

TRŽIŠTA SA ASIMETRIČNIM INFORMACIJAMA

Džordž Akerlof, Majkl Spens i Džozef Štiglic

Nobelova nagrada za 2001.

Sedamdesetih i osamdesetih godina 20. veka došlo je do razvoja jedne nove grane ekonomske nauke - ekonomije informacija. Informacija postaje proizvod kao i svaka druga roba i do nje se može doći uz odgovarajuću tržišnu cenu. Naime, informacija postaje bitna za ekonomske analize. Nobelova nagrada za ekonomiju u 2001. godini upravo je dodeljena analitičarima koji su najzaslužniji za etabliranje i unapređenje ekonomije informacija odnosno informacione ekonomije. U objašnjenju Švedske kraljevske akademije navodi se da su Akerlof, Spens i Štiglic Nobelovu nagradu dobili za analizu tržišta sa asimetričnim informacijama.

Trojica dobitnika ove nagrade pošli su od stava da tržišni učesnici u stvarnim privrednim transakcijama, ne samo što nisu potpuno informisani, nego su i informacije kojima raspolažu asimetrično raspodeljene. Odnosno, jedna strana koja učestvuje u transakcijama ima bolji uvid u činjenično stanje o nekoj varijabli koja je bitna za ugovor od druge strane.

Sve je pokrenuo jedan članak Akerlofa koji



MARKETS WITH ASYMMETRIC INFORMATION

George A. Akerlof, A. Michael Spence and Joseph E. Stiglitz

Nobel Prize for 2001

The 1970s and 1980s were marked by the development of a new branch of economics - economics of information. Information becomes a product as any other type of goods, and it may be acquired at the appropriate market price. In other words, information becomes relevant for economic analyses. Nobel Prize in Economics for 2001 was awarded to the analysts who deserve most credit for having established and promoted the economics of information. The explanation of the Swedish Royal Academy states that Akerlof, Spence and Stiglitz won the Nobel Prize for the analysis of markets with asymmetric information.

The three Nobel Prize winners started from the idea that not only are the market participants in real economic transactions incompletely informed, but that the information they possess are asymmetrically distributed. That is to say, one transactional party has a better insight into the factual state of affairs concerning certain contractually relevant variable than the other party.

je objavljen 1970. godine u kome se analizira funkcionisanje specifičnog tržišta "limunova" sa dva tipa proizvoda: kvalitetni i manje kvalitetni. Prodavci poseduju tačne podatke o ta dva tipa proizvoda. Pretpostavlja se da nema razmene informacija između kupca i prodavca. Ukoliko bi kupac bez problema i dodatnih troškova mogao da utvrdi kvalitet ponuđenih proizvoda, teškoće u procesu razmene na tržištu tih roba ne bi postojale. Tada se procesi prilagođavanja i uspostavljanja ravnoteže na ovom tržištu ne bi razlikovali od uobičajenog procesa prilagođavanja na bilo kom tržištu koje se u ekonomskoj teoriji pretpostavlja. Cene bi se uspostavile tako što bi se prilagodile ponuđenim kvalitetima proizvoda na tržištu i odražavale bi upravo ove različite kvalitete.

Kupci svoju pažnju usmeravaju na procenu prosečnog kvaliteta proizvoda koji se pojavljuje na tržištu za koji onda vežu svoje ponašanje. Od prosečnog kvaliteta zavisi i cena koju su oni spremni da ponude. Budući da se cena formira na osnovu prosečnog kvaliteta, prodavci "limunova" bi ostvarili više nego što njihov proizvod vredi, a prodavci kvalitetnih proizvoda manje. Povlačenje ponude kvalitetnih proizvoda obara prosečan kvalitet pa samim tim i cenu koju su kupci spremni da plate. Dolazi do obaranja cene koju su kupci spremni da plate za prosečan kvalitet što direktno utiče na formiranje ponude tog određenog proizvoda. Pokušaj da se na tržištu prodaju i proizvodi slabijeg kvaliteta izaziva dodatnu reakciju kupaca. Oni menjaju svoja očekivanja o prosečnom kvalitetu proizvoda na tržištu. Na kraju dolazi do toga da se na tržištu nude upravo oni od dotičnih proizvoda kojih prodavci žele da se prvo oslobode - limunovi, za koje je, međutim, teško naći kupca.

Ova situacija se opisuje kao tipično stanje "skrivenih informacija". Uočava se zapravo pojava mehanizma "negativne selekcije" - na tržištu ostaju proizvodi lošeg kvaliteta, a proizvodi dobrog kvaliteta se ne nude.

Kako prevazići nepovoljni mehanizam prilagođavanja do kojih dolazi spontano na tržištima sa asimetričnim informacijama? Dva su rešenja: (1) prvo se zasniva na pretpostavci da je neophodno uspostavljanje takvih odnosa koji daju relevantne podsticaje onoj strani koja raspolaže privatnim - skrivenim informacijama da ih otvoreno saopšti i tu je ponuđen koncept "tržišnog signaliziranja" i (2) drugo se zasniva na aktivnoj ulozi strane koja je slabije informisana i tada se radi o takozvanom tržišnom "skriningu".

Signaliziranje predstavlja igru dva igrača od koji je jedan sa privatnim informacijama. Igra je u dva poteza: (1) informisaniji igrač šalje poruku drugom, slabije informisanom igraču i (2) slabije informisan igrač shodno primljenoj poruci prilagođava svoje ponašanje i izbor. Igra se zasniva na pretpostavci da je prvi igrač voljan da pošalje signal drugom igraču. Profesor Spens se u svojoj knjizi 1974. godine bavi upravo tržišnim signaliziranjem.

Tržišni skrining je način rešavanja problema negativne selekcije u slučaju poslovanja osiguravajućeg društva.

Analize tržišta sa asimetričnim informacijama su značajne za ekonomsku teoriju jer se na ovaj način ekonomska analiza postavlja u okvire koji su primereniji konkretnom privrednom životu. Nakon uspostavljanja temeljnih principa nove teorije, na osnovu kojih mogu da se analiziraju problemi tržišta u uslovima nepotpunih i



Ceremonija dodele Nobelove nagrade za 2001. godinu u Stokholmskoj koncertnoj dvorani

2001 Nobel Prize Award Ceremony at the Stockholm Concert Hall

This whole idea was launched by an article published by Akerlof back in 1970, in which he analysed the functioning of a specific "lemon" market, with two types of products: high-quality products and lower-quality products. The sellers possess the accurate data about these two types of products. It is assumed that there is no exchange of information between the buyer and seller. If the buyer could determine the quality of offered products without any problems or additional costs, there would be no difficulties in the process of exchange of those goods in the market. In that case, the adjustment and equilibrium establishment processes in that market would have been no different from the standard adjustment process in any market whose existence is assumed in economic theory. The prices would have been established by being adjusted with the offered levels of quality of products in the market, and would have reflected these diverse levels of quality.

Buyers focus their attention to the assessment of average quality of a product appearing in the market, which, in turn, influences their behaviour. As a result, the price they are ready to offer depends on the average quality. Given that the price is formed based on average quality, the sellers of "lemons" would yield more profit than their product is really worth, whereas the sellers of high-quality products would yield less. Withdrawal of quality products from the offer lowers the average quality, thus reducing the price the buyers are willing to pay. The reduction in the price that the buyers are ready to pay for average quality directly influences the definition of a certain product's offer. The attempt for lower quality products to be sold at the market as well triggers an additional reaction on the part of the buyers. They change their expectations about the average quality of the products available at the market. Ultimately, what is offered in the market are those exact products that the sellers wish to dispose of first - the "lemons", for which, however, it is very difficult to find a buyer.

This situation is described as a typical state of "hidden information". What actually occurs is the "negative selection" mechanism - the market is left with bad-quality products, and good-quality products are not on offer.

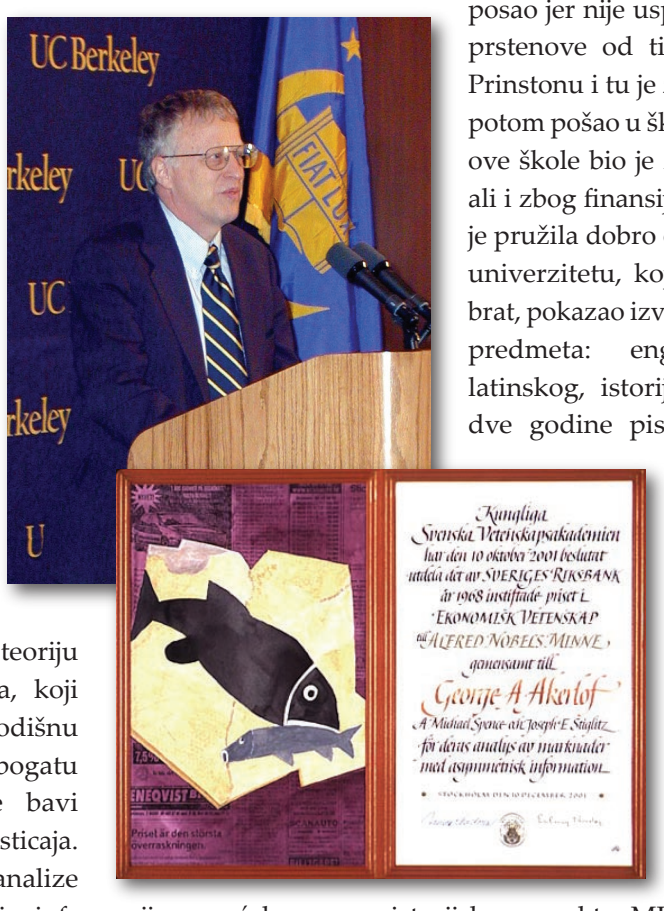
How to overcome the unfavourable adjustment mechanism which occurs spontaneously in the markets with asymmetric information? There are two solutions: (1) the first is based on the assumption that it is necessary to establish such relations which provide relevant incentives to the party in the possession of private-hidden information to publicly disclose these information, which brings us to the concept of "market signalling"; and (2) the second is based on the active role of the less informed party, in which case we are dealing with the so-called "market screening".

Signalling is a two-player game, with one player having private information. The game has two steps: (1) the better informed player sends a message to the other, less informed player; and (2) the less informed player, according to the received message, adjusts his behaviour and choice. The game is based on the assumption that the first player is willing to send a signal to the other player. In his book published in 1974, Professor Spence deals with the concept of market signalling.

Market screening is a method of solving negative selection problems in the case of insurance companies' operations.

Analyses of asymmetric information markets are significant for economic theory because thereby economic analysis is placed within the frames more appropriate for concrete economic activities. After the foundation principles of the new theory were established, to serve as a basis for analysing the problems that a market faces in the conditions of incomplete and asymmetric information, the theory has also been implemented in individual fields: labour market, financial markets, health insurance market, etc. In other words, these analyses have become powerful analytical tools for investigation of some familiar phenomena which the economic theory and economic science in general have not dealt with until that point. Thus, for instance, market signalling came to be used for various purposes. A guarantee provided by the manufacturer of some goods may be viewed as a signal of its high quality; in the negotiation processes, one negotiating party rejects the offers by the other party, thus signalizing its negotiating power; a monopolist who maintains low prices actually signalizes his low costs, thus seeking to discourage and

asimetričnih informacija, došlo je i do njene primene na pojedinačna područja: tržište rada, finansijska tržišta, tržište zdravstvenog osiguranja... Drugim rečima, ove analize postale su moćna analitička oruđa pri istraživanjima nekih poznatih fenomena kojima se ekonomska teorija i ekonomska nauka u celini do tada nisu bavile. Tako je, na primer, tržišno signaliziranje doživelo raznovrsnu primenu. Garancija koju nudi proizvođač neke robe može da se posmatra kao signal njenog visokog kvaliteta; u procesima pregovaranja jedna pregovaračka strana odbija ponude druge strane i tako joj signalizira svoju pregovaračku moć; monopolista koji održava niske cene zapravo signalizira svoje niske troškove i nastoji da tako obeshrabri i spreči ulazak potencijalnih konkurenata. Informaciona ekonomija je identifikovala i teoriju principala i agenta, koji predstavlja ishodišnu tačku za bogatu literaturu koja se bavi problematikom podsticaja. Problematika analize tržišta sa asimetričnim informacijama već dugo predstavlja deo standardnog udžbeničkog materijala na kursevima mikroekonomije na svetskim univerzitetima.



Džordž Akerlof

Akerlof je rođen 1940. godine u Nju Hejvenu, Konektikat, SAD, u porodici šveđanina koji je bio hemičar i u SAD došao na doktorske studije i tu i ostao. Majka mu je bila domaćica koja se brinula za Džordža i njegovog dve godine starijeg brata Karla. Prve godine obrazovanja proveo je u jednoj privatnoj školi u Pitsburgu. Bio je bolešljivo dete i kako sam priznaje fizički i intelektualno mnogo slabiji od Karla. Kada je imao deset godina prešli su u Merilend jer je otac hemičar na Jejl univerzitetu prešao sa službom u jednu fabriku baruta. On i brat išli su u školu u Vašingtonu. Prinston univerzitet je 1950. godine zaposlio oca u istraživačkoj laboratoriji te su i deca prešla u jednu privatnu školu. To je bila staromodna, klasična škola i tu nije imao nikakvih problema sa profesorima jer je, kako i sam tvrdi, bio "štreber". Idiličan život u lepoj kući bio je posle godinu i po dana prekinut jer su se iz nje iselili pošto je njegov otac izgubio posao jer nije uspeo da ponovo napravi prstenove od titanijuma. Ostali su u Prinstonu i tu je završio deveti razred, a potom pošao u školu u Lorensvilu. Izbor ove škole bio je zbog blizine Prinstona, ali i zbog finansijskih razloga. Škola mu je pružila dobro obrazovanje te je na Jejl univerzitetu, koji je pohađao i njegov brat, pokazao izvrsno znanje iz izabranih predmeta: engleskog, francuskog, latinskog, istorije i matematike. Prve dve godine pisao je i učestvovao u uređenju časopisa ovog univerziteta. Razmišljao je čime će se baviti posle studija, da li bi to bila istorija ili ekonomija. Opredelio se da ako istorija prevagne, bude istoričar ekonomije, a ako to bude ekonomija - bavio bi se ekonomijom sa istorijskog aspekta. MIT univerzitet je upisao 1962. godine iznenadivši se sopstvenim odličnim znanjem iz matematike i ekonomije. Na ovom univerzitetu stekao je mnoge prijatelje i među njima i Štiglica.

Doktorirao je 1966. godine i postao asistent na Berkli univerzitetu. U tom periodu je napisao i knjigu "Tržište limunova" kojom je ušao u krug za izbor dobitnika Nobelove nagrade. U izboru teme, a i tokom pisanja ove knjige, imao je veliku pomoć Toma Rotenberga. Proveo je godinu dana (1967/68.) na Indijskom institutu za statistiku. Radeći na jednom projektu u ovoj zemlji, došao je do potvrde saznanja da su nestandardne analize neophodne za

prevent the emergence of potential competitors. Information economy has also identified the principal-agent problem, which has become a source of numerous studies dealing with the subject-matter of incentives. Analysis of markets with asymmetric information has for quite a while been a part of the standard course-book material for the courses in micro-economy at the universities worldwide.

George Akerlof

Akerlof was born in 1940 in New Haven, Connecticut, USA. His father, born in Sweden, was a chemist who had come to the United States to obtain a PhD and stayed there. His mother was a housewife, taking care of George and his two years older brother Carl. His first years of schooling were at a private school in Pittsburgh. He was a sickly child, and, according to his own words, a physical and intellectual inferior to his brother Carl. When he was ten, they moved to Maryland, because his father, a chemist on the Yale faculty, started working for a powder factory. George and his brother attended a school in Washington. In 1950, Princeton University hired his father to work in one of its research laboratories, and the children shifted to another private school. The school was old-fashioned, and put emphasis on classical education. He had no conflicts with the teachers there, since, as he himself claims, he belonged to a small group of "nerds". The idyllic life in the large, beautiful house was broken after one and a half years, when they had to move out, because his father lost the job, being unable to reproduce his previous feat of titanium rings. They remained in Princeton, where he finished the ninth grade, and then moved to the Lawrenceville School. The choice of school was both due to financial reasons and because it was close to Princeton. The school equipped him with sound education, and he entered Yale University, which his brother also attended, with advanced standing in the selected subjects: English, French, Latin, history and mathematics. His first two years at Yale were mainly spent writing and editing the newspapers of this university. When considering what he would do after graduate studies, he was convinced that it would be either history or economy. If he was going to be a historian, then he would be an economic historian, and if he was to be an economist - he would consider history as the basis for his economics. He entered MIT in 1962, and was surprised by his own excellent background in mathematics and economics. He made many friends at this university, including Stiglitz.

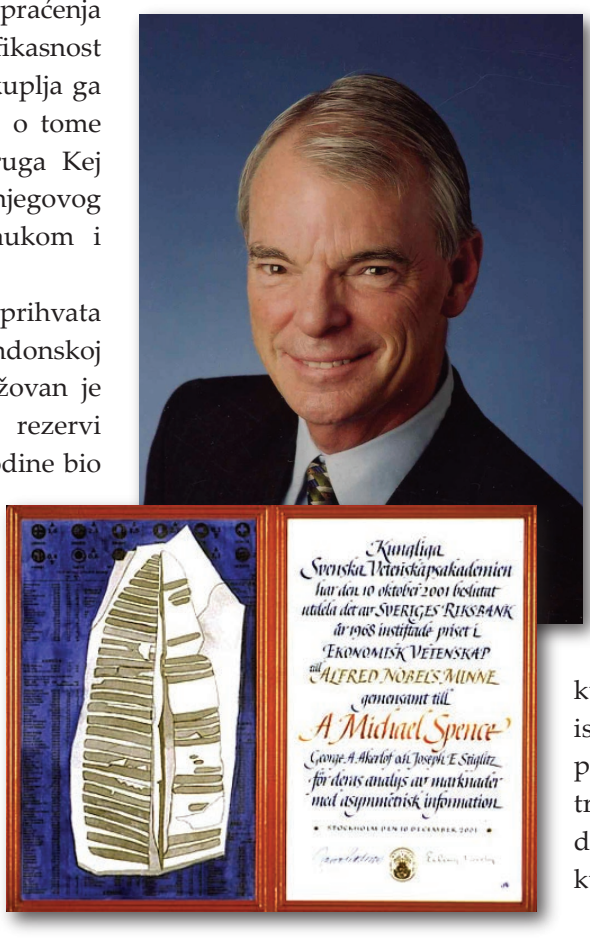
He obtained his PhD in 1966 and became an assistant professor at Berkeley. It was in that period that he wrote the "Market for Lemons", which is the work for which he has been cited for the Nobel Prize. In the choice of topic and in execution, he was helped considerably by Tom Rothenberg. He spent a year (1967/68) at the Indian Statistical Institute in New Delhi. Working on one project in this country, he confirmed his knowledge that nonstandard analyses were needed to understand many economic transactions. Already in 1969 he was voted tenure by the department of economics at Berkley. Somewhat later, in 1973 he was appointed Senior Economics at the Council of Economic Advisers. The next year, he got married, and, disappointed for not having been promoted to a full professor, found professional



Džordž Akerlof prima nagradu od švedskog kralja

George Akerlof receiving his Prize from His Majesty the King

razumevanje mnogih ekonomskih transakcija. Već 1969. godine postaje predavač na katedri za ekonomiju na Berkli univerzitetu. Nešto kasnije, 1973. godine izabran je za višeg ekonomistu Nacionalnog ekonomskog saveta SAD. Sledeće godine se ženi i razočaran što nije unapređen za profesora profesionalnu satisfakciju pronalazi u pisanju stručnih radova. Napisao ih je oko 50. Svi su se bavili efektima praćenja bankarskih računa na efikasnost monetarne politike. Zaokuplja ga i teorija nezaposlenosti i o tome sve više razmišlja. Supruga Kej Leong ga napušta zbog njegovog opsesivnog bavljenja naukom i pisanjem.



Akerlof ubrzo prihvata posao profesora na Londonskoj ekonomskoj školi. Angažovan je i u Odboru Federalnih rezervi SAD zbog čega je cele godine bio neprestano na relaciji Berkli-London. U tom periodu upoznaje Dženet Jelen sa kojom se 1978. godine i venčava. Skladni partneri u braku zavoleli su život u Londonu a bili su i istomišljenici po pitanju makroekonomije, jedino što je Dženet bila zagovornik slobodne trgovine. Akerlof je bio član Berkli kadrova, a kada je i Dženet dobila 1980. ponudu za poslovnu školu, vratili su se u Berkli, SAD. Tamo im se, godinu dana kasnije, rodio sin.

U zajedničkom istraživanju na temu uticaja različitih pretpostavki o pravičnosti i društvenim običajima na nezaposlenost razmatrali su dva osnovna problema u makroekonomiji. Prvo pitanje je da li postoji nevoljna nezaposlenost i zašto nezaposlena osoba ne bi mogla da pronađe posao koji pruža manje prednosti. Drugo pitanje je da li uz kompletne informacije monetarna politika može da ima realnog ekonomskog uticaja. Osim ovog, u periodu od 1984. do 1994. godine Akerlof i Dženet su mnoge stručne radove pisali zajedno. Dženet je 1994. godine postala član borda Federalnih rezervi i zbog toga se sele u Vašington. Sledeće tri godine Akerlof je putovao u Berkli da bi držao predavanja, a kada mu je supruga postala presedavajuća u Nacionalnom ekonomskom savetu SAD 1997. godine, Berkli mu je dao odsustvo te se bavio kućnim poslovima. Kada je radila za Belu kuću, Akerlof joj je bio velika psihološka podrška. I tada je nastavio da radi na makroekonomskoj teoriji i na pitanju siromaštva. Kada je Dženet prestala da radi za Belu kuću, vratili su se u Berkli i nastavili da zajedno rade na mnogim projektima.

Nobelovu nagradu iz ekonomije Akerlof je dobio za izučavanje tržišta na kome prodavci proizvoda imaju više informacija o kvalitetu tih proizvoda od kupaca. Pokazao je da proizvodi niskog kvaliteta mogu da istisnu visoko kvalitetne proizvode na takvim tržištima i da to može da utiče na cene visoko kvalitetnih proizvoda.

Majkl Spens

Spens je rođen u Montkleru, Nju Džersi, SAD, dok mu je majka bila u poseti prijateljima. Odrastao je u Kanadi, menjajući sa porodicom mesta stanovanja: 1946. dolaze u Vinipeg, od 1950. žive na farmi u predgrađu Toronta, a 1952. sele se u Toronto. U Torontu je završio osnovnu školu, a 1955. godine upisuje srednju školu pri Univerzitetu u Torontu. Odlazi u Ameriku 1962. godine radi studija, jer u Kanadi nisu postojale studije opšteg karaktera. Upisuje se na Prinston univerzitet koji završava 1966. godine. Na završnoj godini upoznao je svoju buduću suprugu En Benet kojom se ženi dve godine kasnije. Te 1968. je i magistrirao na Oksfordu i na jesen upisao doktorske studije na Harvardu.

satisfaction in academic writing. He wrote about 50 papers. They all dealt with the effects of monitoring of bank accounts on the efficacy of monetary policy. He was also preoccupied by unemployment theory and kept mulling over the subject. His wife Kay Leong left him because of his obsessive focus on science and writing.

Akerlof soon accepted a professorship at the London School of Economics. He was also engaged at the Federal Reserve Board in Washington, and spent a whole year at the relation Berkeley-London. This was when he met Janet Yellen, whom he married in 1978. Perfect marital partners, they got to love the life in London, and they were also in perfect agreement about macro-economics, except that Janet was a bit more supportive of free trade than he was. Akerlof was still on the Berkeley faculty, and when Janet, in 1980 got a job in a business school, they came back to Berkeley, USA. One year later, their son was born.

Their joint research concerning the effects of different assumptions about fairness and social customs on unemployment considered the two leading problems in macro-economics. The first was whether there could be such a thing as involuntary unemployment and why could not an unemployed person obtain a job by being willing to accept a less advantageous job? The second was whether with complete information monetary policy could have real economic impact. In addition, Akerlof and Janet worked together on many papers for the ten years from 1984 to 1994. In 1994, Janet was appointed to the Board of Governors of the Federal Reserve System, which is why they all moved to Washington. The next three years, Akerlof commuted back to Berkeley to teach, and when his wife became Chair of the Council of Economic Advisers in 1997, Berkeley gave him a full-time leave so that he could take over the household duties. When she was at the White House, Akerlof provided her with psychological support. He also continued to work on both macroeconomic theory and poverty. When Janet stopped working for the White House, they returned to Berkeley and continued to work together on many projects.

Akerlof won the Nobel Prize in Economics for having studied markets where sellers of products have more information than buyers about product quality. He showed that low-quality products may squeeze out high-quality products in such markets, and that prices of high-quality products may suffer as a result.

Michael Spence

Spence was born in Montclair, New Jersey, USA, while his mother was visiting some friends. He grew up in Canada, frequently changing place of residence: in 1946 his family moved to Winnipeg, in 1950 they moved to a farm outside Toronto, and in 1952 they moved to Toronto. In Toronto he finished elementary school, and in 1955 entered the high school within the University of Toronto. In 1962 he went to the USA to study, since liberal arts were not prevalent in Canada at the time. He enrolled at Princeton University, from which he graduated in 1966. In his last year, he met his future wife Ann Bennett, who he married two years later. That same year, 1968, he graduated from Oxford and entered a PhD program at Harvard in the fall. He defended his doctoral thesis, "Market



Majkl Spens prima nagradu od švedskog kralja

Michael Spence receiving his Prize from His Majesty the King

Doktorsku disertaciju "Signaliziranje na tržištu" odbranio je 1972. godine i za nju dobio nagradu Dejvid A. Vels. Tri godine kasnije vraća se na Harvard kao profesor ekonomske teorije i industrijske organizacije. U proleće 1979. godine dobija sina Grejema, 1982. ćerku Ketrin a 1985. ćerku Mariju.

Upravnik katedre za ekonomiju na Harvardu postaje 1983. godine, a godinu dana kasnije, na molbu predsednika Dereka Boka, preuzima funkciju dekana Fakulteta nauka i umetnosti. Sa ove funkcije silazi 1990. i postaje dekan Visoke poslovne škole pri Stenford univerzitetu. Od supruge En razvodi se 1995. a sa Monikom Kapučini se ženi 1997. godine. Posle devet godina obavljanja funkcije dekana odlazi 1999. godine sa tog mesta.



Spens je dobio Nobelovu nagradu za oblast ekonomije informacija. Ukazao je na to kako sposobni subjekti mogu da poboljšaju ishod na tržištu preduzimanjem skupih akcija kako bi signalizirali informacije loše informisanim ili slabo informisanim recipijentima. Važan primer jeste edukacija kao signal visoke individualne produktivnosti na tržištu rada. Nije neophodno da edukacija ima unutrašnju, bitnu vrednost. Skupe investicije u edukaciju signaliziraju visoku sposobnost.

Džozef Štiglic

Štiglic je rođen 1943. godine u Geriju, Indijana, SAD, gradu na južnoj obali jezera Mičigen, čuvenom po proizvodnji čelika. Odrastao je u porodici u kojoj se često o politici žustro raspravljalo. Išao je u državne škole u kojima je bila izražena društvena integracija jer su ih pohađala deca čije su porodice pripadale različitim staležima. U školi su, primera radi, morali da nauče bar dva zanata, a on je izabrao grafički i električarski. Štiglic ističe da su u školi nastavnici bili dobri pedagozi posvećeni potpuno svom poslu i svakom učeniku pojedinačno iako su odeljenja bila brojčano velika. Od vannastavnih aktivnosti najviše su ga privlačile javne rasprave koje su formirale njegov interes za politiku. Amherst univerzitet je upisao zato što ga je već pohađao njegov brat, ali i zato što je savetnik za profesionalnu orijentaciju smatrao da će tamo bolje proći nego na nekom velikom univerzitetu poput Harvarda. Tu je stekao široko opšte obrazovanje i kako sam ističe "intelektualno najznačajnije iskustvo za tri godine (1960-63.) koje sam proveo na ovom univerzitetu". Na trećoj godini studija uživao je na časovima fizike i u zajedničkim naporima sa ostalim studentima da reše zadatke iz ove oblasti. Pohađao je i kurseve iz matematike, istorije, engleskog jezika, filozofije i uvoda u biologiju i hemiju. Voleo je sve ove predmete, ali ga je ekonomija najviše privlačila.

Post-diplomske studije upisao je na MIT univerzitetu koji je imao ključnu ulogu u njegovom razvoju kao profesionalnog ekonomiste. O tome Štiglic kaže: "Način rada na MIT univerzitetu mi je odgovarao - jednostavni i konkretni modeli usmereni ka rešavanju važnih i relevantnih pitanja. Takođe, postojala je interakcija između studenata i profesora odnosno, međusobno smo se pomagali i diskutovali razne ekonomske i političke teme". Posle dve godine na MIT univerzitetu dobio je stipendiju za Kembridž u školskoj 1965-66. godini.

Štiglicova istraživanja u tom periodu bila su usmerena na rast, tehničke promene i distribuciju prihoda. Na Kembridžu je pokrenuo i projekat koji se ticao interakcije

Signalling" in 1972, and received David A. Wells prize for it. Three years later, he returned to Harvard as Professor of economic theory and industrial organization. In the spring of 1979 his son Graham was born, in 1982 his daughter Catherine, and in 1985 his second daughter Marya.

In 1983, he became Chairman of the Department of Economics at Harvard, and a year later, at the request of President Derek Bok, he accepted the position of Dean of the Faculty of Arts and Sciences. He stepped down as Dean of FAS in 1990 and became Dean of the Graduate School of Business at Stanford University. He divorced his wife Ann in 1995, and married Monica Cappuccini in 1997. After nine years, he stepped down as Dean of the business school at Stanford in 1999.

Spence won the Nobel Prize in Economics due to his contribution in the field of economics of information. He showed how the able agents may improve the market outcome by taking costly action to signal information to poorly informed recipients. An important example is education as a signal of high individual productivity in the labour market. It is not necessary for education to have intrinsic value. Costly investment in education as such signals high ability.

Joseph Stiglitz

Stiglitz was born in 1943 in Gary, Indiana, USA, a major steel town on the southern shores of Lake Michigan. He grew up in a family in which political issues were often intensely debated. He went to public schools, marked by social integration, since they were attended by children from families of all social strata. At the school, for instance, all of them had to learn two trades, and he chose printing and being an electrician. Stiglitz underlines that they had dedicated teachers, who in spite of relatively large classes, provided a high level of individual attention. The extra curricular activity in which he was most engaged - debating - helped shape his interests in public policy. He went to Amherst University because his brother had gone there before him, but also because his guidance counsellor thought that he would do better there than at a large university like Harvard. At Amherst he gained a broad education and, as he himself pointed out, "the three years (1960/63) I spent at this university were the intellectually most formative experience". In his third year, he enjoyed his lessons in physics and the joint efforts that he and other students invested in solving the hard problems in this field that were assigned to them. He also took the courses in mathematics, history, English, philosophy and introduction to biology and chemistry. Although he loved all of these subjects, there was an irresistible attraction to economics.

He enrolled at MIT University for his postgraduate studies, which had a key role in his development as a professional economist. Stiglitz describes this period in the following way: "The particular style of MIT economics suited me well - simple and concrete models, directed at answering important and relevant questions. The students and faculty at MIT were highly interactive. We helped each other and debated on many economic and political issues." After two years at MIT, he received a scholarship to Cambridge for 1965-66.

Stiglitz's research in this period centred on growth, technical change and income distribution. While at Cambridge, he



Džozef Štiglic prima nagradu od švedskog kralja

Joseph Stiglitz receiving his Prize from His Majesty the King

između distribucije prihoda i kratkoročnog makroekonomskog ponašanja. Iz Kembridža se vraća na MIT univerzitet gde jedno vreme radi kao asistent a potom prelazi na Jejl univerzitet. U Vašington se seli 1992. godine kako bi se pridružio Klintonovoj administraciji, prvo kao član a potom kao predsedavajući Nacionalnog ekonomskog saveta. U tom svojstvu je bio i član kabineta. Kada je Klinton reizabran, zamolio ga je da prihvati još jedan mandat kao predsedavajući Nacionalnog ekonomskog saveta. To je, međutim, morao da odbije jer mu je već ranije Svetska banka ponudila mesto višeg potpredsednika za razvojnu politiku i njihovog glavnog ekonomiste. U Svetskoj banci ostao je do 2000. godine.

Štiglic je Nobelovu nagradu dobio za doprinos razvoju ekonomske teorije koja pokazuje da asimetrične informacije mogu da pruže ključ za razumevanje mnogih uočenih pojava na tržištu, uključujući i nezaposlenost i raspodelu kredita.

Svetlana Pantelić
Specijalista za marketing i informisanje UBS

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Ceremonija dodele Nobelove nagrade za 2001. godinu u Stokholmskoj koncertnoj dvorani

2001 Nobel Prize Award Ceremony at the Stockholm Concert Hall

launched a project concerning the interaction between the distribution of income and short-term macroeconomic behaviour. He returned from Cambridge to take up an appointment as an assistant professor at MIT, from which he went to Yale. In 1992 he moved to Washington to join the Clinton Administration, first as a member, and then as Chairman of the Council of Economic Advisers. In this capacity, he also served as a member of the cabinet. When the President was re-elected, he asked him to continue to serve as Chairman of the Council of Economic Advisers. However, he declined this offer because he had already been approached by the World Bank, offering him to be its senior vice-president for development policy and its chief economist. He stayed in the World Bank until 2000.

Stiglitz won the Nobel Prize in Economics for his contribution to the development of economic theory, having shown that asymmetric information can provide the key to understanding many observed market phenomena, including unemployment and credit rationing.