”// *Southern Economic Journal*. 2012. Pp.1202-122

### Additional literature:

1. Blanchard O., Adler G., Carvalho Filho I. Can Foreign Exchange Intervention Stem Exchange Rate Pressures from Global Capital Flow Shocks?  
2015. NBER Working Papers No. W 21427
1. Calvo G., Reinhart C., Vegh C. Targeting the Real Exchange Rate: Theory and Evidence// *Journal of Development Economics*, 1995, Vol. 47, No 1,  
pp. 97 – 133
2. Devereux M.B., Engel C.M. Expenditure Switching versus Real Exchange Rate Stabilization: Competing Objectives for Exchange Rate Policy //  
*Journal of Monetary Economics*. 2007. Vol. 54, No. 8, pp. 2346-2374.
3. Flamini A. Inflation Targeting and Exchange Rate Pass-Through // *Journal of International Money and Finance*. 2007. Vol. 26, No. 7, pp. 1113-  
1150.
4. Pointines V. “Inflation targeting and exchange rate volatility: treatment effect regression approach”// *International Economic Journal*. 2013. N 3,  
pp. 25-39
5. Vitale P. Foreign exchange intervention: how to signal policy objectives and stabilize the economy // *Journal of Monetary Economics*. 2003. Vol.  
50, No. 4, pp. 841-870

### Topic 3. Exchange Rate Management.

- 3.1 Choice of Exchange Rate Regime.
- 3.2 Dollarization, Currency Board, Pegged Exchange Rates.
- 3.3 Managed Floating and Free Floating.
- 3.4 Advantages and Disadvantages of Different Exchange Rate Arrangements.
- 3.5 The Effectiveness of Economic Policy under Different Exchange Rate Regimes.

### Main literature:

1. Ibrahima Sangaré Exchange Rate Regimes in the ASEAN: Would a Currency Union Outperform the Independent Managed Floating Regimes? // *Journal of Economic Integration*, Vol. 36, No. 1 (March 2021), pp. 72-102



2. Jorge Carrera, Blaise Gnimassoun, Valérie Mignon, Romain Restout. Currency Misalignments and Exchange Rate Regimes in Latin American Countries: A Trade-Off Issue// *Annals of Economics and Statistics*, No. 141 (March 2021), pp. 71-102
3. Antonia López-Villavicencio, Valérie Mignon. Globalization and Exchange-Rate Pass-Through in Europe: Is There a Link? // *Journal of Economic Integration*, Vol. 33, No. 4 (December 2018), pp. 773-786

**Additional literature:**

1. Benigno G. «Real Exchange Rate Persistence and Monetary Policy Rules» *Journal of Monetary Economics*. 2004. Vol. 51. No. 3, pp. 473-502
2. Calvo G., Mishkin, F. The Mirage of Exchange Rate Regimes for Emerging Market Countries// *Journal of Economic Perspectives*. 2003. Vol.17, No 4, pp. 99 - 118
3. Edwards S, Levy – Yeyati E. Flexible Exchange Rates as Shock Absorbers? // *European Economic Review*. 2005.Vol. 49, No 8, pp. 2079 – 2105
4. Edwards S. Monetary Policy Independence under Flexible Exchange Rates: An Illusion? //2015. NBER Working Papers No. W 20893
5. Eichengreen B.” Exchange rate regimes and capital mobility: how much of the swoboda thesis survives?” // 2008. NBER Working paper No 14100

**Topic 4. International Reserves Management.** 4.1 Why Countries Hold Foreign Reserves.

- 4.2 Appropriate Level of Foreign Reserves.
- 4.3 Specific Benchmarks for Foreign Reserves Adequacy.
- 4.4 Benefits and Costs of Foreign Reserves Holding.
- 4.5 Foreign Reserves Management.
- 4.6 Theories of Optimal Currency Areas.
- 4.7 Reserve Currency Issues.

**Main literature:**

1. Javier Bianchi, Juan Carlos Hatchondo, Leonardo Martinez. International Reserves and Rollover Risk // *The American Economic Review*, Vol. 108, No. 9 (SEPTEMBER 2018), pp. 2629-2670
2. Zhao Ke. The Pandemic and the International Monetary System: Can China Move on the Dollar?// *Horizons: Journal of International Relations and Sustainable Development*, No. 17, SPECIAL ELECTIONS ISSUE: AMERICA AT CROSSROADS (AUTUMN 2020), pp. 136-147

**Additional literature:**

1. Aizenman, J. International reserves management and the current account // National Bureau of Economic Research, February 2007
2. Eichengreen B. RMBI or RMBR: Is the Renminbi Destined to Become a Global or Regional Currency? // 2015. NBER Working Papers No W

21716

1. Mendoza R.U. International Reserve – Holding in the Developing World: Self Insurance in a Crisis – Prone Era? // *Emerging Markets Review*, 2004, Vol.5, No1, pp. 61 – 82
2. Olivier J. International Reserves in Emerging Market Countries: Too Much of a Good Thing? // *Brookings Papers on Economic Activity*, 2007, No. 1, pp. 1-55.

### **Topic 5. External Debt Management.**

- 5.1. Why Countries Borrow Externally.
- 5.2. Theoretical Framework of External Debt.
- 5.3. External Debt and Exchange Rates.
- 5.4. External Debt and Risk Management in Emerging Economies.
- 5.5. Original Sin Issues.

### **Main literature:**

Hawkins J., Turner P. Managing foreign debt and liquidity risks in emerging economies: an overview. BIS Policy Papers, 3-59, 2000

### **Additional literature:**

1. B. Eichengreen, R. Hausmann, U. Panizza. “Currency Mismatches, Debt Intolerance, and Original Sin: Why They are Not the Same and Why it matters“. 2003. NBER Working Paper, 10036
2. F. Broner, G. Lorenzoni, S. Schmikler “Why Do Emerging Economies Borrow Short-term”. World Bank Policy Research Working Paper. 2005

### **Topic 6. Optimal Currency Areas and Exchange Rate Adjustment.**

- 6.1. Types of Currency Unions.
- 6.2. Theory of Optimal Currency Areas.
- 6.3. Gains and Losses from a Currency Union.
- 6.4. When a Common Currency is a Good Idea.
- 6.5. Eurozone: Successes and Problems.

### **Main literature:**

1. Mundell R.A. A Theory of Optimum Currency Areas // *The American Economic Review*. 1961. Vol. 51, No. 4., pp. 657-665
2. Whelan K. The Euro at 20: Successes, Problems, Progress and Threats // European Parliament, January 2019

### **Additional literature:**

1. Frankel J.A., Rose A.K. The Endogeneity of the Optimum Currency Area Criteria // *The Economic Journal*. 1997. Vol.108, pp. 1009–1025.

2. McKinnon, R. I. Monetary and Exchange Rate Policies for International Financial Stability: A Proposal // *The Journal of Economic Perspectives*. 1988. Vol. 2, No 1, pp. 83–103

### **Topic 7. Currency Crises and International Monetary System.**

- 7.1 Generation Models of Currency Crises.
- 7.2 Infection and Herding Behavior Theories.
- 7.3 Twin Crises.
- 7.4 Effective Early Warning System.
- 7.5 Interaction of Exchange Rate Policies and Bank Portfolios in Avoiding Crises and Ensuring Risk Sharing.

#### **Main literature:**

1. Saleheen Khan. Currency Crisis Transmission Through Trade Channel: Asian and Mexican Crises Revisited // *Journal of Economic Integration*, Vol. 33, No. 4 (December 2018), pp. 818-840
2. Fornaro L. Financial crises and exchange rate policy // *Journal of international economics*. – 2015, Vol. 95, No 2, pp. 202-215

#### **Additional literature:**

1. Bauer C., Herz B., Karb V. Are twin currency and debt crises special? // *Journal of Financial Stability*. 2007. No 3, pp. 59-84
2. D’Arista J. The evolving international monetary system // *Cambridge Journal of Economics*. 2009. Vol. 33, pp. 633–652.
3. Dorrucci E., McKay J. The international monetary system after the financial crisis // Occasional paper series № 123. February 2011. European central bank.
4. Flood R., Marion N. A model of the joint distribution of banking and currency crises // *Journal of International Money and Finance*. 2004. Vol.23, pp. 841-865
5. Graciela L. Kaminsky and Carmen M. Reinhart On crises, contagion, and confusion // *Journal of International Economics*. 2000. Vol.51, Issue 1, pp.145-168
6. Obstfeld M. Models of currency crises with self – fulfilling features // *European Economic Review*. 1996. No 40, pp. 1037 – 1047
7. Velasco A., Chang R. Liquidity Crises in Emerging Markets: Theory and Policy // 1999. NBER Working Paper. No. 727
8. Rose A.K. A Stable International Monetary System Emerges: Inflation Targeting is Bretton Woods, Reversed // *Journal of International Money and Finance*. 2007. Vol. 26, No5, pp. 663 – 681
9. Eichengreen B. Bretton Woods after 50. 20 July 2021

### **7. Assessment tools to assess the course learning outcomes**

#### **7.1. Sample assessment tools:**

Learning outcomes of the course	Types of assessment tools
UC-5.I-1.A-1. Able to find and analyze the information necessary for the qualitative performance of academic and professional tasks and the achievement of professionally significant goals, including ones in a foreign language	Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis
UK-5.I-1.A-2. Able to compose, edit in Russian and/or a foreign language, perform a correct translation from a foreign language into Russian and from Russian into a foreign language of various academic and professional texts	Individual written home-tasks Preparation and defense of the project
UC-5.I-3.A-1. Able to perceive and analyze information in Russian and foreign languages in the process of academic and professional interaction	Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project Midterm assessment: written examination
PC-1.I-1.A-1. Able to formulate a research question (goal and objectives of the study)	Preparation and defense of the project Defense of the group project
PC-1.I-1.A-2. Able to position their own research in the relevant scientific literature	Preparation and defense of the project
PC-1.I-1.A-4. Able to carry out their own research and present its results in the form of a full-fledged scientific text, article	Preparation and defense of the project
PC-2.I-1.A.1. Able to develop a plan for scientific research	Preparation and defense of the project
PC-2.I-2.A-1. Able to choose from existing or develop their own version of research methods	Preparation and defense of the project Current assessment: case study analysis Defense of the group project
PC-2.I-3.A-1. Ability to analyze and select research tools	Preparation and defense of the project Current assessment: case study analysis Defense of the group project
PC-3.I-1.A-1. Able to summarize the results achieved in the course of research	Preparation and defense of the project Current assessment: case study analysis Defense of the group project
PC-3.I-1.A.2. Able to interpret and present the results obtained in various professional communities	Preparation and defense of the project Defense of the group project
PC-7.I-1.K-1. Knows the main sources of information for conducting economic calculations and building economic forecasts, including official sources of macroeconomic statistics and Russian regional statistics	Individual written home-tasks Preparation and defense of the project
PC-7.I-1.A-1. Able to search and collect data, including determining the required volume and format of data, as well as the degree of detail, as well as to generate data, poll and conduct an experiment	Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis

	<p>Defense of the group project Midterm assessment: written examination</p>
<p>PC-7.I-2.A-1. Able to select appropriate sources of information according to given parameters and evaluate the quality of these sources</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project</p>
<p>PC-9.I-1.K-1. Knows data collection methods and approaches to calculating the main indicators of economic development, methods for analyzing qualitative and quantitative data</p>	<p>Individual written home-tasks Preparation and defense of the project</p>
<p>PC-9.I-2.K-1. Knows approaches to assessing the regulatory and actual impact of state economic policy measures, represents the limitations of using these approaches in practice</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project Midterm assessment: written examination</p>
<p>PC-9.I-2.A-1. Able to identify stakeholders, evaluate the regulatory and actual impact of government economic policies, and develop a plan to test the best alternatives</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project Midterm assessment: written examination</p>
<p>SPC-1.I-1.A-1. Able to identify topical issues in various areas of economic policy</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project Midterm assessment: written examination</p>
<p>SPC-1.I-1.A-2. Able to identify stakeholders and evaluate their interests when analyzing possible ways to solve current issues</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project Midterm assessment: written examination</p>
<p>SPC-2.I-1.A-1. Able to apply quality criteria when formulating goals and objectives of economic policy</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis Defense of the group project Midterm assessment: written examination</p>
<p>SPC-2.I-1.A-2. Able to formulate performance indicators for the goals and objectives of economic policy as well as to assess the distorting effect of indicators</p>	<p>Individual written home-tasks Preparation and defense of the project Current assessment: case study analysis</p>

	Defense of the group project Midterm assessment: written examination
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### 7.2. Course assessment criteria (scores):

Types of assessment tools	Score
Individual written home-tasks	60
Preparation and defense of the project	50
Defense of the group project	20
Current assessment: case study analysis	30
Midterm assessment: written examination	40
<b>Total</b>	<b>200</b>

### 7.3. Grade for the course is determined based on the following criteria:

Grade	Minimum score	Maximum score
<i>Excellent</i>	170	200
<i>Good</i>	130	169,5
<i>Satisfactory</i>	80,0	129,5
<i>Failed</i>	0,0	79,5

**Note:** in case a student's score obtained during the trimester is less than 20% of the maximum score of the discipline, the following rule of passing the course should be applied at the midterm assessment (and further re-examination): 'a student can obtain only a satisfactory mark and only in case she/he receives for the midterm assessment, including all the course material, no less than 85% of the score allocated to this assessment'.

### 7.4. Typical tasks and other materials necessary to assess the learning outcomes:

— *Individual written home-tasks*

Individual written home-tasks include calculation tasks, analytical and conceptual questions.

Examples:

- Consider the open economy under floating exchange rate and perfect capital mobility in the short run, where  $i=i^*$ . Assume a form for the net export equation:

$$NX = X - mY + vR$$

Where  $X$  is a constant,  $m$  – marginal propensity to import,  $R = EP^*/P$ ,  $v > 0$

$C = C_a + mpc(Y-T)$ ;  $I = I_a - di$ ;  $G$  – government expenditure

Money market:  $\frac{M}{P} = ky - hi^*$

Taking into account equilibrium in the goods market and equilibrium in the money market answer the questions:

“How does a fiscal expansion influence the real exchange rate?”

“How does a monetary expansion influence the real exchange rate?”

- A multinational firm has asked you for a 30-year forecast of various African exchange rates against the U.S. dollar. The firm will give you any macroeconomic forecasts you need. What data would you ask for?
- Imagine you are a central banker who feels that an exchange rate appreciation would reduce inflationary pressure, but you wish to avoid raising interest rates today. What can you say in public to make the currency rise? What difficulties might this strategy cause?

### - Case study analysis

Read the text and answer the questions below:

#### **The dollar and international capital flows in the COVID-19 crisis**

Giancarlo Corsetti, Emile Marin 03 April 2020

*In crises, the dollar tends to appreciate – especially against emerging market currencies – and dollar liquidity becomes scarce. Today’s events are following the historical pattern. Forex market turmoil is preceded by an inversion of the US yield curve as investors, anticipating tough times ahead, require relatively high short-term yields and an appreciation of relatively risky currencies until the disaster occurs. Then, the dollar appreciates sharply. Then, emerging markets suffer massive capital flight. What’s new about the COVID-19 crisis is its scale and speed.*

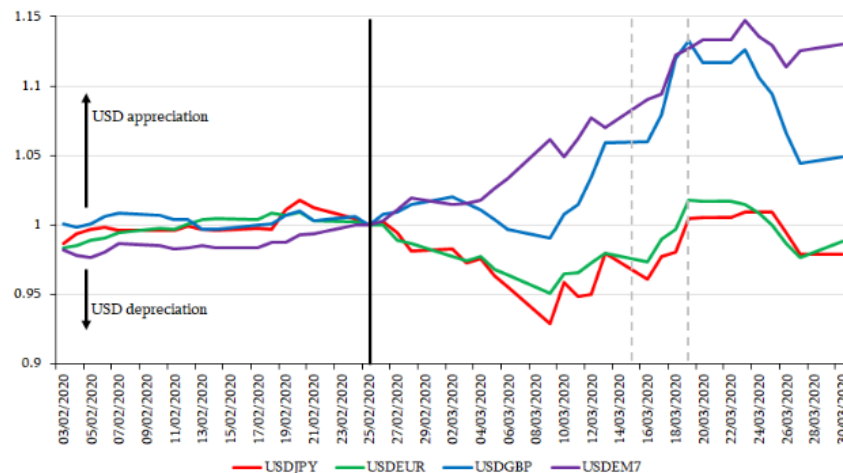
The spread of COVID-19 has led to large foreign exchange (FX) moves, as past global crises have, but both the scale of the epidemic and the speed of its global spread makes the current situation unique. In particular, the pattern of FX dynamics is fast-tracked and capital outflows from emerging markets (EMs), week on week, are much larger than in previous crises. Relative to the past, and in particular the 2007-2008 Great Financial Crisis (GFC), the recent prompt activation of central bank FX swap lines appears to have tempered dollar movements.

A recurrent pattern around economic crises.

Figure 1 plots the evolution of key exchange rates against the dollar, indexed relative to 25th February 2020, when the US yield curve inverted (measured using the difference between 10-year and 1-year US zero-coupon government bond yields). (Typically, long-term bonds have higher yields than short-term bonds, and the yield curve slopes upward to the right. An inverted yield curve reflects a scenario in which short-term debt instruments (bonds) have higher yields than long-term instruments of the same credit risk profile. An inverted yield curve is a strong indicator of an impending recession.)

For a couple of weeks after the inversion, the US dollar lost value against the euro and the Japanese yen – while sterling remained broadly stable – and EM currencies depreciated somewhat. After that, from around the second week of March, the dollar strengthened markedly against all currencies to 19th March, when the Federal Reserve announcement the establishment of temporary swap lines with a range of central banks—in addition to the extensions to its pre-existing swap line arrangements announced on 15th March. (Central bank liquidity swap is a type of *currency swap* used by a country's central bank to provide liquidity of its currency to another country's central bank. In a liquidity swap, the lending central bank uses its currency to buy the currency of another borrowing central bank at the market exchange rate, and agrees to sell the borrower's currency back at a rate that reflects the *interest* accrued on the loan. The swap lines are designed to improve liquidity conditions in U.S. and foreign financial markets by providing foreign *central banks* with the capacity to deliver U.S. dollar funding to institutions in their jurisdictions during times of market stress.)

**Figure 1** COVID FX: Exchange rate dynamics around 25th February 2020 US yield curve inversion



Note: Vertical solid black line denotes date of the US yield curve inversion, on 25th February 2020, where yield curve slope defined as the 10 minus 1-year yield zero-coupon yield. Exchange rates normalised relative to this date. Vertical dashed grey lines denote dates of Federal Reserve announcements to (a) extend the maturity of its existing swap line agreements with the Bank of Canada, Bank of England, Bank of Japan, ECB and



SNB on 15th March 2020 and (b) establish temporary swap line arrangements with central banks in Australia, Brazil, Denmark, Korea, Mexico, Norway, New Zealand, Singapore and Sweden on 19th March 2020. USDEM7 a PPP-weighted average of 7 EM currencies: Brazil, India, Indonesia, Mexico, Russia, South Africa, Turkey. Dates: 3rd February 2020 to 30th March 2020.

The overall pattern in Figure 1 is not new and, in Figure 2, we illustrate that a similar pattern emerged during the GFC. Preceding that, the US yield curve was inverted for a protracted period of time, from June 2006 until June 2007. Following the end of this period of inversion, FX dynamics followed a pattern that, qualitatively, is very close to Figure 1. The euro and, to a lesser extent sterling, first strengthened relative to the dollar after the end of the inversion, before strong dollar appreciation in the second half of 2008. Relative to Figure 1 and the current COVID crisis, however, the FX patterns from the GFC are in comparative ‘slow motion’ (it did not feel that way at the time): the time scale for Figure 2 is months, but days in Figure 1. In the COVID-19 crisis, the dollar started to appreciate within two weeks of the initial yield curve inversion. In 2007-2008, it materialised after six months.

**Figure 2** Exchange rate dynamics around the end of the 2006-2007 US yield curve inversion



Note: Vertical solid black line denotes the end date of the 2006-2007 US yield curve inversion on the 5th June 2007, where yield curve slope defined as the 10 minus 1-year yield zero-coupon yield. Exchange rates normalised relative to this date. USDEM7 a PPP-weighted average of 7 EM currencies: Brazil, India, Indonesia, Mexico, Russia, South Africa, Turkey. Dates: 1st January 2007 to 30th November 2008.

Following the economic literature, think of an economic disaster as a set of events (originating from a variety of shocks including supply or financial)

causing a significant drop consumption across a large number of countries and a sharp depreciation of their currencies – in practice vis-à-vis the dollar. Disasters are preceded by an inversion of the US yield curve (unrelated to monetary policy) – although, to be clear, as is widely known not all yield curve inversions are followed by disasters or recessions. Intuitively, the yield curve reflects investors' expectations of a crisis at some point the future. According to the theory, an inverted yield curve signals that investors believe the risk of a disaster ahead is relatively high in the short run. Thus, short-run yields must compensate investors for bearing risk. These expectations also dominate FX markets: relatively risky currencies deliver a risk premium as compensation for the large depreciation they experience when the crisis materialises. We argue that this reasoning underlies the pattern in Figure 1 and 2.

### Differences with today's events

There are, of course, further differences to be highlighted across the 2020 and GFC episodes concerning behaviour of FX and bond markets:

The most recent US yield curve inversion (on 25th February 2020) was driven by a sharp fall in longer-term yields and was brief. In contrast, in 2006-2007, the US yield curve inversion was associated with rising short-term interest rates, and elongated.

In the current crisis, central bank FX swap lines have been promptly (re-)activated by the Federal Reserve and appear to have stemmed the rise of the dollar against the countries they cover (advanced economies and some EMs), as the most recent observations in Figure 1 indicate.

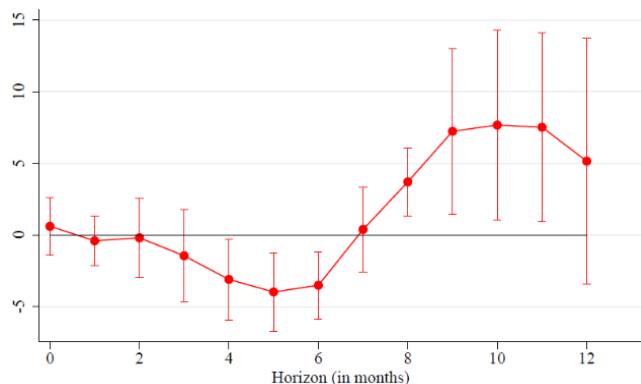
### Bond yields and FX

The FX dynamics of Figures 1 and 2 after yield curve inversion are recurrent and quite general, by showing that the pattern in these figures can be mapped into a time-varying estimated covariance between interest rate differentials and exchange rates. This is obtained by running standard Fama (1984) regressions, testing the well-known, uncovered interest rate parity condition (UIP).

The UIP condition predicts that investors need to be compensated with proportionally higher yields to willingly hold currencies that are expected to depreciate. By augmenting the canonical UIP regression with an interaction between interest rate differentials and an indicator of US yield curve inversions, and its lags, Lloyd and Marin (2019) show that, on average, the coefficient on the interest spread becomes smaller (typically negative) immediately following the US yield curve inversion. Here, as investors require excess returns from high-yield currencies, risky in view of the possibility of a disaster, the dollar depreciates. Then, when the disaster occurs, the coefficient increases sharply, rising above 1, consistent with a large appreciation of the dollar.

These results of the Fama regressions are shown in Figure 3 for a sample of six advanced economy currencies vis-à-vis the US dollar for the period 1980 to 2017. In this setting, the coefficient takes, on average, around eight months following a US yield inversion to switch sign and exceed 1.

**Figure 3** Changes in the Fama coefficient in the months following US yield curve inversions associated with economic disasters



Source: Lloyd and Marin (2019). Note: Red dots denote the estimated interaction coefficient between 6-month interest rate differentials and a lagged US yield curve inversion indicator. The horizon axis denotes the lag in this interaction, in months. Coefficients estimated using six currencies vis-à-vis the dollar from 1980 to 2017, with country fixed effects. 95% confidence bands constructed using Driscoll and Kraay (1998) standard errors.

These findings are not specific to recent decades either. The time-variation in the UIP coefficient also occurred during the Great Depression, and across different monetary regimes. Taken together, these findings highlight a systematic pattern in FX dynamics following US yield curve inversions that are associated with subsequent economic disasters, which cannot otherwise be attributed to, for example, quantitative easing or other unconventional monetary measures implemented in the GFC.

While the scale of the dollar appreciation to date is not as large as in 2007, the associated capital outflows from EMs, week on week, are many times larger than at the peak of the GFC

### Concluding remarks: “The largest capital outflows ever recorded from the emerging markets”

Coming back to the current COVID-19 crisis, while the scale of the dollar appreciation to date is not as large as in 2007, the associated capital outflows from EMs, week on week, are many times larger than at the peak of the GFC. Real-time data also indicate that capital outflows from EMs week on week have been double the peak weekly outflows seen around the 2013 US taper tantrum – stressing the EM economies to the max. As of the end of March, nearly 80 countries are requesting IMF help, while, according to the IMF, \$83 billion have left them since the beginning of the crisis. While these outflows may subside, the evidence from Figure 3 would be consistent with further pressure on the dollar to appreciate in the near future. As many of these EMs are central to the global production network, policy action to sustain supply chains and demand for commodities (for example food) will be crucial in helping many contain the economic disruption.

Cambridge, June 8, 2020 -- The Business Cycle Dating Committee of the National Bureau of Economic Research maintains a chronology of the peaks and troughs of U.S. business cycles. The committee has determined that a peak in monthly economic activity occurred in the U.S. economy in February

2020. The peak marks the end of the expansion that began in June 2009 and the beginning of a recession.

### **Questions:**

1. Why does the US dollar tend to appreciate during the world financial crises?
2. What are the differences concerning behavior of foreign exchange and bond markets across the 2020 crisis and the 2007-2008 Great Financial Crisis?
3. What do you think about future trends in the US dollar movement? What factors will you take into consideration? Is weak or strong dollar preferable for economic recovering in the USA?

### **-\_The projects (examples)\_**

Articles for a project:

1. Bergin P.R. *Conditional PPP and Real Exchange Rate Convergence in the Euro Area* /2016 NBER Working Papers No. W 21979
2. Edwards S. *Monetary Policy Independence under Flexible Exchange Rates: An Illusion?* //2015. NBER Working Papers No. W 20893
3. Frenkel, Robert, and Martin Rapetti “*The real exchange rate as a target of macroeconomic policy*”//2014 *Paper 74*, Buenos Aires: Iniciativa para la transparencia financiera. – URL: [www.itf.org.ar](http://www.itf.org.ar)
4. Ghosh, Atish R., Jonathan David Ostry, and Mahvash Saeed Qureshi. *Exchange Rate Management and Crisis Susceptibility: A Reassessment*. 2014. International Monetary Fund
5. Blanchard O., Adler G., Carvalho Filho I. *Can Foreign Exchange Intervention Stem Exchange Rate Pressures from Global Capital Flow Shocks?* 2015. NBER Working Papers No. W 21427

### **7.5. Methodological guidelines and assignment requirements:**

#### **— Midterm assessment**

Midterm assessment is conducted in the format of a written examination, which consists of open conceptual questions and case study analysis.

### **8. Resources**

#### **8.1. List of main and additional literature**

## Main literature:

1. Nidhaleddine Ben Cheikh, Younes Ben Zaied, Houssam Bouzgarrou, Pascal Nguyen. Nonlinear Exchange Rate Pass-Through: Does Business Cycle Matter? // *Journal of Economic Integration*, Vol. 33, No. 2 (June 2018), pp. 1234-1260
2. Miloš Rajković, Predrag Bjelić, Danijela Jaćimović & Miroslav Verbič. The impact of the exchange rate on the foreign trade imbalance during the economic crisis in the new EU member states and the Western Balkan countries // Published online: 27 Feb 2020 (<https://www.tandfonline.com/doi/full/10.1080/1331677X.2019.1708771>)
3. Flaschel P., Hartmann F., Malikane C., Proaño C. A Behavioral Macroeconomic Model of Exchange Rate Fluctuations with Complex Market Expectations Formation // *Computational Economics*. April 2015, Vol. 45, Issue 4, pp. 669–691. – URL: <https://link.springer.com/journal/10614/45/4/page/1>
4. Hernán Rincón-Castro, Norberto Rodríguez-Niño, Jorge Hernán Toro-Córdoba. Are Capital Controls and Central Bank Intervention Effective? // *Investigación Económica*, Vol. 79, No. 313 (JULIO-SEPTIEMBRE DE 2020), pp. 31-50 (<http://www.scielo.org.mx/pdf/ineco/v79n313/0185-1667-ineco-79-313-31.pdf>)
5. Michael B. Devereux Eric R. Young Changhua Yu A New Dilemma: Capital Controls and Monetary Policy in Sudden Stop Economies // 2015. NBER Working Papers No. W 217917
6. Shu Lin, Haichun Yet “What to target? Inflation or Exchange rate” // *Southern Economic Journal*. 2012. Pp.1202-122
7. Ibrahima Sangaré Exchange Rate Regimes in the ASEAN: Would a Currency Union Outperform the Independent Managed Floating Regimes? // *Journal of Economic Integration*, Vol. 36, No. 1 (March 2021), pp. 72-102
8. Jorge Carrera, Blaise Gnimmassoun, Valérie Mignon, Romain Restout. Currency Misalignments and Exchange Rate Regimes in Latin American Countries: A Trade-Off Issue // *Annals of Economics and Statistics*, No. 141 (March 2021), pp. 71-102
9. Antonia López-Villavicencio, Valérie Mignon. Globalization and Exchange-Rate Pass-Through in Europe: Is There a Link? // *Journal of Economic Integration*, Vol. 33, No. 4 (December 2018), pp. 773-786
10. Javier Bianchi, Juan Carlos Hatchondo, Leonardo Martinez. International Reserves and Rollover Risk // *The American Economic Review*, Vol. 108, No. 9 (SEPTEMBER 2018), pp. 2629-2670
11. Zhao Ke. The Pandemic and the International Monetary System: Can China Move on the Dollar? // *Horizons: Journal of International Relations and Sustainable Development*, No. 17, SPECIAL ELECTIONS ISSUE: AMERICA AT CROSSROADS (AUTUMN 2020), pp. 136-147
12. Hawkins J., Turner P. Managing foreign debt and liquidity risks in emerging economies: an overview. BIS Policy Papers, 3-59, 2000
13. Mundell R.A. A Theory of Optimum Currency Areas // *The American Economic Review*. 1961. Vol. 51, No. 4., pp. 657-665
14. Whelan K. The Euro at 20: Successes, Problems, Progress and Threats // European Parliament, January 2019
15. Saleheen Khan. Currency Crisis Transmission Through Trade Channel: Asian and Mexican Crises Revisited // *Journal of Economic Integration*, Vol. 33, No. 4 (December 2018), pp. 818-840
16. Fornaro L. Financial crises and exchange rate policy // *Journal of international economics*. – 2015, Vol. 95, No 2, pp. 202-215

### Additional literature:

1. Aizenman, J. International reserves management and the current account // National Bureau of Economic Research, February 2007
2. Benigno G. Real Exchange Rate Persistence and Monetary Policy Rules. // *Journal of Monetary Economics*. 2004. Vol. 51. No. 3, pp. 473-502
3. Bergin P.R. Conditional PPP and Real Exchange Rate Convergence in the Euro Area/ /2016 NBER Working Papers No. W 21979
4. Blanchard O., Adler G., Carvalho Filho I. Can Foreign Exchange Intervention Stem Exchange Rate Pressures from Global Capital Flow Shocks? 2015. NBER Working Papers No. W 21427
5. C. Bauer, B. Herz, V. Karb Are twin currency and debt crises special? // *Journal of Financial Stability*. 2007. No 3, pp. 59-84
6. F. Broner, G. Lorenzoni, S. Schmikler “Why Do Emerging Economies Borrow Short-term”. World Bank Policy Research Working Paper. 2005
7. Cabral, Rene; Carneiro, Francisco G.; Varella Mollick, Andre. Inflation Targeting and Exchange Rate Volatility in Emerging Markets. // *Policy Research Working Paper*. 2016. No. 7712. World Bank,
8. Calvo G., Mishkin, F. The Mirage of Exchange Rate Regimes for Emerging Market Countries// *Journal of Economic Perspectives*. 2003. Vol.17, No 4, pp. 99 - 118
9. Calvo G., Reinhart C., Vegh C. Targeting the Real Exchange Rate: Theory and Evidence// *Journal of Development Economics*, 1995, Vol. 47, No 1, pp. 97 – 133
10. D’Arista J. The evolving international monetary system // *Cambridge Journal of Economics*. 2009. Vol. 33, pp. 633–652.
11. Dorrucchi E., McKay J. The international monetary system after the financial crisis // *Occasional paper series № 123*. February 2011. European central bank.
12. Edwards S, Levy – Yeyati E. Flexible Exchange Rates as Shock Absorbers? // *European Economic Review*. 2005. Vol. 49, No 8, pp. 2079 – 2105
13. Edwards S. Monetary Policy Independence under Flexible Exchange Rates: An Illusion? //2015. NBER Working Papers No. W 20893
14. Eichengreen B. Bretton Woods after 50. 20 July 2021
15. Eichengreen B. RMBI or RMBR: Is the Renminbi Destined to Become a Global or Regional Currency? // 2015. NBER Working Papers No W 2171
16. Eichengreen B.” Exchange rate regimes and capital mobility: how much of the swoboda thesis survives?” // 2008. NBER Working paper No 14100
17. B. Eichengreen, R. Hausmann, U. Panizza. Currency Mismatches, Debt Intolerance, and Original Sin: Why They are Not the Same and Why it matters. //2003. NBER Working Paper, 10036
18. Erten, Bilge, and José Antonio Ocampo. Capital Account Regulations, Foreign Exchange Pressure, and Crisis Resilience, 2013. Initiative Policy Dialogue Working Paper
19. Flamini A. Inflation Targeting and Exchange Rate Pass-Through // *Journal of International Money and Finance*. 2007. Vol. 26, No. 7, pp. 1113-1150.
20. Flood R., Marion N. A model of the joint distribution of banking and currency crises// *Journal of International Money and Finance*. 2004. Vol.23, pp. 841-865

21. Frankel J.A., Rose A.K. The Endogeneity of the Optimum Currency Area Criteria // *The Economic Journal*. 1997. Vol.108, pp. 1009–1025.
22. Frenkel, Robert, and Martin Rapetti. The real exchange rate as a target of macroeconomic policy, 2014. *Paper 74*, Buenos Aires: Iniciativa para la transparencia financiera. – URL: [www.itf.org.ar](http://www.itf.org.ar)
23. Ghosh, Atish R., Jonathan David Ostry, and Mahvash Saeed Qureshi, *Exchange Rate Management and Crisis Susceptibility: A Reassessment*. 2014. International Monetary Fund.
24. Graciela L. Kaminsky and Carmen M. Reinhart On crises, contagion, and confusion// *Journal of International Economics*. 2000. Vol.51, Issue 1, pp.145-168
25. Haidar J.I. Currency Valuation and Purchasing Power Parity // *World Economics*. 2011. Vol.12, pp.1-12
26. Jonathan D. Ostry, Atish R. Ghosh, and Marcos Chamon. **Two Targets, Two Instruments: Monetary and Exchange Rate Policies in Emerging Market Economies**. *IMF Staff Discussion Note*, February, SPN/12/01, 2012
27. Levy-Yeyati, Eduardo, Federico Sturzenegger, and Pablo Alfredo Gluzmann. Fear of Appreciation. // *Journal of Development Economics*. 2013. Vol. 101, pp. 233-247
28. Magud, Nicolas E., Carmen M. Reinhart, and Kenneth S. Rogoff. Capital Controls: Myth and Reality—A Portfolio Balance Approach. // 2011. NBER Working Paper No. 16805.
29. Marco Airaudo ; Edward F Buffie ; Luis-Felipe Zanna. Inflation Targeting and Exchange Rate Management In Less Developed Countries. *IMF Working Paper No 16/55*, 2016
30. Martin Guzman (Columbia University – UBA) José Antonio Ocampo (Columbia University) Joseph E. Stiglitz (Columbia University) *Real Exchange Rate Policies for Economic Development*, 2016 Initiative for Policy Dialogue Working Paper Series Working Paper #300
31. McKinnon, R. I. Monetary and Exchange Rate Policies for International Financial Stability: A Proposal // *The Journal of Economic Perspectives*. 1988. Vol. 2, No 1, pp. 83–103
32. Mendoza R.U. International Reserve – Holding in the Developing World: Self Insurance in a Crisis – Prone Era? // *Emerging Markets Review*, 2004, Vol.5, No1, pp. 61 – 82
33. Michael B. Devereux Eric R. Young Changhua Yu A New Dilemma: Capital Controls and Monetary Policy in Sudden Stop Economies// 2015. NBER Working Papers No.W 217917
34. Missio, Fabricio Jose, Frederico Jayme Jr, Gustavo Britto, and José Luis Oreiro (2015), “Real Exchange Rate and Economic Growth: new Empirical Evidence”, *Metroeconomica*, forthcoming.
35. Obstfeld M. Models of currency crises with self – fulfilling features // *European Economic Review*. 1996. No 40, pp. 1037 – 1047
36. Olivier J. International Reserves in Emerging Market Countries: Too Much of a Good Thing? // *Brookings Papers on Economic Activity*, 2007, No. 1, pp. 1-55;
37. Ostry, Jonathan D., Atish R. Ghosh, Marcos Chamon, Mahvash S. Qureshi (2012), “Tools for Managing Financial-Stability Risks from Capital Inflows,” *Journal of International Economics*, 88 (2):407–421.
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40. Rapetti, Martin. Macroeconomic policy coordination in a competitive real exchange rate strategy for development. *Journal of Globalization and Development* . 2013, Vol.3., N No 2: pp. 1-31.
41. Rapetti, Martin, Peter Skott and Arslan Razmi. The real exchange rate and economic growth: Are developing countries different, *International Review of Applied Economics*, 2012:1-9.
42. Razmi, Arslan, Martin Rapetti, and Peter Skott. The real exchange rate and economic development// *Structural Change and Economic Dynamics* 2012, 23.2, pp.151-169
43. Ricci L.A., Milesi – Ferretti G. M., Jaewoo L. Real Exchange Rates and Fundamentals: A Cross – Country Perspective”// IMF Working Paper, 2008, No 08/13
44. Rose A.K. A Stable International Monetary System Emerges: Inflation Targeting is Bretton Woods, Reversed // *Journal of International Money and Finance*. 2007. Vol. 26, No5, pp. 663 – 681
45. Taylor A. M. and Taylor M. P. The Purchasing Power Parity Debate // *Journal of Economic Perspectives*. 2004. Vol. 18. No 4, pp. 135–158.
46. Velasco A., Chang R. Liquidity Crises in Emerging Markets: Theory and Policy// 1999. NBER Working Paper. No. 727

## 8.2. List of licensed software

- Microsoft Office (PowerPoint, Word, Excel),
- LCD-projector

## 8.3. List of professional databases and information referral systems

- EBSCO Host,
- IMFe-LIBRARY,
- Oxford Journals,
- ProQuest,
- ScienceDirect,
- Scopus,
- SpringerLink,
- Thomson Reuters,



- Web of Science
- e-LIBRARY.RU.

#### 8.4. List of Internet resources (if necessary)

- The official website of the Central Bank of Russian Federation. – URL: <http://www.cbr.ru>
- The official website of the Government of Russian Federation. – URL: <http://government.ru>
- The official website of the Ministry of Economic Development of Russian Federation. – URL: <http://economy.gov.ru/minec/main>
- The official website of the Ministry of Finance of Russian Federation. – URL: <https://www.minfin.ru/ru/>
- The official website of the Federal State Statistics Service of the Russian Federation. – URL: <https://www.gks.ru>
- World Bank. – URL: [www.worldbank.org](http://www.worldbank.org)
- IMF. – URL: [www.imf.org](http://www.imf.org)
- WTO. – URL: [www.wto.org](http://www.wto.org)
- European Central Bank. – URL: <https://www.ecb.europa.eu/home/html/index.en.html>

#### 8.5. Description of material and technical support

For the appropriate organization of classes the following equipment is needed: computer, LCD projector, flip chart, markers, Internet access; access to the faculty's electronic library.

##### 2. Language of instruction:

English

##### 3. Professor (professors):

Miklashevskaya Nina Anatolyevna, associate professor, PhD in Economics

#### **4. Syllabus authors:**

Miklashevskaya Nina Anatolyevna, associate professor, PhD in Economics