В.А. Разумовская, Н.В. Климович, Ю.Е. Валькова

ПРОФЕССИОНАЛЬНО ОРИЕНТИРОВАННАЯ КОММУНИКАЦИЯ НА АНГЛИЙСКОМ ЯЗЫКЕ ДЛЯ ЭКОНОМИСТОВ

PROFESSIONALLY-ORIENTED COMMUNICATION IN ENGLISH FOR ECONOMISTS

Учебное пособие

ИНСТИТУТ ЭКОНОМИКИ, УПРАВЛЕНИЯ И ПРИРОДОПОЛЬЗОВАНИЯ

Министерство образования и науки Российской Федерации
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Профессионально ориентированная коммуникация на английском языке для экономистов

Professionally-oriented Communication in English for Economists

Учебное пособие

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Р е ц е н з е н т ы:
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Представлены ключевые аспекты профессионально ориентированной коммуникации в области экономики. Ориентировано на формирование базовых компетенций профессиональной иноязычной коммуникации, обеспечивающих эффективное устное и письменное общение у будущих экономистов.

Предназначено для использования на практических занятиях по английскому языку в рамках учебной дисциплины «Профессионально ориентированная коммуникация на иностранном языке» студентами, обучающимися по направлению 38.03.01 «Экономика» (программа 38.03.01.12 «Международная экономика»).

ОГЛАВЛЕНИЕ

От авторов

Учебное пособие «Профессионально ориентированная коммуникация на английском языке для экономистов / Professionally-oriented Communication in English for Economists» предназначено для занятий по практическому курсу английского языка в рамках учебной дисциплины *«Профессионально ориентированная коммуникация на иностранном языке»* для обучающихся по направлению 38.03.01 *«Экономика»* (программа 38.03.01.12 *«Международная экономика»*).

Настоящее пособие посвящено ряду ключевых аспектов профессионально ориентированной коммуникации в области экономической тематики и является логическим продолжением учебных пособий «Красноярский край: экономика. Практикум по письменному и устному переводу с листа» (авторы: С.В. Бершадская, В.А. Разумовская, У.В. Смирнова), «Красноярский край: вопросы регионального развития. Практикум профессионально-ориентированного письменного перевода и перевода с листа» (авторы: В.А. Разумовская, Н.В. Климович, Я.В. Соколовский) и «Переводим тексты по экономике. Практикум по профессионально ориентированному переводу» (авторы: В.А. Разумовская, Н.В. Климович, Ю.Е. Валькова), опубликованных в Сибирском федеральном университете в 2010, 2015 и 2017 годах.

Текстовой материал и используемая система упражнений способствуют формированию у студентов коммуникативной компетенции (наряду с лингвистической и межкультурной), направленной на обеспечение готовности студентов к предстоящей профессиональной деятельности в форме межкультурного общения (диалога) и в условиях современного поликультурном общества, международной мобильности и интеграции. В пособии гармонично сочетаются задания, ориентированные на развитие у студентов умений в области четырех основных видов речевой деятельности (говорения, аудирования, чтения, письма), что обеспечивает успешную профессиональную коммуникацию. Материал направлен на усвоение систематизированных знаний, умений и навыков, позволяющих обучающимся осуществлять эффек-

тивную иноязычную и межкультурную профессиональную речевую деятельность. Учебный материал представлен актуальными и современными научными и научно-популярными текстами, которые являются фрагментами публикаций в открытых источниках и используются исключительно в учебно-методических целях. В выборе и распределении учебного материала авторы ориентировались на темы экономических дисциплин, изучаемых студентами в соответствии с учебным планом образовательной программы, что позволило синхронизировать учебную информацию по нескольким дисциплинам.

Пособие основано на базовых методологических принципах: системности, последовательности, целостности, комплементарности, интерактивности и взаимосвязанности обучения.

PART I

UNIT 1. CAUSE AND EFFECT IN MACROECONOMICS

Warming up activity

Explain the meaning of the following expressions in English and give their Russian variants:

to adjust the interest rate, disinflationary measure, reciprocal relationships, anticipated changes, aggregate demand, reasonable prerequisite, indispensable tools, the time lag, the conduct of monetary policy, obviously interrelated, vector-autoregression model, to envisage today's research.

Tasks

1. Think about the concepts of cause and effect. Watch the video about cause and effect: https://www.youtube.com/watch?v=wSOGw6gDokI. Give some examples of causes and effects relating to your daily actions.

2. Look at the classical definition of cause-and-effect problem. How do you understand it? Give your personal opinion and discuss it with your group-mates.

Causality (or cause and effect) is the natural or worldly agency or efficacy that connects one process (the cause) with another process or state (the effect), where the first is partly responsible for the second, and the second is partly dependent on the first. In general, a process has many causes, which are said to be causal factors for it, and all lie in its past. An effect can in turn be a cause of, or causal factor for, many other effects, which all lie in its future. Causality is metaphysically prior to notions of time and space.

3. Further reading about causality: https://en.wikipedia.org/wiki/Causality

Give the essence of Aristotle's four explanatory modes.

4. Try yourself at quiz to know more about the relationship between correlation and causation: http://study.com/academy/practice/quiz-worksheet-cause-and-effect-relationships.html

5. Skim the article "The art of distinguishing between cause and effect in the macroeconomy". What is its main idea?

6. Give the digest of the article "The art of distinguishing between cause and effect in the macroeconomy" both in English and Russian.

THE PRIZE IN ECONOMIC SCIENCES 2011: THE LAUREATES

Thomas J. Sargent

U.S. citizen. Born 1943 in Pasadena, CA, USA. Ph.D. 1968 from Harvard University, Cambridge, MA, USA. William R. Berkley Professor of Economics and Business at New York University, New York, NY, USA.

http://files.nyu.edu/ts43/public

Christopher A. Sims

U.S. citizen. Born 1942 in Washington, DC, USA. Ph.D. 1968 from Harvard University, Cambridge, MA, USA. Harold H. Helm '20 Professor of Economics and Banking at Princeton University, Princeton, NJ, USA.

www.princeton.edu/~sims/

The art of distinguishing between cause and effect in the macroeconomy

How are GDP and inflation affected by a temporary increase in the interest rate or a tax cut? What happens if a central bank makes a permanent change in its inflation target or a government modifies its objective for budgetary balance? This year's Laureates in economic sciences, Thomas J. Sargent and Christopher A. Sims, have developed methods for answering these and many other questions regarding the causal relationship between economic policy and different macroeconomic variables such as GDP, inflation, employment and investments.

The economy is constantly affected by unanticipated events. The price of oil rises unexpectedly, the central bank sets an interest rate unforeseen by borrowers and lenders, or household consumption suddenly declines. Such unexpected occurrences are usually called shocks. The economy is also affected by more long-run changes, such as a shift in monetary policy towards stricter disinflationary measures or fiscal policy with more stringent budget rules. One of the main tasks of macroeconomic research is to comprehend how both shocks and systematic policy shifts affect macroeconomic variables in the short and long run. Sargent's and Sims's awarded research contributions have been indispensable to this work. Sargent has primarily helped us understand the effects of systematic policy shifts, while Sims has focused on how shocks spread throughout the economy.

Two-way relationships and prevailing expectations

One difficulty in attempting to understand how the economy works is that the relationships are often reciprocal. Is it policy that influences economic development or is there a reverse causal relationship? One reason for this ambiguity is that both private and public agents actively look ahead. The expectations of the private sector regarding future policy affect today's decisions about wages, prices and investments, while economic-policy decisions are guided by expectations about developments in the private sector.

Investors base their decisions on expectations about future economic policy

Central banks set the interest rate based on expectations about private sector developments

A clear-cut example of a two-way relationship is the economic development in the early 1980s, when many countries shifted their policy in order to combat inflation. This change was primarily a reaction to economic events during the 1970s, when the inflation rate increased due to higher oil prices and lower productivity growth. Consequently, it is difficult to determine whether the subsequent changes in the economy depended on the policy shift or on underlying factors beyond the control of monetary and fiscal policy which, in turn, gave rise to a different policy. One way of studying the effects of economic policy would be to carry out controlled experiments. In practice, however, varying policies cannot be randomly assigned to different countries. Macroeconomic research is therefore obliged to use historical data. The laureates' foremost contribution has been to show that causal macroeconomic relationships can indeed be analyzed using historical data, even in cases with two-way relationships. There are good reasons to believe that unexpected shifts in economic policy may have other effects than anticipated changes. It is not trivial, however, to distinguish between the outcomes of expected and unexpected policy. A change in the interest rate or tax rate is not the same as a shock, in the sense that at least part of the change might be expected. This is a longstanding insight in the context of the stock market. A firm which reports improved earnings and higher forecasted profits might still encounter a drop in its share price, simply because the market expected an even stronger report. Moreover, the effects of an unanticipated policy shift might depend on whether it was implemented independently of other shocks in the economy or was a reaction to them. Sargent's awarded research concerns methods that utilize historical data to understand how systematic changes in economic policy affect the economy over time. Sims's awarded research instead focuses on distinguishing between unexpected changes in variables, such as the price of oil or the interest rate, and expected changes, in order to trace their effects on important macroeconomic variables. The questions which the laureates have dealt with are obviously interrelated. Although Sargent and Sims have carried out their research independently, their contributions are complementary in many ways.
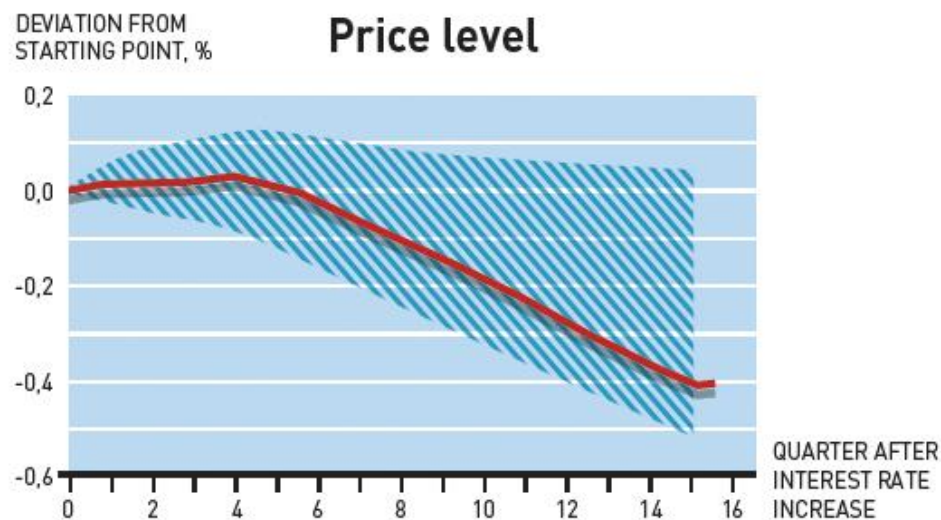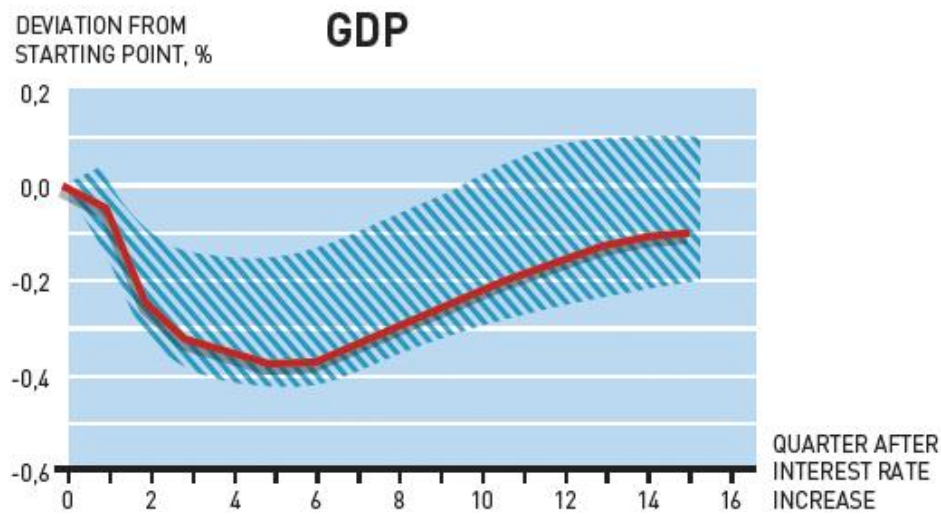
Sargent: systematic effects of economic policy

What happens in the macroeconomy when monetary policy systematically follows a Taylor rule, i.e., when the interest rate responds to changes in inflation and the business cycle in a pre-determined pattern? Or what hap-

pens if a central bank is instead given a mandate to maintain inflation close to two percent? Sargent's analysis deals with the effects of such systematic policy rules and the consequences of changes in the rules for policy. Expectations are an integral part of this analytical approach. Is it possible to determine whether changes in the economy depend on shifts in economic policy? Could such changes instead depend on fluctuations in the overall economy that prompt decision-makers to adopt a different policy? Sargent has examined these issues using a three-step method. His first step involves developing a structural macroeconomic model, i.e., an accurate mathematical description of the economy. A number of parameters, which determine the relationships among different variables, are introduced into the model. For instance, if we know that consumers' aggregate demand for goods and services is affected by the expected real interest rate, this relationship should be incorporated in the model. The parameters governing such basic relations should not be affected by the changes in economic policy. This includes preference parameters, which describe how individuals choose between saving and consumption depending on interest rates and income. The second step consists of solving the mathematical model. Sargent's method focuses on expectations as to how macroeconomic variables will change. For example, are expectations about inflation in the future affected by changes in economic policy? A reasonable prerequisite for solving the model is that individuals' inflation expectations in the model correspond to the forecasted inflation generated by the model itself. Imposing such a requirement is easier said than done, however, and the second step in Sargent's analysis demonstrates how a solution may be found. The third and last step is entirely statistical. Historical data are used to estimate the fundamental parameters that do not change after a policy shift. To simplify, this implies that parameter values are chosen so that the model will describe historical events as well as possible. In this way, numerical values are obtained for the parameters which describe the economic structure. The complete model can than be used as a "laboratory" to study the effects of different hypothetical experiments, such as a shift in monetary policy. In a series of articles written during the 1970s, Sargent showed how structural macroeconomic models could be constructed, solved and estimated. His approach has turned out to be particularly useful in the analysis of economic policy, but is also used in other areas of macroeconometric and economic research. Some of Sargent's contributions were solely methodological, although he has also applied the new methods in highly influential empirical research. For instance, he has analyzed historical episodes of hyperinflation in different European countries. He has also examined the above-

mentioned course of events in the 1970s when many economies initially adopted a high-inflation policy and then reverted to a lower rate of inflation. Sargent showed that the way expectations are formed by the general public as well as central banks' understanding of the inflation process were based on gradual learning. This could explain why the decline in inflation took such a long time.

Sims: identification and analysis of macroeconomic shocks

Sims shared Sargent's criticism of the large macroeconometric models which were earlier used by researchers, central banks and ministries of finance. In his article "Macroeconomics and Reality" (1980), Sims introduced a new way of analyzing macroeconomic data. He also concurred with Sargent in emphasizing the importance of expectations. Sims proposed a new method of identifying and interpreting economic shocks in historical data and of analyzing how such shocks are gradually transmitted to different macroeconomic variables. His approach has had an enormous impact on research. It has also been used extensively as a basis for decision-making in economic policy. Sims's methodology may also be described in three steps. In the first step, the analyst makes a forecast for macroeconomic variables using a vector-autoregression model (a VAR model). This is a relatively simple model for statistical time series, where previously observed values of the variables of interest are used to achieve the best possible forecast. The difference between forecast and outcome – the forecasting error – for a specific variable may be regarded as a type of shock, but Sims showed that such forecasting errors do not have an unambiguous economic interpretation. For instance, either an unexpected change in the interest rate could be a reaction to other simultaneous shocks to, say, unemployment or inflation, or the interest-rate change might have taken place independently of other shocks. This kind of independent change is called a fundamental shock. The second step involves extracting the fundamental shocks to which the economy has been exposed. This is a prerequisite for studying the effects of, for example, an independent interest-rate change on the economy. Indeed, one of Sims's major contributions was to clarify how identification of fundamental shocks can be carried out on the basis of a comprehensive understanding of how the economy works. Sims and subsequent researchers have developed different methods of identifying fundamental shocks in VAR models.

GDP

DEVIATION FROM STARTING POINT, %

0,2

0,0

-0,2

-0,4

-0,6

0 2 4 6 8 10 12 14 16

QUARTER AFTER INTEREST RATE INCREASE

Price level

DEVIATION FROM STARTING POINT, %

0,2

0,0

-0,2

-0,4

-0,6

0 2 4 6 8 10 12 14 16

QUARTER AFTER INTEREST RATE INCREASE

Effects of an increase in the interest rate on GDP and the prize level. The shaded areas show other statistically possible outcomes

Once the fundamental shocks are identified based on historical data, the third step in Sims's method is an impulse-response analysis. This illustrates the impact over time of the fundamental shocks to the macroeconomic variables. The figures on the left shows how an impulse in the form of an increase in the interest rate set by the central bank leads to responses in macroeconomic variables with different time profiles. The graphs are based on a VAR analysis of U.S. postwar data (Christiano, Eichenbaum and Evans, 1999), where the shocks have been indentified using a method proposed by Sims. The example shows the responses of two variables in the VAR model, GDP and the price level. GDP falls continuously for several quarters following the interest rate increase and does not turn upwards

until after six quarters. The price level, on the other hand, is hardly affected at all until after six quarters, when prices start to fall – the rate of inflation goes down. Impulse-response analysis has improved our understanding of the dynamic properties of the macroeconomy and has thereby affected the conduct of monetary policy. It is now common for central banks with an inflation target to adjust the interest rate in order to reach its goal over a horizon of one to two years, i.e., the time lag indicated by the figure. The graphs also illustrate that a contractionary monetary policy faces a trade-off between lower inflation after one to two years and an immediate reduction in GDP. Analogous VAR analyses of fiscal policy have shown how increased public spending may counteract a temporary dip in the business cycle. Today, VAR models are indispensable tools for central banks and finance ministries in their analyses of the impact of various shocks on the economy and of how the economy is affected by different policy measures.

Sargent's analysis of macroeconomic time series based on historical data opened up a rich field for macro-economic research and has led to new insights about the workings of economic policy. Sims research, starting somewhat later, has also had an extraordinary influence, both in macroeconomics and other fields of research. Today, the directions of research that were inspired by Sargent's and Sims's contributions have much in common. In modern research, the solution to models developed using Sargent's methods are often expressed in the form of a VAR system and evaluated by impulse-response analysis. The empirical strategies proposed by Sargent and Sims are intercomparable. In order to study the impact of systematic policy changes on the economy, Sargent's method requires specific assumptions about the structure of the economy – assumptions that may be questionable. The assumptions underlying a VAR model, on the other hand, are more general and hold across a wide class of economic models. Researchers have a choice of method depending on the application. With detailed knowledge about the structure of the economy, Sargent's method may be preferable, in particular since it allows a counterfactual analysis of systematic changes in economic policy. When knowledge of the field is less exact, Sims's method may be safer. Owing to the scientific contributions of Sargent and Sims, research in macroeconomics and analysis of economic policy have advanced substantially. Their combined work constitutes a solid foundation for modern macroeconomic analysis. It is hard to envisage today's research without this foundation.

Source: https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2011/popular-economicsciences2011.pdf

LINKS AND FURTHER READING

Additional information on this year's Prizes, including a scientific background article in English, may be found at the website of the Royal Swedish Academy of Sciences, *http://kva.se,* and at *http://nobelprize.org*. The latter also includes web-TV versions of the press conferences at which the awards were announced. Information on exhibitions and activities related to the Nobel Prizes and the Prize in Economic Sciences may be found at *www.nobelmuseet.se.Interviews*

Evans G.W. and Honkapohja S. (2005) An Interview with Thomas Sargent, *Macroeconomic Dynamics*, 9, 561–583.

https://files.nyu.edu/ts43/public/research/SargentinterviewMD.pdf

Hansen, L.P. (2004) An Interview with Christopher A. Sims, *Macroeconomic Dynamics*, 8, 273–294.

Rolnick, A.J. (2010) Interview with Thomas Sargent, *The Region*, Vol. 24, No 3.

www.minneapolisfed.org/publications_papers/pub_display.cfm?id=4526

Rolnick, A.J. (2007) Interview with Christopher Sims, *The Region*, Vol. 21, No 2.

www.minneapolisfed.org/publications_papers/pub_display.cfm?id=3168Lectures (video)

Sargent, T. J. (2010) Uncertainty and Ambiguity in American Fiscal and Monetary Policies, Old Theatre, London.

www.youtube.com/watch?v=ofhaWMF1r6Q

Sims, C. A. (2010) How Empirical Evidence Does or Does not Influence Economic Thinking and Theory: Calibration, Statistical Interference and Structural Change, The Institute for New Economic Thinking.

http://ineteconomics.org/video/conference-kings/empirical-evidence-christopher-sims

Review articles

Fernández-Villaverde, Jesús and Juan F. Rubio-Ramírez (2010) Structural vector autoregressions, *The New Palgrave Dictionary of Economics,* 2nd Edition, Eds. S.N. Durlauf and L.E. Blume, Palgrave Macmillan. Piazzesi,

Monika (2008) Rational expectations models, estimation of, *The New Palgrave Dictionary of Economics,* 2nd Edition, Eds. S.N. Durlauf and L.E. Blume, Palgrave Macmillan.

Sargent, T. J. (2008) Rational expectations, *The New Palgrave Dictionary of Economics,* 2nd Edition, Eds. S.N. Durlauf and L.E. Blume, Palgrave Macmillan.

Zha, Tao (2008) Vector autoregressions, *The New Palgrave Dictionary of Economics,* 2nd Edition, Eds. S.N. Durlauf and L.E. Blume, Palgrave Macmillan.

1. List the factors which affect GDP.

2. What are the reciprocal relationships as concerning macroeconomics and expectations? Enumerate them.

3. Insert the following words from the above text in the gaps.

Stringent	clear-cut example	concur	above-mentioned
unforeseen	indispensable	alteration	longstanding
ambiguity	dip	prudent	questionable

1. There has been a _____ debate among philosophers and theologians about the nature of God.

2. I _____ absolutely with your decision.

3. His sale of secrets to rivals was a _____ of treachery.

4. Unfortunately, due to _____ circumstances, this year's show has been cancelled.

5. There is considerable _____about what this part of the agreement actually means.

6. With her experience and skills she's become quite _____ to the company.

7. We will have to make a slight _____ to the plans.

8. As for the_____ problems, the research puts forward logic control and theory analysis and practice.

9. The statistics are highly _____ due to unverifiable data used.

10. It is always _____ to start any exercise programme gradually at first.

11. The _____ in prices this summer will be brutal.

12. Other _____ measures included a freeze on tax allowances this year.

1. Form the word partnerships. Then discover them in the following text.

response	the rule
outline	output
determine	to changes
prudent	inflation
actual	of inflation
exceed	the factors
inclusive	rates
real	the level

2. Read about Taylor's rule, which was mentioned in the article. What other methods of forecasting interest rates do you know? Compare Taylor's Rule with Rule of 72, Rule of 70, Fisher Effect and VAR model.

What is "Taylor's Rule"

Taylor's rule is a proposed guideline for how central banks, such as the Federal Reserve, should alter interest rates in response to changes in economic conditions. Taylor's rule, introduced by economist John Taylor, was established to adjust and set prudent rates for the short-term stabilization of the economy, while still maintaining long-term growth. The rule is based on three factors:

1) Targeted versus actual inflation levels;

2) Full employment versus actual employment levels;

3) The short-term interest rate appropriately consistent with full employment.

Breaking down "Taylor's Rule"

The Taylor rule is, in essence, a forecasting model used to determine what interest rates will, or should, be as shifts in the economy occur. Taylor's rule makes the recommendation that the Federal Reserve should raise interest rates when inflation is high or when employment exceeds full employment levels. Conversely, when inflation and employment levels are low, interest rates should be decreased.

History of the Taylor Rule

Taylor's rule was invented and published from 1992 to 1993. John Taylor, a Stanford economist, outlined the rule in his precedent-setting 1993 study "Discretion vs. Policy Rules in Practice" Taylor continued to perfect the rule and made amendments to the formula in 1999.

The Taylor Rule equation

The equation, with some alterations, used by central banks under Taylor's rule looks like:

$$i = r^* + pi + 0.5 (pi\text{-}pi^*) + 0.5 (y\text{-}y^*)$$

Where:
i = nominal fed funds rate
r* = real federal funds rate (usually 2 %)
pi = rate of inflation
p* = target inflation rate
Y = logarithm of real output
y* = logarithm of potential output

In more simple terms, this equation is saying inflation is the difference between a real and a nominal interest rate. Real interest rates are inclusive of inflation in their factoring while nominal rates are not. The equation's purpose is to look at potential targets for interest rates; however, such a task is impossible without looking at inflation. Variations are often made to this formula based on what central bankers determine are the most important factors to include.

Source: http://www.investopedia.com/terms/t/taylorsrule.asp

12. Watch the interview with T.J. Sargent (LINKS AND FURTHER READ-ING). Compare his thoughts about uncertainty and ambiguity in American fiscal and monetary policies with the ideas expressed by N.N. Taleb in his highly-publicized works "The Black Swan" and "Anti-fragile".

13. Find some information about macroeconomic situation in the world today.

14. Look for the English equivalents of the following terms:

хозяйствующий субъект, антициклическая денежная политика, государственное вмешательство, совокупный спрос, общий уровень цен, уровень безработицы, государственный долг, состояние платежного баланса, валютный курс, вынужденная безработица, эффективная зарплата, оперировать величинами.

15. Prepare a presentation about one of the prominent economists:

Jean Bodin, J*ohn* Maynard Keynes, Nicholas Gregory Mankiw, David Hibbard Romer, Olivier Jean Blanchard, Stanley Fischer.

Use linking words, quotes and some vivid examples.

16. Make the written translation of the following text into English.

Макроэкономика – это наука, которая изучает поведение экономики в целом или ее крупных совокупностей (агрегатов), при этом экономика рассматривается как сложная большая единая иерархически организованная система, как совокупность экономических процессов и явлений и их показателей. Макроэкономика представляет собой раздел экономической теории.

В отличие от микроэкономики, которая изучает экономическое поведение отдельных (индивидуальных) хозяйствующих субъектов (потребителя или производителя) на индивидуальных рынках, макроэкономика изучает экономику как единое целое. Исследует проблемы, общие для всей экономики, и оперирует совокупными величинами, такими как валовой внутренний продукт, национальный доход, совокупный спрос, совокупное предложение, совокупное потребление, инвестиции, общий уровень цен, уровень безработицы, государственный долг и др.

Основными проблемами, которые изучает макроэкономика, являются: экономический рост и его темпы; экономический цикл и его причины; уровень занятости и проблема безработицы; общий уровень

цен и проблема инфляции; уровень ставки процента и проблемы денежного обращения; состояние государственного бюджета, проблема финансирования бюджетного дефицита и проблема государственного долга; состояние платежного баланса и проблемы валютного курса; проблемы макроэкономической политики.

Макроэкономика является одной из самых молодых экономических наук.

Своё начало макроэкономическая наука берет еще в XVI веке В 1576 году француз Жан Боден обосновал изменение уровня цен (т.е. инфляцию) результатом изменения соотношения между количеством денег и товаров. Это были первые попытки макроэкономического анализа цен с использованием количественной теории денег. Данная теория стала основой современной монетарной теории, о чем пойдет речь позже.

Своей зрелости история макроэкономики достигла в 30-е годы XX века в период мирового экономического кризиса. С 1940-х по 1980-е годы идет «консолидация» этой науки, а с 1980-х годов и позднее начинается плодотворное развитие макроэкономики.

Макроэкономических теорий, опирающихся на разные подходы, методы, факторы, достаточное количество. Некоторые из теорий противоречат друг другу, некоторые дополняют друг друга. Ниже представлены обзоры основных теорий макроэкономики.

Новое кейнсианство – это школа мысли в современной макроэкономике, представляющая собой развитие идей Джона Мейнарда Кейнса. Основывается она в 1991 году благодаря трудам таких влиятельных экономистов, как Грегори Мэнкью, Дэвид Ромер, Оливер Бланшар и Стэнли Фишер. Мэнкью и Ромер также выпустили в двух томах книгу «Новая кейнсианская экономика» в этом же году. Возникновение этой школы является логическим следствием попыток представителей данной традиции вписать кейнсианство в стандарты современного экономического анализа. Основным пунктом разногласий между новыми классиками и новыми кейнсианцами является вопрос о том, как быстро происходит корректировка зарплаты и цен. Новые классики выстраивают свои макроэкономические теории на допущении о гибкости зарплаты и цен. Они считают, что цены быстро «расчищают» рынки (т. е. обеспечивают равенство спроса и предложения). Новые кейнсианцы полагают, что модели расчистки рынков не могут объяснить краткосрочных экономических колебаний и поэтому они выступают за модели с «ригидными (негибкими)» зарплатой и ценами. Теории новых кейнсианцев основаны на жесткости зар-

платы и цен, как необходимость объяснения того, почему существует вынужденная безработица и почему денежная политика оказывает такое сильное воздействие на экономическую активность.

Элементы нового кейнсианства, такие как асинхронность в установлении цен, несовершенство координации и эффективная зарплата, призваны объяснить отсутствие гибкости при изменении цен. Эти выводы расходятся с допущениями классической школы. Таким образом, новокейнсианская теория дает рациональное обоснование для государственного вмешательства в экономику, как, например, антициклическая денежная или фискальная политика.

Источник: http://finapex.ru/information/macroeconomics/history/77-new-keynesian

17. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

18. Describe the difference between Old Keynesian and New Keynesian economics.

19. Describe the difference between macro- and microeconomics.

20. Try to solve equations in the book by C. Groth "Exercise problems for Advanced Macroeconomics" (Copenhagen, 2014). https://www.unirc.it/documentazione/materiale_didattico/1465_2015_397_23782.pdf

21. The US economy has been expanding wildly for two centuries. Are we witnessing the end of growth? Economist Robert Gordon at https://www.ted.com/talks/robert_gordon_the_death_of_innovation_the_end_of_growth lays out 4 reasons US growth may be slowing, List the reasons and justifications and to balance his view watch the opposing viewpoint from Erik Brynjolfsson also at ted.com.

22. A list of the most popular ted talks on economics is on http://www.accountingdegree.com/blog/2011/15-fascinating-ted-talks-for-econ-geeks/ Watch some videos and make a glossary of terms.

23. Read the information on the site of Russian Ministry of Economic Development about "Social and economic development of the Russian Federation until 2017: key macroeconomic assumptions" and compare it with the current situation in the country: http://economy.gov.ru/en/home/activity/sections/macro/201410024. Use additional information from the World Bank Overview on http://www.worldbank.org/en/country/russia/overview#3

UNIT 2. ECONOMIC GOVERNANCE

Warming up activity

Read the definition of economic governance and answer the questions below:

Economic governance consists of the processes that support economic activity and economic transactions by protecting property rights, enforcing contracts, and taking collective action to provide appropriate physical and organizational infrastructure. These processes are carried out within institutions, formal and informal. The field of economic governance studies and compares the performance of different institutions under different conditions, the evolution of these institutions, and the transitions from one set of institutions to another.

What actions does economic governance imply?

What institutions are subjected to economic governance processes?

Give examples of economic governance in your country.

Tasks

1. Study information on the evolution of EU economic governance and answer the questions below: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/timeline-evolution-eu-economic-governance_en

What does two-pack and six-pack refer to?

What measures are taken by the European Union to strengthen its economic governance?

2. Watch a video following the link answer the questions below: https://www.youtube.com/watch?v=SDD06QiO8Eo

What is Economic Governance Index?

How is it measured for Asia?

3. Explain the meaning of the following expressions in English and give their Russian variants:

fish stocks; pastures; plots of land; livestock; nomads; herds; user-management; locally managed irrigation systems; head-end user; tail-end user; to incur private costs; to sanction free-riders; tip the balance; coal-burning power plants; haggling costs; broad assertions; abuse one's power.

4. Read the following article:

ECONOMIC GOVERNANCE: THE ORGANIZATION OF COOPERATION

Traditionally, economic theory has by and large been a theory of markets or, more precisely, about market prices. However, there are at least two reasons why economic science should extend beyond price theory. First, markets do not function properly unless suitable contracts can be formulated and enforced. Hence, we need to understand the institutions that support markets. Second, considerable economic activity takes place outside of markets – within households, firms, associations, agencies, and other organizations. Hence, we need theories to explain why these entities exist and how they work.

This year's Laureates have been instrumental in establishing economic governance as a field of research. **Elinor Ostrom** has provided evidence on the rules and enforcement mechanisms that govern the exploitation of common pools by associations of users. **Oliver Williamson** has proposed a theory to clarify why some transactions take place inside firms and not in markets. Both scholars have greatly enhanced our understanding of non-market institutions.

Governing the commons

Many natural resources, such as fish stocks, pastures, woods, lakes, and groundwater basins are managed as common property. That is, many users have access to the resource in question. If we want to halt the degradation of our natural environment and prevent a repetition of the many collapses of natural-resource stocks experienced in the past, we should learn from the successes and failures of common-property regimes. Ostrom's work teaches us novel lessons about the deep mechanisms that sustain coopera-

tion in human societies. It has frequently been suggested that common ownership entails excessive resource utilization, and that it is advisable to reduce utilization either by imposing government regulations, such as taxes or quotas, or by privatizing the resource. The theoretical argument is simple: each user weighs private benefits against private costs, thereby neglecting the negative impact on others. However, based on numerous empirical studies of natural-resource management, Elinor Ostrom has concluded that common property is often surprisingly well managed. Thus, the standard theoretical argument against common property is overly simplistic. It neglects the fact that users themselves can both create and enforce rules that mitigate overexploitation. The standard argument also neglects the practical difficulties associated with privatization and government regulation.

Failed collectivization and privatization

As an example of Ostrom's concerns, consider the management of grasslands in the interior of Asia. Scientists have studied satellite images of Mongolia and neighboring areas in China and Russia, where livestock has been feeding on large grassland areas for centuries. Historically, the region was dominated by nomads, who moved their herds on a seasonal basis. In Mongolia, these traditions were largely intact in the mid-1990s, while neighboring areas in China and Russia – with closely similar initial conditions – had been exposed to radically different governance regimes. There, central government imposed state-owned agricultural collectives, where most users settled permanently. As a result, the land was heavily degraded in both China and Russia. In the early 1980s, in an attempt to reverse the degradation, China dissolved the People's Communes and privatized much of the grassland of Inner Mongolia. Individual households gained ownership of specific plots of land. Again, as in the case of the collectives, this policy encouraged permanent settlement rather than pastoral wandering, with further land degradation as a result. As satellite images clearly reveal, both socialism and privatization are associated with worse long-term outcomes than those observed in traditional group-based governance.

Failed modernization

There are many other examples which indicate that user-management of local resources has been more successful than management by outsiders. A

striking case is that of irrigation systems in Nepal, where locally managed irrigation systems have successfully allocated water between users for a long time. However, the dams – built from stone, mud and trees – have often been primitive and small. In several places, the Nepalese government, with assistance from foreign donors, has therefore built modern dams of concrete and steel. Despite flawless engineering, many of these projects have ended in failure. The reason is that the presence of durable dams has severed the ties between head-end and tail-end users. Since the dams are durable, there is little need for cooperation among users in maintaining the dams. Therefore, head-end users can extract a disproportionate share of the water without fearing the loss of tail-end maintenance labor. Ultimately, the total crop yield is frequently higher around the primitive dams than around the modern dams. Both of the above-mentioned failures refer to economically poor regions of the world. However, the lessons are much more far-reaching. Ostrom's first study concerned the management of groundwater in parts of California and also highlighted the role of users in creating workable institutions.

Active participation is the key

While Ostrom has carried out some field work herself, her main accomplishment has been to collect relevant information from a diverse set of sources about the governance – successful and failed – of a large number of resource pools throughout the world and to draw insightful conclusions based on systematic comparisons. The lesson is not that user-management is always preferable to all other solutions. There are many cases in which privatization or public regulation yield better outcomes than user management. For example, in the 1930s, failure to privatize oil pools in Texas and Oklahoma caused massive waste. Rather, the main lesson is that common property is often managed on the basis of rules and procedures that have evolved over long periods of time. As a result they are more adequate and subtle than outsiders – both politicians and social scientists – have tended to realize. Beyond showing that self-governance can be feasible and successful, Ostrom also elucidates the key features of successful governance. One instance is that active participation of users in creating and enforcing rules appears to be essential. Rules that are imposed from the outside or unilaterally dictated by powerful insiders have less legitimacy and are more likely to be violated.

Likewise, monitoring and enforcement work better when conducted by insiders than by outsiders. These principles are in stark contrast to the common view that monitoring and sanctioning are the responsibility of the state and should be conducted by public employees. An intriguing outcome of these field studies concerns the willingness of individual users to engage in monitoring and sanctioning, despite only modest rewards for doing so. In order to ascertain more about individuals' motivations for taking part in the enforcement of rules, Ostrom has conducted innovative laboratory experiments on cooperation in groups. A major finding is that many people are willing to incur private costs in order to sanction free-riders.

Markets versus hierarchies

Nowadays, a large fraction of economic activity takes place within firms. Oliver Williamson has facilitated our understanding of why this is so. More broadly, he has taught us to regard markets, firms, associations, agencies, and even households from the perspective of their contribution to the resolution of conflict. Why are there large firms? Couldn't we all be self-employed, trading our goods and services in the market? A general answer to this question was proposed more than seventy years ago by Ronald Coase, who received the 1991 Prize in Economic Sciences. According to Coase, firms tend to emerge whenever transaction costs, i.e., the costs of exchanging goods, services, and money, are lower inside a firm than in the corresponding market. But what exactly are those transaction costs that may tip the balance between markets and hierarchies? While Coase offered tentative suggestions, the question remained elusive. An appropriate answer should explain why some firms grow by integrating many stages of production, whereas other firms in the same industry focus on only one or a few production stages, thereby leaving other stages to suppliers or customers. As an example, take the energy sector, where some companies operate both coal mines and coal-burning power plants, whereas other similar mines and plants are operated as separate firms.

Efficient conflict resolution

In the early 1970s, Oliver Williamson argued that hierarchical organizations sometimes dominate markets because they provide a cheaper way to resolve conflicts. If two employees quarrel about the allocation of tasks or the distribution of revenues, a chief executive is entitled to decide. In a

market, on the other hand, negotiations have to continue until both parties agree. Haggling costs can be substantial, and there is no guarantee that the final agreement will be either immediate or efficient. This argument may seem to suggest that all transactions should take place in a single giant firm. But this is clearly not an accurate description of the world as we know it. The last decade has witnessed just the opposite. Considerable outsourcing has taken place, sometimes by merely selling part of a company, while activities continue in all units much as before. That is, outsourcing creates a market transaction replacing an internal transaction. In order for this kind of outsourcing to make any sense, there must be drawbacks associated with hierarchical organization too. A common view had been that hierarchical organization is costly because it entails administrative costs. Williamson realized that this view was unsatisfactory, because it is eminently possible to move the boundaries of firms without changing administrative routines. Instead, Williamson argued that the primary reason why hierarchies are problematic is that executive authority can be abused – for example by extracting surplus from subordinates in unproductive ways.

Mutual dependence behind hierarchical organizations

How can these rather broad assertions be transformed into a theory of governance that yields nontrivial and falsifiable implications? Williamson's key insight is that the value of conflict resolution depends on two main factors. First, there is no point in being able to resolve conflicts that never arise. If it is easy and cheap to regulate future transactions through a contract, there is little need for a firm. Thus, there will not arise firms unless there are limitations to contracting.

Second, there is no reason to be able to resolve conflicts if disagreement is costless. If both the seller and the buyer can easily find other suitable trading partners, the firm is again superfluous. In other words, Williamson expects hierarchical organizations to emerge when transactions are complex or non-standard, and when parties are mutually dependent. Perhaps the most typical case of mutual dependence is that parties have assets, either physical assets or knowledge, which are only valuable inside a relationship.

Let us see whether this theory can explain the boundaries of firms in the energy market described above. The value of a coal mine in case the owner cannot agree on the terms of trade with a nearby power plant depends on

the distance to the second-nearest buyer of coal, which is usually another power plant. Likewise, the value of a coal-burning power plant in case it cannot trade with the nearby coal mine depends on the distance to the second nearest mine. The larger the distances, the greater is the mutual dependence, and – according to the theory – the more likely the mine and the plant are vertically integrated. This is precisely what is observed. When there are other nearby mines and power plants, firms are typically incorporated separately and trade under relatively short and simple contracts. As the distance to alternative trading partners increases, contract duration and complexity also increase. According to one of the studies, a coal-burning power plant that is located next to a coal mine is about six times more likely to be fully integrated than is any other coal-burning power plant.

Policy implications

Williamson's theory of the firm has been tested extensively in many other industries too, and the empirical support is strong. Activities are more likely to be organized inside firms when transactions are complex and assets are relationship-specific. Moreover, Williamson's general framework has proven productive in analyzing all sorts of incomplete contracts, ranging from implicit contracts between household members to financial contracts between entrepreneurs and investors. According to Williamson's theory, large private corporations exist primarily because they are efficient. They are established because they make owners, workers, suppliers, and customers better off than they would be under alternative institutional arrangements. When corporations fail to deliver efficiency gains, their existence will be called in question. Large corporations may of course abuse their power. They may for instance participate in undesirable political lobbying and exhibit anticompetitive behavior. However, according to Williamson's analysis, it is advisable to regulate such behavior directly rather than through policies that limit the size of corporations.

5. Speak on the following topic: "What are the ways of organization of cooperation in the process of economic governance?"

6. Read an executive summary on strengthening economic governance in Europe and answer the following question:

http://www.realinstitutoelcano.org/wps/portal/web/rielcano_en/contenido?
WCM_GLOBAL_CONTEXT=/elcano/elcano_in/zonas_in/pickford-steinberg-oteroiglesias-how-to-fix-the-euro

What recommendations are given to overcome the crisis of euro?

7. Watch a video with Gordon Brown, former prime minister of the United Kingdom, who spoke at NYU Law about global economic governance and the need for international cooperation on global issues and give its summary in English: https://www.youtube.com/watch?v=kidRH5OeZNU

8. Find information on G-7 and the G-20.

9. Read the report on global economic governance:

GLOBAL ECONOMIC GOVERNANCE AT A CROSSROADS: REPLACING THE G-7 WITH THE G-20

Colin I. Bradford and Johannes F. Linn

Thursday, April 1, 2004

Finance ministers representing the Group of 7 (G-7) industrialized countries met in Boca Raton, Florida, in early February amid concerns about the weakening of the U.S. dollar. One factor in the dollar's decline is the U.S. trade deficit, which is partly due to the undervalued Chinese yuan.

The involvement of China, which is not a G-7 member, illustrates both the glaring gap in global governance and the increasing economic and policy interdependence between industrial countries and major emerging market economies (EMEs). As one observer, referring to the Boca Raton meeting, put it, "China is the 800-pound gorilla and it isn't even part of the negotiations."

But China is a member of the G-20—a larger, more representative group of finance ministers that has attracted worldwide attention as a useful forum for discussing and negotiating policies on global economic issues. Policymakers should upgrade the G-20 to head-of-state level and use it to replace the increasingly ineffective G-7 for several reasons: future demographic and economic changes will further shift the balance away from G-7 countries and toward the large EMEs; globalization presents new challenges that require more representative global governance approaches; and EMEs have played a key role in the origin, impact, and solutions of recent global economic crises.

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The G-7 was founded in 1978 by French President Giscard d'Estaing and German Chancellor Helmut Schmidt. At the time, the major world economies consisted of six North Atlantic nations—Canada, France, Germany, Italy, the United Kingdom, and the United States—along with Japan. In the 1980s, regular meetings of heads of state and finance ministers were essential to addressing global economic issues. In the 1990s, the G-7 was expanded to the G-8 by including Russia in heads-of-state summits, but the finance ministers retained the G-7 framework for their regular meetings. Over the last few years, however, as EMEs have played an increasing role in the world economy, G-7/8 meetings have become an inadequate means to address global economic challenges.

The G-20, in contrast, is composed of ten industrial countries (the G-7 countries plus Australia, Russia, and the EU president) and ten emerging market economies (Argentina, Brazil, China, India, Indonesia, Korea, Mexico, Saudi Arabia, South Africa, and Turkey). The G-20 was founded in 1999 at the initiative of the German finance minister, Hans Eichel. Then-Canadian Minister of Finance Paul Martin was its first chair.

The G-20 has shown it can play an important role in international negotiations. Late last year, Supachai Panitchpakdi, the head of the World Trade Organization (WTO), and Pascal Lamy, the trade chief for the European Union, met with G-20 finance ministers to discuss how to break the trade deadlock after the Doha Round negotiations unravelled in Cancun, Mexico, months before. As a further sign of the G-20's growing importance, Paul Martin, now the Canadian Prime Minister, called a meeting at the end of February to promote the idea of elevating the G-20 to head-of-state meetings.

Global events and trends justify moving forward quickly to replace an obsolete G-7/8 with a strengthened G-20 so that global economic governance can bring to the table the large emerging market economies that are of growing importance, both in terms of population and economic weight.

The global majority and global governance

In the next fifty years, the world's population will increase by fifty percent, from 6 billion people to 9 billion. The 3-billion-person increase will occur solely in developing countries, while the number of people living in ad-

vanced industrial countries will be about the same in 2050 as it is today—roughly 1 billion people.

These trends mean that the industrial countries associated with "the West" (including Japan) will become an ever smaller minority of the world's population, with their share of the world's population falling from 17 percent to 11 percent. By contrast, the number of people in developing countries will increase in population by sixty percent, from 5 to 8 billion people. This means that the global majority from the developing countries today will total about 90 percent of humanity by 2050.

In a world where the G-7/8 economies still appear so dominant, it may be difficult to grasp the degree to which the global economy is today already multipolar. In the last twenty-five years, EMEs have generally had growth rates substantially higher than those of the G-7/8 members. Five EMEs now rank among the ten largest economies in the world as measured by gross domestic product at current exchange rates (see box). China is the fourth largest economy in the world. Brazil, Mexico, India, and South Korea are already major economic forces. As higher economic growth continues in large, middle-income economies and demographic trends proceed as anticipated, the structure and dynamic of the global economy will become increasingly multipolar. Goldman Sachs projects that by 2050, the non-Western G-20 EMEs from the developing world may comprise as much as 70 percent of total GDP from all G-20 economies, compared to 17 percent of total GDP today.

The implications of these demographic and economic facts are that the structures, mechanisms, and processes of global economic governance must be realigned to better correspond to the current realities of the global economy and global society, not to mention the patterns that will change over the next half-century. The G-7/8 economic summits of heads of state, along with semi-annual meetings of G-7 finance ministers, are currently the preeminent forum of the global governance system for the world economy. Yet these meetings shut out the great majority of the world's population and a significant share of the world's economic power.

The new global agenda

But it is not just a matter of population and economic weight. It is also a matter of how globalization has changed the way countries interact economically. Globalization is not merely the internationalization of trade and

financial flows between national economies interacting at arm's length. Globalization, in fact, has fundamentally transformed the nature of international economic interaction. The world's economies now penetrate each other's internal domains because large, modern firms are no longer merely factories but global networks that function seamlessly across borders. Intra-industry and intra-firm trade have increased as a proportion of total trade. The integration of world financial markets has created what is essentially a single global capital market. Migration and the outsourcing of activities have transformed and linked labor markets globally. And modern transportation and communication linkages in effect have shrunk geographic distance. As a result of these factors, porous borders have changed the meaning of the boundaries that define nations.

Not only have the channels for transmission of economic forces been transformed, but the relationship between different types of interactions has been changed. Trade, finance, economic growth, poverty reduction, environmental sustainability, social progress, and governance, which were once treated separately, are now inextricably linked to each other. For example, the social and environmental dimensions of trade are now major issues for WTO negotiations. Concern by the United States and Russia that meeting emissions targets would dampen the rate of economic growth and cost too much to implement have limited support for the Kyoto Protocol.

These transformations in the nature of international economic interactions put new demands on the mechanisms, institutions, and policies of global economic governance. In particular, political and policy attention must be focused on the inter-face issues between finance, trade, development, and poverty reduction as well as between economic, social, environmental, and governance issues. This translates into a need to focus on the inter-relationship between the principal international institutions dealing with each in these various "domains" and on the complementarities, synergies, and interactions among them.

Therefore, in today's globalized world, a simple call for a clearer division of labor between the global institutions is no longer sufficient, since each traditional domain of responsibility of a particular international organization now overlaps and is intertwined with the domains of many other international institutions. Nor are bureaucratic competition or interagency coordination among the international institutions the most effective ways to address these overlaps.

A high-level global political forum in which the leaders of a representative group of countries give serious attention to global strategic and systemic issues that cut across the traditional roles and mandates of international institutions and provide broad guidance to them is essential, and an enhanced G-20 is the right forum for this purpose. At the highest political level, there is no other representative forum mandated to address these inter-sectoral and inter-institutional issues, which are part of the G-20's founding principles.

According to the International Monetary Fund's (IMF) website, "the G-20 was founded as a new forum for cooperation and consultation on?policy issues pertaining to the promotion of international financial stability and seeks to address issues that go beyond the responsibilities of any one organization."

Global stability

Emerging market economies have achieved above average economic growth rates and have integrated themselves into the world economy through both trade and finance in ways that have transformed them as well as the global economy. At the same time, EMEs have been the main source of international economic instability for a decade, as the world lurched from one financial disaster to the next: the 1994 Mexico tequila crisis, the 1997-1999 Asian financial crisis, the 1998 Russia crisis, the 1999 Brazil crisis, and the financial crises of Argentina and Turkey since 2000.

The international financial institutions, particularly the IMF and the World Bank, have played an important role in supporting long-term growth and economic stability, in helping address financial crises, and in giving EMEs an important and responsible voice in the international financial system.

The twice-yearly meetings of finance ministers in the IMF-World Bank ministerial committees (the International Monetary and Finance Committee and the Development Committee), which include ministers from EMEs, have brought leaders into global conversations on financial and economic development. However, the mandates of these committees remain relatively narrow, their agendas institutionally driven by the operational focus of the World Bank and IMF, and the governance structures of the international financial institutions remain dominated by what are widely seen as antiquated distributions of voting rights, since G-7 countries have an over-representation in the capital and voting structures of these in-

stitutions. The committees, then, do not solve the problem of creating a more broad-gauged and representative forum.

Multipolar economy, multicultural world

A final reason for a more broad-based global governance structure is that demographic and economic growth and globalization are associated with global cultural shifts. While many of the trappings of Western consumer culture have influenced the rest of the world, it would be parochial for the West to think that Western formulations of progress and modernity are universally held. There is in fact an increasing global presence of cultural expression from the non-Western world—Africa, Arab-Islam, Asia, and Latin America. The world is becoming increasingly and overtly multicultural, as it becomes increasingly multipolar, economically.

Different cultures – with their distinctive perspectives on nature and the environment, community and individualism, and cooperation and competition – can have sharply different views on policy issues and on such basic questions as the role of the state. The broad goals and instruments of international economic, social, and environmental policies are determined in part by the perceptions of what represents progress and modernization. Distinctive visions of modernism and progress can help shape the future. Global governance mechanisms need to be vehicles for voicing and hearing those perspectives rather than excluding them.

An opportunity for the G-20

For all the reasons we have outlined here, there is a fundamental asymmetry between today's global reality and the existing mechanisms of global governance, with the G-7/8 – an exclusive club of industrialized countries that primarily represents Western culture – the prime expression of this anachronism.

As Fred Bergsten and Caio Koch-Weser pointed out in the fall of 2003 in a Financial Times op-ed, one response might be to strengthen the Atlantic alliance because it is a crucial relationship for the world economy. Bergsten and Koch-Weser argued for the "G-2" (the United States and European Union) as a forum for enhanced global management. But as Bergsten and Koch-Weser would recognize, better global governance is a game of inclusion, not exclusion, and a strong U.S.-E.U. economic policy dialogue

makes the most sense within the context of a more effective, broader global forum.

In contrast to the G-7/8, the G-20 is a diverse group of nations, with four Asian countries (China, India, Indonesia, and Korea), three Islamic countries (Indonesia, Saudi Arabia, and Turkey), three Latin American countries (Argentina, Brazil, and Mexico), and a leading country from Africa (South Africa). It includes those economies which are sufficiently large to influence global outcomes. Elevating the G-20 meeting to annual heads-of-state summits to replace the G-7/8 annual summits would be the logical next step in the evolution of global economic governance. In fact, this would formalize recent efforts to make the G-8 meetings more inclusive by having invited the heads of the principal international institutions and the heads of state of certain developing countries to some of the meetings.

The focus of the new G-20 forum would be on global economic governance broadly construed to include trade, finance, health, environment, education, human security, poverty reduction, and conflict resolution, thereby extending beyond the realm of ministers of finance. The summits would also allow for face-to-face interactions among the heads of state, but would be geared toward decision-making, rather than mere exchanges of views and pleasantries as is now often the case in the G-7/8. The G-20 would provide guidance to the panoply of international organizations working on these issues, creating linkages between issues and institutions, facilitating coordination and a division of labor, creating more vision and strategic direction, and helping to settle conflicts (such as those on trade, which led to the recent breakdown in the WTO's Cancun meeting). G-20 meetings at the ministerial level could continue to meet twice a year, and ministers with different portfolios could rotate in, depending on the pressing issues of the moment. These semi-annual ministerial level meetings could prepare the agenda for the annual G-20 heads of state meeting. This sequence would build on the experience and the success of the G-20 since it was founded in 1999 and would provide new energy, a more representative structure, and greater legitimacy to global governance at the highest political level.

Many specific questions on organizing the new G-20 will have to be resolved, including how to rotate the presidency and whether to set up a permanent secretariat. There may also be difficulties and downsides associated with shifting from the G-7/8 annual summits to G-20 head-of-state meetings. The most obvious of these is that the size of the G-20 might

hamper discussion and decision-making. However, wide consultation and strong substantive preparation can go a long way toward mitigating the problems associated with larger size. G-20 working groups on specific issues at sub-ministerial levels have already been effective forums for working through policy options and teeing up issues for G-20 finance ministers. The EU has demonstrated how fifteen (and soon to be more) governments and heads of state can make progress on policy actions when there is a strong agenda and good preparation.

An opportunity for All

With a strengthened G-20, developing country members, and with them the developing world at large, would gain a real voice and a sense of inclusion in global decision-making rather than the current token representation that many resent. For the G-7/8 countries, the apparent loss in exclusivity should be more than offset by the increased relevance and effectiveness of their efforts to address issues of great global and national significance. For the world at large, the new G-20 will mean a real and positive change from the increasingly stale and ineffective G-7/8 summits.

For the United States, elevating the G-20 to the heads-of-state level is both an opportunity and a challenge. It gives the United States a chance to reach out to the non-Western world, to recognize and respect the input of other nations, to strengthen multilateral cooperation, and to commit to finding common ground for international action. But it presents a challenge for the United States because it will require a shift in leadership style. Even more so than in the G-7/8 meetings, rather than presuming to lead by virtue of its relative weight and power, the United States would need to lead using an interactive exchange of views and consensus building, incorporating the ideas of others, compromising to be inclusive, and responding positively to differences of views rather than presuming the American way is best.

Without the support of the United States, the proposal to replace the G-7/8 with a strengthened G-20 will not fly. With U.S. support, it has a real chance of succeeding. Support by the United States for this proposal would represent a major salutary shift in U.S. foreign policy from Atlanticism to globalism, from unilateralism to multilateralism, and from leadership by power to leadership by persuasion and inclusion.

Source: https://www.brookings.edu/research/global-economic-governance-at-a-crossroads-replacing-the-g-7-with-the-g-20/

10. What are the benefits and drawbacks of replacing the G-7 with the G-20?

11. Make the written translation of the following text into English.

Экономическое управление предприятием – это направление менеджмента, обеспечивающее достижение тактических и стратегических целей предприятия на основе экономического и финансового планирования и контроля и регулирования внутренних и внешних экономических отношений.

Одной из ведущих функций управления предприятием является экономическое планирование, сущность которого заключается в обоснованном определении потребностей рынка, путей и способов насыщения его, максимальной загрузке мощностей предприятия на основе организационной, производственной и финансово-хозяйственной деятельности предприятия. Для того чтобы принимать управленческие решения, надо составить задание, программу действия, для чего разрабатываются производственные программы, планы финансовых мероприятий получения дохода и эффективного использования финансовых ресурсов.

Необходимо выделять два вида планирования – экономическое и финансовое.

С помощью *экономического планирования* определяется уровень экономических показателей производства, отражающих потребность рынка, расчет точки безубыточности производства, эффективное использование производственных и трудовых ресурсов.

Финансовое планирование определяет обеспеченность финансовыми ресурсами для достижения заданных экономических показателей и, как следствие, финансовое положение предприятия. Оно реализуется через анализ и расчет показателей производственно-хозяйственной деятельности, бюджетирование, составление финансовых планов и выбора учетной политики. Финансовое планирование полностью основывается на экономическом планировании и зависит от выбранных целей и стратегии в объемах производства и продаж продукции.

Контроль выполнения поставленных экономических и производственных целей осуществляется экономической службой предприятия через процедуры оперативного анализа выполнения планов и составление отчетности. Основным отчетным документом экономического контроля является отчет о прибылях и убытках, отражающий рентабельность производства и эффективность управления себестои-

мостью. Контроль за выполнением финансового плана осуществляется на основе платежного календаря, который отражает приход и расход денежных средств предприятия.

Регулирование отношений через экономические механизмы заложено во внутренних положениях (регламентах) предприятия об управлении затратами, ценообразовании, оценке деятельности подразделений, оплате труда персонала и т. д., которые разрабатывает и использует для управления экономическая служба предприятия.

Организационная структура экономической службы предприятия

Основной целью экономической службы является обеспечение экономического управления предприятием. Состав, наименование подразделений экономической службы и их функции устанавливаются каждым предприятием самостоятельно. Единственным структурным подразделением этой службы, существование которого является обязательным, а функции регламентируются общегосударственными нормативными актами, является бухгалтерия. Состав подразделений экономической службы и их функций должен определяться здравым смыслом и финансовыми возможностями предприятия. При их определении стоит сопоставить выигрыш от более качественного решения экономических задач с затратами на содержание специалистов. Иногда для решения уникальных экономических задач предприятиям целесообразнее привлекать сторонних специалистов из экономических и консалтинговых фирм.

После определения рациональной структуры экономической службы она должна быть зафиксирована во внутренних нормативных документах, стандартах предприятия, положении о системе управлении и т. п. Там же указываются цели и функции каждого из подразделений этой службы, состав решаемых задач, методы взаимодействия с другими подразделениями предприятия. Деятельность отдельных специалистов экономической службы регламентируется должностными инструкциями, разрабатываемыми каждым предприятием.

В состав экономической службы производственного предприятия, как правило, включаются следующие структурные подразделения:
1) бухгалтерия,
2) финансовый отдел,
3) отдел экономических задач,
4) отдел персонала.

Функции подразделений экономической службы

Состав функций подразделений экономической службы определяется содержанием решаемых задач.

1. Бухгалтерия:
- Отражение на счетах бухгалтерского учета всех осуществляемых хозяйственных операций.
- Предоставление подразделениям предприятия оперативной информации о его хозяйственной деятельности.
- Расчет налогов и платежей во внебюджетные фонды.
- Составление в установленные сроки официальной налоговой и бухгалтерской отчетности.
- Осуществление (совместно с другими подразделениями) анализа деятельности предприятия по данным бухгалтерского учета и отчетности.
- Оформление совместно с руководителем предприятия организации договорных документов, а также документов, служащих основанием для приемки и выдачи товарно-материальных ценностей и денежных средств, а также расчетных, кредитных и денежных обязательств.
- Проведение денежных расчетов с контрагентами через расчетные и иные банковские счета предприятия.

2. Финансовый отдел:
- Расчет необходимого предприятию объема денежных средств.
- Определение источников получения недостающих денежных средств (источников финансирования).
- Организация привлечения денежных средств.
- Эффективное хранение излишка денежных средств.
- Обеспечение финансовой состоятельности предприятия и платежеспособности.
- Контроль за финансовым состоянием предприятия.
- Финансовое планирование и управление системой бюджетов предприятия и его подразделений.

3. Отдел экономических задач:
- Управление затратами предприятия, разработка смет и калькуляций затрат.
- Расчет цен на продукцию.
- Оценка эффективности деятельности предприятия, его подразделений, отдельных видов бизнеса, продукции, хозяйственных мероприятий.

- Оценка объемных показателей производства и реализации продукции предприятия.
- Экономические расчеты, связанные с выполнением хозяйственных договоров с контрагентами предприятия (поставщиками, покупателями, кредиторами и др.).
- Технико-экономический анализ производственно-хозяйственной деятельности предприятия.
- Ведение и представление в установленные сроки официальной статистической отчетности.

4. Отдел персонала:
- Подбор и обучение персонала.
- Управление численностью и составом персонала предприятия.
- Организация оптимальной для предприятия системы оплаты труда персонала.
- Начисление заработной платы в соответствии с действующей на предприятии системой оплаты труда.

Объектами деятельности каждого из подразделений экономической службы являются одни и те же экономические категории, например, затраты, финансовый результат, внеоборотные активы, источники финансирования и т. п. Однако каждое подразделение решает относительно этих категорий свои специальные задачи. Например, при покупке станка отдел экономических задач должен рассчитать экономическую эффективность этой операции, первоначальную стоимость станка как объекта основных фондов. Финансовый отдел должен изыскать источник финансирования. А бухгалтерия отразить операции, связанные с совершенной покупкой, в бухгалтерских документах.

Следует отметить, что часто руководство предприятия в силу отсутствия необходимых специализированных экономических подразделений возлагает на бухгалтерию решение несвойственных ей экономических задач, например, оценку экономической эффективности хозяйственных мероприятий или составление бизнес-плана и т. п. В связи с развитием рыночной экономики и постоянным усложнением условий деятельности поток таких задач возрастает. Их решение требует применения специальных методов, не относящихся к инструментарию бухгалтерии, поэтому бухгалтерией они, как правило, качественно не решаются. Предприятие несет потери. Лишь создание полноценной экономической службы, в которой соблюдается жесткая специализация, может обеспечить нормальное функционирование хозяйственного механизма предприятия.

Исключением является экономическая служба малого предприятия, на численность персонала которого налагаются ограничения. Здесь вся экономическая работа обычно ведется небольшой группой экономистов (иногда одним человеком). В силу этого экономист малого предприятия должен быть универсалом, обладающим широким кругом специальных знаний и имеющим высокий профессиональный уровень.

Следует также отметить, что на крупных предприятиях экономические подразделения могут создаваться также в составе отдельных структурных подразделений (производств, цехов, отделов).

В решении экономических задач участвуют все подразделения предприятия. Обычно они являются или потребителями, или поставщиками информации. Экономические расчеты проводятся при решении всех организационных, технических, технологических, производственных задач. Например, при разработке проекта нового самолета обязательно рассчитывается экономическая эффективность его применения. И в состав конструкторской документации включается раздел технико-экономического обоснования. При планировании производственной программы рассчитываются ее экономические параметры – себестоимость валовой, товарной, реализованной продукции, потребность в денежных средствах и т. п. Рекомендации экономической службы должны быть решающими при выборе лучшего варианта решения в таких задачах. Каждое мероприятие, которое планируется реализовать, должно проходить экономическую экспертизу. В противном случае предприятие будет функционировать неоптимально, его затраты будут выше, чем результаты, будет ощущаться хронический дефицит денежных средств.

В настоящее время наша страна переживает экономический кризис, связанный с переходом от административно-командной модели экономики к открытой, рыночной. Один из признаков этого кризиса – сложное финансовое положение большинства производственных предприятий. Важнейшей задачей экономической службы таких предприятий стала реализация мероприятий антикризисного менеджмента. Целью антикризисного менеджмента является недопущение банкротства предприятия. Предприятие становится банкротом (несостоятельным), если не может выполнять оплату своих обязательств перед партнерами – поставщиками сырья, материалов, банками, налоговыми органами, персоналом.

Нормальное финансовое положение предприятия основывается на выполнении двух условий: а) рентабельной деятельности, б) доста-

точности денежных средств. К созданию и поддержанию этих условий и сводится антикризисный менеджмент. На некоторых предприятиях существуют специальные подразделения, занимающиеся решением этой задачи. Они исследуют деятельность предприятия, определяют причины тяжелого финансового состояния (решают задачу диагностики), разрабатывают бизнес-планы финансового оздоровления, осуществляют их реализацию. Кризис-менеджерами, как правило, являются экономисты высокого класса, имеющие специальную подготовку. Часто для выполнения этой работы прибегают к услугам специализированных консалтинговых и аудиторских фирм.

12. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

13. Make a presentation on economic governance tools and policies in any country.

UNIT 3. MARKET REGULATION

Warming up activity

Answer the following questions:

1. How do you understand the concept of market power?

2. What market regulation tools do you know?

3. Why do governments regulate market?

4. What is market deregulation?

Tasks

1. Watch a video lecture on market power following the link and answer the questions below: https://www.youtube.com/watch?v=M90RTIrgaSI

What are barriers to enter the market and how to overcome them?

What buyer power?

What is the evidence of market power?

3. Explain the meaning of the following expressions in English and give their Russian variants:

oligopoly; value chain; capping prices; circumvent the problem; ingeniously constructed contracts; ratchet effect; marginal costs; to be bribed; vertical contracts and mergers.

4. Read the following article:

MARKET POWER AND REGULATION

***Jean Tirole** is one of the most influential economists of our time. He has made important theoretical research contributions in a number of areas, but most of all he has clarified how to understand and regulate industries with a few powerful firms. Tirole is awarded this year's prize for his analysis of market power and regulation.*

Regulation is difficult

Which activities should be conducted as public services and which should be left to private firms is a question that is always relevant. Many governments have opened up public monopolies to private stakeholders. This has applied to industries such as railways, highways, water, post and telecommunications – but also to the provision of schooling and healthcare. The experiences resulting from these privatizations have been mixed and it has often been more difficult than anticipated to get private firms to behave in the desired way.

There are two main difficulties. First, many markets are dominated by a few firms that all influence prices, volumes and quality. Traditional economic theory does not deal with this case, known as an *oligopoly*, instead it presupposes a single monopoly or what is known as perfect competition. The second difficulty is that the regulatory authority lacks information about the firms' costs and the quality of the goods and services they deliver. This lack of knowledge often provides regulated firms with a natural advantage.

Before Tirole

In the 1980s, before Tirole published his first work, research into regulation was relatively sparse, mostly dealing with how the government can intervene and control pricing in the two extremes of monopoly and perfect competition. At this time, researchers and decision-makers were still looking for general principles that would apply to every industry. They advocated simple rules for regulatory policies, such as capping prices for monopolists and prohibiting cooperation between competitors in the same market, while permitting cooperation between firms at different positions in the value chain. Tirole's research would come to show that such rules work well in some conditions, but that they do more harm than good in others. Price caps can provide dominant firms with strong motives to reduce costs – a good thing for society – but may also permit excessive profits – a bad thing for society. Cooperation on price setting within a market is usually harmful, but cooperation regarding patent pools can benefit everyone involved. The merger of a firm and its supplier may lead to more rapid innovation, but it may also distort competition. To arrive at these results, a new theory was needed for oligopoly markets, because not even extensive privatization creates enough space for more than a small number of firms. There was also a need for a new theory of regulation in situations of *asymmetric information,* because regulators often have poor knowledge of firms' conditions.

New theoretical tools

Tirole's research would come to build upon new scientific methods, particularly in game theory and contract theory. There were great hopes that these methods would contribute to practical policy. Game theory would aid the systematic study of how firms react to different conditions and to each other's behavior. The next step would be to propose appropriate regulation based on the new theory of incentive contracts between parties with different information. However, even though many people could see the research questions, they were difficult to solve. Jean Tirole began his research on regulation and oligopoly in the early 1980s. He had already received degrees in engineering from École Polytechnique and École Nationale des Ponts et Chaussées in Paris, and in mathematics from Université Paris-Dauphine. In 1981, he was awarded a Ph.D. in economics by the Massachusetts Institute of Technology in Cambridge, USA. The new tools of economic theory and deep insights into the production conditions of a

number of regulated industries gave Tirole an exceptionally good foundation on which to renew and deepen the analysis of regulation and market power.

The regulator's information problems

In 1986, Tirole and his now deceased colleague Jean-Jacques Laffont made an important contribution to the theory of regulation. They demonstrated how a clever set of production contracts can circumvent the problem of asymmetric information in a market where the regulatory authority lacks complete knowledge of a monopoly's costs and choices of production techniques. The central problem is to provide compensation that is high enough for production to be worthwhile, without using tax money for unnecessarily high profits. Laffont and Tirole demonstrated how the regulatory authority can solve this dilemma. The elegant result is that the authority can compensate for its lack of information about the firm's conditions by allowing it to choose from a menu of ingeniously constructed contracts. Regardless of the type of producer, he will choose the right kind of contract purely out of self-interest. A producer with high costs that are difficult to influence will choose a contract with relatively high compensation for his costs – and thus have little motivation to reduce them. A producer that has greater opportunities to reduce his costs will choose a contract with relatively low compensation for its costs, but with a higher price for the services he delivers – and thus have a strong incentive to reduce costs. A single contract that strikes a compromise between these aspects would result in unnecessarily large profits if it is easy for the firm to cut its costs. During the 1980s and 1990s, Laffont and Tirole applied their theory to a range of issues. They summarized the results in a book on public procurement and regulation, published in 1993, which has greatly influenced regulation in practice. The theoretical results for how different types of regulation might work have also received convincing support in empirical studies of individual industries.

The dynamics of regulation

In many cases, questions arise about the time frame for regulation: for what period should the first set of regulations be designed, and how should it be reviewed and renewed? Laffont and Tirole analysed these questions in two significant articles from 1988 and 1990, which were based on work

carried out by Freixas, Laffont and Tirole in 1985. Assume that the regulator and the producer cannot sign a long-term contract, but only a series of short-term contracts. This means that the producer's current actions may affect his future regulation. If a low-cost producer works hard and thus achieves large profits during the first contract period, the regulatory authority may tighten the demands of the next contract in order to reduce the profit potential. The risk is that the producer predicts this *ratchet effect* and thus works less hard, disadvantaging the business. If the authority cannot draw up long-term contracts it is impossible to get the producer to choose the appropriate effort at a reasonable cost, and thus indirectly reveal its cost conditions. Instead, the authority should choose to use weaker incentives and gradually learn these conditions – this will happen quickly if the business is complex and unprofitable, and more slowly if it is simpler and more profitable.

The regulator's independence

In most countries, the framework for regulation is first decided at a higher level (the government) and a public authority is then tasked with designing the precise terms of the regulation. In 1986, Tirole had analysed the optimal reward system in a similar hierarchical relationship, studying a more general case with one principal (owner), one supervisor (foreman) and one agent (worker). The primary problem is that the authority and the firm have more information about the business than the government. A poorly designed framework means that there is a risk of the two colluding to hide this information from the government, to the benefit of the business: the authority becomes the firm's advocate. In 1991, Laffont and Tirole examined how regulation should be designed to minimize this risk. The main result of their analysis is that the government should establish a framework that explicitly considers the risk of the regulator hiding information and colluding with the regulated firm. Even with a well-designed framework, a regulator will sometimes appear to be an advocate of the firm, but despite this she will nevertheless not allow herself to be bribed or actively withhold information.

Competition and strategic investments

It is not only monopolies that require regulation, oligopoly markets do too. Along with his co-authors, Tirole has provided a number of important con-

tributions to theories of competition law, such as analyses of the competitive effects of patents, technical advances and strategic investments. Patents can provide firms with a strategic advantage. In 1983 Tirole, working with Drew Fudenberg, Richard Gilbert and Joseph Stiglitz (one of the 2001 Economics Laureates), analysed the conditions for patent races between firms. They predicted intense races in areas where several companies are at roughly the same level, but lower levels of investment in research and development when one of the companies is far ahead. In an article from 1984, Fudenberg and Tirole used game theory to analyse how a firm can influence its competitors strategically. A strategic investment has long-term effects on the firm's profitability. One vital question is whether the investments make the firm more (or less) aggressive in future competition. One example is an investment that reduces the firm's marginal costs. The next question is the way in which competing firms best deal with such competition. In some markets, aggressive investments will bring rewards, as competitors will abstain from market shares. In other markets, such investments are unprofitable, as they will in turn be met with aggressive behavior. In-depth understanding of the particular conditions of a specific industry is therefore necessary to determine what type of strategy is most profitable for firms in that industry. These are important insights for both practitioners and competition authorities. Practitioners may make mistakes if they uncritically try to transfer lessons learned in one market to another one, and the authorities may make mistakes if they regulate firms without taking specific market conditions into account.

Competition in specific markets

There are no simple, standard solutions for regulation and competition policy, as the most appropriate ones will vary from one market to another. Jean Tirole has therefore also studied the conditions of specific markets, and contributed new theoretical perspectives. Traditionally, undercutting prices has been disciplined under competition law, because setting prices below production costs is one way of getting rid of competitors. However, this is not necessarily true of all markets. Consider the newspaper market, for example, where giving away papers for free can be a way of attracting readers and thus new advertisers to cover the losses due to production and distribution. In this case, it is doubtful whether undercutting should be banned. Along with Jean-Charles Rochet, Tirole has increased our understanding of these *platform markets* where there is a strong link between

players on different sides of a technical platform, such as readers and advertisers in the case of newspapers. Other examples of similar platforms are credit/debit cards, search engines, and social media.

Competition and vertical restraints

What happens when someone has a monopoly in an area that is an important link in a production chain? This classic problem is illustrated by a modern phenomenon: a particular firm's software or operating system becomes dominant in its area. Formerly, the belief was that such companies may well make monopoly profits in their own area, but that competition prevents them from benefitting from their position in the next link of the production chain.

In two studies – one with Patrick Rey in 1986, one with Oliver Hart in 1990 – Tirole has demonstrated that this belief is not justified; mastering one link of a chain can allow a monopolist to make profits in the market of the next link. In reality, it is often by distorting competition in a neighboring market that a monopolist is able to make a profit. One example is the producer of a cost-reducing, patented innovation. If the firms that are potential purchasers of this innovation operate in a market with stiff competition, the producer will find it difficult to earn a lot of money if he sells to all the firms at the same time; market competition produces low profits even after the reduction in costs, so the producer must maintain a low price. However, if the innovation is sold to only one firm, this firm makes a high profit because it becomes more efficient than its competitors. The producer can then set his price considerably higher.

However, it is far from clear that the producer can commit to selling to only one firm. Once the sale has taken place, it is worthwhile for the producer to sell to additional firms, but if the first customer realizes this risk, his willingness to pay significantly diminishes. The producer must therefore promise not to make any more sales. In order for this promise to be credible, it is necessary to either sign some form of exclusive contract or actually merge the two firms. Competition law therefore has to weigh these two considerations against each other: on the one hand, vertical contracts can limit competition but, on the other hand, they encourage innovation. This type of reasoning has provided a new and robust foundation for legislation and legal usage concerning vertical contracts and mergers.

So, this is yet another example of the same general result: desirable competition policies are different from market to market.

Overall contribution

Jean Tirole's research contributions are characterised by thorough studies, respect for the peculiarities of different markets, and the skillful use of new analytical methods in economics. He has penetrated deep into the most central issues of oligopolies and asymmetric information, but he has also managed to bring together his own and other's results into a coherent framework for teaching, practical application, and continued research. Tirole's emphasis on normative theories of regulation and competition policy has given his contributions great practical significance.

5. Find information on market regulation on OECD website and answer the question below: http://www.oecd.org/eco/growth/indicatorsofproduct marketregulationhomepage.htm

What are the indicators of market regulation?

6. Read the information on regulated market and answer the question:

What is a "regulated market"

A regulated market is a market over which government bodies or, less commonly, industry or labor groups, exert a level of oversight and control.

BREAKING DOWN "Regulated Market"

Regulation curtails the freedom of market participants or grants them special privileges. Regulations include rules regarding how goods and services can be marketed; what rights consumers have to demand refunds or replacements; safety standards for products, workplaces, food and drugs; mitigation of environmental and social impacts; and the level of control a given participant is allowed to assume over a market.

Ancient civilizations imposed rudimentary regulations on markets by standardizing weights and measures and providing punishments for theft and fraud. Since that time, regulations have mostly been imposed by governments, with exceptions: medieval guilds were trade bodies that strictly controlled access to given professions and defined the requirements and

standards for practicing those professions. Beginning in the 20th century, labor groups have often played a more or less official role in regulating certain markets.

Examples of regulatory bodies in the U.S. include the Food and Drug Administration, the Securities and Exchange Commission and the Environmental Protection Agency. These agencies derive their authority and their basic frameworks for regulation from legislation passed by Congress, but they are parts of the executive branch and their leaders are appointed by the White House. They are often charged with creating the rules and regulations they enforce, based on the idea that Congress lacks the time, resources or expertise to write regulation for every agency.

Arguments for and against regulated markets

Supporters of a given regulation – or regulatory regimes in general – tend to cite benefits to the wider society. Examples include limiting mining companies' ability to pollute waterways, banning landlords from discriminating based on race or religion, and granting credit card users the right to dispute charges.

Regulations are not always purely beneficial, however, nor are their rationales always purely altruistic. Labor unions have at times successfully lobbied for regulations granting their members exclusive access to certain jobs, for example. Even well-intentioned regulations can carry unintended consequences. Local-content requirements are often imposed in order to benefit domestic industry. A government might require that cars or electronics sold in the country contain a certain proportion of locally manufactured components, for example. These rules do not necessarily succeed in nurturing local manufacturing, but often lead to letter-of-the-law workarounds (components made in fully staffed factories elsewhere and assembled by a handful of employees in-country) or black markets.

Some advocates of free markets argue that anything in excess of the most basic regulations is inefficient, costly, and perhaps unfair. Some argue that even modest minimum wages raise unemployment by creating a barrier to entry for low-skilled and young workers, for examples. Advocates of the minimum wage cite historical examples in which highly profitable companies paid wages that did not provide employees with even a basic standard of living, arguing that regulating wages reduces exploitation of vulnerable workers.

(Source: https://www.investopedia.com/terms/r/regulated-market.asp#ixzz50DZQ4UBz)

When is it necessary to regulate markets?

7. Watch the video on market regulation following the link: https://www.youtube.com/watch?v=sDqGzMdhL1M

8. Find examples of market regulation/deregulation in different countries/markets.

9. Make the written translation of the following text into English.

ГОСУДАРСТВЕННОЕ РЕГУЛИРОВАНИЕ РЫНКА, ЕГО СТРУКТУРА. ОСНОВНЫЕ МЕТОДЫ ГОСУДАРСТВЕННОГО РЕГУЛИРОВАНИЯ РЫНКА

Государственное регулирование рынка представляет собой активное вмешательство государственных органов в структуру функционирования рынка, воздействуя на развитие производства в общественно нужном направлении, а также для решения возникающих социальных проблем. Необходимость данного момента возникает при несовершенстве отдельных рынков, которое проявляется в нестабильности, частичном учете затрат и полученных результатов, неединственности равновесия. Еще одной немаловажной причиной государственного регулирования рынка является потребность в решении макроэкономических задач. К ним относятся:
- обеспечение полной занятости трудоспособного населения;
- борьба с инфляцией;
- объединение принципов социальной справедливости и экономической эффективности и прочие.

Государственное регулирование рынка ставит перед собой следующие цели: стабилизация рыночных отношений, установление их равновесия или сдвиг, направленный на их равновесие или отклонение.

Методы государственного регулирования, с помощью которых достигаются вышеуказанные цели:
- путем контроля за объемами производства и уровнем цен – в этом случае государством устанавливаются конкретные цены или вводятся рыночные квоты;
- путем применения государственных финансовых инструментов – выражается в введении налогов и дотаций на определенные сферы деятельности;

- путем установления фиксированных цен.

Введение налога на конкретную сферу производственной деятельности вызывает активный рост предложений, где стоимость налога вносится в государственный бюджет продавцами из средств покупателей, приобретающих товар. Дотация, устанавливающаяся в определенном проценте к стоимости товара или в сумме (рассчитанной в рублях) на единицу товара, представляет обратную сторону налога. Дотации получают чаще всего производители, хотя существует реальная возможность получения и частному лицу. Фиксированные цены устанавливаются на сельскохозяйственную продукцию, превышая уровень цен равновесия. Таким образом, методы позволяют государству регулировать цены на рынках.

Государственное регулирование рынка труда

Государственное регулирование рынка труда является особой сферой деятельности государственного вмешательства в социально-экономические процессы многогранными подходами и средствами. Оно направлено на получение рациональных результатов в социально-экономических условиях относительно уровня занятости работоспособного населения, соответствие профессионального уровня занимаемых рабочих мест, а также решение проблем безработицы.

Методы государственного регулирования рынка труда представлены в следующем виде:
- создание новых рабочих мест – возможно осуществить путем сокращения рабочего времени каждого сотрудника;
- регулирование режима труда и отдыха – осуществляется путем установления максимального рабочего времени в течение всей рабочей недели.

Применять данные методы стоит с особой осторожностью, поскольку они могут не только снизить уровень безработицы в стране, но и в значительной степени ухудшить эффективность экономики всей страны в общем. Одним из методов государственного регулирования рынка труда является снижение пенсионного возраста. Подобная практика осуществляется странами Швеции, Испании и Германии.

При организации собственного дела службы занятости труда оказывают активное содействие в оказании материальной и консультативной помощи, а также помощи в подготовке или отборе сотрудников для создаваемых фирм. Данная государственная помощь за-

ключается не только в трудоустройстве работоспособного населения, но и в организации собственного бизнеса и организации новых рабочих мест. В основном данная мера позволяет защищать права безработных граждан. Государственное регулирование рынка труда имеет все экономические средства и предложения рабочей силы с помощью налоговых рычагов. Главной экономической мерой регулирования данной структуры является переподготовка работоспособного населения за счет фонда занятости труда. Финансирование системы переподготовки осуществляется из средств юридических лиц. Данная мера носит не только экономический характер, но и является специализированной, позволяя облегчить трудоустройство работоспособного населения, не имеющего постоянного рабочего места. Таким образом, данные меры регулирования позволяют повысить заработную плату рабочих, создать новые рабочие места, развить предпринимательскую деятельность, организовать процесс переподготовки и выплаты пособий по безработице.

Государственное регулирование рынка ценных бумаг, его сущность и структура

Ценные бумаги являются главным атрибутом товарного оборота. В связи с этим государственное регулирование рынка ценных бумаг стало одним из главнейших инструментов государственного регулирования финансового рынка. Главными видами ценных бумаг являются акции, облигации, лотерейные билеты и векселя. Государственное регулирование финансового рынка основано на его структуре:

- денежный рынок – где функции ценных бумаг выполняют наличные денежные средства;
- рынок краткосрочных и долгосрочных банковских кредитов (или рынок ссудного капитала) – охватывает все финансовые отношения, связанные с предоставлением кредитных ссуд;
- рынок ценных бумаг – связывает все финансовые и кредитные отношения, поскольку ценные бумаги имеют конкретную собственную стоимость и могут свободно обращаться на рынке.

Государственное регулирование рынка ценных бумаг позволяет:

- упорядочить финансовую деятельность и всех участников рынка;
- создать нормальные финансовые условия функционирования рынка;

- защитить участников рынка от мошенничества и недобросовестности других участников рынка;
- формировать новые рынки.

10. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

11. Make a presentation on market regulation tools in any country.

PART II

UNIT 4. PROFITABILITY

Warming up activity

Answer the questions below:

What is profitability?

When a business is considered profitable?

Provide examples of profitable and unprofitable businesses.

Follow the link and answer the question below: https://businesstown.com/articles/how-to-value-an-unprofitable-business/. *How can we value whether a business is profitable?*

Tasks

1. Read the information on profitability:

Understanding Profitability

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important.

Profitability is measured with income and expenses. Income is money generated from the activities of the business. For example, if crops and livestock are produced and sold, income is generated. However, money coming into the business from activities like borrowing money do not create income. This is simply a cash transaction between the business and the lender to generate cash for operating the business or buying assets.

Expenses are the cost of resources used up or consumed by the activities of the business. For example, seed corn is an expense of a farm business because it is used up in the production process. Resources such as a machine whose useful life is more than one year is used up over a period of years. Repayment of a loan is not an expense, it is merely a cash transfer between the business and the lender.

Profitability is measured with an "income statement". This is essentially a listing of income and expenses during a period of time (usually a year) for the entire business. Information File Your Net Worth Statement includes – a simple income statement analysis. An Income Statement is traditionally used to measure profitability of the business for the past accounting period. However, a "pro forma income statement" measures projected profitability of the business for the upcoming accounting period. A budget may be used when you want to project profitability for a particular project or a portion of a business.

Reasons for Computing Profitability

Table 1. Income statement.

Income	
Sale of Crop Products	$50,000
Sale of Livestock Products	$25,000
Government Payments	$10,000
Total Income	$85,000
Expenses	
Seed	$10,000
Fertilizer	$20,000
Feed	$10,000
Processing	$10,000
Marketing	$5,000
Interest	$5,000
Depreciation	$10,000
Total Expenses	$70,000
Net Income	$15,000

Whether you are recording profitability for the past period or projecting profitability for the coming period, measuring profitability is the most important measure of the success of the business. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment.

Increasing profitability is one of the most important tasks of the business managers. Managers constantly look for ways to change the business to improve profitability. These potential changes can be analyzed with a pro forma income statement or a Partial Budget. Partial budgeting allows you to assess the impact on profitability of a small or incremental change in the business before it is implemented.

A variety of Profitability Ratios (Decision Tool) can be used to assess the financial health of a business. These ratios, created from the income state-

ment, can be compared with industry benchmarks. Also, Income Statement Trends (Decision Tool) can be tracked over a period of years to identify emerging problems.

Accounting Methods

Cash Method of Accounting. Traditionally farmers have used the "cash method" of accounting where income and expenses are reported on the income statement when products are sold or inputs are paid for. The cash method of accounting, used by most farmers, counts an item as an expense when it is purchased, not when it is used in the business. This has been used as a method of managing tax liability from year to year. However, many non-farm business accounting systems count an item as an expense only when it is actually used in the business activities.

Cash accounting formula
+ Income (when farm products are sold)
- Expenses (when production inputs are purchased)
= Net Income (difference between sales of products and purchases of inputs)

However, net income can be distorted with the cash method of accounting by selling more than two years crops in one year, selling feeder livestock purchased in a previous year, and purchasing production inputs in the year before they are needed.

Accrual Method of Accounting to provide a more accurate picture of profitability, the accrual method of accounting can be used. With this method, income is reported when products are produced (not when they are sold) and expenses are reported when inputs are used (not when they are purchased). Accrual accounting uses the traditional cash method of accounting during the year but adds or subtracts inventories of farm products and production inputs on hand at the beginning and ending of the year.

A worksheet for computing Net Farm Income Statement (Decision Tool) with accrual accounting is available that allows you to prepare an accrual net income statement from income tax schedules and net worth statements. Information on creating and using a Net Farm Income Statement is also available.

```
Accrual accounting formula
+ Cash Income (when farm products are sold)
   - Beginning value of inventory of farm
     products (farm products sold this year but
     produced last year – products not produced
     in the current year).
   + Ending inventory (farm products produced
     this year but sold next year)
= Accrual Income (when farm products are
   produced)

+ Cash Expenses (when production inputs are
   purchased)
   + Beginning inventory (production inputs used
     this year but purchased last year)
   - Ending inventory (production inputs pur-
     chased this year but used next year)
   + Ending accounts payable (production inputs
     used this year but paid for next year).
   - Beginning accounts payable (production
     inputs paid for this year but used last year).
= Accrual Expenses (when production inputs are
   used).

= Accrual Net Income (difference between the
   value of products produced (accrual income)
   and cost of input used (accrual expenses)
```

Although seldom used in farming, Double Entry Accounting (Information File Understanding Double Entry Accounting) will provide results similar to accrual accounting. Double entry accounting also updates the net worth statement every time an income or expense occurs.

Defining profitability

Profitability can be defined as either accounting profits or economic profits.

Accounting Profits (Net Income). Traditionally, farm profits have been computed by using "accounting profits". To understand accounting profits, think of your income tax return. Your Schedule F provides a listing of your taxable income and deductible expenses. These are the same items used in calculating accounting profits. However, your tax statement may not give you an accurate picture of profitability due to IRS rapid depreciation and other factors. To compute an accurate picture of profitability you may want to use a more accurate measure of depreciation.

Accounting profits provide you with an intermediate view of the viability of your business. Although one year of losses may not permanently harm

your business, consecutive years of losses (or net income insufficient to cover living expenditures) may jeopardize the viability of your business.

Economic profits

In addition to deducting business expenses, opportunity costs are also deducted when computing "economic profits". Opportunity costs relate to your money (net worth), your labor and your management ability. If you were not farming, you would have your money invested elsewhere and be employed in a different career. Opportunity cost is the investment returns given up by not having your money invested elsewhere and wages given up by not working elsewhere. These are deduced, along with ordinary business expenses, in calculating economic profit.

Economic profits provide you with a long-term perspective of your business. If you can consistently generate a higher level of personal income by using your money and labor elsewhere, you may want to examine whether you want to continue farming.

Profitability is not cash flow

People often mistakenly believe that a profitable business will not encounter cash flow problems. Although closely related, profitability and cash flow are different. An income statement lists income and expenses while the cash flow statement lists cash inflows and cash outflows. An income statement shows **profitability** while a cash flow statement shows **liquidity**.

Many income items are also cash inflows. The sale of crops and livestock are usually both income and cash inflows. The timing is also usually the same (cash method of accounting) as long as a check is received and deposited in your account at the time of the sale. Many expense items are also cash outflow items. The purchase of livestock feed is both an expense and a cash outflow item. The timing is also the same (cash method of accounting) if a check is written at the time of purchase.

However, there are many cash items that are not income and expense items, and vice versa. For example, the purchase of a tractor is a cash outflow if you pay cash at the time of purchase as shown in the example in Table 2. If money is borrowed for the purchase using a term loan, the down

payment is a cash outflow at the time of purchase and the annual principal and interest payments are cash outflows each year as shown in Table 3.

Table 2. Tractor purchase - no borrowing

Purchase of a $70,000 tractor, no money borrowed, depreciated over seven years.

	Cash Outflow	Expense
Current Period	$70,000	
Year 1		$10,000
Year 2		10,000
Year 3		10,000
Year 4		10,000
Year 5		10,000
Year 6		10,000
Year 7		10,000
Total	$70,000	$70,000

Table 3. Tractor purchase - borrowing

Purchase of a $70,000 tractor, $45,000 down payment, $25,000 paid over five year, seven percent interest, depreciated over seven years.

	Cash Outflow	Expense
Current Period	$45,000	$0
Year 1	$5,000 principal $1,750 interest	$10,000 depreciation $1,750 interest
Year 2	$5,000 principal $1,400 interest	$10,000 depreciation $1,400 interest
Year 3	$5,000 principal $1,050 interest	$10,000 depreciation $1,050 interest
Year 4	$5,000 principal $700 interest	$10,000 depreciation $700 interest
Year 5	$5,000 principal $350 interest	$10,000 depreciation $350 interest
Year 6	$0	$10,000 depreciation
Year 7	$0	$10,000 depreciation
Total	$75,250	$75,250

The tractor is a capital asset and has a life of more than one year. It is included as an expense item in an income statement by the amount it declines in value due to wear and obsolescence. This is called "depreciation". The depreciation expense is listed every year. In the tables below a $70,000 tractor is depreciated over seven years at the rate of $10,000 per year.

Depreciation calculated for income tax purposes can be used. However, to accurately calculate net income, a more realistic depreciation amount should be used to approximate the actual decline in the value of the machine during the year.

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In Table 3, where the purchase is financed, the amount of interest paid on the loan is included as an expense, along with depreciation, because interest is the cost of borrowing money. However, the principal payments are not an expense but merely a cash transfer between you and your lender.

Other financial statements

An income statement is only one of several financial statements that can be used to measure the financial strength of a business. Other common statements include the balance sheet or net worth statement and the cash flow statement, although there are several other statements that may be included.

These statements fit together to form a comprehensive financial picture of the business. The balance sheet or Net Worth Statement shows the solvency of the business at a specific point in time. Statements are often prepared at the beginning and ending of the accounting period (i.e. January 1). The statement records the assets of the business and their value and the liabilities or financial claims against the business (i.e. debts). The amount by which assets exceed liabilities is the net worth of the business. The net worth reflects the amount of ownership of the business by the owners.

The Cash Flow Statement is a dynamic statement that records the flow of cash into and out of the business during the accounting period. A positive (negative) cash flow will increase (decrease) the working capital of the business. Working capital is defined as the amount of money used to facilitate business operations. It is calculated as current assets (cash or near cash assets) less current liabilities (liabilities due during the upcoming accounting period).

Figure 1. Integrated financial statements
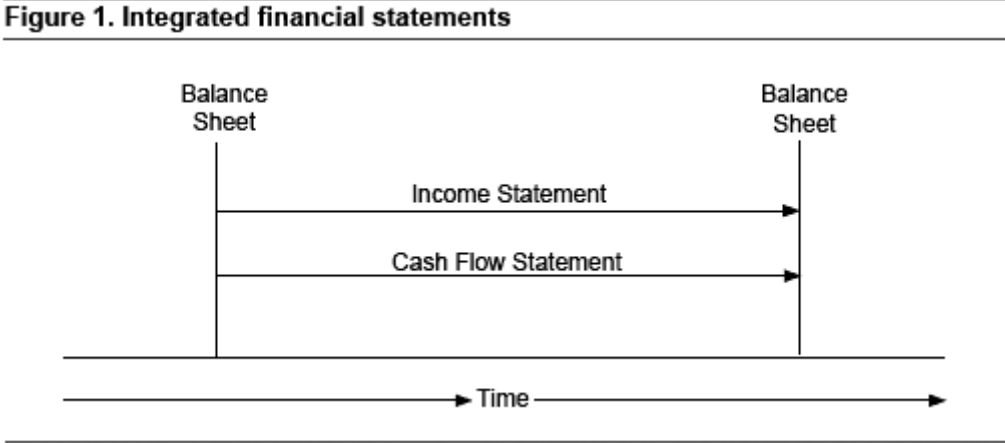
A Complete set of Financial Statements (Decision Tool), including the beginning and ending net worth statements, the income statement, the cash flow statement, the statement of owner equity and the financial performance measures is available to do a comprehensive financial analysis of your business.

To help you assess the financial health of your business, Financial Performance Measures allows you to give your business a check-up and helps you to understand what these performance measures mean for your business.

Don Hofstrand, retired extension value added agriculture specialist, agdm@iastate.edu

(Source: https://www.extension.iastate.edu/agdm/wholefarm/html/c3-24.html)

2. What financial statements are needed to measure profitability?

3. Watch a video following the link and name the factors that influence the profit margins of businesses: https://www.youtube.com/watch?v=K-di-8A6LZw

4. Listen to Harvard Business School professor Clayton Christensen and answer the following question: https://www.youtube.com/watch?v=lYF9udNfvQU

Do you agree with the statement that excessive focus on measures of profitability based on balance-sheet ratios does not benefit the capitalist system as a whole?

5. Explain the meaning of the following expressions in English and give their Russian variants:

profitability ratios; multiple regression analysis; net fees; a good proxy for; loan portfolio; cost-to-income ratio; linear regression analysis; correlation analysis; stepwise regression method; return-on-equity ratio; impairments;

6. Read the following article:

DRIVERS OF BANK PROFITABILITY: CASE OF LATVIA AND LITHUANIA

Jelena Titko (a), Viktorija Skvarciany (b), ∗, Daiva Jurevi ˇcien (b)

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Abstract. The issues regarding measuring and managing bank performance are always on the agenda due to the critically important role of banks in the national economies of new member states of the European Union. The goal of the given study is to explore drivers of bank profitability in Latvia and Lithuania. Research period covers 2008–2014. Performance of the banking sector is proxied by profitability ratios. The set of explanatory factors involves financial and non-financial measures. The core research method is a multiple regression analysis. Data processing is performed in SPSS environment. The paper contributes to the scope of knowledge regarding bank performance drivers and the research results provide the basis for the future studies in the related field.

Keywords: Bank profitability; Regression analysis; Latvia; Lithuania.

1. Introduction

The issues regarding bank performance and its drivers have been a frequently chosen topic for discussion among academicians and business professionals. Besides, the importance of these issues is always emphasized by governmental authorities due to the large contribution of banks into the national economic growth. Recent global financial crisis revealed the fact that Baltic banking sector is exposed to earnings risk more than the banking sector of other European countries. In 2009, ROE in the banking sector of Latvia and Lithuania was –44 % and –56 %, respectively (ECB, 2009a). In turn, average ROE in EU27 was only –2.83. Thus, issues regarding reasonable management of bank performance are still prioritized. Exploring the drivers of bank performance, some authors put the emphasis on the

macroeconomic variables (Gerlach, Peng, & Shu, 2005; Jureviˇcien˙e & Doftartait˙e, 2013; Titko, Kozlovskis, & Kaliyeva, 2015), but the most of papers explore both external (macroeconomic and industry-specific) and internal (bank-specific) factors affecting bank performance (Gul, Irshad, & Zaman, 2011; Titko & Dauylbaev, 2015). Despite the huge amount of scientific literature dedicated to investigation of bank performance determinants, the number of papers analyzing Baltic banking sector is limited. Besides, the results in most of the papers are obsolete (Aarma, Vainu, & Vensel, 2004; Bonin, Hasan, & Wachtel, 2005; Grigorian & Manole, 2002; Košak, Zajc, & Zori´c, 2009). The goal of the current paper is to explore the factors affecting bank performance in the Latvian and Lithuanian banking sector. The authors analyze the driving force of industry-specific (sector-level) factors. Based on the literature analysis on main drivers of bank performance, the following hypotheses are stated by the authors: *H1: There is a significant positive relationship between bank size and bank profitability H2: Bank profitability is negatively affected by operational efficiency H3: Developed infrastructure and e-banking services positively influence bank profitability* Performance of the banking sector is proxied by profitability ratios: return on assets (ROA), return on equity (ROE), net fees and commission income as a percentage of total assets (NFCITA) and net interest margin (NIM). Profitability affecting sector-level are represented by a set of financial and nonfinancial ratios. Research period covers 2008–2014. The statistics used for research purposes is provided by the European Central Bank (ECB), the Association of Commercial Banks of Latvia (ACBL), The Financial and Capital Market Commission (FCMC), Bank of Lithuania, and the Association of Lithuanian Banks (ALB). Data processing is performed, using the correlation analysis and the multifactor regression analysis in the SPSS 20.0 environment. The current research contributes to the scientific literature in the field of bank performance management in the Baltic countries. The results of the study revealed a problem of inconsistency between statistical data provided by different information sources. It is also obvious that availability and quality of bank statistics in Lithuania should be improved.

2. Bank performance and its drivers

Bank performance can be expressed "in terms of competition, concentration, efficiency, productivity and profitability" (Bikker & Bos 2008). The multidimensional nature of the concept of bank performance explains the existence of a wide range of its measures. The most frequently used measures of bank profitability are return on assets (ROA), return on equity

(ROE) ratio and net interest margin (NIM) (Bikker, 2010; Kosmidou & Zopounidis, 2008; Tomuleasa & Cocrish, 2014; Ameur & Sonia Moussa Mhiri, 2013; Ongore & Kusa, 2013; Hasan, Schmiedel, & Song, 2012; Kumbirai & Webb, 2010). Despite ROE is still the primary performance measure for the most investors and analysts, sometimes ROA provides a better understanding of a company performance (Hagel, Brown, & Davison, 2010). Based on the viewpoint of experts from the European Central Bank, a good level of ROE may either reflect a good level of profitability or more limited equity capital" (ECB, 2009). Besides, some experts consider that a single-ratio cannot be a good proxy for bank performance due to the "complex operational environment of banks" (Yang, 2009). In the given research the authors investigate bank profitability that, in turn, determines the scope of the study and the measures used. Contribution of various factors to bank profitability is a frequently debated topic among academicians and practitioners. Scientific papers dedicated to the investigation of the factors affecting bank profitability can be combined into several main groups according to the analyzed issue. Analysts study the impact of GDP growth and inflation on bank profitability (Athanasoglou, Brissimis, & Delis, 2008; Pasiouras & Kosmidou, 2007; Rachdi, 2013). A wide range of papers explore the relationship between market structure, competition level, bank efficiency and profitability in the banking industry (Bikker & Bos, 2008; Guillén, Rengifo, & Ozsoz, 2014; Tabak, Fazio, & Cajueiro, 2011). The theoretical basis for these studies is the Structure-Conduct-Performance (SCP) hypothesis that assumes the direct positive link between market concentration and profitability and negative correlation between concentration and competition (Bain, 1956). Post-crisis literature emphasizes the importance of the quality of loan portfolio and credit risk management on bank profitability (Dietrich & Wanzenried, 2011; Vazquez, Tabak, & Souto, 2012). Many researchers focus their attention on electronic banking services as a driver of bank profitability (Abaenewe, Ogbulu, & Ndugbu, 2013; Ahmed, Rezaul, & Rahman, 2010; Akhisar, Tunay, & Tunay, 2015). Electronic banking or online banking refers to the several types of services through which a bank's customers can request information and carry out most of their banking transaction using computers or mobile phones (Nasri, 2011). Regarding the contribution of electronic banking usage to bank profitability, the most frequently studied e-banking services are (1) payment cards (Al-Qudah, Al-Hawary, & Al-Mehsen, 2012; Ngari & Muiruri, 2014) (2) automatic teller machines (ATMs) and point-of-sale (POS) terminals (Floros & Giordani, 2008; Jegede, 2014; Ogbuji, Onuoha, & Izogo, 2012), and internet-banking services (Callaway,

2011; Malhotra & Singh, 2009). The authors in the current study made a focus on investigation of the relationship between bank profitability and bank size, liquidity, operational efficiency, as well as on studying of e-banking contribution to bank performance. The empirical evidence supports both positive (Alper & Anbar, 2011; Flamini, Schumacher, & McDonald, 2009; Muda, Shaharuddin, & Embaya, 2013) and negative (Rachdi, 2013) relationship between size and profitability in the banking sector. Controversial results were obtained in studying relationship between liquidity and bank performance (Liu & Wilson, 2010; Rachdi, 2013). A number of studies confirmed the hypothesis about the negative relationship between bank profitability and operational efficiency expressed by cost-to-income ratio (Ali, Akhtar, & Ahmed, 2011; Rachdi, 2013; Trujillo-Ponce, 2013). As for e-banking services, it was proved that a greater use of electronic payment instruments can improve bank performance. Based on the country-level retail payment service data from across 27 EU markets, evidence confirms that banks perform better in countries with more developed retail payment services. This relationship is stronger in countries with more retail payment transaction equipment, like automatic teller machines (ATMs) and point-of-sale (POS) terminals (Sumra et al., 2011).

3. Methodology

3.1. Research environment

The role of banks in the Latvian and Lithuanian banking sector is still more important than the role of other financial sector players, such as insurance companies, pension funds and others. According to the Latvian statistics provided by FCMC (FCMC, 2015), as for the 3rd quarter of 2015 the volume of total bank assets was equal to 31.5 billion. In turn, the volumes of total assets of private pension funds, insurance companies and credit unions were only 304 million, 636 million and 24 million, respectively. As of 2014, seventeen local banks and ten financial service providers from the European Economic Area operated in Latvia (ACBL, 2015). In turn, Lithuanian banking sector is represented by seven local banks and nine foreign banks (Bank of Lithuania, 2015). Banking business in Latvia and Lithuania is concentrated in a few major banks. Statistics on concentration in the banking sector of Latvia and Lithuania, compared with other new member states of the European Union, is summarized in Fig. 1 (ECB, 2015a). Concentration is represented by CR5 ratio (market share of five largest banks). The banking sector in the Baltic countries is a very concentrated one, espe-

cially in Lithuania and Estonia. To compare with EU15 countries, CR5 value in 2014 is equal to 32 per cent in Germany and 47 per cent in France (ECB, 2015a). The largest banks in both countries in terms of assets are Swedbank, SEB bank and DNB bank (ACBL, 2015; Economy and Banking Sector of Lithuania, 2015). Due to the fact that the Latvian banking sector is represented by the larger number of financial institutions, there are some local banks among the major players: ABLV bank, Rietumu banka and Citadele banka. Banking sector in Latvia and Lithuania is strongly dominated by foreign investors. Shareholders of the largest Latvian and Lithuanian banks – Swedbank and SEB banka – are Swedish Swedbank and Skandinaviska Enskilda Banken, respectively. *J. Titko et al./Intellectual Economics 9 (2015) 120–129*

Most of the banks in Latvia and Lithuania are engaged in the traditional banking business, i.e., operate mostly as intermediaries between depositors and borrowers. Key funding source for banks remains to be customer deposits – 81 % and 68 % of total liabilities as of 2014 in Latvia and Lithuania, respectively (ECB, 2015b). Despite the large negative effect of the global financial crisis on the banking sector performance in Baltics, since 2011 ROE ratio has had a positive value in both countries (ECB, 2015b). However, the fact that the banking sector in Latvia and Lithuania was affected by global financial crisis dramatically, especially comparing with other European countries, confirms the necessity to focus more attention to performance management in Baltic banks.

3.2. Data and methods

To achieve the research objectives, sector-level financial and non-financial indices are analyzed. Research period covers 2008–2014. Data are extracted from the statistical data warehouse of the European Central Bank (ECB), Financial and Capital Market Commission of Latvia (FCMC), Bank of Lithuania, the Association of Latvian Commercial Banks (ALCB) and the Association of Lithuanian Banks. To measure the profitability in the banking sector, four variables are used: (1) return to assets ratio (ROA), (2) return to equity ratio (ROE), (3) net fees and commission income as a percentage of total assets (NFCITA), and (4) net interest margin (NIM). The authors use a multiple linear regression analysis as a core method. A functional relationship between profitability of the banking sector and industry-specific measures takes the following form: $P_t = f\_Size_t, Liquidity_t, Efficiency_t, LoanQual_t, Infrastructure_t\_$ (1) where P_t is a sector-level profitability at the time t; $Size_t$ is a set of indices representing the

size of a banking sector at the time *t*; *Liquidity t* is a set of sector-level liquidity measures at the time *t*; *Efficiency t* is a set of sector-level operational efficiency measures at the time *t*; *LoanQual i* is a set of sector-level loan portfolio quality measures at the time *t*; *Infrastructure t* is a set of sector-level e-banking related and infrastructure measures at the time *t* .

Group of variables Measures Label Expected sign Size Total assets (natural logarithm) lnTA + Total loans (natural logarithm) lnTL + Total deposits (natural logarithm) lnTD + Number of private customers NoPC + Number of legal customers NoLC + Liquidity Demand deposits to total deposits DDTD + Loans to total deposits LTD + Operational efficiency Cost to income ratio CIR – Loan portfolio quality Provisions to total assets PTA – E-banking and Infrastructure Number of payment cards PC + Number of ATMs ATM + Number of POS terminals POS + Number of internet-bank users Ibank + Number of branches NoB + A regression analysis is based on the set of assumptions. The authors check the relationship between dependent variable (Y) and explanatory variables (X), using the correlation analysis. The decision about the existence/ non-existence of the relationship is made, based on the value of the Pearson correlation coefficient. An acceptable level for statistical significance (Sig.) of the coefficient is 0.05 level. Multicollinearity problem (correlation between independent variables) is detected, based on VIF (variance of inflation) value. The critical value for VIF is determined equal to 5, following Jansons and Kozlovskis (2012). VIF > 5 indicates a multicollinearity problem. Durbin–Watson test is applied to check the correlation between error terms. Stepwise regression method is applied. It means that non-important variables are removed from the list and the variables left explain the distribution best. The decision about the appropriateness of a model is made, based on the significance of the regression coefficients.

Results

The results of the correlation analysis to test the relationship between dependent variables and explanatory variables are summarized in Table 2. Statistics on the number of customers is limited for the period 2012–2014. Thus, these variables are not included into the data set used for the correlation analysis. The correlation analysis yielded potential explanatory variables that could be used for regression models. Dependent variables with no potential predictors are net interest margin (NIM) for Latvian sample data and net commission and fees income as a percentage of total assets (NFCITA) for Lithuanian sample data. There is no statistically significant

relationship between these variables and explanatory factors. Applying stepwise regression method for Latvian sample data, six regression models are created (Tables 3 and 4). For Model 2 and Model 4 Durbin–Watson test is inconclusive due to the fact that DW value is in the range between its lower (DW $L = 0.700$) and upper (DW $U = 1.356$) critical values. There is no autocorrelation detected for remaining models. Applying stepwise regression method for Lithuanian sample data, seven regression models are created. Model summary and coefficients' statistics are presented in Tables 5 and 6. For Model 2 and Model 5 Durbin–Watson test is inconclusive due to the fact that DW value is in the range between its lower and upper critical values. There is no autocorrelation detected for remaining models. Obviously, the volume of provisions affects the value of profitability expressed by return-on-assets or return-on-equity ratio. ITA (impairments as a percentage of total assets) variable is a main predictor of ROA and ROE for both data samples. In turn, to predict commission and fees income, it is logically to use variables related to retail banking services, payment services and electronic banking. Regression analysis based on the Latvian sample data yielded two models with NFCITA as a dependent variable. Explanatory variables in these models are the number of POS terminals and the size of branch network. However, despite the statistical significance of the models, their prediction power is rather limited. To test the reliability of the forecast, it is possible to use recent data as of September 2015. For the Latvian banking sector it is possible to test Model 1–4, using the data as of 2nd quarter 2015 and Model 5–6, using the data as of 3rd quarter, 2015 (ACBL, 2015; ECB, 2015b; FCMC, 2015). The real and predicted values of dependent variables are summarized in Table 7. The quality of the performed forecast is doubtful, especially in the case of Model 1 and Model 3 (models with no intercept). However, the research results allow making some conclusions about the factors affecting performance of the banking sector of Latvia and Lithuania.

The current paper continues the series of studies devoted to the issues regarding performance management and performance drivers in the banking sector of the Baltic States. The results of the authors' stated hypotheses are the following: *H1: There is a significant positive relationship between bank size and bank profitability.* Based on the results of the correlation analysis using Lithuanian sample data, there is a statistically significant positive relationship between bank profitability expressed by ROE and bank size expressed by the volume of deposits. Correlation analysis provided no evidence for Latvian banking sector. Regression analysis did not

provide any statistical support for confirmation/rejection of H1 for Latvia, nor for Lithuania. *H2: Bank profitability is negatively affected by operational efficiency* H2 was not confirmed, neither rejected, using Latvian sample data. As for Lithuania, the results are controversial. Correlation allowed rejecting H2, confirming a statistically significant positive relationship between cost-to-income ratio and bank profitability, expressed by NIM. In turn, regression analysis provided support for H2. *H3: Developed infrastructure and e-banking services positively influence bank profitability.* There are no results for H3 testing, using Lithuanian sample data. Correlation analysis based on Latvian data provided evidence of the negative relationship between e-banking ratios and NFCITA ratio. Thus, H3 is rejected. Regression analysis revealed a negative relationship between NFCITA and number of branches. The current study was limited with the volume of available data on Lithuanian banking sector. Longer period for analysis probably could significantly influence the results. The authors came to the conclusion that the analysis of factors affecting bank performance should be done at the bank-level, especially in cases when the banking sector is represented by a small number of participants. Analysis of aggregated data makes sense when the number of analyzed countries is sufficiently large, for instance, banking sector of all EU countries is analyzed. The current research also revealed a problem with data inconsistency between the data provided by the local authorities and the European Central Bank. In some cases, the difference can substantially affect the results of the analysis. The authors' intention is to continue the study in the future, analyzing bank-level data and focusing primarily on retail banking services and electronic banking.

Find the full text following the link: https://www.journals.elsevier.com/intellectual-economics

8. Answer the questions below:

- Do e-banking services positively influence bank profitability?

- Is bank profitability is negatively affected by operational efficiency?

- What is the relationship between bank size and bank profitability?

9. Watch the video following the link and answer the question below: https://www.youtube.com/watch?v=4BrdcDcMIrE

Is it enough for a company to be successful?

10. Make the written translation of the following text into English.

Прибыльность клиента – это разность между полученным доходом и расходами, связанными с обеспечением взаимоотношений с клиентом, за определенный период. Другими словами, прибыльность клиента – это чистый денежный вклад отдельного клиента в организацию.

Поскольку прибыльность клиента охватывает несколько временных периодов, данный показатель не является по сути единственным. Существуют четыре основных измерения ценности клиента:

1) историческая ценность клиента, которая характеризует полученную ценность от клиента на протяжении такого периода, как квартал, год или с момента возникновения отношении. Показатель может измеряться как среднее по предыдущим периодам или с учетом весовых коэффициентов, где больший вес придается недавним периодам. Осреднение приводит к сглаживанию отчетных данных по клиенту, придавая логичность четным значениям;

2) текущая ценность клиента, которая рассматривает более короткий промежуток времени, чаще месяц (чтобы соответствовать отчетным циклам). Текущая ценность бывает волатильной, так как в течение одного месяца часто не отражаются циклические факторы взаимоотношений с клиентом. Преимущество показателя текущей ценности заключается в выделении эффектов от изменений во взаимоотношениях с клиентом по сравнению с предыдущими периодами. Данный показатель наиболее полезен при количественной оценке выгод от различных компаний, новых предложений и изменений цен;

3) приведенная ценность клиента, являющаяся ориентированным на будущее показателем, который обычно рассматривает будущие потоки доходов и расходов существующего бизнеса. Этот показатель обычно учитывает только обусловленную договором продолжительность пользования текущим продуктом или услугой. Приведенная ценность используется для ранжирования клиентов согласно их ценности и определения коэффициента вознаграждения торгового персонала, а также часто применяется для моделирования влияния планируемых ценовых решений;

4) пожизненная ценность клиента – еще один ориентированный на будущее показатель. От приведенной ценности ее отличает моделируемый компонент: пожизненная ценность учитывает предполагаемые потоки доходов и расходов не только от существующих взаимоотношений, но также и от предполагаемых в будущем.

Дополнительно организации часто используют анализ затрат, связанных с осуществлением определенных действий, измеряя текущие общие затраты при предоставлении клиенту услуг или продуктов. Такой подход требует получения только двух параметров: часовой ставки каждой категории ресурсов, выполняющей работу (служба поддержки клиентов), и времени, затраченного этими ресурсами на определенные действия, связанные с продуктом, услугой и клиентами. Например, если часовая ставка сотрудника службы поддержки составляет 70 долл. в час, а отдельная транзакция для клиента занимает 24 минуты (0,4 часа), то стоимость этой транзакции будет равна 28 долл. Результат можно легко масштабировать для компаний с сотнями и тысячами продуктов и услуг и имеющими тысячи клиентов.

Анализ прибыльности клиентов зависит от используемого показателя (см. подраздел «Формула»). Помните, что не существует единственно верного измерения прибыльности клиентов, поскольку эти измерения применяются для различных временных периодов.

Источником информации являются бухгалтерские и маркетинговые данные, а также анализ учета затрат по видам деятельности.

Измерение прибыльности клиентов является важной процедурой, но дорогой, особенно при анализе прибыльности большого количества клиентов. Для получения общей суммы затрат многие компании используют анализ расходов, связанных с определенными действиями клиента. Применение такого подхода требует обучения, выделения ресурсов, управления и оплаты специально выделенного на эти цели персонала.

Source: http://chiefengineer.ru/organizaciya-proizvodstva/pokazateli-effektivnosti/reyting-pribylnosti-klienta/

11. Make reports on the methods used to measure profitability.

UNIT 5. ASSET MARKET

Warming up activity

1. Explain the meaning of the following expressions in English and give their Russian variants:

mutual funds, stock-picking, preliminary findings, excessive swings, seminal study, stock splits, to react sluggishly, to detect market malfunctioning,

intertwined risks, incorrect conjecture, payment stream, to move beyond assumptions, a risk-averse investor, to yield high returns.

Tasks

2. Are you aware of Asset Market Model Theory? Read the following extract to get the main idea of it.

The Asset Market Model theory suggests that a currency will be in more demand and hence will likely appreciate in value if the flow of funds into other financial market of the country such as equities and bonds increases and vice versa.

This is specially true in developed nations like the U.S.A., Japan and Euro zone where both public, and institutional investors hold their funds in investment products such as stocks and bonds which dwarf the amount of funds that are exchanged as a result of import and export processes.

Case study

Many well known pundits suggested the likely fall of dollar as the world's reserve currency on the grounds of ever increasing U.S. current account deficit.

It's quite logical to conclude that a high debt level can affect inflation, interest rates, and economic growth in the U.S.A. So foreign investors would gradually withdraw their funds from the U.S. equities and bonds markets increasing the risk of dollar devaluation.

Between 2007-2009 the dollar plummeted against Euro primarily because of widening current account deficit and sub-prime mortgage crisis. However, by the late December of 2009 and early January 2010 dollar bounced back and continued its winning streak that extended June 2010.

Possible sovereign debt default by Greek and other European nations like Spain and Portugal plagued the Euro zone around early 2010. This further fueled the rise of dollar against major currencies, contributed primarily due to the enormity of the U.S. equities and safe haven nature of the U.S. government issued bonds markets.

At times of global uncertainties, the classical move that investors make is to shift their funds to safe haven funds such as the U.S. government bonds.

So the dollar rose against Euro and major other currencies despite the massive budget deficit.

Limitations

The asset market model theory is fairly new and still needs test of time.

It's hard to establish a relationship over a long run between a country's equity market performance and currency performance.

Generally speaking, with rise in the country's equity market, its currency should rise due to higher demands.

However, during global financial uncertainties like the sub-prime mortgage crisis, the crisis that we experienced between 2007-2009, the relationship can become very uncanny.

Also, when the equity market trades in sideways like the one that we experienced in the U.S. in 2002, this model of forecasting was out of the window.

Source: http://www.forexkarma.com/asset-market-model.html#.Wh6jr1Vl-M8

3. What is trendspotting? What are the new trends in economics, fashion, lifestyle, trade and politics?

4. Look through the article: "10 Best Websites for Trend Spotting" by Antony Maina on https://smallbiztrends.com/2017/04/trend-spotting-websites.html. *Visit some of the sites mentioned in the article. Which of them do you find useful for Russian businessmen? Which are inspirational? Are all of the sites user-friendly?*

5. Try yourself at quiz to know more about Risk and Return: http://highered.mheducation.com/sites/0078034752/student_view0/chapter 11/multiple_choice_quiz.html

6. Skim the article "Trendspotting in asset markets". What is its main idea?

7. Give the digest of the article both in English and Russian.

THE PRIZE IN ECONOMIC SCIENCES 2013:
POPULAR SCIENCE BACKGROUND

Trendspotting in asset markets

There is no way to predict whether the price of stocks and bonds will go up or down over the next few days or weeks. But it is quite possible to foresee the broad course of the prices of these assets over longer time periods, such as, the next three to five years. These findings, which may seem both surprising and contradictory, were made and analyzed by this year's Laureates, **Eugene Fama**, **Lars Peter Hansen** and **Robert Shiller**.

Fama, Hansen, and Shiller have developed new methods for studying asset prices and used them in their investigations of detailed data on the prices of stocks, bonds and other assets. Their methods have become standard tools in academic research, and their insights provide guidance for the development of theory as well as for professional investment practice. Although we do not yet fully understand how asset prices are determined, the research of the Laureates has revealed a number of important regularities that are helping us to arrive at better explanations. The behavior of asset prices is essential for many important decisions, not only for professional investors but also for most people in their daily life. The choice on how to save – in the form of cash, bank deposits or stocks, or perhaps a single-family house – depends on what one thinks of the risks and returns associated with these different forms of saving. Asset prices are also of fundamental importance for the macroeconomy, as they provide crucial information for key economic decisions regarding consumption and investments in physical capital, such as buildings and machinery. While asset prices often seem to reflect fundamental values quite well, history provides striking examples to the contrary, in events commonly labeled as bubbles and crashes. Mispricing of assets may contribute to financial crises and, as the recent global recession illustrates, such crises can damage the overall economy. Today, the field of empirical asset pricing is one of the largest and most active subfields in economics.

Predictability...

The predictability of asset prices is closely related to how markets function, and that's why researchers are so interested in this question. If markets work well, prices should have very little predictability. This statement

may seem paradoxical, but consider the following: suppose investors could predict that a certain stock would increase a lot in value over the next year. Then they would buy the stock immediately, driving up the price until it is so high that the stock is no longer attractive to buy. What remains is an unpredictable price pattern, with random movements that reflect the arrival of news. In technical jargon, prices then follow a "random walk." There are, however, reasons why prices may follow somewhat predictable patterns even in a well-functioning market. A key factor is risk. Risky assets are less attractive to investors, so on average, a risky asset will need to deliver a higher return. A higher return for the risky asset means that its price can be predicted to rise faster than for safe assets. To detect market malfunctioning, then, one would need to have an idea of what a reasonable compensation for risk ought to be. The issue of predictability and the issue of normal returns that compensate for risk are intertwined. The three Laureates have shown how to disentangle these issues and analyze them empirically.

...is absent in the short run...

There are several ways to approach predictability. One way is to investigate whether asset prices over the past few days or weeks can be used to predict tomorrow's price. The answer is no. Following a large amount of careful statistical work by Fama in the 1960s, researchers now agree that past prices are of very little use in predicting returns over the immediate future. Another way is to examine how prices react to information. In a seminal study, Fama, Fisher, Jensen and Roll (1969) investigated stock price movements after news about stock splits. To their surprise, they found that the market seemed to incorporate information very swiftly. If the price of the firm's stock had reacted only slowly and sluggishly to the news, the price path would have been predictable. But the researchers found no such pattern. Their study was quickly followed by a large number of others, investigating different types of events, and confirming the original findings: after the initial reaction to a news event, a stock price is extremely hard to predict.

...but there is predictability in the long run

If stock prices are next to impossible to predict over the course of days or weeks, shouldn't they be even harder to predict over longer time horizons?

One may believe so, but empirical research by Shiller showed this conjecture to be incorrect. His studies of stock-price volatility and longer-term predictability provided the key insights. First, Shiller (1981) demonstrated that stock prices move much more than can be explained by dividend streams. Basic theory says that a stock's value should equal the expected value of future dividends, so the price volatility that he observed appeared excessive.

An implication of the excessive swings in stock prices is that a high ratio of price relative to dividends in one year will tend to be followed by a fall in prices relative to dividends over subsequent years, and vice versa. This means that returns follow a predictable pattern in the longer run. Shiller and his collaborators demonstrated such predictability in stock markets as well as bond markets, and other researchers have later confirmed this finding in many other markets. Rational-investor model interpretations How should longer-run predictability of asset returns be interpreted? One way to approach this question is to build on standard theory, which says that investors rationally calculate what assets are worth. Thus, an asset's value should be based on the payment stream that it is expected to generate in the future. A reasonable assumption is that these payments are discounted: in other words, payments in the distant future carry less weight than more immediate payments. For Shiller's original study, he assumed a constant discount factor, and he concluded that reconciling the excess price fluctuations with theory is very difficult. However, discounting could possibly vary over time. If so, even rather stable dividend streams might cause stock prices to vary a lot. But why would discounting vary over time? And why would it vary in such a way that it could account for such large price fluctuations? Answering these questions requires a theoretical model that connects asset prices to the savings and risk-taking decisions made by rational individuals. The most basic and well-known model is the so-called Consumption Capital Asset Pricing Model (CCAPM), developed in the 1970s by several researchers. While well-established theoretically, that model was difficult to test for many years. In 1982, Hansen presented a statistical method, the Generalized Method of Moments (GMM), that was particularly suited for dealing with the peculiar properties of asset-price data. Hansen then used GMM to test whether historical stock-price data were consistent with the standard form of CCAPM. He found that the model must be rejected because it could not explain the data. This confirmed Shiller's preliminary findings: asset prices fluctuate too much, even when allowing for time-varying discount rates that follow from the CCAPM. The failure

of the basic form of the CCAPM, which was also confirmed by many other researchers, inspired waves of new theory and new empirical work. One strand of research aims to improve the measures of risk and attitudes towards risk. This literature develops theoretical extensions of the CCAPM, focusing on how investors in bad times may be much more sensitive to risk than in the basic model. This mix of new theory and GMM-based empirical testing has been very influential beyond asset-pricing research, and it has generated many new insights about human behavior more broadly. Behavioral model interpretations Another way to interpret longer-term predictability is to abandon the notion of fully rational investors. Moving beyond this assumption has opened up a new field referred to as "behavioral finance." Here, mistaken expectations are at center stage: high asset prices may reflect overestimates of future payment streams. In other words, excessive optimism or other psychological mechanisms may help to explain why asset prices deviate from fundamental values. A main challenge for the behavioral approach has been how to explain why more rational investors do not eliminate the excessive price swings by betting against less rational investors. A common answer is that rational investors may face various institutional limits, such as credit constraints, that prevent them from going against the market on a sufficiently large scale. As a result, the new behavioral approach focuses on institutional constraints and conflicts of interest, while the new rational approach focuses on risk and attitudes to risk. Each of these approaches has added important insights. Together they go a significant way towards explaining volatility and longer-term predictability in asset markets.

The cross-section of asset returns The empirical research discussed so far explores differences in overall asset returns over time. An important related question concerns differences in returns across assets. Put succinctly: does stock-picking pay? If so, what factors should an investor use to pick stocks? The classical Capital Asset Pricing Model (CAPM) provides a framework for assessing differences in returns across different stocks. CAPM predicts that stocks that have high returns when the overall market return is high should yield, on average, a relatively high return as a compensation for risk. Similarly, stocks with high returns when the overall market return is low should yield relatively low returns on average. Such stocks can be used as hedges, and are therefore desirable for the risk-averse investor even if they do not yield a high average return. Fama developed methods for testing whether a stock's correlation with the market is indeed a key predictor for its future return. He and other researchers found that it

was not because other factors were much more important in predicting returns. In particular, a stock's "size" (total market value of a company), and "book-to-market ratio" (book value as a fraction of the market value) have a large explanatory power: large firms, or firms with low book-to-market values, have low subsequent returns on average. This finding is akin to Shiller's finding on longer-term predictability. Just as a low general valuation of stocks in relation to dividends predicts high future returns, so-called value stocks (with a high book-to-market ratio) tend to yield high returns relative to stocks with a low book-to-market value.

Why do these extra factors help explain stock prices, contrary to the standard, one-factor CAPM? Again, some explanations are based on rational investor behaviour, while others explore behavioural models. Thanks to the intensive research in this area by Fama and others, the cross-section properties of asset prices are much better understood today than three decades ago. Impacts on investment practice... The work of the Laureates has affected not only academic research but also market practice. The fact that stock markets are very hard to predict in the short run, and that stock-picking is very difficult both in the short and the long run, has led to close examination of the performance by mutual funds. Research generally has failed to find that mutual funds generate positive returns above what can be motivated by the level of risk; once fund fees are taken into account, their asset management often yields negative excess returns. The recent growth of index funds, which collect all stocks in passively managed portfolios, follows that insight. Moreover, the few successful specialized funds we observe are often motivated by the new factors – "size" and "book-to-market" – that are included in the extended version of the CAPM. Event studies not only give information about predictability (or lack thereof) but also provide estimates of how the market evaluates actions such as stock-market splits, stock issues, or takeover bids. This information is valuable for performance evaluation and for companies that might consider whether or not to take such actions. The behavioural approach also has had direct impacts on practice. Shiller suggested early on that important risks facing investors are sometimes hard to measure and thus are non-insurable by existing market instruments. The Case-Shiller housing price index was constructed to aid investors in gauging trends and movements in housing prices and in constructing assets to insure against price fluctuations.

...and on research

The findings on predictability are striking and continue to generate large amounts of follow-up research characterized by a fruitful interplay between empirical work and theory development. The interest in finance and asset pricing is largely driven by fundamental questions: to what extent is market volatility a sign that markets do not work all that well, and what policy measures can be taken to limit any adverse outcomes? The early findings – the difficulty in predicting prices in the short run and the precise and rapid price responses in the event studies – indicated that at least a basic condition for market efficiency was satisfied. But the subsequent longer-term predictability findings have certainly changed the prior beliefs of many researchers. It is too early to say to what extent predictability reflects natural swings in the amount and (rational) perception of risks and to what extent it reflects mispricing. Understanding how mispricing of assets emerges, and when and why financial markets do not efficiently reflect available information, is one of the most important tasks for future research. The answers may turn out to depend heavily on the particular contexts and institutional settings, but they will no doubt be extremely valuable for policymakers as well as practitioners.

Source: https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/ 2013/popular-economicsciences2013.pdf

8. What asset prices and mispricing influence on?

9. What does CAPM stand for? Read more about CAPM on http://www.zenwealth.com/businessfinanceonline/RR/RiskAndReturn.html and use its calculator. http://www.zenwealth.com/businessfinanceonline/RR/ CAPMCalculator.html. When you are ready do the quiz: http://www.zenwealth.com/businessfinanceonline/RR/CAPMQuiz.html

10. Insert the following words from the above text in the gaps.

hedge	predictability	fruitful	subsequent
behavioural	striking	foresee	preliminary
peculiar	assumption	interplay	volatility

1. You can be a subsistence farmer and perhaps produce some excess, but given the prior observation about the fundamental _____ of farming, you will always be at risk of not producing enough.

2. Other things being equal, the broker would be better off if he could _____ with equal ease against all his risks.

3. It can sell produce abroad for better rates, give farmers _____ in pricing and flexibility on when to sell, and act as a storehouse against lean times in the future.

4. A _____ check of the house showed that it was free of any noticeable damage.

5. It was our _____ that the mine was being worked in the sixties.

6. What is _____ to Japan at mealtimes is that people eat rice out of little bowls.

7. Each step of the retreat was accompanied by a complicated _____ of interests, arguments, and passions at headquarters.

8. We do not know which _____ traits are inherited and which acquired.

9. The most _____ feature of those statistics is the high proportion of suicides.

10. It was a _____meeting; we made a lot of important decisions

11. It is difficult to _____ the consequences that may arise from this action.

12. These skills were passed on to _____generations.

11. Form the word partnerships. Then discover them in the text above.

takeover	section
risk	evaluation
price	bids
cross	funds
performance	picking
mutual	averse
stock	trends
gauging	pattern

12. Watch the videos about asset market model: https://www.youtube.com/watch?v=5UuvsonKyq0 *and asset market equilibrium:* https://www.youtube.com/watch?v=IudVPnTxcgM. *Did the visual aids ease the understanding of the complicated economic relations? How the information from the video can be related to what you have read?*

13. Look at infographics at http://money.visualcapitalist.com/worlds-money-markets-one-visualization-2017/ *and* https://brandongaille.com/wp-content/uploads/2014/04/Asset-Management-Trends.jpg *Use some free sites like Visual.ly, Canva.com, Pictochart.com, etc. to prepare your own infographics on asset markets.*

14. Look for the English equivalents of the following terms:

рынки ценных бумаг, согласование спроса и предложения, номинальная процентная ставка, неявные издержки, фондовый опцион, государственные учреждения, оптимальный портфель, специфика ценообразования, зеркальное отображение.

15. Prepare a presentation about investing principles, global capital markets, fidelity capital markets, bubbles and crashes in experimental asset markets. Use linking words, quotes and some vivid examples.

16. Make the written translation of the following text into English.

Рынок финансовых активов (финансовый рынок) представляет собой систему экономических отношений и сеть институтов, обеспечивающих согласование спроса на финансовые активы с их предложением. В экономической теории финансовый рынок обычно подразделяется на две части – денежный рынок и рынок ценных бумаг (рынок капитала).

Деньги являются специфическим объектом рыночной купли-продажи, поскольку они сами являются всеобщим платежным средством, выполняющим функции меры стоимости, средства обращения и средства сбережения (накопления). Их ценой является номинальная процентная ставка (альтернативная стоимость денег), которая либо выплачивается при получении кредитов, либо выступает в форме неявных издержек (недополученного дохода) владельцев денег. При макроэкономическом анализе денежного рынка рассматриваются проблемы формирования спроса и предложения денег, механизм установления рыночного равновесия.

Ценные бумаги – это активы, дающие их владельцам право на получение денежного дохода в будущем. Существуют различные разновидности ценных бумаг. Некоторые из них (например, облигации) приносят их владельцам фиксированный доход, другие (обыкновенные и привилегированные акции, фондовые опционы и др.) – переменный доход. Поскольку при анализе макроэкономических проблем основное внимание уделяется рынку денег, все остальные финансовые активы (кроме денег) объединяются в один, называемый облигациями. Облигации, рассматриваемые в столь широком смысле слова, олицетворяют собой все активы, приносящие денежный доход. При более детальном исследовании рынка ценных бумаг изучаются вопросы формирования их оптимального портфеля, а также специфика ценообразования на облигации и акции.

В макроэкономической теории все субъекты финансового рынка делятся на две группы: банки и публику. Такое деление обусловлено спецификой функциональной роли, выполняемой каждым субъектом на рынке денег. Банки, т. е. банковская система, объединяющая Центральный банк и коммерческие банки, обеспечивает предложение денег в экономике каждой страны.

Публика, к которой относятся все основные макроэкономические субъекты, участвующие в кругообороте доходов и расходов в экономике (домохозяйства, фирмы, государственные учреждения, иностранный сектор), предъявляет спрос на деньги. На рынке ценных бумаг банки и публика могут выступать в роли как продавцов, так и покупателей.

Рынок финансовых активов является наиболее совершенным из всех национальных рынков. Он чаще других находится в состоянии равновесия или приближается к нему. Такая особенность рынка определяется рядом обстоятельств, к числу которых относятся: высокая степень ликвидности объектов купли-продажи, профессионализм основных участников рынка (банков и финансовых посредников, с помощью которых публика продает и покупает ценные бумаги), конкурентность рынка.

Периодически возникающие существенные диспропорции на рынке приводят к ситуации финансового кризиса и оказывают негативное влияние на функционирование всей национальной экономики.

Рынки денег и ценных бумаг тесно взаимодействуют между собой. Они являются своего рода «зеркальным отражением» друг друга. Увеличение предложения денег, как правило, связано с ростом спроса на ценные бумаги. Увеличение предложения ценных бумаг порожда-

ется ростом спроса на деньги. В том случае, когда на рынке денег возникает дефицит, на рынке ценных бумаг наблюдается избыток. И, наоборот, избыток на рынке денег означает дефицит на рынке ценных бумаг. В результате взаимодействия рынков друг с другом они приходят в равновесие одновременно.

Источник: http://center-yf.ru/data/economy/rynok-finansovyh-aktivov.php

17. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

18. Why is it difficult to predict prices? List the reasons.

19. What are securities? How can they be categorized? What are fungible and non-fungible securities?

20. What are primary and secondary markets?

21. What are the characteristics of financial crisis?

22. William Black is a former bank regulator who's seen firsthand how banking systems can be used to commit fraud – and how "liar's loans" and other tricky tactics led to the 2008 US banking crisis that threatened the international economy. In his talk on https://www.ted.com/ talks/william_black_how_to_rob_a_bank_from_the_inside_that_is

Black, now an academic, reveals the best way to rob a bank – from the inside. Watch the video and read the following discussion. Whether it is really possible to rob the bank?

23. A list of the most popular ted talks on markets is on https://www.ted.com/topics/markets Watch some videos and make a glossary of terms. How can the next financial crisis be predicted?

UNIT 6. SEARCH THEORY
AND LABOUR MARKET

Warming-up activity

Explain the meaning of the following expressions in English and give their Russian variants:

welfare analyses, fully utilized, an acceptable price, a renowned article, a clear-cut parallel, wage dispersion, to pose completely new questions, underlying phenomena, the housing market, the predominant model, income security, to lay off workers, to reflect variations.

Tasks

1. What is the best way of matching buyers and sellers? Think about availability of information, advertising, transparency and also web-tools. Find more on https://www.perfectchannel.com/blog/matching-buyers-to-sellers-in-an-online-marketplace-using-machine-learning-to-optimise-price-volume-and-decongest-trade/

2. What is search theory? Extract key notions from this video: https://www.youtube.com/watch?v=4bEHR90qvns

3. More scientific explanations with formulae can be found in the article by Massimo A. De Francesco in Economics Bulletin on http://www.accessecon.com/pubs/EB/2005/Volume3/EB-05C70025A.pdf *What are conditional loyalty and assessment equilibrium?*

4. Try yourself at quizzes to know more about game theory and finding Nash equilibria on http://global.oup.com/us/companion.websites/978 0199397129/student/chapt11/true_false/ *and* http://www.mikeshor.com/courses/gametheory/quizzes/quiz1.html

5. Skim the article "Markets with search costs". What is its main idea?

6. Give the digest of the article both in English and Russian.

**THE PRIZE IN ECONOMIC SCIENCES 2010:
THE LAUREATES**

Peter A. Diamond

US citizen. Born 1940 in New York City, NY, USA. Ph.D. 1963, Institute

Professor and Professor of Economics, all at Massachusetts Institute of Technology, Cambridge, MA, USA.

Dale T. Mortensen

US citizen. Born 1939 in Enterprise, OR, USA. Ph.D. 1967 from Carnegie

Mellon University, Pittsburgh, PA, USA. Ida C. Cook Professor of Economics at Northwestern University, Evanston, IL, USA and Niels Bohr Visiting Professor in Economics at Aarhus University, Denmark.

Christopher A. Pissarides

British and Cypriot citizen. Born 1948 in Nicosia, Cyprus. Ph.D. 1973, Professor of Economics and Norman Sosnow Chair in Economics, all at London School of Economics and Political Science, UK.

Markets with search costs

Why are so many people unemployed at the same time that there are a large number of job openings?

How can economic policy affect unemployment? This year's Laureates have developed a theory which can be used to answer these questions. This theory is also applicable to markets other than the labour market.

According to a classical view of the market, buyers and sellers find one another immediately, without cost, and have perfect information about the prices of all goods and services. Prices are determined so that supply equals demand; there are no supply or demand surpluses and all resources are fully utilized.

But this is not what happens in the real world. High costs are often associated with buyers' difficulties in finding sellers, and vice versa. Even after they have located one another, the goods in question might not correspond to the buyers' requirements. A buyer might regard a seller's price as too high, or a seller might consider a buyer's bid to be too low. Then no transaction will take place and both parties will continue to search elsewhere. In other words, the process of finding the right outcome is not without frictions. Such is the case, for example, on the labour market and the housing market, where searching and finding are essential features and where trade is characterized by pairwise matching of buyers and sellers. This year's Laureates have enhanced our understanding of search markets. Peter Diamond has made significant contributions to the fundamental theory of such markets, while Dale Mortensen and Christopher Pissarides have further developed search theory and made it applicable to analysis of the labour market. The three laureates' achievements help us to comprehend a number of important economic questions in general, and the determinants and development of unemployment in particular.

The basic idea in search theory is that participants in a market look for co-operative partners in order to implement joint projects. This may involve simple cases of a buyer and a seller of a product, as well as more complex relations between employers and job seekers or between firms and their suppliers.

As usual in the case of basic research, there are many conceivable areas of application. The housing market, for instance, is a clear-cut parallel to the labour market in that both the number of vacancies and the time it takes to sell a home vary over time. Search theory has also been used to study issues in monetary theory, public economics, regional economics and family economics.

The theory takes shape

In the 1960s, researchers had already begun to use mathematical models to study the best possible way in which a buyer can try to find an acceptable price. In a renowned article from 1971, Peter Diamond examined how prices are formed on a market where buyers look for the best possible price and sellers simultaneously

set their best price while taking buyers' search behaviour into account. Even small search costs turned out to generate a radically different outcome compared to the classical competitive equilibrium. In fact, equilibrium prices are equal to the price which a monopolist would have set on a corresponding market without search costs. This result attracted considerable attention and initiated intensive research on search markets.

Several important studies on search and matching markets were published around 1980. Peter Diamond, Dale Mortensen and Christopher Pissarides examined the properties of the various markets. They provided new answers to many unsolved issues and could also pose completely new questions which earlier research had not been able to formulate.

Two key insights emerged from this work. First, a search market is characterized by so-called external effects which are not taken into consideration by individual agents. If someone who is unemployed increases his, or her, search activity, it will become more difficult for other job seekers to find employment. At the same time, it will be easier for a recruiting firm to fill its vacancies. These external effects are not taken into account by an individual job seeker. In a number of studies from the 1980s, the three Laure-

ates showed that, in general, an unregulated search market does not give rise to an efficient outcome. Resource utilization might be too low, although under some circumstances it could also be too high, since search and matching processes are associated with real costs.

The second insight concerns a related question. In the classical model of competition, the unregulated market outcome is both unique and efficient. But in a world with search costs, there can sometimes be several possible market outcomes. This was shown by Peter Diamond, who also pointed out that only one of these outcomes can be the best. This, in turn, implies that there is reason for governments to try and find ways of inducing the economy to move towards the best outcome.

Theoretical research on search and matching markets has helped us understand the economic principles underlying phenomena such as price and wage dispersion and unutilized resources.

A model for the labour market

In a number of studies, Dale Mortensen and Christopher Pissarides have systematically developed and applied the theory to examine the labour market – particularly the determinants of unemployment. This has resulted in a model known as the Diamond-Mortensen-Pissarides (DMP) model. Today, the DMP model is the most frequently used tool for analyzing unemployment, wage formation and job vacancies.

The DMP model describes the search activity of the unemployed, the recruiting behaviour of firms and wage formation. When a job seeker and an employer find one another, the wage is determined on the basis of the situation on the labour market (the number of unemployed workers and the number of vacancies). The model can thus be used to estimate the effects of different labour-market factors on unemployment, the average duration of spells of unemployment, the number of vacancies and the real wage. Such factors may include the benefit level in unemployment insurance, the real interest rate, the efficiency of employment agencies, hiring and firing costs, etc.

It has been known for a long time that the labour market fluctuates between situations of either high unemployment and few vacancies or low unemployment and many vacancies. This empirical pattern, known as the Beveridge curve due to the British economist William Beveridge, is illus-

trated in figure 1, based on data on the U.S. economy in the 2000s. The DMP model provides a theoretical explanation for the Beveridge curve.

The DMP model can be used to explain the position of the Beveridge curve and the location of the economy on the curve. If unemployment and vacancies move in opposite directions, then changes can be regarded as reflecting variations in the demand for labour which occur over a business cycle. However, if unemployment and vacancies increase simultaneously, it is instead more natural to pursue an explanation in terms of changes in the performance of the labour market. One reason could be weaker matching efficiency, i.e., longer durations of unemployment in a given market situation. Another explanation could be more rapid structural changes that increase the rate at which firms lay off workers. Such developments on the labour market could be a sign that long-term unemployment will increase. The DMP model has turned the Beveridge curve into a widely used diagnostic tool for empirical labour-market analysis.

Search and matching theory is used extensively in theoretical and empirical studies of the effects of unemployment insurance. The theory states that more generous benefits bring about higher unemployment and longer search time for the unemployed – a relationship that has also received strong empirical support. The theory has also become highly useful for welfare analyses of alternative designs of unemployment insurance.
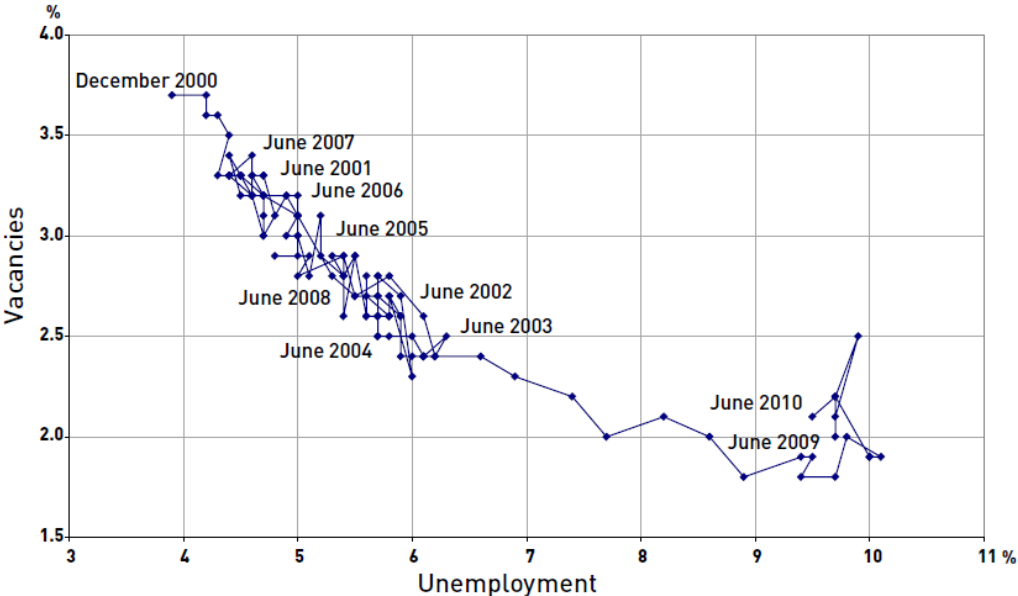

Figure 1. The U.S. Beveridge curve, 2000–2010. *Source: U.S. Bureau of Labor Statistics.*

In order to determine the structure of such insurance, the welfare gains it provides in terms of income security when laid off also have to be taken into account. The insurance can also facilitate efficient matching between unemployed workers and vacancies ("the right person in the right place").

Search theory has emerged as the predominant model for considering the effects of economic-policy measures on the labour market. It also enables us to analyze many other social phenomena.

LINKS AND FURTHER READING

Additional information on this year's Prizes, including a scientific background article in English, may be found at the website of the Royal Swedish Academy of Sciences, *http://kva.se,* and at *http://nobelprize.org*.

The latter also includes web-TV versions of the press conferences at which the awards were announced.

Information on exhibitions and activities related to the Nobel Prizes and the Prize in Economic Sciences may be found at *www.nobelmuseet.se.*

Review articles

Andolfatto, D. (2008) S*earch models of unemployment*. The New Palgrave Dictionary of Economics. Second Edition. Eds. S. N. Durlauf and L. E. Blume. Palgrave Macmillan.

Diamond, P. (2008) *Search theory*. The New Palgrave Dictionary of Economics. Second Edition. Eds. S. N. Durlauf and L. E. Blume. Palgrave Macmillan.

Mortensen, D. (2008) *Labour market search*. The New Palgrave Dictionary of Economics. Second Edition. Eds. S. N. Durlauf and L. E. Blume. Palgrave Macmillan.

Petrongolo, B. and Pissarides, C. (2001) Looking into the Black Box: A Survey of the Matching Function, *Journal of Economic Literature* 39: 390-431.

Rogerson, R., Shimer, R. and Wright, R. (2005), Search-Theoretic Models of the Labor Market: A Survey, *Journal of Economic Literature* 43: 959-988.

Books

Diamond, P. (1984) *A Search-Equilibrium Approach to the Micro Foundations of Macroeconomics*, MIT Press, Cambridge, MA, pp. 74.

Mortensen, D. (2005) *Wage Dispersion: Why Are Similar Workers Paid Differently?*, MIT Press, Cambridge, MA, pp.157.

Pissarides, C. (2000) *Equilibrium Unemployment Theory*. Second edition. MIT Press, Cambridge, MA, pp. 252.

Source: https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2010/popular-economicsciences2010.pdf

7. How could you characterise the DMP model?

8. Where can search and matching theory be used?

9. Insert the following words from the text in the gaps.

regarded	determinant	seekers	induced
clear-cut	conceivable	initiate	bids
empirical	duration	equilibrium	surplus

1. His method was _____, and the laws which he established were generally the result of repeated experiment.

2. The former is concerned with the laws that regulate phenomena in all_____ cases: the latter is concerned with the application of these laws.

3. The class to which he belonged was the only one which could afford to _____improvements.

4. Because they know that if they were in a healthy _____their annual financial settlement would be reduced.

5. The corporation invited _____ for the construction project.

6. We meet him around the age of forty, when he has been suffering a crisis _____ by overwork.

7. Stocks seesawed ever lower until prices found some new level of _____.

8. For most job _____, finding work can be confusing and demor-alising.

9. Research of shorter _____ made not much sense and could not pay off.

10. Social status is the single biggest _____ of health.

11. I could not quite convince myself that there was much world left, for I _____ Boston as the beginning and the end of creation.

12. There are no _____ answers to the baffling problem of the cause of stammering.

10. Form the word partnerships. Then discover them in the following text.

seeming	process
market	costs
to incur	issues
homogenous	inability
to stay	unmatched
bargaining	tightness
to address	negotiations
to fail	commodity

11. Read the full text of the article on http://economistsview.typepad.com/ economistsview/2006/10/the_searchmatch.html *What are disturbing problems of labour market?*

12. What does the Beveridge curve show? What is the problem of matching workers with job vacancies?

The Search-Matching Theory of Unemployment

Thursday, October 19, 2006

This Commentary from the Cleveland Fed explains the search-matching theory of unemployment and shows how it can be used to predict how

changes in unemployment compensation, taxes, or technology might affect the unemployment rate:

Understanding Unemployment, by Guillaume Rocheteau, Federal Reserve Bank of Cleveland: A disturbing feature of the labour market is its seeming inability to clear. At each instant in time, there are both workers without jobs and jobs without workers. How can it be that productive resources are left unemployed in a well functioning market economy?

Economists attribute the failure of the labour market to instantly allocate workers to jobs to various "frictions." These frictions arise because labour, unlike gold or oil, is not a homogenous commodity. The services provided by a plumber are different from those provided by a lawyer – and even lawyers differ in the services they offer; some specialize in constitutional law, others in private law. To match jobs and workers is far from a trivial problem. The heterogeneity of labour services also makes it hard for employers to distinguish productive from unproductive workers. And to complicate things even more, the mere process of moving labour services from one job to another is not costless.

Over the past 25 years, economists have developed a theory of the labour market that takes into account the heterogeneity of labour services and that describes the matching process of workers and firms. The theory, sometimes called the search-matching theory of unemployment, is the description that most economists have in the back of their mind when thinking about the labour market. In this Commentary, we review this theory and show how it can be applied to address several issues related to unemployment.

Three building blocks for a theory of unemployment

The search model of unemployment contains three elements. Each element characterizes a different aspect of the labour market, and the three elements together determine the behaviour of the overall labour market. The first element describes how wages are set. The second determines the number of vacancies that firms decide to open, and the third describes the process through which unemployed workers and vacancies are brought together, that is, the process of creating jobs.

Setting wages

Not all labour markets work the same, but in many, wages are determined through a bargaining process between workers and their employers. The outcome of the bargaining process depends on two things: the bargaining power of each party and the outside options of each. The party with the most bargaining power – the worker or the firm – is the one that can extract a larger fraction of the surplus that stems from their relationship. The outside options for both workers and firms depend on the income of each if they stay unmatched as well as their ability to locate alternative partners if the negotiation fails.

Outside options are affected by the "imbalances" of the labour market – the number of vacancies and the number of unemployed workers. Wages respond to changes in outside options as follows. If the number of vacancies per unemployed worker (a measure of the scarcity of workers often referred to as labour market tightness) is large, then workers' outside options are good and they can ask for a high wage. Firms are willing to pay this high wage to avoid having to look for another worker and incurring high recruiting costs. But if vacancies are scarce relative to unemployed workers, then workers' outside options are poor, and they are willing to accept low wages to avoid a long spell of unemployment.

13. According to what you have read in the articles, answer why unemployment rates vary with business cycles?

14. Look for the English equivalents of the following terms:

самозанятость, трудоспособное население, поддержание уровня дохода, всплеск безработицы, содействие занятости населения, ужесточение условий труда, добровольный труд, представительный орган, субсидирование занятости, работа по найму.

15. Prepare a presentation about macroeconomics and microeconomics of labour market, wage slavery or information approach to job market. *Use linking words, visual aids and some vivid examples.*

16. Make the written translation of the following text into English.

В рыночных условиях основные потребности человека, семьи могут удовлетворяться посредством труда, получения заработной платы или дохода в денежной форме, с другой стороны, механизмом спроса и предложений труда как конкурентной формы реализации

определенных потребностей и интересов. Со стороны работодателей формируется спрос на рабочую силу. Спрос на рабочую силу отражает потребность экономики в определенном количестве работников на каждый момент времени.

Предложение рабочей силы – это потребность различных групп трудоспособного населения в получении работы по найму и на этой основе источника средств существования.

К наиболее распространенным мерам государственного регулирования спроса на труд относятся: программы общественных работ; субсидирование занятости; финансово-кредитное воздействие на рынок труда.

Основная цель общественных работ – это использование незанятого населения для реализации социально значимых проектов; при этом одновременно учитываются интересы общества и безработных. Даже при достаточно высоком уровне безработицы существуют вакантные рабочие места в сферах, где малооплачиваемый и непрестижный труд необходим государству. Обычно это работа в социальной сфере или тяжелый неквалифицированный труд.

Субсидирование занятости включает в себя мероприятия, связанные с поощрением самозанятости и предоставлением субсидий предпринимателям, нанимающим на работу определенные категории граждан. Поощрение самозанятости обычно включает выплату субсидий, а также юридическую и организационную помощь властей, облегчающую бывшим безработным переход к организации собственного дела.

Финансово-кредитная политика государства проявляется в предоставлении инвестиционных налоговых льгот в области капитальных вложений, которые, в свою очередь, способствуют созданию новых рабочих мест и увеличивают занятость населения.

Основным механизмом государственного регулирования предложения труда является налогообложение. Влияние налога на доходы физических лиц на предложение труда зависит от уровня и вида (пропорциональный, прогрессивный) подоходного налога. Пропорциональный налог сокращает ставку заработной платы и вызывает эффект замещения. Стимулирующий – сохраняет увеличение часов досуга.

На предложение труда также оказывают влияние различные социальные выплаты, общей целью которых является поддержание уровня дохода.

Важным способом государственного регулирования предложения труда является использование нестандартных форм организации занятости. Оно открывает возможность ограничения предложения рабочей силы на открытом рынке труда, позволяет ограничивать масштабное высвобождение занятых и предупреждать всплеск безработицы.

В современных условиях государство воздействует на формирование структуры предложения труда путем реализации программ профессиональной ориентации и профессиональной подготовки, особенно молодежи. Такие программы профессионального обучения безработных охватывают следующие направления:

- устранение недостатка мастерства;
- трудовая адаптация для безработных в течение длительного периода времени;
- возвращение на работу, т. е. специальные программы для женщин, желающих вернуться к работе после перерыва, связанного с рождением и воспитанием ребенка;
- обучение граждан из социально уязвимых групп населения.

Особое значение в системе государственного регулирования рынка труда играют виды и формы материальной поддержки безработных. Выплачивая пособие по безработице, государство регулирует масштабы предложения рабочей силы.

Государственная политика занятости – это комплекс мер воздействия на социально-экономическое развитие общества и каждого его члена. Она имеет несколько уровней: общегосударственный, региональный и локальный. Выделяют европейскую, скандинавскую и американскую модели политики занятости.

Европейская модель предполагает сокращение числа занятых при повышении производительности труда и, как следствие, росте доходов работающих; такая политика предполагает дорогостоящую систему пособия для большого количества безработных.

Скандинавская модель основывается на обеспечении занятости практически всем трудящимся путем создания рабочих мест в государственном секторе со средними условиями оплаты труда. Такая политика рассчитана в основном на государственные средства, при дефиците которых наступает спад производства, что влечет за собой увольнение.

Американская модель ориентируется на создание рабочих мест, не требующих высокой производительности, для значительной части экономически активного населения. При этом безработица формально уменьшается, но увеличивается количество людей с низкими доходами.

Использование той или иной модели влияет на политику занятости на макро- и на микроуровне. На макроуровне новые подходы в политике занятости способствуют повышению гибкости рынка труда, уменьшению расходов на рабочую силу, ведут к свертыванию социальных программ. Однако расширяются системы подготовки и переподготовки кадров, создаются дополнительные рабочие места, ужесточаются условия выдачи пособий. Принимаются меры по усилению роли частного сектора в решении проблем занятости, других социальных проблем. На микроуровне проводится политика сдерживания роста заработной платы, удлинения продолжительности рабочей недели. Более широко используются различные формы неполной занятости. В результате кризисные явления обостряются.

Государственная политика в области содействия занятости населения направлена на:

- развитие людских ресурсов для труда;
- обеспечение равных возможностей всем гражданам независимо от факторов (пол, возраст и т. д.) в реализации права на добровольный труд и свободный выбор занятости;
- создание условий, обеспечивающих достойную жизнь и свободное развитие человека;
- поддержку трудовой и предпринимательских инициатив граждан, осуществляемых в рамках законности, а также содействие развитию способностей к производительному, творческому труду;
- обеспечение социальной защиты в области занятости населения, проведение специальных мероприятий, способствующих обеспечению занятости граждан, особо нуждающихся в социальной защите и испытывающих трудности в поиске работы;
- предупреждение массовой и сокращение длительной безработицы;
- поощрение работодателей, сохраняющих действующие и создающие новые рабочие места, прежде всего для граждан, особо нуждающихся в социальной защите и испытывающих трудности в поиске работы;
- сочетание самостоятельности органов власти субъектов РФ, органов местного самоуправления в обеспечении занятости населения;
- координацию деятельности в области занятости населения с деятельностью по другим направлениям экономической и социальной политики;

- координацию деятельности государственных органов, профессиональных союзов, иных представительных органов работников и работодателей в разработке и реализации мер по обеспечению занятости населения.

Проведение активной политики государства в области занятости населения осуществляется путем разработки и реализации федеральной и региональной программ занятости, которые формируются исходя из ситуации на рынке труда и прогноза его развития.

Источник: Экономика и социология труда (Иванова Н.А., 2010) http://be5.biz/ekonomika/t002/28.html

17. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

18. Describe the government regulation of labour market in Russia.

19. Read some of the articles on http://www.economist.com/topics/labour-market. *What differs foreign countries from Russia as regards employment problems?*

20. A list of the most popular ted talks on labour is on https://blog.ted.com/7-talks-about-work-to-watch-on-labor-day/ *Watch some and make a glossary of terms.*

21. According to what you have watched in the previous task, what is fair labour practice?

22. Solve the following case – a real-life paradox of human behavior. Each of you will have a packet containing a description of the mystery and a set of clues. Note that the clues are numbered. There is no significance to the numbers; they are just provided for easy reference during the discussion. All the clues are true. There is no effort to trick you by providing false or misleading information. However, not all clues are important or useful in solving the mystery. Read aloud the mystery that came with the packet of clues. In round-robin fashion, share your clues. Discuss whether or not the clue is relevant to solving the mystery and if so, in what way. Solve the mystery and decide which clues were necessary and sufficient to solve the mystery. Choose a spokesperson and be prepared to share your conclusions with the class. Check the answer with what follows after the clues.

SWEATSHOPS – YA GOTTA LOVE 'EM – !?!

Mystery

College students, organizations like the Worker Rights Consortium, and protesters at WTO and World Bank meetings clamor for an end to sweatshops. Many of us sympathize. We've been convinced by writing and rhetoric that poverty in the lesser-developed countries of the world results from a shameful partnership between materialistic American consumers and greedy corporations. But Nicholas Kristof and Sheryl WuDunn, in their recent Pulitzer Prize-winning coverage of China and the Far East, want to lead "Two Cheers for Sweatshops." They urge us to buy more from sweatshops, not less, warning that "refusing to buy sweatshop products risks making Americans feel good while harming those we are trying to help." *Columbia Daily Spectator* editorial page editor, Jaime Sneider, writing in the *New York Times* in May, 2000, chides the sweatshop protesters for "threatening to impoverish the very workers they claim to protect."

How can standing up for sweatshop workers do harm instead of good?

Clues

1. "The only thing a country like Cambodia has to offer is terribly cheap wages; if companies are scolded for paying those wages, they will shift their manufacturing to marginally richer areas…" (Kristoff and WuDunn).

2. Nike, often the focus of "sweatshop" controversy, subcontracts all its manufacturing to countries with lower wage rates than those in the United States. The company reported in July, 2000, that it contracts with 700 factories in 50 countries, employing 550,000 workers. A typical Nike factory worker in Vietnam makes \$564/year (or about \$.30/hr.).

3. Holger Jensen, writing for the *Rocky Mountain News*, reports that in Indonesia, 60 % of the people live below the poverty line (defined as an income of less than \$1.50/day). Nike jobs, considered "highly desirable," pay \$65 month, or less than \$.50/hr. Approximately 110,000 Indonesians are employed.

4. The proud father of a 15 year old girl working in a Bangkok factory that exports clothing to the U.S. reports that she earns \$2/day for a 9 hour shift, 6 days a week. It's dangerous work and she has twice had needles go

through her hands. The loving father isn't worried about her hands but about the pressure that might close the factories: "I hope she can keep that job. There's all this talk about factories closing now… I hope that doesn't happen. I don't know what she would do then."

5. Nike receives $90 income for a pair of shoes produced by a sweatshop worker paid $3.37.

6 Apparel industry jobs are typically filled by a country's low-skilled workers. In the U.S., an apparel industry worker makes about 56 % of per capita GDP. In Guatemala, a worker in the apparel industry makes $1250 per year, about 75 % of per capita GDP. This is even more dramatic in Vietnam and Honduras where the going wage rates paid in the sweatshops are actually *higher* than per-capita income.

7. Regulations supported by the Worker Rights Consortium would increase foreign manufacturing costs for American companies, causing some of them to abandon foreign operations and/or mechanize operations.

8. Recently, NPR reported the results of a follow-up study of the impact of public pressure on the well-being of child labourers. A foreign-owned company operating in India employed children in a manufacturing process using potentially dangerous substances. When public pressure led to the discharge of child labourers, the children were tracked by the researchers. The majority ended up doing more dangerous work.

9. A teenage girl stitching leather purses in China for a company in Hong Kong works a 12 hour day with a half hour lunch. She and her friends happily report that they consider these good jobs because the factory allows them to work long hours, laughing that the factory manager complains, "It's actually pretty annoying how hard they *want* to work." [emphasis added]

10. Worker loyalty in Asia's "sweatshops" is notable. The turnover rate in Nike's Indonesian factories has stayed below 2 % for years, far lower than that in the United States.

11. Today, "Sweatshop Belt" economies comprise about 1/4 of the global economy. Some forecasters at the World Bank believe that as the industrial revolution spreads throughout Asia, its share of global GDP may rise as high as 55-60 % by 2025.

12. During Britain's Industrial Revolution, per capita output doubled in 58 years. As China experiences its own industrialization, per capita output has been doubling every 10 years in a veritable "explosion of wealth."

13. Some of the most oppressive factories in the 1980s were found in Dongguan in south China. Since 1987, conditions have improved dramatically and wages there have risen from $50 to $250/month as factories scramble to attract and keep good workers.

14. American pressure on sweatshops clearly has 2 effects: 1) it improves working conditions in American-owned companies overseas, and 2) it raises labour costs for those companies.

15. Company spokesperson Tammy Rodriguez says that public pressure forced Nike to improve conditions in some of its Asian plants, requiring contractors to improve safety and working conditions and to limit working hours and day

Solution to the mystery:

Large manufacturing companies are attracted to poor countries because wage rates are lower than in developed countries. However, the wage rates Americans regard as low are actually high by the standards of countries in the Sweatshop Belt. The earnings of sweatshop workers, who flock voluntarily to the income opportunity offered by the sweatshops, are a major source of improving wealth and standards of living. Pressure from American protesters raises production costs, and can cause factories to relocate out of the country or to cut back hiring by replacing workers with machines, leaving the workers much worse off.

Evaluating the clues:

Expect student groups to disagree on the clues that are "necessary and sufficient" to solve the mystery. This is normal given their different levels of understanding of economic analysis and the fact that some clues offer more than one type of information. There is no hard and fast "right" answer; it's the discussion that's important. Encourage students to talk about the kinds of information they gleaned from the clues and what their knowledge and understanding of economics allowed them to deduce. See below for suggestions about the insight offered by various clues.

#4, 8, 9 are some of the most important clues, indicating that people are choosing to work in sweatshops for the wages being paid; their labor is voluntary. This tells us that desirable alternatives are <u>not</u> available. It also reminds us that the sweatshops are an outgrowth of the poverty of these nations, not a cause of that poverty.

Note: It is <u>imperative</u> that students understand that the analysis offered in this mystery does <u>not</u> apply to forced, slave, or any other type of coerced labor. Clearly, instances of slave labor have been uncovered in Asian nations – and even occasionally in our own country – and they are emphatically not to be considered an acceptable method of production or a viable step in economic development.

#1 reminds us that the sweatshops offer the workers of poor countries an opportunity to exchange what they have – their low-skilled labor – for income to purchase goods and services. Closing the sweatshops denies them that opportunity.

#3, 4, 5 tell us that the wage rates we think abysmally low are actually quite high in comparison to the wages earned by other workers in poor countries.

#10, 11, 12 offer evidence that sweatshops are an important stepping stone for poor people in poor countries and that they produce wealth and significant improvements in standards of living, helping countries move out of poverty rather than miring them in it.

#3, 6, 13, 15 indicate that the impact of American protest activity is to raise production costs. This encourages factories to relocate or mechanize, eliminating the jobs of low-skill workers in countries where they have few desirable alternative opportunities.

#14 is likely to capture students' attention, but it really tells us very little. It doesn't tell us, for example, if any of Nike's income is profit – and how much, or whether the worker lives well or badly at the $3.37 rate. Encourage students to ask questions about what the data doesn't tell us, rather than focusing on the stark contrast of the numbers.

#2, 7 are true and interesting but don't help us to solve the mystery.

Source:https://www.fte.org/teachers/teacher-resources/lesson-plans/tradelessons/standing-up-for-sweatshops/

PART III

UNIT 7. INSTITUTIONAL CAPACITY BUILDING

Warming up activity

Read the definition of institutional capacity:

Capacity building (or **capacity development**) is the process by which individual and organizations obtain, improve, and retain the skills and knowledge needed to do their jobs competently. Capacity building and capacity development are often used interchangeably; however, some people interpret capacity building as not recognizing people's existing capacity whereas capacity development recognizes existing capacities which require improvement. Capacity building on an institutional level should involve aiding institutions in developing countries. It should not involve creating new institutions, rather modernizing existing institutions and supporting them in forming sound policies, organizational structures, and effective methods of management and revenue control.

Give reasons why capacity building is important for any institution. Think of:

Stuff training

Processes modernization

Using new technologies

Improving and managing existing structures

Tasks

1. Watch the video on capacity building following the link and answer the question below: https://www.youtube.com/watch?v=ZgtQ4PtUC9g

What does capacity building involve?

2. Read the following text:

What is Capacity Building?

Capacity building is not just about the capacity of a nonprofit today – it's about the nonprofit's ability to deliver its mission effectively now, and in the future. **Capacity building is an investment in the effectiveness and future sustainability of a nonprofit**.

Distinct capacity building projects, such as identifying a communications strategy, improving volunteer recruitment, ensuring thoughtful leadership succession, updating a nonprofit's technology, and improving how it measures its outcomes, all build the capacity of a charitable nonprofit to effectively deliver its mission. When capacity building is successful**, it strengthens a nonprofit's ability to fulfill its mission over time, thereby enhancing the nonprofit's ability to have a positive impact on lives and communities.**

• Tools for working with (and getting the most out of) consultants (ImpactRising)

When people inquire, "What is capacity building?" they may be wondering about "capacity building" as a verb (such as providing funding for a non-profit to improve its own effectiveness, or actually teaching/instructing or consulting to build needed skills) or as a noun (the results of such skill-building). Nonprofit capacity building refers to many different types of activities that are all designed to improve and enhance a nonprofit's ability to achieve its mission and sustain itself over time. Here is our definition (excerpted from, A Network Approach to Capacity Building):

Capacity building is whatever is needed to bring a nonprofit to the next level of operational, programmatic, financial, or organizational maturity, so it may more effectively and efficiently advance its mission into the future. Capacity building is not a one-time effort to improve short-term effectiveness, but a continuous improvement strategy toward the creation of a sustainable and effective organization.

Capacity building is as basic as continually improving; some might consider it an obligation – both for nonprofits to undertake, and donors/grantmakers to support.

Why is capacity building important?

While frequently invisible, and often overlooked, capacity building is the all-important "infrastructure" that supports and shapes charitable nonprofits into forces for good. Capacity building enables nonprofit organizations and their leaders to develop competencies and skills that can make them more effective and sustainable, thus increasing the potential for charitable nonprofits to enrich lives and solve society's most intractable problems.

Practice pointers
- There are many sources for capacity building assistance. Consultants are just one avenue. Web-based education, in-person training, peer-to-peer cohorts, communities of practice, and even pro bono skilled volunteers can offer your nonprofit and its board/staff excellent opportunities to build the capacity of the organization.
- Because the core focus of state associations of nonprofits is helping to build the capacity of other charitable nonprofits in the state, joining your state association of nonprofits is one of the most effective ways to learn about the spectrum of capacity building opportunities available locally. State Associations often offer workshops and training opportunities for board and staff, whether in-person or via the internet, as well as the ability for nonprofit leaders to learn peer-to-peer, collaborate, and stay up-to-date with recommended practices and new trends.
- Conducting an organizational self-assessment is one way to learn which core capacity areas may require more attention.

Some nonprofits have strong programs and activities but no leadership succession plan. For a nonprofit in that position, succession planning is a key to protecting and prolonging its effectiveness, and thus is a critical step in its capacity building journey.

(Source: https://www.councilofnonprofits.org/tools-resources/what-capacity-building)

3. Find information on capacity building in nonprofits in your country.

4. Explain the meaning of the following expressions in English and give their Russian variants:

lifelong learning; networking; beneficiaries; guidance on demarcation; administrative bottlenecks; root causes; ex-ante conditionalities; public pro-

curement; efficiency gains; impact assessment; to fulfil recruitment needs; empowerment and incentives; tacit and implicit knowledge; staff turn-over; inter-municipal cooperation; one-stop shops; demarcation issues; service benchmarking; ombudsman procedures; e-procurement; judicial cooperation; judicial training; societal challenges; insolvency; enhancing efficiency.

5. Read an extract of the following article:

DRAFT THEMATIC GUIDANCE FICHE FOR DESK OFFICERS INSTITUTIONAL CAPACITY BUILDING (THEMATIC OBJECTIVE 11) VERSION 2 – 22/01/2014

RELEVANT PROVISIONS IN THE LEGISLATION*Regulation*	*Articles*
Common Provisions Regulation *(N 1303/2013)*	Article 9 (11) – "enhancing institutional capacity of public authorities and stakeholders and efficient public administration" Related provisions : ANNEX XI, Ex-ante conditionalities, (11) "enhancing institutional capacity of public authorities and stakeholders and efficient public administration"
European Social Fund *(N 1304/2013)*	Article 3 Scope of support (d) (i) Investment in institutional capacity and in the efficiency of public administrations and public services at the national, regional and local levels with a view to reforms, better regulation and good governance; (d) (ii) Capacity building for all stakeholders delivering education, lifelong learning, training and employment and social policies, including through sectoral and territorial pacts to mobilise for reform at the national, regional and local levels.

European Regional Development Fund Regulation	Article 3– Scope of support from the ERDF
(N 1301/2013)	1 (f) networking, cooperation and exchange of experience between competent regional, local, urban and other public authorities, economic and social partners and relevant bodies representing civil society, referred to in Article 5(1) of Regulation (EU) No 1303/2013, studies, preparatory actions and capacity-building".
	Article 5 – Investment priorities
	(11) "enhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF, and in support of actions under the ESF to strengthen the institutional capacity and the efficiency of public administration".

This guidance presents ESF and ERDF support under Thematic Objective 11 "Enhancing institutional capacity of public authorities and stakeholders and an efficient public administration" (TO11). TO11 does not apply to EAFRD and EMFF.

It explains the rationale of TO11 and outlines the potential scope of assistance under each fund.

As Technical Assistance (TA) targets strengthening Member States authorities and beneficiaries to administer and use the funds, this note provides guidance on how to differentiate between support provided under TA and investments under TO11.

Improving administrative capacity and public service delivery is also important for several other thematic objectives. This note therefore also provides guidance on demarcation of TO11 with other TOs.

DG EMPL and DG REGIO will always cooperate and coordinate closely to ensure clear demarcation and complementarities between the different aspects of TO11, TA and other TOs. DG EMPL is chef de file for TO11.

1. Regulatory scope of support

1.1. Policy framework

The quality of public administration has a direct impact on the economic environment and is thus crucial to stimulate productivity, competitiveness and growth. The 2013 Annual Growth Survey and, where applicable, the Economic Adjustment Programmes highlighted that link and clearly recognised the need for Member States to increase the efficiency and effectiveness in the delivery of public services as well as the transparency and quality of public administration and the judiciary. Modernisation of public administrations was thus listed as one of the key priorities of the EU for a successful implementation of the EU2020 Strategy.

Enhancing institutional capacity of public authorities and stakeholders and an efficient public administration is included as a separate thematic objective (thematic objective 11 or "TO11") in the Common Provisions Regulation for the 2014-2020 programming period (Regulation (EU) 1303/2013. Where relevant, both the ESF and ERDF should contribute to this TO11.

Supporting public administration reforms under TO11 in the future programing period should be linked to the following fundamental building-blocks:

(1) **Country Specific Recommendations (CSR)**, related Staff Working Documents, Economic Adjustment Programmes where applicable, and National Reform Programmes: in cases where these building-blocks and, above all, CSR related actions call for a thorough public administration reform, TO 11 should come into play. In other cases, TO11 should be used to address specific weaknesses identified in the CSRs to attain the national goals of the EU 2020 objectives.

(2) **Commission services' Position Papers (CPP)**: these papers – building further on the CSRs and related Staff Working Documents – identified for certain Member States **specific investment priorities related to administrative reform**. These proposals are expected to be incorporated in the PA/OP.

(3) Experience from the 2007-2013 period, results of evaluations/assessments and in particular "administrative bottlenecks" identified in 2007-2013 period need to be addressed;

1.2. The context of building "excellent public administration"

Institutional capacity is not just a technical matter of training civil servants, but it relates to how public authorities interact with and deliver services to businesses and citizens. "*Good governance*" is the basis and ultimate objective for institutional capacity building. Good governance builds trust and social capital. States with a high level of social capital tend to perform better economically.

Member States that plan to make investments under TO11 should focus on "principles of excellence", as illustrated below:

rinciples of Excellence. Source: European Institute of Public Administration

If operations supported under TO11 pay attention to fostering these factors, there is a good chance that they will achieve an impact. These principles underline the spirit of the CPR to take a ***strategic and results-oriented approach*** to administrative reform.

Any reform proposal should indicate how they specifically contribute to these principles. If proposals for financial support of reform efforts do not reflect clearly how the reform will improve some or all of the above ***principles***, the reform efforts are probably not mature enough.

Any proposed action / reform should be supported by adequate analysis of the root causes of difficulties, in order to ensure the effectiveness of the actions. This analysis should ideally involve, whenever relevant, external stakeholders.

These principles are also reflected in the ***ex-ante conditionalities*** for TO11 (see **section 7**, below).

Desk officers should first of all check whether Member States' proposals for support under TO11 match the priorities set out in ***Country Position Papers*** and ***Country Specific Recommendations*** or, where applicable, the Economic Adjustment Programmes.

The table below shows which countries received ***CSR in 2013***, related to TO11: **(Sub)sector CSR**	**Member State**	**Number of MS**
Improving the effectiveness and efficiency of the public administration	BG, CY, CZ, ES, EL, HR, IT, RO, SK	9
Judiciary reform	BG, EL, ES, HU, LV, MT, RO, SI, SK	9
Improve the business environment	BG, EL, ES, HU, IT, PL, RO	7
Anti-corruption	BG, CZ, EL HR, HU, IT	6
Public procurement	BG, EL, HU, HR	4
Absorption of ESI funds	BG, RO, SK	3

To aid prioritization, Member States should further be aware of *how their public management is rated* in comparison to other Member States. Extra effort should be made to improve the weakest indicators. Follow the link: http://ec.europa.eu/europe2020/pdf/themes/34_public_administration.pdf – for some examples for an assessment of Quality of Public Administration in Member States; other sources of indicators should be explored.

1.3. The institutional capacity building toolbox

Building institutional capacity covers three dimensions for interventions: (1) Structures and processes, (2) Human resources, (3) Service delivery. Therefore, funding under TO11 is likely to focus around these three broad dimensions. Typical support under each of these aspects is outlined below.

Structures and processes

Public sector organisations should (1) operate in a clear and stable institutional and regulatory framework, (2) have been assigned clear responsibilities and tasks and (3) have put in place an organisational chart that can deliver these tasks in an efficient way without being overly complex. While traditional bureaucratic structures are still relevant to deliver public sector services, modern public sector organisations will increasingly work on the basis of teams, networks and innovative ways of interacting with the public and communicating more effectively with citizens.

Support may cover different structural and institutional reforms. It targets, for example:
- Legal, regulatory, constitutional changes (for example how citizens can participate in policy making);
- institutional and administrative process reviews for efficiency gains;
- the setting up of new business models and management practices;
- the reorganisation of tiers of government, de-centralisation or restructuring of individual institutions in order to match lines of delegation with tasks at the appropriate level;
- measures to improve policy-making, the design of reforms, including legislative actions;
- impact assessment, evaluation, monitoring and audit;
- the development of new codes of conduct and rules for cooperation, including with external authorities and stakeholders;

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- the introduction of new methods for strategic planning and quality-based management;
- reforms of the budgetary process (e.g. participatory budgeting);
- actions aiming at the reduction of administrative burden;
- actions to improve the transparency and accountability of government and public services.

Human resources

The concerned institutions should have the ability to break down overall objectives and responsibilities into tasks and job descriptions, to estimate the number and qualifications of staff, to fulfil recruitment needs and retain qualified personnel. Securing the timely availability of skilled and motivated staff is a key success factor in the management of public policies. Conditions within the public administration need to be favourable towards recruiting and retaining such professionals.

Support should contribute to the development of a modern, effective and motivated public service which is ready to confront the growing challenges with innovative approaches. This might include:
- modernising recruitment and incentive policies;
- better management of human resources including division of tasks and responsibilities, retention, appraisal, career development, motivation, empowerment and incentives for personal development;
- review of the current systems and the development of proposals for more effective business models and procedures;
- internship programmes, programmes for middle and senior management;
- capacity building of training institutions and the HRM units;
- development of "smart" and learning organisations (knowledge management);
- the development of training programmes and the introduction of new training methods.

Service delivery

The concerned institutions should have appropriate instruments such as methods, guidelines, manuals, procedures, forms, IT systems, etc. This encompasses job-aids that can enhance the effectiveness of the institution. Systems and tools normally enable organisations to transform tacit and im-

plicit knowledge into explicit knowledge that can be shared across the organisation. They make organisations less vulnerable to staff turn-over and reduce the risks of malfunctioning. Effective management of public policies requires strong systems and tools designed to support staff effectively.

Reforms should thus ensure more efficient and effective public services. They may include a broad scope of actions for:
- optimising and re-engineering business processes, diversification of the channels for the delivery of services through e.g. cooperation with non-governmental bodies, inter-municipal cooperation;
- the use of one-stop shops or e-services (see "demarcation issues");
- optimisation and quality improvement of services, which may be achieved through the integration of their delivery (for example through inter-service or inter-municipal cooperation);
- development of various systems and tools related to e-government, e-justice, etc. (if not explicitly covered under thematic objectives other than TO11, see also "demarcation issues");
- quality of service benchmarking and complaints, ombudsman procedures.

In order to secure European added value, ESF/ERDF investments in the above areas also have to take into consideration the priorities of the *Digital Agenda* (e-authentication, e-identification, small payments, e-procurement) and the Stockholm programme (judicial cooperation, judicial training, linking MS insolvency/business/land registers to EU e-justice portal).

1.4. Thematic objective 11

In 2014-2020, the ESI Funds will continue to support institutional capacity building and reforms. The objective of this support is to create institutions which are stable and predictable, but also flexible enough to react to the many societal challenges, open for dialogue with the public, able to introduce new policy solutions and deliver better services. The investment in the structures, human capital and systems and tools of the public sector is oriented towards more efficient organisational processes, modern management, motivated and skilled civil servants.

It is **important to note** that **ESF support** to public administration will only be possible in Member States with at least one less developed region or in Member States which are eligible for Cohesion Fund assistance. In these

two categories of Member States, ESF support may cover the whole territory of the country. These conditions do **not** apply to **ERDF**, however.

"Stakeholders", such as NGOs and social partners may benefit from support under ESF TO11 in all Member States.

Here below a number of key actions for the ESF and the ERDF under TO 11, as set out in Staff Working Document (2012) 61 on "Elements for a Common Strategic Framework":

Key actions for the ESF:

Investment in institutional capacity and in the efficiency of public administrations and public services (at all levels of government) with a view to reforms, better regulation and good governance:
- reforms to ensure better legislation, synergies between policies and effective management of public policies, and transparency, integrity and accountability in public administration and spending of public funds;
- development and implementation of human resources strategies and policies;
- Enhancing efficiency of administrative services;
- Capacity-buil nd social policies, and sectoral and territorial pacts to mobilise for reform at national, regional and local level:
- enhancing the capacity of stakeholders, such as social partners and non-governmental organisations, to help them delivering more effectively their contribution in employment, education and social policies;
- the development of sectoral and territorial pacts in the employment, social ding for stakeholders delivering employment, education, health a
- inclusion, health and education domains at all territorial levels.

Key actions for the ERDF:
- strengthening institutional capacity and the efficiency of public administrations and public services related to the implementation of ERDF and in support of actions in institutional capacity and in the efficient public administration supported by the ESF, including where necessary the provision of equipment and infrastructure to

support the modernisation of public services in areas such as employment, education, health, social policies and customs.

- administrative capacity related to European Territorial Cooperation can also be funded.

In **summary**, the above means, the focus of TO11 is:

ERDF = option 1

Support ESF with equipment/infrastructure (if required)

ESF =

Broad/horizontal public administration reform and good governance initiative

ERDF = option 2

Capacity building of public bodies related to the implementation of ERDF (but not TA)

2. Demarcation issues

Administrative capacity building and good governance is a horizontal matter for all public administrations, as well as for individual "sectors" of social and economic development. Under thematic objective 11, the CPR includes both support to general public administration reform and to strengthen the institutional capacity and the efficiency of the public administration related to the implementation of the ERDF (but distinct from TA). Moreover, demarcation with other thematic objectives and with technical assistance needs to be considered.

The **next section** analyses various scenarios of "demarcation issues" in turn:

a) Within Thematic Objective 11: Public Administration Reform vs Institutional capacity for ERDF implementation

When the ESF funds public administration reform, the ERDF can support this with infrastructure, *if necessary to achieve the objectives of the reform.*

Attention should be paid to the fact that the ESF can support equipment purchase in 2014-2020. For practical reasons, such purchases for an admin-

istration could thus be funded under ESF. Nevertheless, for larger investments, for example, in ICT infrastructure, the ERDF may be more suitable. This is in line with the Digital Agenda, and there is a clear EU value added in such investments.

However, ERDF support under TO 11 for general investments in the construction or renovation of public administration buildings should be excluded, because:
- there is no clear contribution to growth and jobs in doing so,
- costs should be paid by national funds, in particular through the savings that may be achieved by the reform of State administration
- and the need for concentration of funding and prioritization of investments given limited resources.
- This applies to all forms of office building financing: construction of new buildings, refurbishment of existing buildings, rental and leasing costs.

The ERDF also supports administrative reforms of public bodies, which are important to facilitate absorption and impact of ERDF supported investments, but which are not directly involved in management of ERDF.

Such support could cover areas such as: land register and wider reform actions for public procurement, environmental impact assessment, statistics, state aid, management of public utilities (waste, water, transport management, etc.), etc.

However, it should be noted that "reform and administrative capacity issues" related to public procurement, state aid and statistics are also a concern for the ESF (*see also next paragraph on "demarcation"*).

Demarcation between public administration reform on the one hand and capacity building for ERDF implementation on the other – depends on the objective of the action concerned. If the objective of the action concerns the national systems overall, then it is for ESF. If the issue primarily concerns ERDF implementation issues, then it is for ERDF.

For example, a new procurement law, introducing a new complaints procedure for public procurement, or making all public procurement information available online – this would be for ESF in the context of public administration reform. On the other hand, improving the procurement capacity or introducing e-procurement for a specific utility linked to ERDF implementation could be for ERDF TO 11.

Another example: Land registry – the introduction of digitisation of the land registry for a country would be under ESF TO11, but improving the cadastral system in the context of planning the infrastructure investment in a certain area, could be funded under ERDF TO 11

6. Find full text of the article following the link: http://ec.europa.eu/ regional_policy/sources/docgener/informat/2014/guidance_fiche_thematic_ objective_11_en.pdf

7. Study the information on the types of capacity building activities:

Types of Capacity Building Activities

There are many approaches to providing capacity building services, including:
☐ Providing access to repositories of information and resources (for example, databases, libraries and web sites)
☐ Trainings (public, customized or on-line)
☐ Consultation (for example, coaching, facilitating, expert advice and conducting research)
☐ Coordinating alliances ☐ Publications
☐ Assessments ☐ Board development
☐ Business planning ☐ Business development
☐ Collaboration planning ☐ Conflict resolution
☐ Convening ☐ Earned-income development
☐ Evaluation ☐ Facilities planning
☐ Financial management ☐ Funding
☐ Fundraising ☐ Information technology
☐ Leadership development ☐ Legal
☐ Management development ☐ Marketing (research, promotions)
☐ Meeting management ☐ Mergers
☐ Networking opportunities ☐ Organizational development
☐ Peer learning ☐ Program design
☐ Project management ☐ Quality management
☐ Referrals ☐ Research
☐ Risk management ☐ Staffing (selection, development)
☐ Strategic planning ☐ Team building

8. Work in groups. What activities should be applied in case of the following projects:

1. Fundraising

2. Strategic planning

3. Resource development

4. Setting the long-term direction for the organization

Use the following tips:

1. Be realistic in identifying the project goals.

2. Be realistic about the project timeline. Consider the time necessary by staff and board members for planning and implementing the project, as well as the complexity of scheduling and coordinating their calendars.

3. Recognize that staff and/or board turnover is likely. Some changes will affect the timeline more dramatically than others.

4. Allow staff the time necessary to engage in the work and recognize how the capacity building work may add to day-to-day responsibilities.

5. Engage the entire team throughout the project and keep communication channels open. People respond differently to change and support is often greater when staffs' opinion is genuinely invited and received.

6. Select a consultant whose workstyle supports the team and who has the skill set required. Work in parallel with the consultant.

7. Enlist the expertise of others. Consult with more than one expert when making a significant infrastructure change.

8. Engage legal counsel prior to formal discussions if considering a merger and/or acquisition, whether initiating or responding to an invitation.

9. Include expenses for hosting meetings.

10. Be open to opportunities presented – even when they seem like challenges at the time – they may lead to greater achievements than previously imagined.

9. Watch the video with Dara Frimmer speaking on "Inspiring social change through community organizing" following the link and answer the question below: https://www.youtube.com/watch?v=-DtILpmsCcA

How, in accordance to the video, we can make change occur?

10. Make reports on capacity building activities used in different countries/institutions/businesses.

11. Make the written translation of the following text into English.

РАЗВИТИЕ ПОТЕНЦИАЛА ПЕРСОНАЛА ОРГАНИЗАЦИИ

Потенциал персонала организации – важный фактор повышения ее конкурентоспособности и эффективности. Актуальным является использование современных подходов в управлении персоналом организации. В частности, интересен процессный подход, позволяющий оптимизировать систему управления персоналом, сделать ее прозрачной, согласованной, а также принимать обоснованные решения. Процессный подход позволяет эффективно развивать потенциал персонала организации.

Словарь управления персоналом. Потенциал персонала – это явные и скрытые возможности и способности к эффективной деятельности в условиях современной организации, к развитию и адаптации к меняющимся условиям, что приводит к устойчивому развитию организации в долгосрочной перспективе.

В современном обществе меняется природа хозяйственного базиса экономики – «машинные технологии» индустриального уклада уступают место «интеллектуальным технологиям», формирующим новые подходы к решению технических, экономических и социальных задач. В такой экономике большую роль в конкурентоспособности организации играет ее персонал как один из главных факторов увеличения прибыли предприятия. Персонал организации обладает определенным потенциалом.

Источники формирования потенциала персонала организации

Исходной основой для формирования потенциала персонала организации являются: природные свойства работника, врожденные силы, характер, способности. Источником формирования потенциала работника выступают знания, умения, ценности, навыки, т. е. приобретенные способности и возможности.

В литературе упоминается множество категорий, связанных с человеческим потенциалом: человеческий потенциал, трудовой потенциал, кадровый потенциал, научный потенциал, творческий по-

тенциал, интеллектуальный потенциал, предпринимательский потенциал, инновационный потенциал и др. В процессе развития экономики, средств производства и производственных отношений меняются требования к работнику. На основе этих процессов появляются новые характеристики, составляющие потенциал работника.

Качественная определенность потенциала персонала организации формируется под воздействием соответствующих определенному периоду требований к персоналу. Исходя из этого важным критерием уровня потенциала персонала организации, на наш взгляд, целесообразно считать степень соответствия естественных, личностных, интеллектуальных, профессионально-квалификационных характеристик работников уровню научно-технического прогресса, современным экономическим условиям и их требованиям. Проблема сохранения и развития потенциала персонала организации должна стать приоритетной стратегической задачей для организации, так как она формирует уровень и перспективы ее развития и, соответственно, развития экономики в целом.

Потенциал персонала организации – сложная категория: это система, состоящая из элементов, каждый из которых выполняет свою функцию, влияет на другие элементы, интегрируется с ними, в результате чего система в целом обретает определенную способность к реальному функционированию.

Если потенциал персонала организации успешно реализуется в процессе деятельности, то он превращается в человеческий капитал. А человеческий капитал, как известно, – это инвестируемый общественный труд, который в процессе непрерывного движения порождает доход. Соответственно, именно потенциал персонала является основой человеческого капитала организации, а человеческий капитал организации можно рассматривать как потенциал, включенный в производство и успешно при этом реализованный. Через развитие и реализацию потенциала персонала организации происходит процесс накопления ее человеческого капитала.

Высокий уровень потенциала персонала организации положительно влияет на удовлетворенность работников, устанавливает перспективные ориентиры организационного поведения, повышает уровень компетенции и мотивации персонала. Что, в свою очередь, и является причиной повышения эффективности, адаптивности и конкурентоспособности организации в целом.

(Source: http://www.hr-portal.ru/article/razvitie-potenciala-personala-organizacii)

12. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

13. Make a short report on capacity building activities in different companies.

UNIT 8. KNOWLEDGE TRANSFER

Warming up activity

Read the definition of knowledge transfer and answer the questions below:

Knowledge transfer refers to sharing or disseminating of knowledge and providing inputs to problem solving. In organizational theory, knowledge transfer is the practical problem of transferring knowledge from one part of the organization to another. Like knowledge management, knowledge transfer seeks to organize, create, capture or distribute knowledge and ensure its availability for future users. It is considered to be more than just a communication problem. If it were merely that, then a memorandum, an e-mail or a meeting would accomplish the knowledge transfer. Knowledge transfer is more complex because:
 • knowledge resides in organizational members, tools, tasks, and their subnetworks and
 • much knowledge in organizations is tacit or hard to articulate.

Have you ever participated in knowledge transfer events? What practices of knowledge transfer do you consider to be the most effective?
 • Mentorship
 • Guided experience
 • Simulation
 • Guided experimentation
 • Work shadowing
 • Paired work
 • Community of practice
 • Narrative transfer
 • Practices

Tasks

1. Watch a video with Helge Seetzen talking about the different aspects of knowledge transfer: https://www.youtube.com/watch?v=oJyBzgCQp2A

Provide examples of how knowledge transfer works between teams and in B2B scenarios where the knowledge is being transferred to a client.

2. Find information on knowledge transfer policy in any country/organization.

3. Explain the meaning of the following expressions in English and give their Russian variants:

information externalities; spin-offs; labour mobility; cluster sampling method; sampling bias; multicollinearity; dummy variable; binary logistic models; pooled response data; binary logistic regression; embodied knowledge; tacitness.

4. Read the following article:

ANALYSING KNOWLEDGE TRANSFER CHANNELS BETWEEN UNIVERSITIES AND INDUSTRY: TO WHAT DEGREE DO SECTORS ALSO MATTER?

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Abstract

There is a wide variety of channels through which knowledge and technology is being transferred between universities and industry. This paper aims to explain the relative importance of these different channels in different contexts. For this purpose, responses from two questionnaires were analysed, addressing Dutch industrial and university researchers, respectively. A reassuring result is that the perceived importance of the 23 distinct transfer channels we distinguished hardly differs between industry and university: we did not observe a major mismatch. Overall, our results suggest that the industrial activities of firms do not significantly explain differences in importance of a wide variety of channels through which knowledge be-

tween university and industry might be transferred. Instead, this variety is better explained by the disciplinary origin, the characteristics of the underlying knowledge, the characteristics of researchers involved in producing and using this knowledge (individual characteristics), and the environment in which knowledge is produced and used(institutional characteristics). Based on our findings, we offer policy recommendations.

1. Introduction

Several empirical studies have analysed the process of knowledge transfer between universities and firms by focusing on several different aspects of this process. These studies have produced contrasting evidence concerning the importance of different types of knowledge outputs of universities to firms. On the one hand, codified output of academic research like publications and patents seem to be the most important input to industrial innovation (Narin et al., 1997; McMillan et al., 2000; Cohen et al., 2002). On the other, collaborative and contracted research activities appear to be a much more important form of knowledge transfer (Kingsley et al., 1996; Meyer-Krahmer and Schmoch, 1998; Monjon and Waelbroeck, 2003). Moreover, the employment of university researchers is described as an effective way to transfer knowledge from universities to firms (Zucker et al., 2002; Gübeli and Doloreux, 2005). Next, informal contacts are often found to be a common form of interaction between universities and industry (Meyer-Krahmer and Schmoch, 1998; Cohen et al., 2002).

Furthermore, the importance of different channels of university–industry knowledge transfer can be assessed differently by firms active in different industries. After all, firms active in different industries make use of different technological and market knowledge. Pavitt (1984) and Marsili (2001) indeed show that the way in which firms learn and innovate (i.e. the sources of learning, patterns of innovation development, sources of technology improvement of firms), as well as the level of technological opportunity and of technological entry barriers, differs across manufacturing activities. By using surveys of university researchers or Research and Development (R&D) managers, a few studies have shown that differences exist in the forms of knowledge transfer across different disciplines and industrial activities (Meyer-Krahmer and Schmoch, 1998; Cohen et al., 2002; Schartinger et al., 2002). However, most of these studies did not control for differences in the characteristics of the knowledge, the disciplinary origin of the knowledge or the individual and organisational characteristics of re-

spondents. The patterns of knowledge transfer from universities to industry still have to be explored systematically across sectors with different learning patterns and different level of technology opportunities, to find explanations underlying these patterns.

In this paper, we aim to analyse how the importance of different knowledge transfer channels can be explained by the myriad of various factors. More precisely, we attempt to explain the variance in the importance of knowledge transfer channels as a result of (1) sectoral effects, (2) basic characteristics of the knowledge in question, (3) scientific disciplines, (4) characteristics of the organisations involved, and (5) characteristics of the individuals involved.

For this purpose, this paper will use data collected via two questionnaires in the Netherlands. One addresses industrial researchers, the other academic researchers. We also want to highlight the fact that the data used in this paper refers to information provided by R&D performers rather than by their managers or superiors. This way, we aim at improving our understanding of the importance of different channels of knowledge transfer between university and industry by surveying the actual users and developers of knowledge.

This paper is organised as follows. In Section 2, we review the literature on the role of different university–industry knowledge transfer channels as well as on the factors affecting the importance of the various channels. Section 3 introduces the data and methodology used in this paper. Section 4 continues with a discussion on our findings on the importance of technology transfer channels and presents a clustering of these channels. Section 5 focuses on explaining the variance in the importance of the different clusters of, taking into consideration the industrial context of firms, the dominant scientific disciplines, the basic characteristics of the knowledge, the organizational characteristics of the institutes and firms, and the individual characteristics of the researchers involved. Section 6 concludes this paper and makes recommendations for policy and management.

2. Review of literature on university–industry knowledge transfer

The importance of university knowledge for the process of industrial innovation has been widely studied. Some consensus seems to exist on the positive impact of academic research on the development of industrial innovation (Salter and Martin, 2001). In particular, some authors have shown

that around 10 % of the new products and processes introduced by firms would not have been developed (or only with great delay) without the contribution of academic research (Mansfield, 1991, 1998; Beise and Stahl, 1999). Still, no consensus is found on the role of universities in the development of industrial innovations, or on the channels through which knowledge flows between universities and industrial firms.

Some authors argue that firms consider codified output, such as publications and patents, the most important form of accessible knowledge that is being developed by the university. For instance, Narin et al. (1997) find that 73 % of the papers cited in US industry patents were published by researchers working for public research organisations, while the remaining were authored by industrial scientists. Moreover, based on responses from R&D unit managers, Cohen et al. (2002) find that the most important channels for universities to have an impact on industrial R&D are published papers and reports. Public conferences, the mobility of students, collaborative R&D, patents and meetings are also regarded as important. Licenses and personnel exchange were found to be the least important channels. Studies based on a much wider survey, such as the community innovation survey, find that most benefits for firms from interaction with universities come from formal collaboration rather than from knowledge and information externalities (Swann, 2002; Monjon and Waelbroeck, 2003). Similarly, using a survey to university researchers, Meyer-Krahmer and Schmoch (1998) find that collaborative research is the most widespread form of knowledge transfer. Nevertheless, Schartinger et al. (2002) argue that collaborative and contract research are used for opposite needs, as firms that use more of one form tend to use less of another. Additionally, employment of university researchers is found to be a way to effectively transfer knowledge from universities to firms, especially in areas like chemistry or biotechnology (Meyer-Krahmer and Schmoch, 1998; Gübeli and Doloreux, 2005; Zucker et al., 2002).

In this section, we review the literature that has explored the link between the importance of different mechanisms for knowledge transfer and (a) industry sectors, (b) scientific disciplines and basic knowledge characteristics and (c) organisational and individual features.

2.1. Knowledge transfer channels related to industry sectors

Firms that operate in different industrial sectors seem to make use of diverse types of technological and market knowledge; they also seem to at-

tribute different levels of importance to interact and access knowledge developed by the university (Pavitt, 1984; Levin, 1988; Marsili, 2001; Salter and Martin, 2001). A useful approach for distinguishing industry sectors in this context is the taxonomy by Pavitt (1984) or the one by Marsili (2001). These taxonomies allow us to distinguish sectors according to their sources of learning and patterns of innovation development. Despite the observation that university knowledge is relatively more important for firms in science-based activities (followed by those involved in complex systems), these studies do not address the use of different channels of knowledge transfer. Still, given the different forms of technological development observed in each sector category, the relative efficiency of a set of channels may differ across industries.

As expected, industry–university interaction is found to be more important in science-based technologies (Meyer-Krahmer and Schmoch, 1998; Beise and Stahl, 1999; Schartinger et al., 2002). However, the share of sales from public research-based products (as a part of total sales) is almost independent of the fact whether the firm is in a R&D-intensive sector or not (Beise and Stahl, 1999). Indeed, public research is found to be critical in a small number of industries, but "moderately important" across most of the manufacturing sector (Cohen et al., 2002; Schartinger et al., 2002). Additionally, a one-to-one relationship between academic and industrial knowledge does not seem to exist. Some fields of science are relevant to a large number of sectors of industrial activity, while others are of high relevance only for a very limited number of industrial activities (Cohen et al., 2002; Schartinger et al., 2002). Moreover, a weak science linkage of a technology (i.e. technological proximity between university research and technology development in the industry) does not necessarily imply a low university-industry interaction (Meyer-Krahmer and Schmoch, 1998). Meyer-Krahmer and Schmoch (1998) find that, in Germany, the highest knowledge interaction is found in mechanical engineering and civil engineering, which however, are had a lower science-intensity (measure by average level of scientific references per patent).

Still, when analysing a survey of R&D managers, Cohen et al. (2002) show that while publications, conferences, informal information exchange and consulting are found to be widely important across industries; patents instead are only considered important by pharmaceutical firms. Moreover, collaborative research is found at least to be moderately important in R&D-intensive manufacturing activities, such as drugs, glass, steel, TV/radio, and aerospace (Cohen et al., 2002; Schartinger et al., 2002). In-

deed, collaboration with university seems more likely in sectors in which technology is developing fast, since firms want to be active in multiple technological trajectories (Belderbos et al., 2004). By contrast, contract research and consulting seems especially important in industrial fields in which firms interact less with universities, such as mechanical engineering (Meyer-Krahmer and Schmoch, 1998; Schartinger et al., 2002). In biotechnological and pharmaceutical industries, which are much more dependent on academic knowledge and very basic scientific research, publications seem to be more important than in other sectors (McMillan et al., 2000; Cohen et al., 2002). Levin (1988) finds that patents are of major importance for chemical and material industries. Moreover, Balconi and Laboranti (2006) argue that students are the most important form of knowledge transfer for electrical and electronic industrial activities.

In summary, the existing literature predicts that publications, participation in conferences and collaborative research are particularly important in R&D-intensive industrial activities. Influx of students, contract research and collaborative research are expected to be especially important in the engineering fields. Patents, spin-offs and collaborative research are expected to be of major importance for firms active in science-intensive industries. Informal contacts are not expected to differ significantly across sectors.

2.2. *Knowledge transfer channels related to scientific disciplines and to basic knowledge characteristics*

The form of knowledge flow between university and industry also seems to vary across disciplines (Martinelli et al., 2008). Using a survey of Austrian universities on the use of nine types of personal-contact-based knowledge interactions with firms in 49 different economic sectors, Schartinger et al. (2002) show that research cooperation and (to a lesser extent) personnel mobility are intensively used, especially in chemistry, biotechnology, engineering and information technology. Moreover, in biotechnology academic breakthrough discoveries seems generally to be transferred to industry through university spin-off with the well-known joint research between top professors and the firms they own (Zucker et al., 2002). In chemistry, the provision of skilled students and informal contacts play a specifically important role in transferring knowledge to industry (Meyer-Krahmer and Schmoch, 1998). However, in engineering disciplines, contracted and collaborative research, labour mobility, and influx of students are also found to be more important (Meyer-Krahmer and Schmoch, 1998; Schartinger et

al., 2002; Balconi and Laboranti, 2006). In economics and other social sciences, and consequently, mainly in services, personnel mobility and training courses for firms are the most important types of interactions (Schartinger et al., 2002).

From the above, we expect that contract and collaborative research, influx of students and transfer activities organised by the university offices of technology transfer are particularly important forms of transfer of knowledge related to engineering and other production technology disciplines. Patents and publications are expected to be relatively more important to transfer knowledge related to the life sciences and natural sciences. Informal contacts are not expected to differ across disciplines.

Additionally, the diffusion of diverse types of knowledge with different degrees of codification and embodiment in technological artefacts may require the use of different types of channels. Indeed, spin-offs and labour mobility were found particularly useful for commercialising breakthrough knowledge (Zucker et al., 2002; Bekkers et al., 2006). Moreover, when knowledge to be transferred is codified into written and published papers, scientific publications, patents and participation into conferences would be the best forms of knowledge transfer, as awareness might be the main important step to the effective transfer (David and Foray, 1996; Cohendet and Steinmueller, 2000). Additionally, contract research could also effectively allow the development and transfer of knowledge. However, codified knowledge is not an accumulated stock of information, independent of its holders, its time or location (Cohendet and Meyer-Krahmer, 2001). Codified knowledge has a recurrent and dynamic structure: knowledge is needed to codify as well as to exploit a given piece of codified knowledge (Cohendet and Steinmueller, 2000; Cohendet andMeyer-Krahmer, 2001). In other words, adoption of university knowledge by firms requires its specification to the needs of firms. Hence, collaborative research, labour mobility as well as influx of students might also be required to allow effective knowledge transfer. This seems particularly important when breakthrough or interdependent knowledge is at stake (Zucker et al., 2002). Firms that work predominantly with interdependent (of systemic) knowledge, which refers to knowledge that is part of a larger system, need knowledge of the whole complex system. In such a case, a firm needs to develop multi-disciplinary and multi-technology competences (Granstrand et al., 1997; Brusoni et al., 2001). In this case, several channels might be important, in particular labour mobility, collaborative and contract research, and influx of students.

A one-to-one relationship between academic scientific disciplines on the one hand and industrial knowledge on the other does not seem to exist. Therefore, a disciplinary pattern of knowledge transfer is not expected to correspond to a sectoral pattern of knowledge transfer. Similarly, the characteristics of knowledge are not expected to vary only across sectors, but within sectors too.

2.3. Knowledge transfer channels related to organisational features

The context in which knowledge is developed and transferred plays also a role on the incentives to its transmission as well as on the choice of the channels of transfer (David and Foray, 1996). In particular, the size and the research capabilities of the 'receiving' firm may affect the likelihood to use particular channels of university-industry knowledge transfer. Indeed, after sector control for industry sector, the influence of public research on industrial R&D is found to be disproportionately greater for larger firms and for start-ups than for other types of firms (Cohen et al., 2002).Moreover, Santoro and Chakrabarti (2002) show that firms, with different sizes and different activities, might engage in different forms of interaction with the university to address their specific objectives of building competencies or problem solving in core and non-core technological areas. In addition, several authors find that firms, which invest highly in R&D, are more prone to have absorptive capabilities to learn and interact with universities (Cohen et al., 2002; Fontana et al., 2006). Additionally, firms with specific multi-technologies strategies might find it important to use different forms of accessing and developing systematic and autonomous technologies (Granstrand et al., 1997).

Moreover, some studies have analysed how university departments with different research focuses and funding sources have different attitudes towards knowledge transfer to industry (Agrawal, 2001). These studies tend to show that university departments with greater focus on applied research and on technological development seem to interact more intensively with the industry (Lee, 1996; Bozeman, 2000; O'Shea et al., 2005). Moreover, departments with a higher level of private financing might be more willing to support technology transfer to industry than those university departments mainly financed by public sources (Lee, 1996; Colyvas et al., 2002).

Additionally, the individual characteristics of researchers also seem to matter for the process of knowledge transfer. In particular, researchers with more experience in industry-university collaborative research, with a high-

er number of patents, as well as with more entrepreneurial skills seem to be more willing to support knowledge transfer to industry (Zucker et al., 2002; D'Este and Patel, 2005; Lam, 2005).

Therefore, we would expect that large firms, given their higher financial and skills resources, favour collaborative and contract research as forms of absorbing university produced or co-produced knowledge. Small firms are expected to benefit more from the influx of students, who bring along new knowledge from the university. Moreover, we expect that researchers, working in an organisation with a more applied research focus, would favour the use of patents, labour mobility, collaborative and contract research, while those more involved in basic research would find more important publications as forms of accessing knowledge produced or co-produced by the university. Finally, we expect that publications and participation in conferences are found more important by individuals with a high number of published papers, while patents are by those with a higher record of published patents.

In sum, in the literature, the exploration of differences in the forms of knowledge transfer across sectors, types of knowledge, scientific disciplines and individual and organisational characteristics was done independently (Agrawal, 2001). Therefore, in this paper, we aim at exploring the sources of differences in the patterns of knowledge flow between university and firms, taking into consideration the industrial context of firms, the type of knowledge involved and the environment of its production and use.

3. Data and methodology

3.1. Data

The analyses in this paper are based on original data collected from May to June 2006. We developed two related questionnaires, one aimed at university researchers and one at industry researchers. We again want to highlight the fact that the data used in this paper refers to information provided by R&D performers, which are the real users and developers of knowledge in the university and in industry, rather than R&D managers. The questionnaire is available on the Internet: http://home.tm.tue.nl/rbekkers/techtrans.

The sample of university researchers was constructed by collecting addresses of all research staff at faculties in four selected disciplines: phar-

maceutics and biotechnology, chemistry, mechanical engineering, and electrical engineering. We chose to use this cluster sampling method to ensure that our response would include sufficient data for all the sectoral categories in the Marsili and Pavitt taxonomies (see above). All four samples were of the same size, and respondents were sought at two technical universities (Technische Universiteit Eindhoven and Technische Universiteit Delft) as well as three regular universities (Rijksuniversiteit Groningen, Universiteit Leiden, and Universiteit Utrecht). We selected these universities as they represent a large share of Dutch research in the four abovementioned disciplines. A pilot study was conducted, and the final survey was sent out to 2082 staff members. We collected 575 valid responses, which corresponds to a response rate of 27.6 %. When comparing the distribution of positions in the response with the distribution of positions as given in the annual reports of the surveyed universities, we find that full professors, associate professors and assistant professors are somewhat underrepresented, while Ph.D. students are somewhat over-represented.

The sample of industry researchers was constructed in a similar manner. Here, we aimed at four sectors that are exemplary in the Marsili and Pavitt taxonomies and recognised in the Netherlands (Marsili, 2001; Marsili and Verspagen, 2002; Pavitt, 1984): (1) the pharmaceutical or biotechnology sector, (2) chemical sector (excluding pharmaceuticals), (3) machinery, basic and fabricated metal products, and mechanics, and (4) electrical and telecommunications equipment. It was much more challenging, however, to identify individuals conducting R&D in firms (not their managers) than to identify university researchers. We selected industry researchers in three ways trying to avoid sampling bias. Firstly, we identified Dutch individuals that were listed as inventors in EPO patents that were not owned by universities, assuming that such individuals are likely to perform R&D activities in firms. Secondly, we identified Dutch authors of papers published in selected refereed journals for whom a non-university affiliation was given. These people were assumed to develop new knowledge in firms and therefore likely to perform R&D work. Finally, aiming at addressing industrial researchers that do not published papers or patents, we address the Royal Institution of Engineers in the Netherlands (KIVI NIRIA). KIVI NIRIA was kind enough to forward our questionnaire to those (non-university) members that were registered as working in R&D functions. The total sample came to 2088 and we received 454 valid responses. The response rate is very similar across the three samples (25.9 %, 25.9 % and 26.7 %).5 Our questionnaire to researchers at the industry produced a quite homoge-

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neous response across the four sectors we aimed at studying, each representing between 18.8 % and 22.9 % of all responses. An additional category called 'Other manufacturing' represents 9.7 % of the sample and a category 'service sector' received 2.4 %. Only 3.2 % of the respondents indicated they did not work in any of the categories mentioned.

One legitimate concern is the potential bias resulting from the way we identified respondents. Respondents that were identified on the basis of their patenting activity might value patents higher than average, while those that were identified on the basis of publicising might likewise value publications higher. Still, we observe that patents receive a very low raking among the 23 channels we distinguished (see below), even though the sub-sample of 'patentees' accounted for 62 % of all industry responses. Furthermore, publications ranked very high, even though the sub-sample based on publications was only 18 % of the total sample. Given these findings, we are not concerned for a substantial bias due to sample selection issues.

3.2. Methodology

As indicated above, the objective of this paper is to explore the factors affecting the relative importance of a variety of channels of knowledge transfer between university and industry. For this purpose, we asked respondents to assess the level of importance for their own research group based on a *combination of quantity (frequency of the use) and quality (how well knowledge is transferred)*. Using the data obtained from the two questionnaires, we proceeded in two steps in order to address our research objective.

The first step, as reported in Section 4, starts by analyzing the differences in the importance of channels of knowledge transfer for university researchers on the one hand and industrial researchers on the other, using descriptive statistics. Then, given the non-significant differences in the rankings of university and industrial researchers, we performed a hierarchical cluster analysis on the pooled data of university and industry researchers responses. Note that we use this technique to cluster variables (the 23 channels of knowledge transfer), *not* to group cases. Six groups of channels of knowledge transfer were identified, which bring together channels that often are given similar ratings from individual respondents.

The second step, as reported in Section 5, addresses the sources of the variation in each of the six identified groups of channels of knowledge transfer, by analysing the impact of (1) sectoral effects, (2) basic characteristics

of the knowledge in question, (3) scientific disciplines, and (4) organisational and individual characteristics. For this purpose, a dummy variable was created for each of the six groups of channels of knowledge transfer. The dummies for each cluster take the value '1' if the average score for that particular cluster was equal to 4 or above, which means that the group of channels is at least considered important. In Section 5.1, we analyse the estimates of the binary logistic models for the high importance of each of the six clusters of channels of knowledge transfer on each group of independent variables – sectoral effects, basic characteristics of the knowledge in question, scientific disciplines, and organisational and individual characteristics. In Section 5.2, we present the estimates of binary logistic models for the importance of each cluster of channels of knowledge transfer using the variables in all four groups of independent variables at once. Given the high risk of multicollinearity in estimating this model, we estimate this model first using the *enter* method (entering all 30 variables at the same time) and then using the *backward* method (removing variables from the model with a lower explaining power). Results obtained from both methods are very robust, in the sense that the significance of estimators using any of the two methods is quite similar.

4. Importance of and similarities among different knowledge transfer channels

In our surveys, we asked respondents to indicate whether they have actually used a certain knowledge transfer channel, and if so, how they assess the importance of this channel on a four-point rating scale. Table 1 reports the resulting the average rated importance of its use, and the share of 'high importance' (i.e. 'important' or 'very important'). Figures printed in bold indicate where we observe large differences in rating between academia and industry.

'Classic' transfer instruments such as refereed publications and other publications are still found to be the most important, by both academics and industry researchers. Personal contacts follow directly. It is remarkable that the instruments that are usually promoted by both policy makers and university management (e.g. activities by the Technology Transfer Office (TTO), and university patents) receive rather low ratings from both groups of respondents.

Note that there is very little difference in the rankings for university researchers on the one hand, and industry researchers on the other. In fact, for both measurements shown in Table 1, the correlation coefficients between the rankings of university researchers on the one hand and industry researchers on the other is 0.8. As such, we can conclude there is not a major mismatch between the views of the university and industry researchers. Nevertheless, university researchers give overall significantly higher ratings to any channel than industry researchers. We also see some few differences in ratings between the two groups, most notably in "patents' texts" and "licences of university held patents" (both rated higher by industry researchers) and in "financing of Ph. Ds" and "staff holding positions in both industry and university" (rated higher by university researchers).

To better understand the pattern of the importance of these different channels for knowledge transfer between university and industry, we performed a hierarchical cluster analysis on the pooled response data from the university and industry researchers. This clustering brings channels together that often receive similar ratings among the respondents (note that here we do *not* use clustering to group respondents). These groupings also allow us to do more advanced analysis later on; estimating models for 23 channels individually is not a fruitful way to go. We studied the groupings that would result, by allowing for any number of clusters between 2 and 8. Table 2 shows how the knowledge transfer channels are brought together for each of these situations. As we avoided clusters that consisted only of one single channel (which happened when seven or eight clusters were allowed), we decided to continue our further analysis based on six clusters, which in fact generated very plausible groups. The horizontal lines in Table 2 reflect the chosen grouping into six clusters. Following the outcome of the six-cluster grouping, we will name the six resulting clusters as follows (in the order in which they appear in Table 2):
- scientific output, informal contacts and students;
- labour mobility;
- collaborative and contract research;
- contacts via alumni or professional organizations;
- specific organised activities;
- patents and licensing.

5. Explaining the use of different knowledge transfer channels

As shown in Table 1, there is a wide selection of knowledge transfer channels in use by university and industrial researchers. Given the findings of other scholars, presented in the literature review, we now seek to explain the variance in importance of the different channels by looking at sectoral effects, basic characteristics of the knowledge, scientific disciplines and organisational and individual characteristics. In Section 5.1, we individually analyse the effects of each group of potential explaining factors on the importance of each of the six clusters of channels of knowledge transfer from the university to industry. In Section 5.2, we analyse how all these potential explaining factors compete to explain differences in the importance of the six different clusters of channels of knowledge transfer from the university to industry.

5.1. Individual impact of industrial sectors, knowledge characteristics, scientific disciplines, and individual and organisational characteristics

Aiming at exploring sectoral effects on knowledge transfer between universities and firms, we focused our survey on four industrial sectors: the chemical, pharmaceutical, electrical, and machinery sectors. To better understand the impact of the industrial activity of the sector involved on the (clustered) knowledge transfer channels, we ran a binary logistic regression. Given the focus of our questionnaire on four main industrial sectors, we introduced three dummy variables in our model, which makes the remaining, fourth sector (the *machinery industry*) our reference group. Table A.1 in the annex provides the results of the binary logistic model. The results are somewhat disappointing. Only for cluster A (i.e. scientific output, informal contacts and students) we did obtain significant results: this cluster of channels is more likely to be important by *pharmaceutical* and by *electrical* firms than by firms active in *machinery and equipment* activities. The importance of the other five clusters cannot be explained by the sector of activity of the potential users of the university knowledge. Given this limited explanatory value of industrial sectors, we will now turn to the other explaining factors.

In our survey, we included a number of measurements that can be understood as proxies for the basic characteristics of knowledge. Respondents were requested to characterise their knowledge by using a four-point rating scale for the following statements: '*knowledge is mainly expressed in written documents*', '*knowledge is mainly embodied in people*', '*major*

knowledge breakthrough are expected', and '*knowledge refers to systematic and interdependent systems*'. (For more details, see the questionnaire, which is available on the Internet: ...) To test the impact of the knowledge characteristics on explaining the medium and high average importance of each group of channels, we again ran a binary logistic regression. As the correlation coefficient between the independent variables 'written' and 'embodied knowledge' was less than 0.3, we introduced both variables in the equation. Table A.2 in the annex provides the estimates of these models. The results are much more satisfying now. The knowledge characteristics offer significant explanations for all clusters except the one covering 'contacts via alumni or professional organisations' (cluster D).

Another candidate for explaining variation in the importance of specific knowledge transfer channels is the scientific discipline. Of course, industry researchers are not necessarily linked to a single discipline. For that reason, they were asked to rate the importance, on a five-point scale, of 14 distinct scientific disciplines (or groups of disciplines) for their field of work: biology, medical science, medical engineering, chemistry, chemical engineering, physics, material science, mathematics, computer science, electrical engineering, mechanical engineering, economics and business studies, psychology and cognitive studies, and (other) social sciences. To test the impact of disciplines on the medium and high average importance of each group of channels, we again ran a binary logistic regression. Table A.3 in the annex provides the estimates of the binary logistic models. For five of our six clusters of knowledge transfer channels, scientific disciplines can explain a significant part of the variance of the importance of their use. No significant explanations could be found for the cluster of channels related to 'contacts via alumni or professional organisations'.

The fourth and last potential explaining factors we turn our attention to is that of characteristics of the individuals involved and their organisational environment. In particular, we characterise respondents by their age, number of authored (or co-authored) papers and number of patents, as well as whether the respondent established any spin-off or start-up. Moreover, we characterise the working environment of researchers by identifying those working at the university and at small firms from those working in medium and large-sized firms. Additionally, the type of research performed by the organisation is identified (i.e. basic, applied or experimental, as defined in OECD's Frascati manual). The first two categories are entered as dummies; the third one is the reference group. To test the impact of the characteristics of the respondents and of their working environment on rating of

the clusters of channels, we ran our fourth binary logistic model. Table A.4 in the annex shows the estimates. The individual and organizational characteristics provide a significant explanation for the variance of all six clusters. It may seem remarkable that working at a university (or, more precisely, having the main occupation in a university) is positively related to *all* clusters. However, if we take our earlier finding into account that overall average scores for the individual channels were higher for university researchers (Section 4) then this will be less of a surprise. Even then, it might be contrary to common expectations that university researchers even attribute a higher importance to a channel such as 'patents and licensing' than their industrial counterparts. We also included some measurements on the level of commercial (university) funding in our survey as well as measurements about the type of university (general versus technical).We also ran binary logistic models with these independent variables (not shown), but found them to have little to no explanatory value.

Summarizing, the characteristics of knowledge and the disciplinary origin of knowledge, the individual characteristics of the respondents and the institutional characteristics of their working place, all seem to matter for significantly explaining the relative importance of the various knowledge transfer channels under study. The industrial activity of firms (i.e. the sectoral effects) instead seems only to provide a significant explanation for the importance of 'scientific output, informal contacts and students'. Still, these groups of potential explaining factors overlap, and consequently compete to explain the importance of forms of knowledge transfer from university to firms. Hence, in the next section, we will take all these explaining factors together in our analysis.

5.2. *The impact of all four categories of independent variables on the forms of knowledge transfer from university to firms*

In this section, the objective is to understand how all these four categories of potential explaining factors – sector of activity of the potential users of the university knowledge, characteristics of knowledge, disciplinary knowledge, as well as the individual and institutional characteristics of respondents and their working environment – influence the importance of each group of channels o knowledge transfer. To undertake this purpose, we ran our last binary logistic model on all 30 explaining factors. As mentioned in Section 3, we proceed to the estimation of this model using both the *enter* and the *backward* method. Results are very similar, with exception of some few coefficients for disciplines. Table 3 reports the estimates,

using the backward method. Table A.5 the annex provides results of the enter method.

Not surprisingly, given the earlier results of each of these categories, the model provides significant explanation of variance for all six clusters. Note that now, the variables for sectors (chemical, pharmaceutical, electrical and the reference group for machinery) do not offer any significant effect. In other words, all sectoral effects are induced by other, underlying features such as scientific disciplines, knowledge characteristics, and individual and organizational characteristics:

• The 'scientific output, students and informal contacts' cluster is more important, the more knowledge is susceptible to be *written* and *interdependent*. This is also the case for *medical engineering*, *chemical engineering* and *computer sciences* knowledge. Moreover, respondents with high number of *authored or co-authored papers*, working in a more *applied research environment* as well as working at the *university* are more likely to acknowledge medium and high importance of these channels.

• The 'labour mobility' cluster is more important forms of knowledge transfer between university and industry, when *breakthroughs* are expected and less knowledge is susceptible to be *written and published* or to be fully *embodied*. In addition, *younger* respondents as well as respondents working at the *university* have higher likelihood of perceiving 'labour mobility' as an important channel of knowledge transfer, especially those working with *psychology and cognitive studies*.

• The 'collaborative and contract research' cluster is more important for transferring *written and published* as well as *systemic and interdependent* knowledge. These channels are also more likely to be found important by respondents not working in *small* firms, and especially important by those working at the university as well as those with a higher number of *referred papers*. Moreover, this cluster is less important when knowledge relates to *physics* and *chemistry*, but relatively more important when knowledge relates to *medical science*, *chemical engineering* and *computer sciences*.

• The 'contacts via alumni and professional organisations' cluster is more important for *university* researchers, and for respondents working with *economics and business*, *other social sciences*, *material sciences*, *and electrical engineering*. Instead, respondents with a high number of *published patents* as well as those working with *psychology and cognitive* sciences find these personal contacts significantly less important.

• The 'specific organised activities' cluster is more important for *university* researchers, and for knowledge referring to *material sciences*, *other social sciences* and less important to transfer knowledge on *mechanical engineering*. These channels are also important to support the transfer of *systemic and interdependent* knowledge.

• The 'patents and licensing' cluster is more important for respondents with a *high number of published patents* and working with *interdependent* knowledge. The more knowledge is related to *chemical engineering*, *material sciences*, *other social sciences* and *biology*, the less it is related to *mathematics*, the more 'patents and licensing' are likely to be found important forms of knowledge transfer. Respondents working at the *university* rate these channels higher, but not those working in research environments focused on *basic research*.

Our findings confirm quite some expectations concerning the impact of the individual characteristics of researchers on the forms of knowledge transfer. In particular, those respondents having written many *refereed papers* (as either a sole author or a co-author) tend to favour 'scientific output, informal contacts and students' as well as 'collaborative and contract research'. Those that have been more often listed as an *inventor in patents* find more important 'patents and licensing'. Moreover, *younger* respondents are more likely to find 'labour mobility' an important form of knowledge transfer than older ones.

What is also remarkable is that the type of research, undertaken by the organisation in which respondents are working, does not seem to matter much. Still, respondents working in research environment more focused on *basic research* tend to value 'patents and licensing' less as channels of knowledge transfer between universities and industry; while those in an applied research environment tend to attribute higher importance to 'scientific output, informal contacts and students'. Small firms, due to fewer financial and skills resources, are less inclined to 'collaborative or contract research' to access university knowledge. What is also surprising is that university researchers are more optimistic in all the forms of knowledge transfer than industrial ones are. Possibly, academic researchers already are more entrepreneurial than generally assumed by policy makers. It is also possible, however, that recent policies incited a more entrepreneurial attitude among university researchers.

Additionally, we find that the more knowledge can be *written and published* the more important 'Scientific output, informal contacts and students' as well as 'collaborative and contract research' and the less 'labour mobility' are as forms of knowledge transfer between university and industry. The more knowledge is *interdependent and related to systems*, the more 'scientific output, informal contacts and students', 'patents and licensing' and to a lesser extent 'collaborative and contract research' and 'specific organised activities' are expected to be important. *Breakthrough* knowledge seems to be mainly transferred through 'labour mobility'. Contrary to our expectation, knowledge *embodied* in people does not affect the choice of channels of knowledge transfer much and it negatively influences the importance of 'labour mobility'. This is reflected by the fact that 'labour mobility' may be considered effective in the support of the transfer of knowledge that needs to be specified to the firms context, which is not yet published or codified, but is not embodied in people either.

Concerning the impact of the scientific disciplines on the choice of channels of knowledge transfer from universities to firms, we find that for *biomedical* and *chemical engineering*, 'scientific output, students and informal contacts', 'collaborative and contract research' and 'patents and licensing' are important channels of knowledge transfer. This is the same for this transfer of knowledge in *computer sciences*, except for 'patents and licensing'. Knowledge on *material sciences* seems mainly to be transferred by 'specific organised activities' as well as 'patents and licensing'. Finally, knowledge on *economics, cognitive and social sciences* tends to be transferred through 'personal contacts via organisations', 'labour mobility' and 'specific organized activities'.

Overall, our results suggest that the sectoral activities of firms do not significantly explain differences in importance of a wide variety of channels for the transfer of knowledge between university and industry. Instead, the disciplinary origin and the characteristics of the underlying knowledge as well as the characteristics of researchers involved in producing and using this knowledge, and the environment in which knowledge is produced and used are relevant to explain the variety in the importance of different channels of knowledge transfer from universities to firms.

Hence, these results suggest that firms cannot follow what might be considered the best sectoral pattern of interaction with a university, without reflecting on whether it is appropriate to their needs. In particular, we observe two major patterns of interaction, for firms that aim at being innova-

tors or early adopters in their market. Still, in any of these two patterns, firms, which need to innovate through early application of scientific published knowledge both related to breakthroughs or to complex systems, need to favour scientific publications, informal contacts with university researchers and students as well as labour mobility. These channels of knowledge transfer favour the combination of both scientific and technological knowledge, which is very important to enable awareness and specification of the scientific knowledge to the needs of firms and their markets (i.e. the adoption of that scientific knowledge by firms). We can distinguish two firms strategies here. One strategy is mainly adopted by firms that need to innovate through early application of scientific knowledge related to *medical, chemical and computer sciences*. It tends to favour collaborative and contract research to absorb knowledge produced or co-produced by the university. Consequently, firms try to recruit researchers with high number of authored or co-authored papers, which denotes the capacity of researchers to undertake research together with university researchers, as well as its wide contact network.

The other strategy is mainly carried out by firms that focus on accessing new knowledge related to parts of the complex system in which the production of their products is included, and in particular related to *material science and chemical engineering*. It refers to efforts on scanning patents datasets, licensing and participating in specific organized activities by universities. Consequently, firms may only be able to adopt this technological knowledge developed or co-developed by the university if they are fully aware of the newly developed knowledge, and when they obtain the legal permission to use that knowledge. Still, the use of scientific publications, influx of students, participation in conferences all seem to facilitate firms to become aware of newly developed knowledge related to specific parts of their products or production for the system they work in. Therefore, these firms focus on contracting researchers with a high number of published patents, but also with a high number of authored or co-authored papers.

6. Conclusions and discussion

The objective of this paper has been to explore the factors affecting the relative importance of a variety of knowledge transfer channels between university and industry, including publications, conferences, collaborations, patents, and so on. In particular, this paper has aimed at analysing to what degree the industrial context of firms ('sectoral effects') can explain the

variance in the importance of different knowledge transfer channels. We also took other factors into consideration such as the dominant scientific disciplines, the basic characteristics of knowledge as well as the individual and organisational characteristics of the researchers involved in that process. To undertake this purpose, this paper used data collected from two questionnaires, one addressing Dutch industrial researchers and the other addressing Dutch university researchers.

Our evidence shows that the perceived importance between the studied knowledge transfer channels hardly differs between industry and university: we did not observe a major mismatch. Still, university researchers – on average – attribute higher importance to all knowledge transfer channels than industrial researchers do. Our evidence furthermore suggests that differences in importance of various channels of knowledge transfer are not related to (industrial) sectors as such. Instead, these differences can be explained, to a large degree, by the following factors:

(1) Basic characteristics of the knowledge in question (tacitness, systemicness, expected breakthroughs).

(2) The disciplinary origin of the knowledge involved.

(3) (To a lesser degree) individual and organisational characteristics of those involved in the knowledge transfer process (seniority, publication record, patent record, entrepreneurship, and research environment).

These results need however to be understood at the light of the empirical focus of this paper, which has been researchers that actually perform R&D tasks, either at the university or in industry. The results may not hold for firm employees that absorb university knowledge but do not perform research themselves.

Our results suggest that firms define their own strategy of interaction with a university after having reflected on their present and future knowledge needs. In particular, we observe two major patterns of interaction for firms that aim at being innovators or early adopters in their market. One strategy more focused on collaborative and contract research to support the adoption of interdependent knowledge, especially in areas such as *biomedical science* and *computer sciences*; the other more reliant on patents, licensing and specific organised activities to support access and adoption of systemic knowledge, especially in *material sciences* and *chemical engineering*. In both cases, as firms need to engage in the application of scientific published knowledge to the specific

needs of their products and of the markets' needs, firms also need to rely on scientific publications, informal contacts with university researchers and students. Moreover, absorption and adoption of breakthroughs seem to depend on labour mobility, as Zucker et al. (2002) argued.

Moreover, our findings have a number of implications for policy makers, both at the national and international level. We find that within each particular field or context, university and industry already find each other rather well. University researchers already use those knowledge find their knowledge. Since that choice – from both sides – can be largely explained from facts that must be considered as a given, as immutable, it has little use to try to bend knowledge transfer in other directions. Another policy implication is that we observed a wide variety of knowledge transfer instruments, and they each match a specific context. Therefore, any policy should allow for such a wide variety and should not overemphasize one single channel (such as patents, spin-offs or contract research). Finally, the specific knowledge transfer instruments that have been at the centre of attention of policy makers (particularly university patenting and activities by technology transfer offices) do have their own role, but overall they are among the least important channels for knowledge transfer. Addressing only these instruments would be inappropriate. Issues such as the widespread availability of scientific journals, as well encouragement of participation in scientific conferences for larger and smaller industrial firms, could be much more effective to support firms' awareness of newly developed knowledge. Moreover, recruitment of skilled students as well as giving support for master's and Ph.D. theses would be of great interest for firms that need to specify university knowledge to be able to absorb it in their products, processes, and organisation.

Given the nature of our study, some limitations have to be taken into account. Firstly, there might be bias induced by the selected samples. We aimed to gather sufficient data for a number of sectors (and related disciplines) that are seen as exemplary for certain main classes in the renowned work of Pavitt, and the later additions by Marsili. A necessary cause of this pre-selection is that other sectors and – to a lesser extent – disciplines are somewhat underrepresented (the respondents found via the Royal Institution of Engineers in the Netherlands were not pre-selected). Secondly, as has been stressed above, this study has focused on the firm side on the perspectives of researchers that actually perform R&D tasks. Hence, a study that would address *all* firm staff accessing university knowledge might find different (and, on the average, lower) ratings for the various knowledge

transfer channels. Finally, it is not unlikely that there are significance differences across countries with specific academic, industrial and political contexts. Therefore, our results may not be generalised to other countries.

5. Enlist the main channels of knowledge transfer between universities and industry. What channels, in your opinion, are the most efficient?

6. Watch the video on knowledge transfer by Steve Trautman and outline 5 major questions that can get to the heart of HOW to transfer knowledge within an organization: https://www.youtube.com/watch?v=IvB_cOo14y8

7. Find information on the practical use of any of the mentioned channels. Make presentation/report on knowledge transfer within an organization or between organizations/institutions. Use the presentation following the link http://www.google.ru/url?sa=t&rct=j&q=&esrc=s&source=web&cd=9&ved=0ahUKEwjShpG9_97XAhViG5oKHXZrC7QQFghrMAg&url=http %3 A %2F %2Fssrg.org.uk %2Fwp-content %2Fuploads %2F2012 % 2F01 %2F2007files %2FJessMcEwan.ppt&usg=AOvVaw1mPaoXPZXMp WbIqm0HZG81 *as an example.*

8. Make the written translation of the following text into English.

ПЕРЕДАЧА ВСЕХ НАКОПЛЕННЫХ ЗНАНИЙ – ЗАДАЧА Г.С. АЛЬТШУЛЛЕРА

Человечеством накоплены гигантские знания, но чрезвычайно неэффективен процесс их передачи отдельному человеку.

Вот как это описывает создатель **ТРИЗ Г.С. Альтшуллер** в научно-фантастическом рассказе «Опаляющий разум», по названию которого был назван весь сборник:

– Обыкновенная гениальная идея, – сказал Прокшин, когда я попросил объяснить, над чем он работает. – Возьмём дурака. Натурального дурака. Надеюсь, вам приходилось встречать такого дурака?.. Очень хорошо. Итак, возьмем рядового дурака и будем считать, что он равен нулю на шкале умственного развития. Ста градусам на той же шкале пусть соответствует умственный уровень **Эйнштейна**. Шкала, конечно, относительная. Можно опускаться ниже нуля и подниматься выше ста градусов. Итак, я хочу спросить: какова по этой шкале «умственная температура» человечества? Вы понимаете – **всего** человечества. В среднем. Ну?

Вопрос был не из лёгких, я промолчал.

– Будем оптимистами, – продолжал Прокшин. – Однако и при самом могучем оптимизме трудно назвать цифру 80 или 60. Вот вы, например, сколько в вас градусов?

Я ответил, что тридцать шесть с половиной. По Цельсию.

Прокшин одобрительно усмехнулся:

– Выкрутились. А, в общем-то, вы близки к истине. По самой оптимистической оценке средняя температура человечества не выше тридцати шести с половиной. По моей шкале.

Тут я сказал, что на то имеется множество серьёзных причин – исторических и социальных. По данным **ЮНЕСКО**, полтора миллиарда людей голодают. Можно ли обвинить их в том, что они отстают в умственном развитии?

– Я не обвиняю, – нетерпеливо возразил Прокшин. – Я просто констатирую факты. Во-вторых, «средняя умственная температура» невысока. Во-вторых, она поднимается медленно. Слишком медленно.

– Такие разговоры совершенно бесполезны, если нет чёткой терминологии. Что такое ум? Что значит – стать умнее?

– Вот это деловой подход! – обрадовался Прокшин. Разговор происходил в таллинском порту. Прокшин спешил, часто посматривал на часы. Но я уже понял, что общие рассуждения об «умственной температуре» человечества связаны с чем-то конкретным. Магнитофон я включил не сразу. Иногда это может все испортить: человек начинает говорить деревянным голосом, сбивается, экает и мекает.

Лента магнитофона:

«– Давайте условимся так. Ум зависит от многих факторов. Но есть нечто обязательное, главное. Это – знания. Объём знаний. Сейчас вы возразите, что можно быть знающим дураком. Можно. Бывает и обратное: человек безграмотен, но умён. Что ж это исключения из правил. А мы говорим обо всем человечестве. Здесь возможен только статистический подход; нужно мыслить правилами, а не исключениями из них. Итак, знания. **Представьте себе, что все знания мира можно практически мгновенно вложить в головы всех людей. Все знания мира...** Готовый заголовок, а? Невежество – такова почва, на которой растет глупость. Голодное невежество рабов. Сытое невежество мещан. Злобное невежество фашистов. И вот мы уничтожаем почву, за которую цепляются корни глупости... Дайте, пожалуйста, микрофон, я буду держать сам. Вас эта процедура явно отвлекает. А я

хочу, чтобы вы поняли. Итак, что произойдет, если все знания мира сделаются достоянием каждого человека на Земле?

Все знания – слишком неопределенно. Согласен. Скажем так: знания в объеме тридцати-сорока высших образований. В разных сочетаниях. Разумеется, человек с такой начинкой ещё не застрахован от голода, болезней, страданий. Но у него будет иммунитет против скуки, безделья, пьянства. Знания – как уран: когда их объем больше критической величины, начинается нечто вроде цепной реакции. Покой, точнее – застой, просто невозможен.

– Полтора миллиарда людей голодают... Вы использовали сильный довод, это врезается в память. Но разве голод не вызван, в конечном счете, низким уровнем образования?

– Положим, всё наоборот: уровень образования зависит от благосостояния страны.

Это похоже на выяснение вопроса, произошла ли первая курица из первого яйца или, напротив, первое яйцо было снесено первой курицей... В обычных условиях образование зависит от благосостояния страны, а благосостояние – от знаний. Заколдованный круг. Чтобы хоть в какой-то мере расколдовать его, требуются десятки лет. Наши средства и методы обучения имеют поразительно малый коэффициент полезного действия.

– Вы понимаете, какая нелепость? Есть знания и есть головы. Но нет эффективных средств, позволяющих в короткий срок вложить все знания во все головы...»

Лента магнитофона:

«– Для первого эксперимента шахматы удобнее всего. Мы прокрутим эту шарманку несколько раз, и мир получит двух новых гроссмейстеров. Впрочем, не ввести ли звание гроссмейстериссимуса?.. «Два гроссмейстериссимуса» – отличный заголовок для вашего репортажа.

– Только ли знания делают человека гроссмейстером?

– А что же ещё? Знания и опыт. Хотите шикарную цитату из **Ласкера**? В вашем журналистском деле цитаты – великая вещь. Послушайте, что говорил в своё время **Ласкер**: «Игроков, которым мастер может с успехом давать ферзя вперёд, существуют миллионы; игроков, перешагнувших эту ступень, можно насчитать, наверно, не больше четверти миллиона, а таких, которым мастер ничего не может дать вперёд, вряд ли наберется больше двух-трёх тысяч...

Представим себе теперь, что некий мастер, вооруженный знанием своего дела, хочет научить играть в шахматы какого-нибудь юношу, не знающего этой игры, и довести его до класса тех двух-трёх тысяч игроков, которые уже ничего не получают вперед. Сколько времени потребуется на это?» Ну, здесь следует расчет: столько-то времени на изучение эндшпилей, столько-то – на дебюты и так далее. Всего двести часов. «Затратив двести часов, юноша, даже если он не обладает шахматным талантом, должен сделать такие успехи в игре, что займёт место среди этих двух-трёх тысяч». Обратите внимание: двести часов и мастер в качестве учителя. А в моей машине собрана вся шахматная премудрость мира. Информация, соответствующая сотням тысяч часов...»

Source: http://vikent.ru/enc/526/

9. Watch the video with Manuel Lima speaking on human knowledge and enlist the main stages of human knowledge development: https://www.ted.com/talks/manuel_lima_a_visual_history_of_human_knowledge

UNIT 9. INNOVATION POLICY

Warming up activity

Answer the questions below:

What do you know about innovation policy?

How can innovation policy affect the lives of ordinary people?

Give examples of innovation's influence on communication, education, transportation, navigation, etc.

What are the most important innovations in the last 10 years?

Tasks

1. Watch the video about innovation policy: https://www.youtube.com/watch?v=jrFQni7_A2U *and give some examples of innovation policy you know.*

2. Read more about innovations in Oxford Review of Economic Policy. Innovation Policy: What, Why, and How: https://academic.oup.com/ oxrep/article/33/1/2/2972712/Innovation-policy-what-why-and-how

3. Give definition to innovation policy and find information on innovation policy in any country.

4. Explain the meaning of the following expressions in English and give their Russian variants:

 intangible services, diffuse innovations, difficult to pursue, incentives and obstacles influencing these activities, division of labor, departure point, immature stage, abundant opportunities, knowledge inputs, diffusion of innovations, applied research, medium income countries, path dependent, negative lock-ins, inferior technologies, superior innovation trajectories, public procurement, allocating funds, learning-by-doing, learning-by-using, learning-by-interacting, policy makers, domestic systems for competence building, capture individual knowledge, labor unions.

5. Read an extract from the following article:

DESIGN OF INNOVATION POLICY THROUGH DIAGNOSTIC ANALYSIS: IDENTIFICATION OF SYSTEMIC PROBLEMS (OR FAILURES)

Charles Edquist*

"Activities" in innovation systems are the determinants of the development and diffusion of innovations. Examples are R&D, provision of organizations and institutions, financing of innovations, incubation, etc. These activities are partly performed by private organizations and partly by public organizations, the latter performing tasks that constitute innovation policy. As a basis for innovation policy, the problems (failures) in the systems must be identified. This article focuses upon the design of innovation policy through diagnostic analysis; it provides a framework for identification of systemic problems (or failures) in innovation systems.

Innovations are new creations of economic and/or societal significance, mainly carried out by firms (private or public). They may be new products or new processes. The firms produce (and sell) products that may be material goods or intangible services (new products are product innovations) by means of technological or organizational processes (new processes are

process innovations). For these reasons, nonfirm public organizations do not normally influence the innovation processes directly but influence (change, reinforce, improve) the context in which the innovating firms operate. What then is this context? A general, theoretical answer to this question is that the context is all those things that influence innovation processes, that is, all the determinants of innovation processes that can be specified as in subsection 2.2. The literature on systems of innovation shows that the systems of innovation approach are about the determinants of innovation processes – not about their consequences (Edquist 1997b). Innovation policy is actions by public organizations that influence innovation processes.

2.2. Components and activities in systems of innovation

The traditional System of Innovation (SI) approaches, such as Lundvall (1992) and Nelson (1993), focused strongly upon the components within the systems, that is, organizations and institutions. Organizations are the players or actors, while institutions are the rules of the game, constituting constraints to the actions of the organizations. More recently, some authors have focused more on what happens in the systems. One way of addressing what happens in SIs is the following. At a general level, the main or "overall" purpose of SIs is to pursue innovation processes; that is, to develop and diffuse innovations. From now on, what we call "activities" in SIs (for a list of activities, see Box 1) are the determinants of the development and diffusion of innovations. Examples of activities are R&D as a means of developing economically relevant knowledge that can provide a basis for innovations, or the financing of the commercialization of such knowledge, that is, its transformation into innovations.

An alternative term for "activities" could be "functions." We have chosen "activities" in order to avoid the connotation of "functionalism" or "functional analysis" as practiced in sociology. Functionalism focuses on the consequences of a phenomenon rather than on its determinants. The fact that determinants of innovation processes are in focus in the systems of the innovation approach – see above—is a strong argument for not using the term "functions" in this context. (Edquist, 2005: 204, n. 16). Hence, we use the term activities as equivalent to determinants of the innovation process.

The approach has also been used as the basis for a general definition of an SI, according to which a system of innovation includes "all important economic,

social, political, organizational, institutional and other factors that influence the development, diffusion and use of innovations" (Edquist, 1997: 14, 2005: 183; Edquist and Hommen 2008: 6). If an SI definition does not include all the determinants of innovation processes, then which of the potential determinants to exclude, and why, have to be justified. This is quite difficult since, in the present state of the art, we do not know the determinants of innovation processes systematically and in detail. Obviously, then, we could miss a great deal by excluding some determinants, since they might prove to be very important once the state of the art has advanced. For example, 25–30 years ago, it would have been natural not to regard the interactions of organizations as determinants of innovation processes. Now, we know that these interactions are important determinants of innovation processes. This definition, moreover, is fundamental to the "activity-based" approach to studying SIs (Edquist, 2005; Edquist and Chaminade, 2006).

The determinants (activities) influence the innovation processes; it is a matter of causality. A satisfactory causal explanation of innovation processes almost certainly will be multicausal, and therefore should specify the relative importance of various determinants. These determinants cannot be expected to be independent of one another, but must be seen to support and reinforce – or offset – one another. Hence, it is also important to study the relations among various determinants of innovation processes (i.e. between each of the activities). This simply indicates that causal explanations in the social sciences are extremely complex and very difficult to pursue.

Since the late 1990s, some authors have addressed issues related to the specification of activities influencing the overall purpose of SIs (Edquist 1997b, 2005; Galli and Teubal, 1997; Liu and White 2001; Johnson and Jacobsson, 2003; Bergek et al. 2008). Such a focus on "activities" within systems of innovation emphasizes strongly what happens in the systems – rather than their components. In this sense, the activities approach provides a more dynamic perspective, and can capture how various activities that influence specific innovation processes may change the performance with regard to these innovations – and thereby how the whole system changes. The activities approach also has a larger potential to point out why a certain system of innovation performs badly – or well – with regard to a certain kind of innovation. As we will argue in Section 3, this is of considerable importance for the design and implementation of innovation policies. The activities approach is simply more useful for policy purposes. As we have seen earlier, the activities approach can be used to define an innova-

tion system and it also has the potential to be instrumental in the development of a theory about the determinants of innovation processes.

In this contribution, we place greater emphasis on activities than much of the early work on SIs. Nonetheless, this emphasis does not mean that we disregard or neglect the components of SIs (organizations and institutions) and the relations among them. Organizations or individuals perform the activities; institutions provide incentives and obstacles influencing these activities. This is accounted for by including "creating and changing organizations" and "creating and changing institutions" in the list of activities (see Box 1, subsections 2.3.3.1 and 2.3.3.3).10 In this sense, the "component's approach" and the 'activities' approach" overlap.

However, the activities' approach includes many more determinants of innovation processes and is hence much broader in this sense. We believe that understanding the dynamics of each of the activities and the division of labor between public and private organizations in performing them is important to understand, explain and influence innovation processes. It is a useful departure point for discussing the role of the state (public organizations) in stimulating innovation processes by means of innovation policies.

No consensus has yet emerged among innovation researchers as to which terminology to use and which specific activities to include. This is natural because innovation research has not yet been able to identify in a specific enough manner the determinants of the development and the diffusion of different kinds of innovations. This trajectory of research is still in an immature stage. The state of the art is simply not advanced enough, and this provides abundant opportunities for further research.

Box 1 introduces a hypothetical list of 10 activities based on the literature and on our own knowledge of innovation processes and their determinants, as discussed in Edquist (2005) and Edquist and Chaminade (2006). The activities are not ranked in order of importance, but the list is structured into four thematic categories: (i) the provision of knowledge inputs to the innovation process; (ii) demand side activities; (iii) the provision of constituents of SIs; and (iv) support services for innovating firms. Each of the activities may be considered a partial determinant of the development and diffusion of innovations. The ten activities were first published in Edquist (2005). In Edquist and Hommen (2008) they were used in a systematic analysis of the national systems of innovation in ten small countries in Asia and Europe.

2.3. Activities specified

We now look at the 10 activities introduced in Box 1 in more detail from a policy point of view and point out the role of public organizations influencing or directly carrying out these activities. Some of the activities are performed by private organizations while others are performed by public organizations, that is, through policy. We focus on this division of labor between private and public organizations with regard to each of the activities.

2.3.1. Provision of knowledge inputs to the innovation process

2.3.1.1. Provision of research and development

"Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man culture and society, and the use of this stock of knowledge to devise new applications" (Frascati Manual, 2002: 30). According to the Frascati Manual, the term R&D covers three activities: basic research, applied research, and experimental development. Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge without any particular application or use in view. Applied research is also original investigation in order to acquire new knowledge, but is directed mainly toward a specific practical aim or objective. Experimental development is systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced and installed (Frascati Manual, 2002: 30).

Here, we want to distinguish, to the largest possible extent, between determinants of innovation processes and innovation processes as such. Obviously, "Experimental development," according to the Frascati definition, highly overlaps with innovation activities. Therefore, we exclude experimental development from the concept of R&D.

R&D results are an important basis for some innovations, particularly radical ones in engineering, medicine, and the natural sciences. R&D resulting in radical innovations has traditionally been an activity partly financed and carried out by public organizations. This applies to basic research, as well as to applied research in some countries, conducted in universities and other public research organizations. NSIs can differ significantly with regard to the balance between these two kinds of organizations in the provision of

R&D. In Sweden, 55 % of all R&D is carried out in public research organizations. In Norway, this figure is 420 %. In 1999, the proportion of all R&D financed by firms in the OECD countries ranged from 21 % in Portugal to 72 % in Japan (OECD, 2002b); privately funded R&D is much more important in advanced countries than in other countries.

Such data may be a way of distinguishing between different types of NSIs. In most NSIs in the world today, little R&D is carried out and the bulk of this is performed in public organizations. The majority of these countries are poor and medium income countries. Few countries that spend a lot on R&D are rich, and much of their R&D is carried out by private organizations. This includes not only some large countries such as the United States and Japan, but also some small and medium-sized countries such as Sweden, Switzerland, and South Korea.

Because innovation processes are evolutionary and path dependent, there is the danger of negative lock-ins, that is, trajectories of innovation that lead to inferior technologies resulting in low growth and decreasing employment. Potentially, superior innovation trajectories may not materialize and the generation of diversity may be reduced or blocked. In such situations, the state should favor experimentation and use R&D subsidies and public procurement for innovation, for instance, to support possible alternatives to the winning technologies (Edquist et al., 2004). In sum, public organizations may influence the R&D activity in different ways ranging from allocating funds for specific research activities in public universities and research centers to stimulating alternative technologies via R&D subsidies. However, much research is needed to understand the inter-relationships of R&D, innovation, productivity growth, the role of R&D in innovation in different sectors, and the impact of different instruments on the propensity of firms to invest in R&D.

2.3.1.2. Competence building

Here, we use the definition of Lundvall et al. (2002: 224) of competence building that includes: ". . . formal education and training, the labor market dynamics and the organization of knowledge creation and learning within firms and in networks." Knowledge is a "stock" category and learning is a "flow" category adding more knowledge to the existing "stock." Competence building includes processes and activities related to the capacity to create, absorb, and exploit knowledge for individuals and organizations. Obviously, this includes formal learning as well as informal learning. The

latter being vital for innovation processes and, therefore, an important part of (the activity of competence building in) innovation systems.

In most countries, the education and training that are important for innovation processes (and R&D) are primarily provided by public organizations – schools, universities, training institutes, and so on. However, some competence building is done in firms through learning-by-doing, learning-by-using, and learning-by-interacting – that are informal activities. Competence building may increase the human capital of individuals; that is, it is a matter of individual learning, the result of which is controlled by individuals.

The organizational and institutional contexts of competence building vary considerably among NSIs. There are, for example, significant differences between the systems in the English-speaking countries and continental Europe. However, scholars and policy makers lack good comparative measures of the scope and structure of such differences. There is little systematic knowledge about the ways in which the organization of education and training influences the development and diffusion of innovations. Since labor, including skilled labor, is the least mobile production factor, domestic systems for competence building remain among the most enduringly national of elements of NSIs.

Nonetheless, competence building should not be limited to human capital. Organizations may have competences that exceed the sum of the competencies held by their employees. Human capital is hired by the company but is always owned by individuals. However, there are ways in which the firm can capture individual knowledge and transform it into organizational knowledge. There is also learning at the social level, that is, neither individual nor organizational learning, but involving society outside these spheres. Organizing the processes of learning within the firm and in networks is part of the competence-building activity. Many individuals belong to many networks, both formal and informal, where learning takes place. Moreover, individuals may have attachments other than employment to organizations, such as labor unions, technical societies, and Rotary Clubs. Scholars have only very recently started to analyze such processes, and many questions remain unanswered (Edvinsson and Malone, 1997; Guthrie and Petty, 2000; Sanchez et al., 2000; Chaminade, 2003; Nooteboom, 2004).

5. Find the full text of the article following the link:
http://icc.oxfordjournals.org/

6. Find information on innovations following the link:
https://en.wikipedia.org/wiki/Innovation

7. Speak about the goals and levels of innovations.

8. Find additional information on innovation indices (The Bloomberg Innovation Index, The Global Innovation Index, The EIU Innovation Ranking, etc.) and find examples of indices formation and calculation.

9. Enlist the factors that influence innovation indices formation.

10. Read the definition of Innovation activities:

Innovation activities are all scientific, technological, organisational, financial and commercial steps which actually, or are intended to, lead to the implementation of innovations. Some innovation activities are themselves innovative, others are not novel activities but are necessary for the implementation of innovations. Innovation activities also include research and development (R&D) that is not directly related to the development of a specific innovation.

A common feature of an innovation is that it must have been implemented. A new or improved product is implemented when it is introduced on the market. New processes, marketing methods or organisational methods are implemented when they are brought into actual use in the firm's operations.

Innovation activities vary greatly in their nature from firm to firm. Some firms engage in well-defined innovation projects, such as the development and introduction of a new product, whereas others primarily make continuous improvements to their products, processes and operations. Both types of firms can be innovative: an innovation can consist of the implementation of a single significant change, or of a series of smaller incremental changes that together constitute a significant change.

11. What, in your opinion, are the possible ways of implementing innovations?

12. Read about the tips for innovation activities initiation:

29 INNOVATION ACTIVITIES FOR YOUR NEXT IDEATION

by Kevin Namaky

Most people hate brainstorming. It's supposed to be a *creative* activity, but when not led by a trained expert (and even then…) it can be unproductive and suck the life out of your team – resulting in ideas that are underwhelming.

I often get asked what activities a team should do in ideation to get better results and keep it fun. While there's a limitless list of possibilities that need to be tailored to each innovation challenge, I do have some favorites. Here are 29 that (1) work and (2) are adaptable to a variety of businesses and challenges.

These activities are adapted from my internal innovation experience at corporations, working with a number of creative agencies, as well as some of my own favorite creations. They are meant to spark ideas for your own activities. They should not feel restrictive. Feel free to adapt them, change them or even come up with completely new ones. Be fearless and get creative!

I've grouped the list first by Ice Breakers first and then Ideation Activities. Ice Breakers

Pass the ball

Icebreaker questions are written with Sharpie on a blown up beach ball (e.g., what's your favorite vacation destination, most embarrassing moment as a child, if you were a woodchuck how much wood would you chuck, etc.). All participants stand in a large circle. The ball is tossed across/around the circle. When someone catches it, they introduce themselves and then read and answer the question closest to their right thumb. Continue until all participants have received the ball.

Pass the stone

Break up into two teams, about 10 people per team. Create two parallel lines that face each other. Each team gets a stone. The stone begins at one end of the line and moves down the line to the other end. The two teams do this at the same time when the moderator says to start. The game is to secretly pass the stone without the other team seeing if it's actually being passed or not. Each team secretly stops passing the stone at some point in their line (and continues fake passing thereafter). Once complete, the opposing team must guess who has the stone. Keep score and see who can get to 3 correct guesses first.

This is not a rope

A metaphor race using rope, discs and/or balls. This works with large groups that can be split into two sizable teams. Each team stands in a circle and will race the opposing team. Each person in the circle says, "This is not a rope, it's a _____," filling in the blank with a metaphorical object and then passing the object to the next person. For example, "This is not a rope, it's a noodle." The next person does the same thing, but may not repeat an object that's already been mentioned. The first team to make it all the way around the circle wins. You can go for best 2 out of 3 and use 3 different objects (one for each round, you'll need two of each object if you do this with to competing teams).

Human knot

Ideally this is done all together but, if the group is too large, could be done in two groups. Participants stand in a circle, very close together. Each person reaches with their right hand across the circle and locks hands with another person. Then, each person does the same with their left hand, but must lock that hand with a different person than they did with their right hand. The team must then untangle themselves into a straight line **without unlocking hands**. Hand grip may be turned/rotated to prevent arm or shoulder rotation/injury.

M&M game

M&Ms are passed around and each participant takes a few (5) – **do not eat yet**. Then go around the circle and each person share something with the group according to the color of their M&Ms. Each color represents something to share (pre-defined and posted by the moderator) such as favorite TV show, movie, place to go, plus topics related to the task at hand. You can either have everyone share all their colors on their turn, or go around the circle multiple times and have each person share a color each time.

Birth date sort

Participants sort among themselves into a shoulder to shoulder line by date of birth (month and day). In order of birth date, each person introduces

name, function, date of birth, and favorite thing about being born during that month.

Rainforest

This follow-the-leader sound activity creates a wave of sound that mimics the sound of a rain storm as it approaches and passes. Best done in a U shape. Participants are instructed to do exactly what the person on their left does. The leader at the front of the U begins by gently rubbing hands together. The person to their right must mimic and do exactly as the previous person, and so forth down the line. The leader will then gradually switch to snapping, then to clapping, then to patting on legs, and then reverse the order and work their way backwards. Sounds cool with larger groups when the team does it properly but may take a few tries as inevitably some people will not properly follow instruction. You can use missteps as an opportunity to discuss this like teamwork, doing your part, expectations and other team building topics.

Ideation activities

Homework debrief

Have participants do an advance homework assignment to get them into a creative mindset and introduce them to the topic. Have them write a letter to the President, go on a shopping trip, keep a journal/log/diary, answer pre-thinking questions (about their own habits), find/interview a friend, create a collage, complete mad libs, or perform a specific task. Have the team debrief together and share the ideas generated. If time does not allow shareout and discussion, consider simply collecting/posting the homework ideas.

Technical briefing

Overview of key technologies and rapid ideation of their application. This one is pretty straightforward and works well when you have a list of 5-10 or more technologies that the team should know about. You can also include forward looking technology trends.

Competitor one-up

Use competitive stimuli, products and packaging to out-claim the competition. How can we claim one step better or offer improved performance? Improved ingredients? What weaknesses or shortcomings can we address? What don't they do that a consumer might wish for? Knowing our equity, what would be our spin on these products?

Platform ideation

Create platform stations (strategic directions for your innovation) with boards and stimuli explaining what it is (insights, tensions, vision, technologies), with products, magazines, and artifacts to use as inspiration for ideas. Teams rotate between stations until all teams have visited all stations.

Power claims

Use advertisement stimuli (e.g., print ads) sorted by claim type to spark ideas for new claims. Buckets can include competitive comparisons, numeric/clinical, self comparisons, absolute claims, or other types as needed/relevant. Move stimuli from table to table or provide them at the front of the room for all groups to see.

RTBs

Similar to Power Claims above, but use stimuli for RTB (Reason to Believe) types such as design/engineering feature, endorsement (celebrity/consumer/organization), ingredients, process/source, and mode of action.

Tension/convention busters

Provide tension/convention stimuli in the form of chartpads, lists, stimuli on the wall or decks of cards. The task is to come up with new ideas that would turn the tensions or conventions upside down and answer them. Conventions in particular are meant to push the boundary of what's possible.

Grab bag

Rapid fire surprise stimuli provided in envelopes. You can either provide multiple objects in one envelope for a table/team, or provide one envelope per person with a single stimulus. Introduce new stimuli every 5 minutes. Seemingly unrelated objects like a page from dictionary, pictures, a menu, small artifacts, objects that have certain textures or features, adjective cards (single words), etc.

Creative artifacts

Not unlike Grab Bag, however typically larger provocative items spread out over a large table. Teams send a representative up to select 3 items. Teams keep 2 items and pass 1 "screw" item to the team to their left (meaning they'll receive one as well). Take 5-10 minutes max to ideate and then return object to the table, taking new objects as time permits. The objects in this game should push participants way outside of the box (think small statues, musical instruments, medical supplies). They can be loosely related to the topic, but should not feel that way in practice. For example, someone might use a rubber iguana to come up a new idea for a cleaning tool that uses a "gecko foot" or "shark scale" surface design to pick up more dirt.

What would brand x do

Similar in structure to Creative Artifacts (send a team rep to pick, screw another team, rinse and repeat). However, the stimuli are small boards with brand logos/personality images on them. For example you might have logos of Crest or Starbucks. Images of Superman or Steven Spielberg. What would an outsider brand or famous personality do if they entered the category? The brands/personalities should be carefully selected to bring outside but relevant inspiration from other categories into your own. Also, mix in a few that are really just unrelated (e.g., What would Morpheus from The Matrix do in skin care?). The results will often surprise you – people tend to get really creative with the hardest ones!

Board game

Create a board game where pieces move along a path (in a circle, no ending). Use pieces, spaces and cards to assign target, occasion, technologies

and/or problems. Players combine them to inspire new ideas. For example, by using a certain pawn/game piece a player may assume a certain target persona, then the space they land on might represent an occasion. Drawing a card might represent a specific problem or tension. Be creative with this one and use it to introduce scenarios and stimuli that you may have learned in prior research. You can even theme the game to match the subject at hand or have it match the theme of the day.

Sensory activity

There are a couple of ways to do this one. You can set up tables of stimuli, one each for touch, sight, sound, smell and taste. Then have teams rotate between tables and use the stimuli to inspire new ideas. You can also do blindfolded activities where a table leader hands stimuli to a blindfolded team member, which is then passed around the table between blindfolded participants. The loss of sight heightens the other senses. Once all stimuli has been passed, teams discuss and write down new ideas. This is particularly useful for categories where the senses are a significant factor (e.g., food, personal care). Examples of stimuli: fabric swatches for touch, small jars containing scented liquid or objects, small items that make sound when touched/smashed/crumpled/squeezed.

Do the job

This one puts the participant in the position of the consumer. Assign the team a project to complete that is identical or similar to what someone experiences in the real world. For example, have them wash extremely dirty dishes (dish care), create an art project (adhesives), change a baby's diaper (baby care), etc. Have participants reflect on what was difficult, frustrating or not ideal and then come up with ideas for how to improve the experience.

Empathy immersion

Go out and visit/do what the target audience does in real life, or even talk to them directly. For the purposes of an idea, you may not have the time/resources to do a full scale ethnography. But that shouldn't stop you from immersing and observing in easy and efficient ways. If you are working on new sports products, go a sporting event or even a team practice and

ask a few questions. Put on some pads and throw the ball around! If you are working on new microwave meal ideas, get inspired by visiting a trendy Italian restaurant and exploring some of the most interesting items on the menu. Cook up a meal yourself!

Empathy impersonation

Assign each participant a target persona to work from. Then have participants bring in a household object and product that they feel represents their assigned target. Have them take on role/mindset of their target persona (role play) and explain to the group why they like/brought those artifacts and why they are important to them (the target persona).

Expert interview

Bring in 1-3 experts/trend-setters in a field of interest. They may be in your direct category of expertise, or they could be tangentially related in some way. Interview them as a panel, have them present trends/inspiration to the group, and/or have them participate directly in your ideation alongside the team.

Bring in the consumer

Bring the consumer to life in the room using graphics, boards, vignettes, videos, photo collages and anything else you can think of to remind participants of the mindset, life context and problems that the consumer faces. If you can swing it, consider bringing actual consumers into the session in some way. Treat them like experts.

Occasion party

Create zones in the ideation room for different occasions. For example, a personal care brand might have a zone for nighttime, a zone for on-the-go, and a zone for the workplace. The more you dress the room up with real life context, the more likely the ideation team will recall specific, relevant tensions to solve for.

Card game Mix and Match

Similar in concept to the Board Game, but using a simpler format. Create card decks for technology, product form, ingredients, tensions, etc. Each deck can be a different color (e.g., technologies are blue, tensions are red). Have team members pick one of each color and try to match them up to generate new ideas.

Case studies

Present case studies of other brands that approached similar business/innovation/marketing problems. Ideate how their strategies/approach might apply for your own brand.

Gadgets

Use specialty tools and unique packaging from other categories to generate format ideas (kitchen, scrapbook, dental, food decorating, landscaping, power tools, etc.). Stretch yourself to find stimuli that's a bit out there and different. The more unexpected the object is, the more you will spark novel ideas and solutions.

Tension and release

Use consumer statements that are pre-written in first-person to generate new product ideas and solutions. Try to write them in the voice of a real person, either as statements or questions. Financial services example: "The time between work and getting home is crazy for me and I don't have much time to spare. So why is it that the bank always closes at 5pm?" Personal care example: "I knew I shouldn't have stayed out in the sun for so long yesterday. Why does it take so long for sunburn to start feeling better?" You can place the statements on cards and post them on a wall. Then have participants take a card down and write a solution directly on it. Hand them in or possibly repost them for others to build upon.

Try it!

Find at least one activity on the above list that might apply to your next ideation session. You're sure to come up with something great. Dive in and have fun.

Source: http://innovationexcellence.com/blog/2017/08/29/29-innovation-activities-for-your-next-ideation/

14. What strategies do you consider to be the most effective? Divide into the groups of four and try to implement the strategies that appeal to you.

15. Watch a talk of Diana Kander "Our approach to innovation is dead wrong" on: https://www.youtube.com/watch?v=pii8tTx1UYM. *What is wrong in our approach to innovations? What strategies does Diana propose?*

16. Make presentations about the innovation ideas that made breakthrough in any field.

PART IV

UNIT 10. MATCHING THEORY

Warming up activity

Explain the meaning of the following expressions in English and give their Russian variants:

tuition fees, ethical grounds, illustrative examples, mutually beneficial, extensions of the original model, to limit applicability, kidney donations, multilateral swaps, ongoing efforts, deferred acceptance, inherent insights, a key presumption, distributional consequences.

Tasks

1. Do you know about stable matching problem? Read in Wikipedia to find out: https://en.wikipedia.org/wiki/Stable_marriage_problem

2. What is a clearing house? What is its purpose? Find out using Wikipedia: https://en.wikipedia.org/wiki/Clearing_house_(finance)

3. To understand the article below better watch lecture slides by Kevin Wayne at https://www.cs.princeton.edu/~wayne/kleinberg-tardos/pdf/01StableMatching.pdf

4. Try yourself at quiz to know more about stable matching theory https://www.cs.colostate.edu/~cs320/yr2017fa/more_resources/Test1/iClickerKleinberg.pdf

5. Skim the article "Stable matching: Theory, evidence, and practical design". What is its main idea?

6. Give the digest of the article both in English and Russian.

THE PRIZE IN ECONOMIC SCIENCES 2012: THE LAUREATES

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www.econ.ucla.edu/shapley/index.html

Stable matching: Theory, evidence, and practical design

This year's Prize to Lloyd Shapley and Alvin Roth extends from abstract theory developed in the 1960s, over empirical work in the 1980s, to ongoing efforts to find practical solutions to real-world problems. Examples include the assignment of new doctors to hospitals, students to schools, and human organs for transplant to recipients. Lloyd Shapley made the early theoretical contributions, which were unexpectedly adopted two decades later when Alvin Roth investigated the market for U.S. doctors. His findings generated further analytical developments, as well as practical design of market institutions.

Traditional economic analysis studies markets where prices adjust so that supply equals demand. Both theory and practice show that markets function well in many cases. But in some situations, the standard market mechanism encounters problems, and there are cases where prices cannot be used at all to allocate resources. For example, many schools and universities are prevented from charging tuition fees and, in the case of human organs for transplants, monetary payments are ruled out on ethical grounds. Yet, in these – and many other – cases, an allocation has to be made. How do such processes actually work, and when is the outcome efficient?

The Gale-Shapley algorithm

Analysis of allocation mechanisms relies on a rather abstract idea. If rational people – who know their best interests and behave accordingly – simply engage in unrestricted mutual trade, then the outcome should be efficient. If it is not, some individuals would devise new trades that made them better off. An allocation where no individuals perceive any gains from further trade is called *stable*. The notion of stability is a central concept in cooperative game theory, an abstract area of mathematical economics which seeks to determine how any constellation of rational individuals might cooperatively choose an allocation. The primary architect of this branch of game theory was Lloyd Shapley, who developed its main concepts in the 1950s and 1960s. Unrestricted trading is a key presumption underlying the concept of stability. Although it allows clear analysis, it is difficult to imagine in many real-world situations. In 1962, Shapley applied the idea of stability to a special case. In a short paper, joint with David Gale, he examined the case of *pairwise matching*: how individuals can be paired up when they all have different views regarding who would be the best match.

Matching partners

Gale and Shapley analyzed matching at an abstract, general level. They used marriage as one of their illustrative examples. How should ten women and ten men be matched, while respecting their individual preferences? The main challenge involved designing a simple mechanism that would lead to a stable matching, where no couples would break up and form new matches which would make them better off. The solution – the Gale-Shapley "deferred acceptance" algorithm – was a set of simple rules that always led straight to a stable matching. The Gale-Shapley algorithm can be set up in two alternative ways: either men propose to women, or women propose to men. In the latter case, the process begins with each woman proposing to the man she likes the best. Each man then looks at the different proposals he has received (if any), retains what he regards as the most attractive proposal (but defers from accepting it) and rejects the others. The women who were rejected in the first round then propose to their second-best choices, while the men again keep their best offer and reject the rest. This continues until no women want to make any further proposals. As each of the men then accepts the proposal he holds, the process comes to an end. Gale and Shapley proved mathematically that this algorithm al-

ways leads to a stable matching. The specific setup of the algorithm turned out to have important distributional consequences; it matters a great deal whether the right to propose is given to the women – as in our example – or to the men. If the women propose, the outcome is better for them than if the men propose, because some women wind up with men they like better, and no woman is worse off than if the men had been given the right to propose. Indeed, the resulting matching is better for the women than any other stable matching. Conversely, the reverse algorithm – where the men propose – leads to the worst outcome from the women's perspective. The clarity and elegance of the Gale-Shapley paper placed it on academic reading lists for economics students worldwide. But its real-world relevance was not recognized until much later. In the early 1980s, Alvin Roth set out to study a very practical allocation problem: the market for newly examined doctors.

Evidence Markets for new doctors

In the U.S., students who graduate from medical school are typically employed as residents (interns) at hospitals, where they comprise a significant part of the labour force. In the early 1900s, this market was largely decentralized. During the 1940s, competition for scarce medical students forced hospitals to offer residencies (internships) increasingly early, sometimes several years before graduation. Matches were made before the students could produce evidence of their qualifications, and even before they knew which branch of medicine they would like to practice. When an offer was rejected, it was often too late to make offers to other candidates. A market ridden with such problems does not produce stable matches, because not enough offers can be made in time to ensure mutually beneficial trades. In order to make more offers quickly, hospitals imposed strict deadlines for responding to offers. This, in turn, forced students to make early decisions without knowing what other opportunities would become available later on. In response to these problems, a centralized "clearinghouse", called the National Resident Matching Program (NRMP), was introduced in the early 1950s. In a paper from 1984, Alvin Roth studied the algorithm used by this clearinghouse and discovered that it was closely related to the Gale-Shapley algorithm. He then hypothesized that the fundamental reason for the success of the NRMP was that it produced stable matches. In the early 1990s, Roth went on to study similar medical markets in the U.K. There, he found that different regions had adopted different algorithms, some of

which produced stable matches and others not. Those which resulted in stable matches had turned out to be successful, whereas the other algorithms had broken down in various ways.

Practical design

Matching doctors and hospitals. Despite its success, the NRMP still encountered problems. The number of female medical students had grown, and it became increasingly common that dual-doctor couples looked for internships in the same region. The NRMP could not accommodate these requests, so that many applicants chose not to use the mechanism: a sign that it was not stable. The NRMP – where the hospitals offered positions to students – was also criticized for systematically favouring hospitals over students. Indeed, as Gale and Shapley had shown theoretically, the proposing side of the market (in this case, the hospitals) is systematically favoured. In 1995, Roth was asked to help design an improved algorithm that would eliminate these problems. Along with Elliott Peranson, he formulated an algorithm, built on applicant proposals and designed to accommodate couples. The new algorithm, adopted by the NRMP in 1997, has worked well and over 20,000 positions per year have since been matched with applicants. The research underlying the revised design prompted the development of new theory. It seemed that applicants could manipulate the original algorithm – by turning down offers which they actually preferred and keeping those which were worse – in order to achieve a better outcome. In several theoretical papers, Roth showed how misrepresentation of one's true preferences might be in the interest of the receiving side (students in the original NRMP) in some algorithms. Drawing on this insight, the revised NRMP algorithm was designed to be immune to student misrepresentation. Furthermore, computer simulations verified that, in practice, it was not sensitive to strategic manipulation by the hospitals.
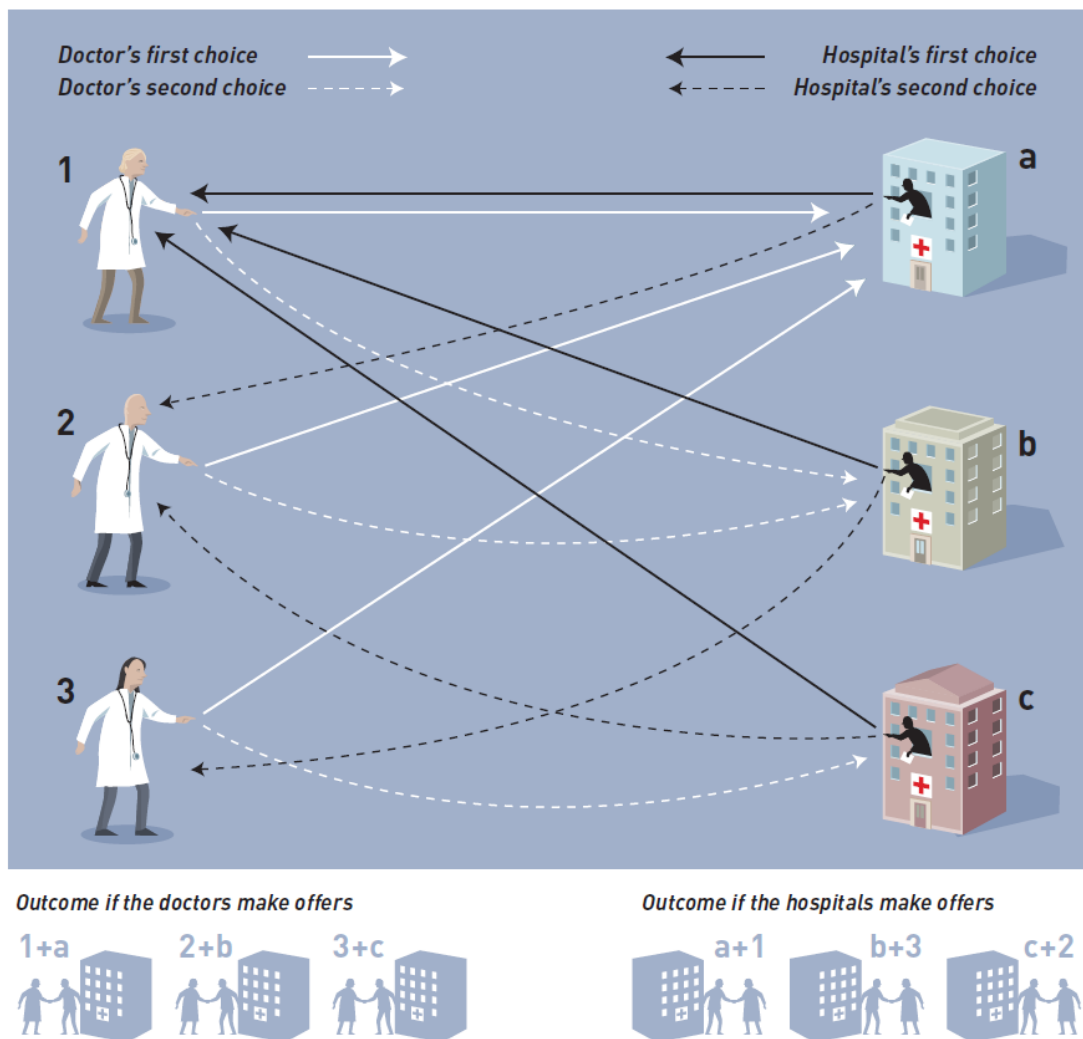
Matching doctors and hospitals. When the doctors make offers, they all first choose hospital a, which accepts doctor 1 (the hospital's first choice). In a second stage, doctor 2 makes an offer to hospital b, and doctor 3 to hospital c, which gives a stable matching. When the hospitals have the right to make offers, the result is instead that doctor 2 is matched with hospital c and 3 with b.

Matching students and high-schools. The Gale-Shapley algorithm proved to be useful in other applications, such as high-school choice. Up until 2003, applicants to New York City public high schools were asked to rank their five most preferred choices, after which these preference lists were sent to the schools. The schools then decided which students to admit, reject, or place on waiting lists. The process was repeated in two more rounds, and students who had not been assigned to any school after the third round were allocated through an administrative process. However, this did not provide the applicants with enough opportunities to list their preferences, and the schools did not have enough opportunities to make offers. As a result, about 30,000 students per year ended up at schools they had not listed. Moreover, the process gave rise to misrepresentation of preferences. Since schools were more likely to admit students who ranked

them as their first choice, students unlikely to be admitted to their favourite school found it in their best interest to list a more realistic option as their first choice, while applicants who simply reported their true preferences suffered unnecessarily poor outcomes. In 2003, Roth and his colleagues helped redesign this admissions process, based on an applicant-proposing version of the Gale-Shapley algorithm. The new algorithm proved to be successful, with a 90 percent reduction in the number of students assigned to schools for which they had expressed no preference. Today, a growing number of U.S. metropolitan areas use some variant of the Gale-Shapley algorithm.

Matching kidneys and patients. The matching settings described so far involve two sides that both make active decisions. Some real-world situations are one-sided, however, in the sense that the other side is entirely passive. A practical example is the matching of kidneys and other human organs to patients in need of a transplant. How can this be accomplished in an efficient way? This problem was studied by Shapley and his colleagues, again in the abstract and based on the notion of stability. The proposed algorithm – the so-called *top trading cycle* – is in fact very simple. It is based on an initial allocation of objects and subsequent swapping. A challenge in the case of human organs is that some kidney-patient pairs may not be compatible and that complex multilateral swaps may be quite time consuming. Again, a combination of theory and experimental work has been used to compare different versions of top trading. As a result, increasingly complex chains of kidney donations are now adopted in a number of U.S. states. *Extensions to new markets* A striking feature of the above examples is that prices are not part of the process. Does the absence of a price mechanism in the basic Gale-Shapley algorithm limit its applicability? Not necessarily. Shapley and others examined extensions of the original model that allow for prices (salaries, in the market for doctors) to be part of the offers. Algorithms including prices work in much the same way and produce stable matches with broadly similar features. In fact, matching with prices is closely related to auctions, where objects are matched with buyers and where prices are decisive. Research that relates matching algorithms to auctions has recently generated interesting theoretical results, which appear to be applicable in practice. A case in point is the internet auction, in particular search engines that auction out space for advertisers. Companies in this business have benefited from insights inherent in the Gale-Shapley algorithms and have used top economists as experts in designing new auctions. This year's prize rewards a flourishing field of research, where theo-

ry, evidence, and design are used interactively. Lloyd Shapley and Alvin Roth have worked independently of each other, but the success of their research is due to the combination of Shapley's theoretical results with Roth's insights into their practical value. The field continues to grow and holds great promise for the future. Source: https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2012/popular-economicsciences2012.pdf

7. What do you know about the Gale-Shapley algorithm. Based on what you have read in the article above and on the video on https://www.youtube.com/watch?v=pc5WSJkFk24 *tell your group-mates about your understanding.*

8. There is a similar to stable matching problem, namely stable roommates problem (https://en.wikipedia.org/wiki/Stable_roommates_problem). *What is its difference from stable matching problem? Would you apply such algorithm at university and how?*

9. Insert the following words from the text in the gaps.

compatible	verified	encountered	wind up
applicable	accommodate	allocated	eliminate
misrepresentation	favoured	subsequent	swapping

1. From the standpoint of modern science John Fiske confirms the validity of such an argument; for what he affirms in regard to belief in the divine is equally _____ to this belief in a future life.

2. Neither the government nor the army could _____ itself to the new situation.

3. Upon this it bases a theory of predication, which, however, is _____ with more than one reading of the metaphysical import of the ideas.

4. Of the surplus 1,000,000 was _____ to the improvement of posts, telegraphs and telephones;

5. If mankind doesn't take care of the environment, the environment may _____ mankind.

6. Despite the obstacles they _____ in their research and their own experience, the three young interviewers remain firm believers in inclusion.

7. The documentary was a _____ of the truth and bore little resemblance to actual events.

8. I _____ the source from which I had that information.

9. There's no point _____ one 24-hour a day, seven days a week job for another.

10. Developments on this issue will be dealt with in a _____report.

11. They organized an evening's entertainment for _____customers.

12. If we all agree, let's _____ the discussion.

10. Form the word partnerships. Then discover them in the following text.

score	integer
general	limits
nonnegative	proposing
entrance	quota
admitted	condition
college	setting
to violate	applicants
stability	exams

11. Read the full text of the PhD Thesis by Peter Biro on https://pdfs.semanticscholar.org/0ce9/ae5d3413261b1332a756d7a51b9b21 89ed04.pdf . *How can stable matching problem be applied to higher education admission in Hungary?*

The stable matching problem and its generalizations:
an algorithmic and game theoretical approach

Higher education admission in Hungary

Since 1985, the admission procedure of higher education institutions is based on a centralized matching program in Hungary. Hungarian universities have faculties, where the education is organized in different fields of studies, quite independently. So, students apply for fields of studies of particular faculties, referred simply as fields hereafter. At the beginning of the procedure, students give their ranking lists over the fields they apply for. Students receive scores at each field they applied for according to their final notes at the high school, and entrance exams. Note, that the score of a student can differ at two fields. Universities can admit a limited number of students to each of their fields, these quotas are determined by the Ministry of Education. After collecting the applicants' rankings and their scores, a centralized program computes the score-limits of the fields. An applicant is admitted by the first place on his list, where he is above the score-limit. Formally, let $A = \{a_1, a_2, \ldots, a_n\}$ be the set of applicants and F be the set of field of studies, where q_u denotes the quota of field f_u. Let the ranking of the applicant a_i be given by a preference list P^i, where $f_v >_i f_u$ denotes that f_v preceeds f_u in the list, i.e. applicant a_i prefers the field f_v to f_u. Let s^i_u be a_i's final score at field f_u. The score-limit l is a nonnegative integer mapping $l: F \to N$. An applicant a_i is admitted by a university to a field f_u, if he achieves the limit at field f_u, and f_u is the first such place in his list, i.e. $s^i_u \geq l(f_u)$, and $s^i_v < l(f_v)$ for every field $f_v >_i f_u$. A score-limit l is *feasible* if the number of admitted applicants is not more than the given quota for each field. A score-limit is *stable* if no university can decrease the limit of any of its fields without violating its quota (assuming that the others do not change their limits). We note that this definition coincides with the original stability condition of Gale and Shapley [19] if there are no ties in the lists (i.e. if the scores of the applicants are distinct at each field). The currently used *college-proposing* score-limit algorithm and the applicant proposing version are described in [8]. Both algorithms are very similar to the original Gale-Shapley algorithms. The only difference is that here, universities cannot select exactly as many best applicants to their fields as their quotas are, since the applicants may have equal scores. Here, instead universities set their score limits at each field always to be the smallest one, for that their quotas are not exceeded. If the scores of the applicants are distinct at each field then these algorithms are equivalent to the original ones by Gale

and Shapley. That is why it is not suprising that similar statements can be proved for this more general setting:

Theorem 3.4. Both the score-limit l_F, obtained by the college-proposing algorithm and the score-limit l_A, obtained by the applicant-proposing algorithm are stable. We say that a score-limit l is better than l* for the applicants if $l \leq l*$, (i.e. $l(f_u) \leq l*(f_u)$ for every field f_u). In this case every applicant is admitted by the same or by a preferred place at score-limit l than at l*.

Theorem 3.5. l_F is the worst possible and l_A is the best possible stable score-limit for the applicants, i.e. for any stable score-limit l, $l_A \leq l \leq l_F$ holds.

12. Would it be possible to introduce the admission procedure of higher education institutions based on a centralized matching program in Russia?

13. Who profits in SMP? That is the question asked in http://math.blogoverflow.com/2014/10/01/matching-theory/. *Can you answer it?*

14. Look for the English equivalents of the following terms:

матрица предпочтений, принятие оптимальных решений, конкурентная борьба, вероятности условий, конечные непересекающиеся множества, согласно определенному алгоритму, стабильное распределение, предпочтительный вариант.

15. Prepare a presentation about other applications of the Gale-Shapley algorithm: the assignment problem, the hospitals/residents problem, the hospitals/residents problem with couples. *Use linking words, quotes and some vivid examples.*

16. Make the written translation of the following text into English.

ТЕОРИЯ ИГР В ТЕОРИИ ЛЮБВИ: АЛГОРИТМ ГЕЙЛА – ШЕПЛИ

С.Э. Лятифова

Теория игр представляет собой раздел теории исследования операций, занимающийся математическими моделями принятия оптимальных решений в условиях конфликта.

Теория игр включает теоретические основы математических моделей принятия оптимальных решений в конфликтных ситуациях ры-

ночных отношений, носящих характер конкурентной борьбы, в ситуации риска, когда известны не только определенные условия, но и вероятности их появления и неопределенности, когда вероятности условий неизвестны. Также эту науку можно охарактеризовать как математический метод изучения оптимальных стратегий в играх, где под игрой подразумевается процесс, в котором две участвующие стороны ведут борьбу за свои интересы.

Использование теории игр помогает лицу, принимающему решение, подойти к нему более обоснованно и последовательно, провести критический анализ и на его основе определить соответствующую стратегию поведения. В отличие от многих математических теорий, порожденных различными проблемами из области физики, теория игр возникла из нефизических задач. Она началась с анализа салонных, спортивных, карточных и других игр. Считается, что первооткрыватель теории игр, выдающийся американский математик Джон фон Нейман сформулировал основные положения данной науки, наблюдая за игрой в покер.

В настоящее время теория игр развилась в самостоятельную область математики и широко используется в экономике, бизнесе, финансах, сельском хозяйстве, военном деле, психологии, помогая принимать оптимальные действия при решении сложных проблем.

Более того, как было упомянуто выше, данную науку используют для того, чтобы исследовать одно из самых волшебных, волнующих чувств, которое только может испытать человек, – любовь. Так, в 2012 году Нобелевская премия по экономике была присуждена Элвину Роту и Ллойду Шепли за «теорию стабильного распределения и практическое применение рыночных моделей», в частности, предложенному ими алгоритму устойчивых браков, которому и будет посвящена данная работа.

История теории любви в теории игр началась еще задолго до 2012 года. В 1962 году в журнале *American Mathematical Monthly* была опубликована работа College admissions and the stability of marriage (поступление в колледж и стабильность браков) математиков Девида Гейла из Университета Брауна и Ллойда Шепли из Принстонского университета. Эта работа относилась к теории коалиционных (кооперативных) игр, которые характеризуются тем, что их участники могут объединять свои усилия и сотрудничать, получая больший по сравнению с равновесным выигрыш. Задача, которую рассматривали ученые, позже получила название задачи о марьяже.

В данной модели рассматриваются два типа участников: мужчины и женщины. В зависимости от личных предпочтений каждая женщина ранжирует мужчин в порядке убывания своей симпатии, а каждый мужчина ранжирует женщин. Основной вопрос исследования звучит так: возможно ли при данной ситуации сформировать стабильные пары? Следует отметить, что пара считается нестабильной, если существуют мужчина и женщина, которые не являются супругами, однако предпочитают своего потенциального партнера друг другу.

Итак, пусть $M = \{m_1, \ldots, mn\}$ − мужчины и $W = \{w_1, \ldots, w_m\}$ − женщины − это два конечных непересекающихся множества игроков. Как было отмечено ранее, у каждого мужчины есть предпочтения на множестве женщин и наоборот. Представим предпочтения мужчины m_i в виде упорядоченного списка $P(m_i)$ элементов множества $W \supset \{m_i\}$, а предпочтения женщин w_i в виде упорядоченного списка $P(w_j)$ элементов множества $M \supset \{w_j\}$, предполагая, что все предпочтения строгие. Тогда, например, запись $P(m_2) = w_1 w_5 w_8 \ldots w_3$ значит, что мужчине m_2 больше всего нравится женщина w_1, затем w_5, а женщина w_3 нравится ему меньше всего.

Введем еще одно обозначение P, которое будет представлять собой набор предпочтений всех игроков, то есть $P = \{P(m_1), P(m_2), \ldots, P(mn), P(w_1), P(w_2), \ldots, P(w_m)\}$. Следовательно, можно сделать вывод, что для того, чтобы задать модель марьяжа, необходимо ввести два множества игроков M и W и набор предпочтений P.

Распределением или размещением по парам μ называется взаимно однозначное отображение множества $M \supset W$ на себя, которое обладает некоторыми свойствами. Во-первых, $\mu(m_i) \in W \supset \{m_i\}$ и $\mu(w_j) \in M \supset \{w_j\}$, что значит, что у каждого мужчины или женщины есть пара противоположного пола или он (она) остается холостым (незамужней). Во-вторых, если $\mu(m_i) = w_j$, то $\mu(w_j) = mi$, то есть если мужчина m_i состоит в паре с женщиной w_j, то и женщина w_j состоит в паре с мужчиной m_i.

Приведем конкретный пример, наглядно демонстрирующий, как происходит распределение на стабильные пары согласно описанному алгоритму. Для простоты возьмем равное количество мужчин и женщин n=m=4. Определим набор предпочтений всех игроков:

P $(m_1) = w_1, w_3, w_4, w_2$
P$(m_2) = w_1, w_4, w_3, w_2$
P $(m_3) = w_3, w_2, w_4, w_1$
P $(m_4) = w_2, w_4, w_1, w_3$P $(w_1) = m_1, m_3, m_4, m_2$
P$(w_2) = m_1, m_4, m_2, m_3$

P $(w_3) = m_4, m_3, m_2, m_1$

P $(w_4) = m_2, m_1, m_4, m_3$

Тогда матрица предпочтений для данного случая будет иметь вид:

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

Первая цифра в каждой паре цифр, представленных в матрице, соответствует месту женщины, которое она занимает в предпочтениях мужчины, а вторая цифра, соответственно, месту мужчины в предпочтениях женщины. Например, для мужчины m_1 наиболее предпочтительной является женщина w_1, затем w_3, затем w_4 и наконец w_2, что соответствует набору предпочтений, указанных для него в условиях задачи.

На первом этапе каждый мужчина делает предложение наиболее предпочитаемой женщине, а каждая женщина принимает предложение самого предпочитаемого мужчины. Так, m_1 делает предложение w_1, m_2 – тоже w_1, m_3 – w_3, а m_4 – w_2. Как мы видим из матрицы, m_1 также является наиболее предпочтительным для w_1, поэтому она примет его предложение, и откажет m_2. w_2 и w_3 также примут предложения m_4 и m_3, несмотря на то, что данные мужчины не являются для них наиболее предпочтительными, так как больше предложений им не поступило. Однако в отличие от w_1, w_2 и w_3 скажут не радостное и уверенное «да», а кокетливо или уныло произнесут – «может быть».

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

Таким образом, по результатам первого этапа мы имеем три стабильные пары, одна из которых, а именно m_1 и w_1, уже точно сформирована.

На втором этапе каждый отвергнутый мужчина снова делает предложение, но уже женщине, которая стоит следующая в его списке. Каждая женщина, в свою очередь, сравнивает новые поступившее предложение со старыми и отвергает все из них, кроме самого предпочтительного.

В нашем примере отвергнутым оказался только мужчина m_2, который в этот раз делает предложение женщине w_4. Как мы видим из матрицы, на предыдущем этапе w_4 вообще не поступило ни одного предложения, поэтому она принимает предложение m_2 без всяких сравнений, а m_2 не разрушает ни одну из сложившихся ранее пар.

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

В результате мы имеем четыре стабильные пары, так как не встречаются два человека из разных пар, которые обоюдно хотели бы образовать союз, а именно m_1 и w_1, m_2 и w_4, m_3 и w_3 и m_4 и w_2. Однако данное распределение предпочтительнее с точки зрения мужчин, так как они делают предложение первыми. Интересно посмотреть, какое будет стабильное распределение в нашем примере, если первый шаг будут делать женщины.

Мы имеем все ту же знакомую нам матрицу предпочтений, только на первом этапе предложения уже делают не мужчины, а женщины, руководствуясь своими предпочтениями:

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

Так, w_1 делает предложение m_1, w_2 – тоже m_1, w_3 – m_4 и наконец w_4 – m_2. По уже знакомому нам алгоритму m_1 выбирает w_1 и отвергает w_2, так как w_1 является для него самым предпочтительным вариантом; m_2 и m_4 принимают предложения, отвечая на них не однозначное «да», а «может быть».

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

Таким образом, как и в первом случае, мы имеем одну точно сложившуюся стабильную пару – m_1 и w_1, что неудивительно, ведь они занимают первое место в списке предпочтений друг у друга. Также мы получаем две пары, которые могут распасться в последующих этапах.

Итак, на втором этапе отвергнутая и оставшаяся без пары w_2 делает предложение следующему по списку своих предпочтений кандидату, то есть m_4. Теперь m_4 имеет два предложения – от w_2 и от w_3. Выбирая для себя наиболее предпочтительный вариант, он отвергает w_3 и говорит «может быть» w_2.

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

На третьем этапе отвергнутая w_3 делает предложение m_3, который находится без пары, и m_3 принимает предложение. В результате мы получаем набор стабильных пар, аналогичный тому, который мы получили, когда первыми предложение делали мужчины.

	w_1	w_2	w_3	w_4
m_1	1, 1	4, 1	2, 4	3, 2
m_2	1, 4	4, 3	3, 3	2, 1
m_3	4, 2	2, 4	1, 2	3, 4
m_4	3, 3	1, 2	4, 1	2, 3

Несмотря на полученный результат, ошибочно предполагать, что стабильные распределения, полученные при случае, когда мужчины делают предложения первыми, и стабильные распределения, когда первый шаг делают женщины, всегда совпадают. То, что в нашем примере полученные пары совпали, говорит лишь о том, что данное распределение является *единственным стабильным*. Только в этом случае выгода обеих сторон не меняется в зависимости от того, кто делает предложение. Если же количество стабильных распределений больше одного, то та сторона, которая делает первый шаг, оказывается в наибольшем выигрыше.

Таким образом, с помощью алгоритма Гейла – Шепли действительно можно образовать непустое множество стабильных распределений по парам, придерживаясь определенных этапов:

Этап 1. Каждый холостой мужчина делает предложение наиболее привлекательной для него женщине либо выходит из игры, если одиночество для него предпочтительнее. Затем каждая женщина рассматривает все поступившие предложения и самому достойному кандидату говорит «может быть», а всех остальных отвергает. Женщина также может предпочесть одиночество лучшему кандидату и сказать ему «нет». Если женщине не сделали предложение, ей остается только ждать.

Этап 2. Каждый отвергнутый мужчина вновь делает предложение, но уже следующей по списку его предпочтений женщине, после чего каждая женщина сравнивает новое и старое предложение и выбирает для себя одно наиболее привлекательное, а остальные отвергает.

Так, этап за этапом, отвергнутые мужчины делают предложения женщинам, двигаясь по своим спискам предпочтений. Алгоритм завершается, кода больше нет мужчин, желающих сделать предложение. В результате все «помолвленные пары» сходятся, а все, кто остался без пары, если такие имеются, остаются одинокими.

Само использование математических методов в таких областях как любовь, медицина и образование, уже говорит о великих возмож-

ностях, которые открывает перед учеными и исследователями такая наука, как теория игр. Возможно, наступит время, когда для людей уже не будет удивительным то, что с помощью математики можно найти настоящую любовь или спасти жизнь близкого человека.

Мы понимаем, что алгоритм, проанализированный автором данной работы, действительно эффективен и помогает создавать стабильные пары. Кто-то может сказать, что пары, полученные при использовании данного алгоритма, можно назвать лишь стабильными, но несчастливыми, так как люди в паре могут не являться друг для друга наиболее желанными и привлекательными. Однако, важно помнить, что случай, когда женщина и мужчина в паре не являются друг для друга самыми предпочитаемыми, возникает только тогда, когда наиболее желаемый вариант, увы, имеет более сильные чувства к другому объекту. В этом-то и состоит вся сложность любви, ее природа и особенность, поэтому даже такой серьезной науки, как математика, не под силу решить эту проблему, ведь, как говорят в народе, – насильно мил не будешь.

Более того, сам механизм выбора партнера основывается на личных предпочтениях каждого отдельно взятого человека, поэтому сказать, что люди в паре не испытывают к друг другу симпатию, было бы совсем неправильным. Стабильность же, которую обеспечивает данное распределение, действительно приводит к крепким и счастливым отношениям.

Завершая данную работу, хотелось бы отметить, что правильный выбор спутника жизни крайне важен, но не менее важно не ошибиться в своем выборе, так как первая любовь бывает только один раз.

Источник: https://www.scienceforum.ru/2016/1369/16920

17. *In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.*

18. *Look at the demonstration of the Gale-Shapley algorithm on* http://sephlietz.com/gale-shapley/

19. *What are the key concepts and tasks of game theory? Use Investopedia* https://www.investopedia.com/terms/g/gametheory.asp) *to find the answer.*

20. *Take advantage of tutorial on game theory and Nash equilibrium on* https://www.khanacademy.org/economics-finance-domain/microeconomics/nash-equilibrium-tutorial.

21. *There are free online courses on game theory on* https://www.coursera.org/learn/game-theory-1, which you can pass.

22. Watch Yale professor's lectures on game theory on https://www.youtube.com/watch?v=nM3rTU927io. *Make a glossary of terms. (full course by Ben Polak is on https://oyc.yale.edu/economics/econ-159)*

UNIT 11. INTERNATIONAL TRADE AND ECONOMIC GEOGRAPHY

Warming-up activity

Explain the meaning of the following expressions in English and give their Russian variants:

well-established, self-evident, stringent and cohesive theory, theoretical foundation, particularly noteworthy, megacities, trade patterns, abundant supply, scarcity of capital, economy of scale, flock to cities, depopulated rural areas, extensive reorientation.

Tasks

1. What does economic geography study? Look at https://en.wikipedia.org/wiki/Economic_geography *and give your own examples of applicability of economic geography*

2. What are the benefits of international trade? Look at https://www.investopedia.com/articles/03/112503.asp *and comment on globalization, free trade vs. protectionism.*

3. How does international trade affect US economy? Try to guess and then find the answers in the article: https://www.thebalance.com/international-trade-pros-cons-effect-on-economy-3305579

4. Try yourself at quiz to know more about international trade: https://www.proprofs.com/quiz-school/topic/international-trade

5. Skim the article "International Trade and Economic Geography". What is its main idea?

6. Give the digest of the article both in English and Russian.

THE PRIZE IN ECONOMIC SCIENCES 2008:THE LAUREATE PAUL KRUGMAN

Woodrow Wilson School of Public and International Affairs, Princeton University

Princeton, NJ 08544-1013, USA

wws.princeton.edu/people/display_person.xml?netid=pkrugman&

US citizen, born 1953 in New York, NY, USA. Ph.D. 1977 from Massachusetts Institute of Technology, Cambridge,

MA, USA. Since 2000, Professor of Economics and International Affairs at Princeton University, NJ, USA.

This year's Laureate is awarded the Prize for his research on international trade and economic geography.

By having shown the effects of economies of scale on trade patterns and on the location of economic activity, his ideas have given rise to an extensive reorientation of the research on these issues.

International trade and economic geography

How are we affected by globalization? What are the effects of free trade? Why do increasing numbers of people flock to large cities, while rural areas become depopulated?

These questions cannot be answered without a theoretical foundation. For a long time, the analysis of foreign trade had been based on a well-established theory which explained why some countries export certain goods and import others. After World War II, however, it became increasingly obvious that important trade patterns did not quite correspond with that theory. In 1979, the US economist **Paul Krugman** proposed a new model which provided a better explanation for the observed patterns.

In later research, Krugman has shown that the model he initially developed for international trade could also be used to clarify key issues in economic geography. In the context of both foreign trade and economic geography, the objective is to explain *what* goods are produced *where*. Theories of economic geography also attempt to specify the forces whereby labour and capital become located in certain places and not others.

Traditional foreign trade

In the early 1800s, the English economist David Ricardo launched the theory of so called comparative advantage to explain the range and composition of international trade.

This theory, which was extended during the 1920s and 1930s by the Swedish economists Eli Heckscher and Bertil Ohlin, implies that foreign trade is based on differences among countries. Ricardo studied countries which differ in terms of technology. Heckscher-Ohlin considered countries which differ in terms of access to factors of production; some countries have a relatively abundant supply of labour but a scarcity of capital, whereas the opposite prevails in other countries. The result is that some countries should specialize in and export, for example, industrial products and import agricultural products – and vice versa.

Since its inception, this theory seemed capable of explaining the vast majority of international trade. Over the last half century, however, researchers observed increasingly large deviations from the trade patterns predicted by Ricardo and Heckscher-Ohlin. So-called intra-industry trade has expanded, in particular between rich countries. Such trade implies that a country both exports and imports more or less the same goods. A country such as Sweden, for example, exports and imports cars. This would not be compatible with the theory of comparative advantage unless the production of Volvo cars required a wholly unique technology, or a completely different combination of labour and capital than, for instance, production of BMW cars. But this appears highly unlikely.

Almost 30 years ago, Krugman introduced an entirely new theory of international trade. It was intended to explain the occurrence of intra-industry trade and was based on an assumption of economies of scale whereby mass production diminishes the cost per unit produced. The basic idea is rather self-evident, but the step from speculation to a stringent and cohesive theory is substantial – and this was precisely the step Krugman took in his short, 10-page article in the *Journal of International Economics* in 1979.

Consumers appreciate diversity

In addition to economies of scale in production, Krugman's new theory was based on an assumption that consumers appreciate diversity in their consumption. At the time, this was a rather new concept in economics, but

it appeared to correspond to reality. Indeed, most of us have witnessed greater diversity in the supply of available commodities. As consumers, we are constantly tempted by a growing number of brands, even though we might sense that a standard car, a standard pair of jeans or standard toothpaste would suffice. After our basic needs for food and housing have been satisfied, it seems as if we opt for diversity and variation in our consumption. Two years earlier, in 1977, Avinash Dixit and Joseph Stiglitz had published a model for analyzing consumers' preferences for product diversity. According to this model, each producer, working under increasing returns to scale, becomes more or less a monopolist in terms of his own brand, even though he is subject to sharp competition from other brands.

Such a model can be used to show that foreign trade will arise not only between countries which are *different* (as in the traditional theory), but also between countries which are *identical* in terms of access to technology and factor endowments. Moreover, it can be demonstrated that extensive intra-industry trade will occur. In fact, it becomes advantageous for a country to specialize in manufacturing a specific car, and to produce it for the world market, while another country specializes in a different brand of car. This allows each country to take effective advantage of economies of scale, thereby implying that consumers worldwide will benefit from greater welfare due to lower prices and greater product diversity, as compared to a situation where each country produces solely for its own domestic market, without international trade.

Krugman's initial article is brief and straightforward. Owing to its simplicity, the international research community could quickly ascertain that it pointed to vital mechanisms in the economy. In many subsequent articles and books, Krugman himself, as well as other researchers, have endowed the theory with greater realism. Today, the general view is that the basic mechanisms specified by Krugman constitute an important complement to the traditional Heckscher-Ohlin theory. The truth, as in so many other instances, is that reality encompasses features of both theories. This has resulted in lively empirical research aimed at determining the extent to which foreign trade can be explained by the earlier theories as compared to the new theory. In general, the new theory of international trade has inspired an enormous field of research, which is usually a reliable indication of theoretical quality.

Economic geography

Economic geography deals not only with what goods are produced where, but also with the distribution of capital and labour over countries and regions. The approach Krugman used in his foreign trade theory – the assumption of economies of scale in production and a preference for diversity in consumption – was also found to be appropriate for analyzing geographical issues. This allowed Krugman to integrate two disparate fields in a cohesive model.

The embryo of the theory which would come to be called the "new economic geography" had already appeared in Krugman's 1979 article. In the final pages, he asks what would happen if foreign trade became impossible, for instance due to excessively high transport costs or other obstacles. His line of reasoning is as follows. If two countries are exactly alike, then welfare will be the same in both countries. But if the countries are alike in all respects except that one of them has a slightly larger population than the other, then the real wages of labour will be somewhat higher in the country with more inhabitants. The reason is that firms in the more highly populated country can make better use of economies of scale, which implies lower prices to consumers and/or greater diversity in the supply of goods. This, in turn, enhances the welfare of consumers. As a result, labour, i.e., consumers, will tend to move to the country with more inhabitants, thereby increasing its population. Real wages and the supply of goods will then continue to increase even more in that country, thereby giving rise to further migration, and so on.

Twelve years would pass, however, before Krugman reconsidered these ideas. In an article published in 1991, he developed these concepts into a comprehensive theory of location of labour and firms. Here, he assumes that although trade is possible, it is obstructed due to transport costs. Otherwise, labour is free to move to the country or region which can offer the highest welfare, in terms of real wages and diversity of goods. Firms' location decisions imply a trade-off between utilizing economies of scale and saving on transport costs.

Concentration or decentralization?

The above considerations evolved into the so-called *core-periphery model*, which shows that the relation between economies of scale and transport costs can result in either concentration or decentralization of communities.

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Under certain conditions, the forces which contribute to concentration will dominate. Regional imbalances arise and most of the population will be concentrated in a high-technology core, whereas a small minority will inhabit the periphery and live off agriculture. Such a mechanism could underlie the explosive urbanization witnessed today throughout the world, with rapidly growing megacities surrounded by increasingly depopulated rural areas. This is not necessarily the only possibility, however. Under different conditions, the forces which give rise to decentralization will dominate. This promotes somewhat more balanced development. Krugman's model can be used to account for the mechanisms at work in both directions. For example, his model indicates that declining transport costs easily generate concentration and urbanization – which seems particularly noteworthy since transport costs have exhibited a declining trend throughout the twentieth century.

Other endeavors

In addition to his scientific research, Paul Krugman is highly appreciated by his students as a pedagogical lecturer and author of textbooks. In wider circles, he is better known as a lively blogger and spirited columnist in the *New York Times*.

LINKS AND FURTHER READING

More information about this year's prizes, including a scientific background article, is to be found at the Royal Swedish Academy of Sciences' website, *www.kva.se*, and at *http://nobelprize.org*. You can also see the press conference there as web-TV. Further information about exhibitions and activities concerning the Nobel Prizes is available at *www.nobelmuseum.se*.

Selected Scientific Articles

Krugman, P (1979) Increasing Returns, Monopolistic Competition, and International Trade, *Journal of International Economics* 9: 469–479.

Krugman, P (1980) Scale Economies, Product Differentiation, and the Pattern of Trade, *American Economic Review* 70: 950–959.

Krugman, P (1991) Increasing Returns and Economic Geography, *Journal of Political Economy* 99: 483–499.

Popular Science literature

Krugman, P (2000) *Geography and Trade*, MIT Press, Cambridge, MA. 85 pp.

Krugman, P & Obstfeld M (2009) *International Economics: theory and policy*, 8th edition, Pearson. Ch 6–7, 712 pp.

Source: https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2008/popular-economicsciences2008.pdf

7. What is the essence of Krugman's model?

8. Read about interesting facts on Nobel prizes in economic sciences on https://www.nobelprize.org/nobel_prizes/facts/economic-sciences/index.html. *What are the most recent impressive achievements and discoveries?*

9. Insert the following words from the text in the gaps.

periphery	declining	tempted	clarify
contribute to	explosive	accounts for	throughout
populated	excessively	complement to	trade-off

1. Several security gates will be placed around the _____ of the new military base.

2. An example of a _____ is when you have to put up with a half hour commute in order to make more money.

3. I was _____- to comment, but refrained and kept my conversation all business.

4. Fearing her husband's _____ personality, the wife tried to speak softly and avoid any topics that would infuriate him.

5. Posters of teen pop stars _____ her cousin's wall.

6. Music and art can greatly _____ the enjoyment of life.

7. The climate of the district is liable to extremes, being very cold in the winter and _____ hot in the summer.

8. In the five years 1881-1888 the rate was 8 08 marriages (16.1 persons) per thousand of the population, _____ to 6.51 in 1891-1895; in recent years there has been a considerable improvement, and the Australian marriage rate may be quoted as ranging between 6.75 and 7.25.

9. When he was nearly forty years of age he went through a varied course of study and experiment, in order to enlarge and _____ his view of things.

10. Social security _____ about a third of total public spending.

11. As husband and wife, they are a _____ each other.

12. There was no sound to be heard anywhere _____the country.

10. Form the word partnerships. Then discover them in the above text.

comparative	the welfare
intra	noteworthy
enhance	advantage
rapidly	endowment
particularly	industry
factor	competition
product	growing
sharp	diversity

11. Look at the interactive map of the flow of international trade: http://www.visualcapitalist.com/interactive-mapping-flow-international-trade/ *Find out some data on international trade and organize them in your own interactive map created on the platform* https://maphub.net/ *or one from this list:* https://www.hongkiat.com/blog/map-tools/

12. Look at http://www.visualcapitalist.com/visual-capitalist-top-infographics-of-2016/. *Do the research and create your own selection of best infographics-2017.*

13. Revise the key concepts of economic geography watching this video: https://www.youtube.com/watch?v=zytkuO1NwnM

14. Look for the English equivalents of the following terms:

таможенные сборы, цены на комплектующие, конечный продукт, агрегирующий фактор, фиксированные издержки, одинаковая эластичность, при прочих равных условиях, предельный выпуск, немобильные факторы производства, бифуркационная диаграмма.

15. Prepare a presentation about other geographies: human, cultural, feminist, migration, political, etc. *Read more on* https://researchguides. dartmouth.edu/human_geography/main

Use linking words, quotes and some vivid examples.

16. Make the written translation of the following text into English.

Моделирование международной торговли в новой экономической географии

В международной торговле экономисты, как правило, оперируют странами и отраслями. Расстояния между странами большой роли не играют, так как основные издержки возникают на самой границе и включают помимо таможенных сборов также издержки по оформлению документов, простою транспорта, досмотру товаров и т. п. Например, стоимость доставки 1 кг груза с пересечением границы РФ примерно в два раза выше, чем доставка 1 кг на такое же расстояние по Скандинавии.

Открытие границы может не только повысить благосостояние граждан по обе ее стороны, но и снизить концентрацию деловой активности. Например, в Мексике до образования зоны свободной торговли с США бизнес концентрировался в столице. Такая ситуация стала результатом протекционистской политики замещения импорта, которую проводило мексиканское правительство до начала 1980-х гг. Однако во второй половине 1980-х гг. началась радикальная либерализация торговли, завершившаяся образованием NAFTA. Одновременно происходила заметная децентрализация промышленности в пользу северных районов страны, граничащих с США. Очевидно, что одной из причин смещения географического размещения предприятий стало появление крупного экспортного рынка на севере. Однако, весьма вероятно, что децентрализация произошла бы и в отсутствие США. Дело в том, что концентрация в регионе поддерживается наличием как большого рынка сбыта, так и дешевых комплектующих,

производимых в этом же регионе. Как только границы открываются, дешевые импортные комплектующие становятся доступными прежде всего в транспортных узлах, а при наличии хорошей инфраструктуры внутри страны – и по всей территории. Центростремительные силы ослабевают, и возникает процесс децентрализации производства. Таким образом, происходит не только общий рост благосостояния граждан, что предрекает и классическая теория международной торговли, но и снижение географического неравенства в доходах, а население столичного города может замедлить рост или даже уменьшиться.

Для исследования эффектов международной торговли, аналогичных описанному выше примеру, нам потребуется модель Диксита – Стиглица, на этот раз для рынка комплектующих. Построить такую модель несложно. Достаточно ввести в технологию производства кроме труда еще один фактор – тот же самый индекс потребления промышленных товаров, который входит в полезность потребителей. Таким образом, промышленность использует часть своего выпуска как промежуточные товары для производства конечных продуктов.

Удобнее определить технологию сразу в виде индекса ценна агрегированный фактор производства в регионе r. $\omega_r^{1-\alpha} G_r^{\alpha}$, где α – доля промышленных товаров в общих расходах фирмы. Этот агрегированный фактор используется как в фиксированных издержках, так и в переменных. Как и ранее, мы выбираем единицы выпуска так, чтобы

$$p_r = \omega_r^{1-\alpha} G_r^{\alpha}.$$

Индекс цен на комплектующие G_r можно принять равным индексу цен на промышленные товары для потребителей:

$$G_r = \left[\Sigma_s n_s \left(p_s T_{sr} \right)^{1-\sigma} \right]^{1/(1-\sigma)}.$$

Разумеется, одинаковые эластичности замещения для фирм и потребителей – сильное предположение, но оно позволяет заметно упростить анализ.

В результате за счет экономии на транспортных издержках фирмы так же выигрывают от нахождения других фирм в регионе, как и потребители. Этот фактор, при прочих равных условиях, усиливает концентрацию производства.

Общие расходы на промышленные товары в регионе r теперь состоят из двух частей: расходов со стороны потребителей и расходов

со стороны всех фирм, которые равны доходам, так как фирмы имеют нулевую прибыль:

$$E_r = \mu Y_r + \alpha n_r p_r q^*.$$

Теперь представим, что торговля имеет место только между двумя регионами, в каждом из которых предложение труда равно 1. Работники могут свободно перемещаться между промышленностью и сельским хозяйством внутри одного региона, но не между регионами. Промышленные товары и продукты питания торгуются между регионами с транспортными издержками. Обозначим λ_r долю работников в промышленности в регионе r.

Пусть также выпуск продуктов питания зависит от числа работников в сельскохозяйственном секторе согласно возрастающей строго вогнутой функции: $A(1 - \lambda_r)$. При этом зарплата в этом секторе будет равна предельному продукту $A'(1 - \lambda_r)$. При уменьшении занятости в сельском хозяйстве зарплата фермеров будет расти и сдерживать концентрацию в промышленности. Это возможно, если, например, регион имеет большую территорию или транспортная инфраструктура не развита и стоимость доставки сельскохозяйственной продукции внутри региона так высока, что импорт никогда полностью не сможет заместить местное производство продуктов питания.

Полное математическое описание этой модели выходит за рамки данного курса, поэтому рассмотрим сразу рис. 1, на котором представлена бифуркационная диаграмма системы для набора входных параметров спроса и технологий. Нас интересует, что будет происходить с занятостью в промышленности каждого региона но мере изменения транспортных издержек между регионами. Как показано на рис. 1, при высоких транспортных издержках равновесие является симметричным, однако снижение издержек в какой-то момент делает торговлю промышленными товарами целесообразнее и позволяет промышленности начать концентрироваться в регионе 1. При этом в регионе 2 растет выпуск сельскохозяйственной продукции, так что возникает разделение труда между двумя регионами. При дальнейшем снижении T симметрия восстанавливается. Причину восстановления можно видеть на рис. 2.

Как видно из рис. 2, когда начинается концентрация промышленности в регионе 1, реальная зарплата в нем увеличивается, а в регионе 2, который начинает специализироваться на производстве сельскохозяйственной продукции, падает, так как промышленные товары

в нем становятся дороже. Рост зарплаты в первом регионе продолжается по мере роста концентрации промышленности за счет того, что растет номинальная зарплата фермеров, а она в ситуации равновесия равна зарплате рабочих.
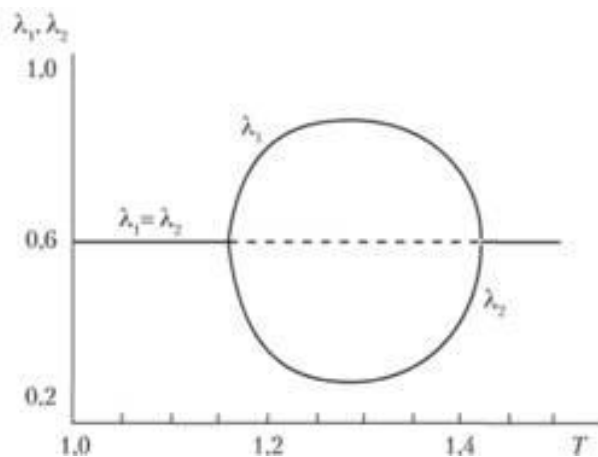

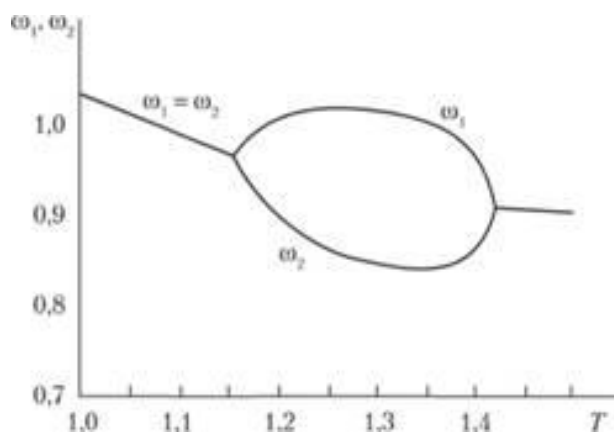Рис. 1. Бифуркационная диаграмма для системы из двух регионов

Рис. 2. Реальные зарплаты работников в странах в зависимости
от транспортных издержек

Если на начальном этапе концентрации рост зарплат компенсируется падением издержек фирм и потребителей за счет снижения расходов на доставку товаров, то в дальнейшем этот эффект ослабевает (Γ снижается и занимает все меньшую долю в стоимости продукции), а рост зарплат продолжается. Так что специализация регионов ослабевает, а затем и полностью исчезает.

Интересно, что если производственная функция для продуктов питания допускает постоянный предельный выпуск, т.е. зарплата в этом секторе не будет расти до бесконечности с уменьшением занято-

сти, то регионы с уменьшением T перейдут в равновесие со специализацией, хотя и неполной, но устойчивой. Это будет знакомая нам структура «ядро – периферия» или заметное на промышленной карте мира разделение север – юг. Однако реальные зарплаты в двух регионах также сравняются при T, близких к нулю, благодаря выравниванию всех цен на промышленные товары и сельскохозяйственную продукцию.

Теперь представим, что регионов и отраслей несколько, а экономика в целом постепенно растет за счет технического прогресса, который увеличивает производительность труда (эффективный труд L) и доходы потребителей. Транспортные расходы не меняются. Пусть также прирост дохода потребителей полностью расходуется на промышленные товары, если их доход превышает некоторый заданный прожиточный уровень. В этом случае доля расходов на продукты питания $1 - \mu$ снижается по мере роста L, так что при бесконечном L система стремится к симметричному равновесию, когда во всех регионах возникает одинаковая отраслевая структура.

Рассмотрим, как будет развиваться эта система из состояния, когда все отрасли сначала были сконцентрированы в одной стране. Динамика такой системы показана на рис. 3. На стадии I рост L вызывает рост зарплат в регионе 1, где находится вся промышленность, так как спрос на ее продукцию растет, работники переходят в сектор промышленности, выпуск в сельскохозяйственном секторе падает и зарплата растет. При этом в остальных регионах (или странах) реальные зарплаты снижаются, так как промышленные товары дорожают, а доходы растут не так быстро. На стадии II, однако, разница в реальных зарплатах становится очень большой и отдельным отраслям теперь выгодно начать производство в регионе (стране) 2. При этом выбор региона 2 из всех регионов (стран), не имеющих промышленности, зависит от случая, когда один регион начинает совсем чуть-чуть опережать остальные в объеме производства первых мигрирующих отраслей. Это преимущество в дальнейшем только увеличивается до тех пор, пока все отрасли не мигрируют и уровень зарплат в регионе 2 не сравняется с уровнем региона 1. Затем начинается индустриализация следующего региона (страны) и т.д. Причем первыми всегда мигрируют наиболее трудоемкие отрасли, так как для них зарплата более важна, чем стоимость комплектующих. Наименее трудоемкие отрасли, для которых важнее иметь доступ к дешевым комплектующим, чем к дешевому труду, мигрируют последними.

Фирмы могут отличаться также степенью ориентации своего выпуска на конечных или промежуточных потребителей. Те, что ориентированы на конечных потребителей, будут мигрировать раньше, так как их связи с остальными фирмами слабее.
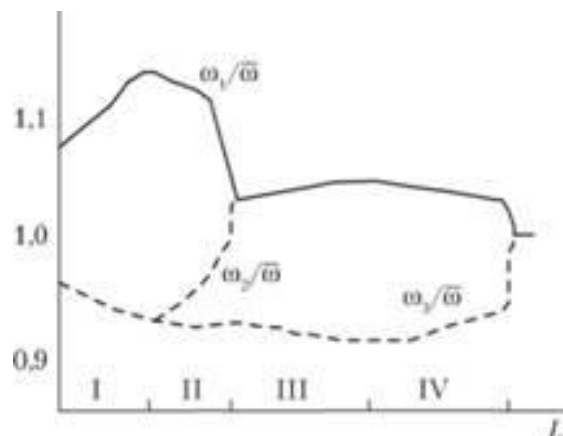

Рис. 3. Относительные реальные зарплаты в регионах
при росте L

В целом эта же логика объясняет спонтанную кластеризацию фирм, а также стремление многих политиков помогать созданию кластеров, ведь небольшие усилия по повышению рыночного потенциала для входа фирм на начальном этапе могут через механизмы концентрации вылиться в появление мощного индустриального региона в будущем. Более того, можно довольно прямолинейно использовать указанные выше результаты для определения групп отраслей, которые легче всего привлечь в новый кластер. Например, бесполезно приглашать в регион производителей швейного оборудования, если в нем нет развитого швейного производства, или производителей автомобильных компонентов, если рядом уже не работают достаточно большие автосборочные производства. Если промышленность в регионе вообще не развита, то начинать нужно с трудоемких видов производства, ориентированных на конечного потребителя, например, со сборки промышленных товаров, оказания услуг населению, ритейла, развития туризма и т.п.

Интересно, что в России многие города за счет бюджетных ресурсов и (или) ограничений на рынке труда пытаются сохранить промышленную структуру, которая досталась им в наследство от СССР, удержать на плаву старые предприятия-гиганты. А так как вокруг них зачастую не создавался кластер аналогичных и поддерживающих производств, им приходится производить многие комплектующие са-

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мостоятельно, как и раньше, что из-за низкого масштаба и ограниченности инвестиционных ресурсов ведет к завышенным издержкам и невысокому качеству продукции.

С позиций новой экономической географии можно предположить, что отказ от государственной поддержки (в той или иной форме) этих предприятий должен привести к закрытию большей части неконкурентоспособных производств и концентрации промышленности в некоторых регионах, где за счет экономии от масштаба и эффектов агломерации возможно появление глобальных конкурентоспособных производств, ориентированных на экспорт продукции, создание новых разновидностей товаров и брендов, востребованных на мировом рынке.

Итак, что же изучает новая экономическая география?

Несмотря на то что с момента ее появления прошло чуть более 20 лет, новая экономическая география может продемонстрировать солидные достижения в теории и фундаментальных исследованиях.

Во-первых, вопреки устоявшимся представлениям новая экономическая география исходит из предположения, что люди получают полезность от разнообразия. Это значит, что глобализация не ведет к гомогенизации товаров и услуг. Скорее наоборот: растущая пространственная конкуренция толкает фирмы к дифференциации продукции и улучшению ее потребительских качеств (если для этого имеются технические возможности). Специализация на определенных разновидностях продукции позволяет фирмам получить определенную рыночную власть и, выйдя на крупный рынок, использовать преимущества возрастающей отдачи от масштаба в ее производстве этой продукции. Монополистическая конкуренция становится доминирующей рыночной структурой и источником торговли. Продуктовое разнообразие, к которому получает доступ потребитель, не сокращается, а, напротив, возрастает (например, чилийские и австралийские вина не вытесняют с рынка французские или итальянские, а расширяют потребительский выбор).

Во-вторых, новая экономическая география совершила поистине революционный прорыв в вопросе о территориальном (пространственном) неравенстве. Напомним, что традиционные (неоклассические) теории международной торговли моделируют национальные экономики как комбинации заданных объемов немобильных факторов производства, которые вместе с тем являются идеально мобильными внутри стран, свободно перемещаясь из одной отрасли в другую, из одного региона – в другой. В условиях совершенной конкуренции и

постоянной отдачи от масштаба факторные цены между странами и регионами выравниваются.

Новая экономическая география основывается на концепциях несовершенной конкуренции и возрастающей отдачи. Это позволяет ей уловить влияние размера рынка на пространственное размещение производства. Эта зависимость является фундаментальной причиной существования и распространения региональных неравенств. Кроме того, допуская мобильность факторов производства, новая экономическая география показывает, как мобильность факторов может служить причиной, значительно усиливающей тенденцию к региональному неравенству на определенном этапе.

В то же время в новой экономической географии не только не абсолютизируется тенденция к усилению региональных диспаритетов, но, напротив, показывается, что после достижения определенного порогового значения агломерации вырастают издержки и отрицательные внешние эффекты, связанные с высокой концентрацией производственной деятельности в регионе-ядре, и при условии низких торговых издержек появляется обратная тенденция – к дисперсии, к рассредоточению производств на периферии.

В-третьих, еще один парадоксальный вывод новой экономической географии заключается в том, что улучшение инфраструктуры может быть вредным для некоторых регионов. Так, новая транспортная инфраструктура может подтолкнуть фирмы к перемещению в крупный регион за счет деиндустриализации малого региона, поскольку торговые издержки снижаются. Становится выгодным перебазироваться в регион-ядро и оттуда снабжать периферию. Правда, дальнейшая судьба малого региона тоже может быть успешной, так как со временем рост населения, производительности труда, а также либерализация внешней торговли будут стимулировать фирмы покидать крупный регион в поисках более дешевой рабочей силы и новых рынков.

В-четвертых, одной из основных проблем новой экономической географии является то обстоятельство, что она строится на моделях, которые очень специфичны и в силу этого могут рассматриваться скорее как примеры (теоретические кейсы или стилизованные факты). Построение полноценной модели общего равновесия, которая сочетала бы несовершенную конкуренцию с возрастающей отдачей от масштаба, – невероятно трудная задача, и она еще очень далека от решения.

Источник: https://studme.org/1832012624507/ekonomika/modeliro vanie_mezhdunarodnoy_torgovli_novoy_ekonomicheskoy_geografii

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17. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

18. Characterize Dixit–Stiglitz model dealing with monopolistic competition.

19. What does general equilibrium theory explain? What are the first and second fundamental theorems of welfare economics?

20. Do the exercises following the text on international trade on http://www.englishexercises.org/makeagame/viewgame.asp?id=13054

21. Do the exercises on application of international trade notions on http://www.enpc.fr/ceras/martin/brochureCIanglais.pdf

22. A list of the most popular ted talks on economic geography is on https://www.ted.com/search?cat=talks&per_page=12&q=geography *Watch some and make a glossary of terms.*

UNIT 12. WORLD ECONOMIC SITUATION

Warming up activity

Explain the meaning of the following expressions in English and give their Russian variants:

world gross product, premised on a set of assumptions, downside risks, noticeably lower, asset-backed securities, covered bond purchase programmes, targeted adjustments of liquidity, consumption tax increase, to offset weaknesses, secular stagnation, a salient feature, a sharp deceleration, infrastructural bottlenecks.

Tasks

1. What do you know about world economic situation? Think about financial and political spheres, migration policy and globalization.

2. Skim the report "World Economic Situation and Prospects 2015" issued by the United Nations Department of Economic and Social Affairs on

http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2015w esp_full_en.pdf. *Find out what the main trends were in 2015.*

3. Now look at the version of 2017: https://www.un.org/development/desa/ dpad/wp-content/uploads/sites/45/publication/2017wesp_full_en.pdf. *What trends of 2015 have evolved, what are the new challenges, how can you characterise the differences?*

4. Now compare the report that you have read in task 3 with the one issued BY IMF: https://www.imf.org/en/Publications/WEO/Issues/2017/09/19/ world-economic-outlook-october-2017. *Draw parallels and mark the differences.*

5. Research some information about World Economic Situation in 2018 and following years. What patterns can you distinguish?

6. Try yourself at quiz to know more about World Economy: http://www.gkduniya.com/world-economy-quiz

7. Give the digest from this extract from "World Economic Situation and Prospects 2015" both in English and Russian.

Employment trends
Labour market conditions remain challenging

The global employment situation remains a key policy challenge, as GDP growth continued to be modest and below potential in many parts of the world. Globally, employment is estimated to have grown by 1.4 per cent in 2014, similar to the pace in 2013, but still lower than the 1.7 per cent rate in pre-crisis years. As a result, unemployment figures remain historically high in some regions, even though they appear to have stopped rising. The overall labour market situation is, however, more complex and challenging if a wider range of indicators are taken into consideration, such as labour force participation, long-term unemployment, wage levels (box I.3), involuntary part-time work and informality.

Job creation is lacking in developed economies

In developed economies, the job recovery has been insufficient to recuperate the losses from the financial crisis. The employment rate (employment-to-population ratio) decline significantly after the financial crisis in devel-

oped economies and remains below the pre-crisis level, with the exception of Japan.

The overall decline in employment rates since the beginning of the financial crisis is explained by weak labour demand, but also by structural factors and lower labour force participation. A case in point is the United States, where the labour force participation rate is near its lowest level in the past 10 years due to population ageing, an increase in skills upgrading and a higher number of discouraged workers.

Employment has been improving slowly in developed economies, although significant challenges remain. While the unemployment rate in the United States has decreased to below 6 per cent, the unemployment rate in the euro area remains elevated, with several economies in the euro area featuring extremely high unemployment. In addition, youth unemployment rates remain high in several European countries, with 53 per cent in Spain, 44 per cent in Italy and 35 per cent in Portugal, for example.

During the Great Recession, the duration of unemployment has been abnormally prolonged in many developed and developing economies (figure I.5), bringing long-term unemployment rates to record highs, including among youth. In the Organization for Economic Cooperation and Development (OECD) countries as a whole in the last quarter of 2013, one third of unemployed individuals had been out of work for 12 months or more. This equals 16.7 million people, or twice as many as before the financial crisis. Even in countries where unemployment rates have improved or remain low, long-term unemployment remains persistently high. For instance, in the second quarter of 2014 in the United States, the share of long-term unemployed in total unemployment was 23.6 per cent, still more than double the figure prior to the financial crisis; in the euro area, the share of long-term unemployed reached as high as 62 per cent in Italy and Ireland.

In developing countries and economies in transition, the employment situation has not improved considerably either, with economic expansion decelerating in many economies. However, there have been noticeable improvements in some countries since the beginning of the financial crisis, including in some larger emerging economies. For example, Argentina, Brazil, Indonesia, the Russian Federation, Saudi Arabia and Turkey have recorded higher employment rates in 2014 than in 2007.

Despite slower employment growth, the unemployment rates have remained relatively stable since 2013, partially owing to a level of labour

force growth in East Asia, South Asia and Latin America and the Caribbean that is lower than pre-crisis levels. In general, slower labour force growth can be attributed to ageing of the economically active population and to more young people enrolling in longer educational programs. The highest unemployment rates of 2013 continue to be in North Africa and Western Asia, which registered 12.2 per cent and 10.9 per cent, respectively. In both cases, the unemployment rates remain higher than pre-crisis rates, and they are not expected to improve during the forecast period owing to extremely high structural unemployment, particularly among youth, and several armed conflicts that will require longer-term solutions.

Conversely, reported unemployment rates remained low across much of East Asia and South Asia in 2013, at 4.5 per cent and 4.0 per cent, respectively. Nevertheless, the unemployment rate in East Asia has been rising since the onset of the financial crisis, from 3.8 per cent in 2007, while the employment rate remains below the pre-crisis level, confirming relatively slow employment growth.

In the CIS and South-Eastern Europe, unemployment rates remain relatively high in general, with an average of about 8.2 per cent in 2013 and alarmingly high unemployment rates in most of South-Eastern Europe. Nevertheless, the unemployment rate was at historical lows in the Russian Federation, at 5.1 per cent in the first quarter of 2014, 0.2 percentage points lower than the previous year.

In many developing countries, the unemployment rate is, however, only a limited indicator to assess labour market conditions, given the high prevalence of informal and vulnerable employment. According to International Labour Organization (ILO) estimations, informal employment is widespread in Africa, Asia and Latin America and the Caribbean, with a cross-country average between 40 and 50 per cent. But significantly higher informality rates can be found in many economies, particularly in South and South-East Asia, reaching in some cases as high as 90 per cent of total employment. In India, for instance, despite some progress in reducing the share of workers in the informal sector, they still represented 82.2 per cent of the labour force in 2011–2012. In addition to informality, gender gaps in earnings and the employment rate are still widespread in many parts of the developing world, especially where informality is more pronounced. For instance, the participation rate of women in the labour force is below 40 per cent in almost all countries in South Asia, whereas for men, it tends to be around 75 per cent.

Source: http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2015wesp_full_en.pdf

8. Characterise employment situation in different parts of the world according to the extract and what you have already read.

9. Do one more quiz on Global Economics Attitude:
http://www.pewglobal.org/quiz/global-econ/

10. Insert the following words from the whole text "World Economic Situation and Prospects 2017" in the gaps.

concerted efforts	bulk of	facilitate	obstruct
mitigation	deleveraging	mainstay	deterioration
heightened	abrupt	spillover	vulnerability

1. In winter the effect is _____ by the snow which caps all the higher peaks.

2. A process of balance sheet _____ has spread to nearly every corner of the economy.

3. Various laws have been passed to _____ agrarian credit.

4. I just did not want people to know of my _____.

5. Despite many _____, restrictions and bans were almost universally ignored.

6. This leads to _____-of agriculture and lessens the production.

7. The regular military was in no position to help, not when the _____ it was overseas.

8. Fishing is the occupation of the men, and the real _____ of the inhabitants.

9. Finite risk or loss _____ insurance was developed in the 1990s.

10. Is there any evidence of perjury and a conspiracy to _____ justice?

11. The beginnings are often curt, the endings even more _____.

12. _____ pressure from wheat and corn pushed down bean futures.

11. Prepare a presentation about one of the aspects of World Economic Situation: Oil Prices, Fiscal Policy, Trends in Commodity Prices, Trade Policy, Private Resources Flow, Regional Development. *Use linking words, charts and some vivid examples.*

12. Look for the English equivalents of the following terms: ОЭСР, реальный ВВП, денежно-кредитное стимулирование, краткосрочная перспектива, экономика окрепла, ускорение темпов подъема, меры стимулирования, синхронизация роста.

13. Make the written translation of the following text into English.

ОЭСР улучшила прогноз роста мировой экономики в 2017 году

Москва. 28 ноября. INTERFAX.RU – Организация экономического сотрудничества и развития (ОЭСР) улучшила прогноз роста глобальной экономики на текущий год. Оценка увеличения реального ВВП в 2017 году повышена до 3,6 % с ожидавшихся ранее 3,5 %, говорится в докладе организации. В 2018 году ожидается ускорение темпов подъема до 3,7 %, этот прогноз не пересматривался. В 2019 году глобальный ВВП повысится на 3,6 %.

По итогам прошлого года глобальная экономика выросла на 3,1 %. «Мировая экономика окрепла, а меры денежно-кредитного и налогового стимулирования обеспечили синхронизацию роста в большинстве стран», – говорится в обзоре ОЭСР.

«Ожидается, что темпы повышения ВВП несколько улучшатся в 2018 году, но останутся ниже докризисного уровня. Долгосрочные проблемы замедляют темпы роста и негативно влияют на устойчивость экономики», – отмечают эксперты ОЭСР, добавляя, что прогноз на краткосрочную перспективу позитивен.

Среди проблем авторы обзора выделяют высокую долговую нагрузку на домохозяйства и компании во многих развитых и развивающихся странах. ОЭСР улучшила свои прогнозы относительно экономики США и теперь ожидает роста на 2,2 % в 2017 и на 2,5 % в

2018 году против прогнозировавшихся ранее 2,1 % и 2,4 % соответственно.

Прогнозы для еврозоны были улучшены на 0,3 п.п. и 0,2 п.п. соответственно, до 2,4 и 2,1 %. В Германии ожидается ускорение роста в текущем году до 2,5 с 1,9 % в прошлом, в 2018 году темпы незначительно замедлятся, до 2,3 %. Прогноз темпов роста экономики Франции на 2017 год был повышен на 0,1 п.п., до 1,8 %, на 2018 год – на 0,2 п.п., до 1,8 %. Итальянская экономика вырастет на 1,6 и 1,5 % соответственно, тогда как предыдущий прогноз предполагал рост на 1,4 и 1,2 %.

Ожидания роста ВВП Японии в 2017 году были ухудшены на 0,1 п.п., до 1,5 %. Прогноз на 2018 год остался неизменным – 1,2 %.

Канадская экономика, как ожидается, вырастет на 3 % в текущем году – рекордными темпами среди стран G7, хотя прогноз и был ухудшен на 0,2 п.п. по сравнению с сентябрем. В 2018 году ожидается замедление роста до 2,1 % (прогноз ухудшен также на 0,2 п.п.).

Экономика Великобритании вырастет на 1,5 и 1,2 % соответственно, ранее ожидался рост на 1,6 и 1 %.

Оценка роста китайского ВВП в этом и следующем году была оставлена неизменной – 6,8 и 6,6 % соответственно. Тем временем прогноз для экономики Индии на 2017 году был оставлен на уровне 6,7 %, прогноз на 2018 год был ухудшен на 0,2 п.п., до 7 %. В Бразилии ожидается рост экономики на 0,7 % в этом году и 1,9 % в следующем, прогноз был улучшен на 0,1 п.п. и 0,3 п.п.

Созданная в 1961 году ОЭСР – одна из ведущих экономических организаций мира, которая включает 35 наиболее развитых государства. В настоящее время в нее входят Австралия, Австрия, Бельгия, Великобритания, Венгрия, Германия, Греция, Дания, Израиль, Ирландия, Исландия, Испания, Италия, Канада, Латвия, Люксембург, Мексика, Нидерланды, Новая Зеландия, Норвегия, Польша, Португалия, Словакия, Словения, США, Турция, Финляндия, Франция, Чехия, Чили, Швейцария, Швеция, Эстония, Южная Корея и Япония. Штаб-квартира ОЭСР находится в Париже.

Источник: http://www.interfax.ru/business/589380

14. In a week back-translate your text and compare the result with the original text. Analyze and explain the discrepancies.

15. Form the word partnerships. Then discover them in the following text

boost	intelligence
capitalize	mixed results
recurring	impacts
lingering	growth
artificial	on advances
combined	theme
pose	suspicions
societal	output

AI Will Add $15.7 Trillion to the Global Economy
Bloomberg News

Artificial intelligence may not be so threatening after all.

Amid warnings of the economic disruption that robots and automation could unleash on the world economy as traditional roles disappear, researchers are finding that new technologies will help fuel global growth as productivity and consumption soar.

AI will contribute as much as $15.7 trillion to the world economy by 2030. That's more than the current combined output of China and India.

Gains would be split between $6.6 trillion from increased productivity as businesses automate processes and augment their labour forces with new AI technology, and $9.1 trillion from consumption side-effects as shoppers snap up personalized and higher-quality goods, according to the report.

"The mindset today is man versus machine," Anand Rao, an AI researcher at PwC (PricewaterhouseCoopers LLP) in Boston, said at a briefing Tuesday at the World Economic Forum's Annual Meeting of the New Champions gathering in Dalian, China, where the report was released. "What we see as the future is man and machine together can be better than the human."

Global GDP, which stood at about $74 trillion in 2015, will be 14 percent higher in 2030 as a result of AI, according to PwC's projections.

Air hockey

At the seaside venue, where global business executives, researchers and officials rubbed shoulders, a robot played air hockey with attendees, delegates were invited to build robots in workshops, and AI was a recurring theme at panel discussions and chats on the sidelines.

PwC found that the world's second-biggest economy stands to gain more than any from AI because of the high proportion of gross domestic product derived from manufacturing.

"The impact of AI on China will be huge and greater even than the impact on the U.S.," Rao told reporters at a briefing on the report.

Accenture Plc also released an estimated value this week. AI could increase China's annual growth rate by 1.6 percentage point to 7.9 percent by 2035 in terms of gross value added, a close proxy for GDP, adding more than $7 trillion, according to a report from the firm released Monday with Frontier Economics.

Labour market

Advances are rapid, and pose mixed results for the labour market, according to Tom Mitchell, a professor in the machine learning department at Carnegie Mellon University in Pittsburgh. Computers, poor at recognizing images and items a decade ago, have gone from 50 percent accuracy to 95 percent, and now can use a higher intelligence, different than hearing and seeing, that involves a chain of logical reasoning, Mitchell said Thursday in a talk in Dalian.

"Some jobs are being eliminated, many routine clerical jobs, toll booth operators," he said. "There are other jobs, like doctor jobs, where AI is not replacing them but making them better by augmenting their capabilities. There's another force at work where AI and information technology more broadly are creating new kind of business models, like Uber."

AI also involves risk. Regulators are wary of rapidly developing systems that they have little oversight of, and there are lingering suspicions about

erosion of privacy and that the ultimate effect of AI could do more harm than good for people's jobs and livelihoods.

Tech cornucopia

"We need to find ways to deal with any negative societal impacts that might happen, such as technological unemployment," Wendell Wallach, an ethicist and scholar at Yale University's Interdisciplinary Center for Bioethics, said on a panel Tuesday. "We have a moral obligation to make sure that technologies we put in place serve humanity as a whole, not just a small segment of it, nor a small segment of those who are best able to capitalize on technological advances."

Rapid technological advances have nurtured Silicon Valley heroes over the past 15 years, but more work must be done to boost economic growth for more people, according to Tyler Cowen, an economics professor of George Mason University, in Fairfax, Virginia, and co-author of the economics blog Marginal Revolution.

"If you're reading that we're receiving a new technological cornucopia of new products, basically that can't be true," Cowen said at on a forum panel. "It would be showing up in the real wages of most people."

— With assistance by Enda Curran, and Xiaoqing Pi

Source: https://www.bloomberg.com/news/articles/2017-06-28/ai-seen-adding-15-7-trillion-as-game-changer-for-global-economy

16. In pairs choose one part of the text above and retell to your partner.

17. A list of the most popular ted talks on world economics is on https://www.ted.com/playlists/272/understanding_world_economics *Watch some and make a glossary of terms.*

18. Watch the third video on https://www.ted.com/playlists/272/ understanding_world_economics *and answer whether China is the new idol for emerging economies?*

19. Read on the site of Russian Ministry of Economic Development http://www.mirprognozov.ru/prognosis/economics/prognoz-razvitiya-mirovoy-ekonomiki-do-2030-goda-ot-minekonomrazvitiya-rf/ *about forecast of economic development in the world until 2030 and compare with what you have learned in this unit.*

20. Organize a round table on prospects of cooperation. All of you should represent different countries and different spheres of economy. Negotiate using special vocabulary:

Welcoming and Establishing a Rapport
- It's my pleasure to welcome you to …
- I would like to welcome you to …
- Is this your first visit to …?
- Did you have a good journey?

Setting the Negotiation Agenda
- I would like now to begin by suggesting the following agenda.
- To start with, I think we should establish the overall procedure
- Is this okay with you?

Negotiation Phrases for Making Proposals
- We'd like to propose that …
- We propose / suggest …
- Regarding your proposal, our position is …
- How do you feel about …

Responding to Suggestions
- Maybe it would be better to …
- Perhaps a better idea would be …
- May we offer an alternative? We propose that …
- From where we stand, a better solution might be …

Agreeing – Reacting to a Negotiation Proposal
- I think we can both agree that…
- I agree with you on that point.
- I think that would be acceptable.

Negotiation Phrases for Objecting
- That's not exactly how I look at it.
- If you look at it from my point of view…
- I have some reservations about that…
- From my perspective…
- I'm afraid we couldn't agree to that…

Giving a Reason in Negotiations
- The reason for that is …
- This is because …

Prioritising Interests
- The most important issue for us is …
- Our intention is …
- Our main priority is …
- We might like to …

Giving Clarification in Negotiations
- If I understood you correctly …
- Are you suggesting that …
- Do you mean …
- What exactly do you mean by …?
- I'm not sure I fully understand your point.
- Could you clarify one point for me?

Source: http://www.businessphrases.net/negotiation-phrases/

21. Play the Negotiations Challenge game and test your Business English for negotiations: https://www.businessenglishpod.com/2015/05/17/business-english-negotiations-game/

22. Read the following joke. How do you understand it?

A mathematician, an accountant and an economist apply for the same job.

The interviewer calls in the mathematician and asks "What do two plus two equal?" The mathematician replies "Four." The interviewer asks "Four, exactly?" The mathematician looks at the interviewer incredulously and says "Yes, four, exactly."

Then the interviewer calls in the accountant and asks the same question "What do two plus two equal?" The accountant says "On average, four – give or take ten percent, but on average, four."

Then the interviewer calls in the economist and poses the same question "What do two plus two equal?" The economist gets up, locks the door, closes the shade, sits down next to the interviewer and says, "What do you want it to equal"?

Find other jokes about economists on https://www3.nd.edu/~jstiver/jokes.htm

Учебное издание

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Профессионально ориентированная коммуникация на английском языке для экономистов

Professionally-oriented Communication in English for Economists

Учебное пособие

Для заметок