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Žan Tirol

Nobelova nagrada za 2014.



ISTRAŽIVANJEM U
EKONOMIJI UČINITI
DA SVET BUDE
BOLJE MESTO ZA
ŽIVOT

Rezime

Žan Tirol, rođen u Francuskoj 1953. godine, dobitnik je Nobelove nagrade za ekonomiju u 2014. godini, Profesor na univerzitetu u Tuluzu sa dva doktorata koje je stekao na Pariskom univerzitetu i na Institutu Tehnologije u Masačusetsu - MIT na temu Matematika u privrednom odlučivanju. Osim toga, ima počasni doktorat sa Slobodnog univerziteta u Briselu i univerziteta u Montrealu i Manhajmu. U saopštenju švedske Kraljevske akademije Nobelovu nagradu je dobio za značajna teorijska istraživanja u brojnim privrednim oblastima, ali, iznad svega, pojasnio je kako da se industrija shvati i prilagodi moćnim firmama na tržištu. U svom plodnom istraživačkom radu uspeo je da odredi način izračunavanja optimalnih cena za regulisanje prirodnih monopola. Autor je preko 100 članaka iz ekonomije i finansija i šest knjiga uključujući, između ostalih, *Teoriju organizacije industrije*, *Teoriju igara* i *Takmičenje u telekomunikacijama*. Njegova istraživanja odnose se na: industrijsku privredu, korporativne finansije, međunarodnu ekonomiju i odnos između privrede i psihologije.

Ključne reči: Žan Tirol, Francuska, Nobelova nagrada, ekonomija, 2014. godina, profesor, istraživanje, monopol, korporativne finansije, javne nabavke

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Jean Tirole

Nobel Prize for 2014

MAKE THE
WORLD A BETTER
PLACE THROUGH
ECONOMIC
RESEARCH

Summary

Jean Tirole, born in France in 1953, winner of the Nobel Prize in Economics for 2014, works as a Professor at the University of Toulouse with two doctorates defended at the University of Paris and the Massachusetts Institute of Technology - MIT on the topic of mathematics in economic decision-making. Moreover, he holds an honorary PhD degree from the Free University in Brussels and the universities in Montreal and Manheim. According to the official statement of the Swedish Royal Academy, he was awarded the Nobel Prize for his significant theoretical research in various economic fields, but, above all, for clarifying how to understand and regulate industries with a few powerful firms. In his fruitful research activities, he managed to determine the method for calculating the optimal prices for regulating natural monopolies. He has authored over 100 papers in economics and finance, and six books, including, among others, *The Theory of Industrial Organization* (1988), *Game Theory* (1991), and *Competition in Telecommunications* (1999). His research focuses on industrial economy, corporate finance, international economy and relationship between economy and psychology.

Keywords: Jean Tirole, France, Nobel Prize, economics, 2014, professor, research, monopoly, corporate finance, public procurement

JEL: L12, L13, H41

Žan Tirol, jedan od najuticajnijih ekonomista današnjice, posle Žerara Debrea (1983. godine) i Morisa Alea (1988. godine) treći je po redu francuski ekonomista koji je dobio Nobelovu nagradu za ekonomiju u 2014. godini. Profesor je na univerzitetu u Tuluzu sa dva doktorata koje je stekao na Pariskom univerzitetu i na Institutu Tehnologije u Masačusetsu - MIT na temu Matematika u privrednom odlučivanju. Osim toga, ima počasni doktorat sa Slobodnog univerziteta u Briselu i univerziteta u Montrealu i Manhajmu.

Polje istraživačkog rada

U saopštenju švedske Kraljevske akademije Nobelovu nagradu je dobio za značajna teorijska istraživanja u brojnim privrednim oblastima, ali, iznad svega, pojasnio je kako da se shvati i prilagodi industrija sa moćnim firmama na tržištu. U svom plodnom istraživačkom radu uspeo je da odredi način izračunavanja optimalnih cena za regulisanje prirodnih monopola. Autor je serije članaka i knjiga, u kojima je "napravio generalni okvir za projektovanje takve politike koja se može primeniti u brojnim industrijskim oblastima, počev od bankarstva do telekomunikacija" navodi se u saopštenju Kraljevske akademije. U mnogima je, takođe, pisao o regulaciji tržišta kapitala, ističući naročito razliku u kontroli između decentralizovanih kreditora i centralizovanih kontrola menadžmenata banke. Kada se zbroje svi članci i knjige koje je Tirol objavio, može se govoriti o preko 100 članaka iz ekonomije i finansija i šest knjiga uključujući, između ostalih, *Teoriju organizacije industrije* (1988), *Teoriju igara* (1991) i *Takmičenje u telekomunikacijama* (1999).

Posebno je značajan njegov doprinos istraživanju regulisanja industrije sa nekoliko moćnih preduzeća. Ističe da u većini industrija dominira jedan monopolista ili

manji broj velikih kompanija. Regulacije ovde gotovo i da nema, što za rezultat ima visoke cene i neproduktivne kompanije, koje svojim preživljavanjem stopiraju ulazak novih i produktivnih kompanija. On je upravo i dobio ovu prestižnu nagradu za istraživanje kako velike firme treba da budu regulisane i kontrolisane kako ne bi uništavale potrošače svojim monopolnim ponašanjem.

Tokom poslednje dve decenije 20. veka u mnogim zemljama Evrope sprovedena je deregulacija praćena privatizacijom, dok je u Evropskoj uniji stvoreno jedinstveno tržište. Da bi se razumele posledice ovih promena, bilo je potrebno integrisati teorije industrijske organizacije, ekonomske teorije ugovora i neke druge oblasti. Imajući u vidu značaj ove oblasti i njen dalji razvoj, razumljiv je izbor Tirola za dobitnika Nobelove nagrade. Naime, nekoliko godina bio je kandidat za ovu prestižnu nagradu i zbog toga je njegov izbor bio očekivan, odnosno nije izazvao iznenađenja.

Njegova uža polja istraživanja su industrijska privreda, korporativne finansije, međunarodna ekonomija i odnosi između privrede i psihologije. Dr Branko Radulović u svom radu "Nobelova nagrada za ekonomske nauke u 2014. godini: Žan Tirol", doprinos ovog nobelovca u oblasti za koju je dobio nagradu deli na više segmenata:

1. Oblast regulacije prirodnih monopola - "Tirolov i Lafontenov pristup počiva na modeliranju frikcija prilikom ugovaranja usled asimetrije informacija ili ograničene mogućnosti obavezivanja".
2. Problemi dinamičkog ugovaranja i ponovnog pregovaranja - „Kako preduzeće predviđa buduće reakcije regulatora u pogledu konstantnog povećavanja zahteva,

nivo napora koji ulaže opada". U uslovima u kojima je teško načiniti ugovore na dugi rok, nije moguće naterati preduzeća da izaberu poželjni nivo napora. U tom slučaju regulator treba da izabere manje restriktivne podsticaje i postepeno menja ugovor.



Jean Tirole, one of the most influential economists of our time, is the third French economist (after Gerard Debreu in 1983 and Maurice Allais in 1988) to win the Nobel Prize in Economics, which was awarded to him in 2014. He is a Professor at the University of Toulouse with two doctorates defended at the University of Paris and the Massachusetts Institute of Technology - MIT on the topic of mathematics in economic decision-making. Moreover, he holds an honorary PhD degree from the Free University in Brussels and the universities in Montreal and Manheim.

Field of Research

According to the official statement of the Swedish Royal Academy, he was awarded the Nobel Prize for his significant theoretical research in various economic fields, but, above all, for clarifying how to understand and regulate industries with a few powerful firms. In his fruitful research activities, he managed to determine the method for calculating the optimal prices for regulating natural monopolies. He has authored a series of books and articles, in which he “suggested the general framework for designing regulations that can be applied to a number of industries, from banking to telecommunications”, as stated by the Swedish Royal Academy. Many of his works deal with the regulation of capital market, underlining the difference between the control of decentralized creditors and centralized controls of the bank’s management. Altogether, Tirole has published over 100 papers in economics and finance, and six books, including, among others, *The Theory of Industrial Organization* (1988), *Game Theory* (1991), and *Competition in Telecommunications* (1999).

Particularly important is his contribution to the research on how to regulate industries with a few powerful firms. As he underlines, most industries are dominated by a single monopolist or a few large companies. Regulation is in such cases almost non-existent, which results in high prices and unproductive companies, whose struggle for survival prevents the entry of new and productive companies. The prestigious Nobel Prize was awarded to him exactly for his research on how to regulate and control large

firms so as to stop them from destroying their consumers through monopolistic behavior.

In the past two decades of the 20th century many European countries underwent deregulation accompanied by privatization, whereas the European Union witnessed the creation of the single market. In order to understand the consequences of these changes, it was necessary to integrate the theories of industrial organization, economic contract theory and some other fields. Bearing in mind the significance of this segment and its further development, the selection of Tirole as the Nobel Prize winner is quite understandable. Namely, he used to be a candidate for this prestigious award for several years and, thus, his eventual



acknowledgement came as no surprise.

Tirole’s research focuses on industrial economy, corporate finance, international economy and relationship between economy and psychology. Dr Branko Radulović, in his paper titled “2014 Nobel Prize in Economic Sciences: Jean Tirole”, divides the contribution of this Nobel Prize winner into several segments:

1. Regulation of natural monopolies - “Tirole’s and Laffont’s approach rests on the modeling of frictions in the bargaining process due to the information asymmetry or limited commitment possibilities.”
2. Problems of dynamic bargaining and re-bargaining - “As the firm anticipates the future reactions of regulators in terms of the constantly increased requirements, the level of effort it invests decreases.” When the circumstances are making it difficult to sign long-term contracts, it is impossible to force the firms to choose the desired level of effort. In such cases, the regulator should



3. Ovladavanje regulacijom - odnosno kolizija između regulatora i preduzeća usled loše dizajniranog mehanizma. Lafont i Tirol ukazuju da okvir treba da uzme u obzir rizik kolizije i skrivanja informacija.
4. Regulacija oligopola - „Koristeći teoriju igara Tirol i Fudenberg analiziraju dugoročne efekte strateških investicija i ustanovljavaju uslove u kojima preduzeće treba da preinvestira u kapacitete kako bi odvratio ulazak potencijalnih konkurenata“.
5. Analiza vertikalnih integracija i njihovih implikacija u specifičnim industrijskim sektorima - Tirol je u svojim istraživanjima razmatrao načine razmišljanja ekonomista kada je u pitanju politika zaštite konkurencije. U nekoliko koautorskih radova izneo je dugo prisutan stav da preduzeća monopolisti, koji se nalaze unutar proizvodnog lanca, mogu da ostvare rentu samo u svojoj delatnosti ali i činjenicu da monopolista može da privaja i rentu na susednom tržištu. Tirol smatra da “pravo konkurencije treba da uzme u obzir činjenicu da vertikalne integracije mogu bitno da ograniče konkurenciju, ali i da podstiču ulaganje u istraživanje i razvoj”.
6. Analiza novih tržišnih formi, odnosno dvostranih tržišnih platformi - U njima se odigrava interakcija između kupca i prodavca posredstvom platformi.

Ispunjena roditeljska želja - obrazovanjem do doktorata

Žan Tirol rođen je 9. avgusta 1953. godine u Troau, gradu istočno od Pariza i severno od

Burgundije, koji je u srednjem veku bio glavni grad Šampanje. Otac ginekolog - akušer i majka koja je predavala u srednjoj školi francuski, latinski i grčki, vaspitavali su svoju decu, Žana i dve ćerke Mari-Klod i Loren da cene znanje i spoznaju njegove vrednosti.

U srednjoj školi bio je posebno zainteresovan za matematiku i društvene nauke: istoriju i psihologiju. Nakon mature napustio je rodni grad 1971. godine da bi u Nansiju nastavio sa obrazovanjem u “Lycee Henri Poincare”. Od 1973. godine je u “Ecole Polytechnique” gde i dalje pokazuje najveće interesovanje za matematiku i saraduje sa profesorima iz ove oblasti. Sa ekonomijom kao naukom prvi put se susreo na kursu koji je u 21. godini pohađao na Politehnici. Bio je oduševljen time kako se rigorozne analize kombinuju sa društvenim naukama. Tada i počinje da razmišlja o ekonomiji kao svom budućem pozivu. Od 1976-78. godine pohađa “Ecole des Ponts et Chaussees”, a zatim dobija i diplomu iz matematike (između master diplome i doktorata) sa univerziteta “Paris-Dauphine” (1976-78), dok na Institutu za tehnologije Masačusetsa (MIT) (1978-81) brani doktorat iz ekonomije.

U svojoj autobiografiji datoj povodom Nobelove nagrade Tirol objašnjava zašto se opredelio za ekonomiju: “Ekonomija je pozitivna disciplina i analizira individualno i kolektivno ponašanje. Istraživanja u ekonomiji imaju za cilj da svet učine boljim mestom za život.” Njegova istraživanja su se bavila metodološkim aspektima i njihovim primenama u različitim oblastima ekonomskog života. Polazište su mu bili konkretni problemi, ili već identifikovani ili nastali kao rezultat posmatranja stvarnosti, odnosno označeni od onih koji donose odluke. Suština problema se ekstrahuje da bi se istraživanje fokusiralo na njegove ključne aspekte. U ovom pojednostavljenju procesa zapravo leži mnogo istraživačkih poteškoća. Iskustvo istraživača i razgovor sa praktičarima su u toj fazi istraživanja veoma korisni. Model se može testirati ekonometrijski ako su prethodni podaci dostupni, iz istraživačke stanice i sa terena jer se ne može potceniti interakcija između teorije i prakse.

O MIT-u, na kome je 1981. dobio drugi doktorat, Tirol ima samo reči hvale. Ističe da je od šezdesetih godina prošlog veka MIT

Strast istraživanja

Žan Tirol o istraživačima i strasti istraživanja:

“Glavni motiv istraživača je zadovoljstvo otkrića, kao što je to opisao francuski matematičar Anri Poenkare: 'Misao je samo bljesak u sred duge noći, ali taj bljesak znači sve.' Kao i svi ostali, ni istraživač nije ravnodušan prema priznanjima. Ja sam dobio mnogo više priznanja nego što zaslužujem, ali sam zahvalan za njihovo dobijanje...

Istraživanje je uglavnom pitanje motivacije i strasti. Intelektualno okruženje je od apsolutno vitalnog značaja, ne samo za učenje i usavršavanje znanja ali i za motivaciju. Tokom svoje karijere bio sam veoma srećan što sam pronašao sebe na pravom mestu u pravo vreme. Imao sam neprocenjive koristi od rada sa izuzetnim kolegama i studentima, od kojih sam naučio mnogo i koji su mi najčešće postajali dragi prijatelji. Mogu samo da kažem da smo bili veoma srećni i da se niko nikada nije pokajao zbog izbora karijere istraživača.”

The Passion of Research

“A researcher's main motivation is the pleasure of discovery, as described by the French mathematician Henri Poincaré: 'Thought is only a flash in the middle of a long night. But this flash means everything.' But like everyone else, the researcher is not indifferent to peer recognition. I have received many more honors than I deserve, but I am definitely grateful for all of them...

Research is largely a question of motivation and passion. The intellectual environment is absolutely vital, not only for learning and updating knowledge, but also for motivation. During my career I have been extremely fortunate to 'find myself at the right place at the right time' and also to benefit from working with exceptional colleagues and students of the highest caliber, from whom I have learned very much and who often became dear friends. I may just have been very lucky, but I never regretted my early choice of a career as a researcher.”

opt for less restrictive incentives and amend the contract gradually.

3. Mastering regulation - i.e. the collision between regulators and firms due to the poorly designed mechanism. Laffont and Tirole indicated that the framework should take into account the risk of collision and information asymmetry.
4. Regulation of oligopolies - “Using game theory, Tirole and Fudenberg analyzed the long-term effects of strategic innovations and defined the circumstances in which a company should re-invest in its capacities in order to deter the entry of potential competitors.”
5. Analysis of vertical integrations and their implications in specific industrial sectors - In his research Tirole examined the ways other economists think about the protection of competition policy. In several co-authored papers he described the long-present view that monopolistic enterprises, which are in the production chain, may profit only in their field of work, along with the fact that monopolists can also appropriate the rent from the neighboring market. Tirole believes that “the right of competition should take into account the fact that vertical integrations can considerably limit the competition, but that at the same time they encourage investments into research and development”.
6. Analysis of new market forms, i.e. two-sided platform markets - It is there that the interaction between the buyer and the seller takes place by means of economic platforms.

His Parents' Wish Come True - Through Education to Doctorate

Jean Tirole was born on 9 August 1953 in Troyes, a town located east of Paris and north of Burgundy, which used to be the capital of Champagne in the Middle Ages. His father, who was an obstetrician/gynecologist and his mother, who was a high school teacher of French, Latin and Greek, taught Jean and his two sisters, Marie-Claude and Laurence, the value of knowledge.

In high school, Tirole was particularly interested in mathematics and social sciences,

najbolja ekonomska katedra na svetu. U njemu vlada intelektualna živost, posvećenost profesuri i nastavi, i strast prema ekonomskim disciplinama. Tirol je na doktorskim studijama izabrao kao osnovne predmete: teoriju ekonomije, javne finansije, ekonometriju i međunarodnu ekonomiju. Doktorsku tezu je započeo pod budnim okom Erika Maskina, 29-togodišnjeg profesora MIT-a. Na kraju druge godine studija dobija obaveštenje da mu je odobreno da u Sjedinjenim Državama provede i treću godinu. To je za njega bila povoljna vest jer mu je omogućila da više vremena posveti produbljavanju znanja iz ekonomije i pohađanje kurseva iz oblasti koje su mu bile potpuno nepoznate ali i započinjanju novih istraživačkih projekata.

U to vreme Erik Maskin, dobitnik Nobelove nagrade iz ekonomije u 2007. godini, upoznavao je studente doktorskih studija sa teorijom igara i teorijom informacija. Pored redovne nastave, on je svake nedelje provodio mnogo vremena u razgovoru sa Tirolom i njegovim kolegom Druom Fudenbergom. Dru i Žan su, takođe, sa velikom pažnjom pratili i predavanja Pola Joskova i Dika Šmalensea i započeli pisanje radova o teoriji igara i industrijskoj ekonomiji.

Tirol je od 1980. do 1983. godine često boravio na Stanford univerzitetu koga kao i Nortvestern univerzitet smatra centrima vrhunskog istraživanja iz teorije igara i ekonomije informacija, dok za MIT i Harvard kaže da su najbolji centri za opštu ekonomiju. Nakon dobijanja doktorata vraća se u Francusku da radi kao istraživač na *Ecole Nationale des Ponts et Chaussées - ENPC*. U to vreme osnovan je i mali istraživački centar, *CERAS*, na kome je Serž Kolm bio direktor, a Rože Gesneri i Bernard Kajo radili kao istraživači.

Ne samo profesorski rad

Rad na regulisanju mrežnih industrija i javnih nabavki Tirol je započeo 1982. godine zajedno sa Žan-Žak Lafontom, koga je upoznao na jednoj od konferencija Ekonometrijskog društva. Razgovarali su o strukturnim reformama u sektorima kao što su telekomunikacije, električna energija, poštanske usluge i železnica. Zaključili su da bi nove teorije informacija doprinele reformama koje

Nezaposlenost

Za francusko i ostala evropska društva u recesiji kaže da je potrebno hitno nešto preduzeti kako bi se novim generacijama obezbedila budućnost. Jedan od njegovih predloga u borbi protiv nezaposlenosti je uvođenje nove vrste ugovora koji podrazumeva da prava zaposlenog progresivno rastu u odnosu na godine službe.

“Nezaposlenost traje poslednjih 30-40 godina i mladima se u najvećem broju slučajeva nude privremeni ugovori zato što se preduzeća plaše da im ponude stalne ugovore. Tako smo došli u potpuno apsurdnu situaciju u kojoj previše štiteći radnike ne štitimo ih uopšte. Nije slučajno to što u čitavoj južnoj Evropi, koja ima istu organizaciju tržišta rada, vlada velika nezaposlenost, dok je u severnoj Evropi, u skandinavskim zemljama, na primer, koje imaju drugačiji sistem, nezaposlenost slaba”.

Unemployment

When it comes to the French and other European economies in recession, Tirole says that something needs to be done urgently in order to ensure the future for the new generations. One of his proposals in the fight against unemployment is the introduction of new types of contracts, implying that the employees' rights progressively increase as their number of years spent in service accumulates.

“For thirty or forty years there has been unemployment, and we have been offering young people short term contracts because the majority of businesses are afraid to offer permanent contracts. This has led to the absurd situation in which we now find ourselves, where by giving too much protection to salaries we no longer protect them at all. It is no coincidence that the whole of Southern Europe, which shares the same labour market institutions, finds itself with high unemployment, while in Northern Europe, for example in Scandinavia, where the system is different, there is relatively little unemployment.”

history and psychology in particular. After his baccalaureate, in 1971 Tirole left his hometown to carry out preparatory studies at the *Lycée Henri Poincaré* in Nancy. In 1973 he entered the *Ecole Polytechnique* where he expressed the major interest in mathematics and worked with eminent professors in this field. His first encounter with economics was at the course he attended at the age of 21 at the *Ecole Polytechnique*. He was fascinated by the ways to combine rigorous analysis and social sciences. It was then that he started thinking about becoming an economist. In the period from 1976 to 1978 he attended *Ecole des Ponts et Chaussées*, which was followed by a “doctorat de troisième cycle” (a degree intermediate between a Master degree and a PhD) in decision mathematics from *Université Paris-Dauphine* (1976-1978), and finally a PhD in economics from MIT (1978-1981).

In his autobiography written to mark his reception of the Nobel Prize, Tirole explained why he chose economics by saying that it is a positive discipline which seeks to document and analyze individual and collective behavior. According to him, its goal is to “make the world a better place” by recommending economic policy measures. His research deals both with methodological aspects and with applications to different areas of economic life. The starting point is a concrete problem, either already identified or gleaned from observing reality or listening to decision-makers. The essence of the problem is extracted in order to focus on its key aspects. In this simplification process lies much of the difficulty of the exercise. The experience of the researcher and discussions with practitioners are very useful at this stage. Then, the model can be tested: econometrically if past data are available, and in the lab or in the field as well, because one cannot underestimate the interaction between theory and empirics.

About MIT, at which in 1981 he gained his second PhD, Tirole has only words of praise. He underlines that since the 1960s MIT became the best economics department in the world. It is characterized by intellectual vibrancy, the professors’ dedication to teaching, and passion for economic disciplines. At his doctoral studies Tirole chose four fields of specialization: economic theory, public finance, econometrics and international economics. He started his

thesis under the supervision of Eric Maskin, a 29 year-old MIT professor. At the end of his second year at MIT, Tirole received a letter saying that he was allowed to stay in the US for a third year. This turned out to be a fantastic opportunity, as he could devote the time to deepening his understanding of economics, take courses in fields he was completely unknowledgeable about, and start on new research projects.

At that time, Eric Maskin, the winner of the 2007 Nobel Prize in Economics, initiated MIT PhD students to game theory and information theory. Outside of regular class time, he very generously spent many hours every week in tutorials with Tirole and his colleague Drew Fudenberg. Moreover, Drew and Jean were enthusiastically attending the classes given by Paul Joskow and Dick Schmalensee and started writing papers on game theory and industrial economics.

From 1980 to 1983, Tirole often spent time at Stanford, which was, along with the Northwestern University, at the cutting edge of the revolution of game theory and information economics, whereas MIT and Harvard were the best departments for general economics. After his PhD in 1981, Tirole went back to France to work as a researcher at the *Ecole Nationale des Ponts et Chaussées* (ENPC). At the time, a





bi učinile kompanije odgovornijim za svoje troškove.

Za Tirola 1984. godina je značajna jer počinje da radi kao vanredni profesor na MIT-u i ženi se sa Natali koja je te godine i magistrirala prava na Pariskom univerzitetu. Inače, Tirol i Natali imaju troje dece: Nais (1989), Margo (1992) i Roman (1996). Sedam sledećih godina na MIT-u proveo je u izuzetnoj intelektualnoj i radnoj atmosferi i ostale su mu u najlepšem sećanju po istraživačkom radu i nastavi koja se uglavno odvijala kroz kurseve doktoranata. Odeljenje za ekonomiju odisalo je pozitivnom atmosferom i osećajem za kolektiv. Za taj osećaj najviše su bili zaslužni profesori: Pol Samuelson, Bob Solou i Franko Modigliani, svi nobelovci, koji se, iako veliki ekonomisti, nikada nisu postavljali iznad drugih, otvarajući vrata nauke mnogim sposobnim mladim studentima na ovom fakultetu.

Radeći na MIT-u dobro je upoznao uspešne mehanizme u organizaciji rada i upravljanja po odeljenjima i na celokupnom univerzitetu, što mu je kasnije veoma pomoglo kada se uključio u reforme francuskog obrazovnog sistema. Dobar odnos sa Upravom zadržao je i posle odlaska sa MIT-a. Ostao je vezan do današnjih dana za ovaj univerzitet boraveći svake godine

po šest nedelja kao gostujući profesor. Kako sam naglašava ovom univerzitetu se uvek vraća sa velikim zadovoljstvom iako su mnogi od njegovih kolega otišli u druge akademske institucije, penzionisali se ili preminuli. Ključna stvar dobre organizacije na MIT-u nije samo u njihovim zaposlenim (profesorima) već u kulturi koja tu vlada. Uvek kada dođe na MIT biva zatečen snažnim duhom kreativnog istraživanja i zavidnoj profesorskoj posvećenosti studentima.

Tirol se vraća u Evropu 1991. godine u nameri da u Tuluzu završi knjigu *Teorija podsticaja u regulisanju i nabavkama* zajedno sa Žan-Žak Lafontom. Naime, još 1980. godine sa Lafontom je pravio planove da University of Toulouse 1 Capitole postane jedan od najboljih evropskih univerziteta u oblasti ekonomije, naročito stvaranjem Instituta za ekonomiku

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small economics research centre, CERAS, was being established with, notably, Serge Kolm as Director, Roger Guesnerie working there part time and Bernard Caillaud.

Not only Professorship

In 1982 Tirole began his work on the regulation of network industries and public procurement with Jean-Jacques Laffont, whom he had met during an Econometric Society conference. They talked about structural reform in sectors such as telecoms, electricity, postal services and the railways, and concluded that the new information theories would contribute to the reforms which could make companies more accountable for their costs.

The year of 1984 was significant for Tirole who started to teach as associate professor at

MIT, and got married to Nathalie, who finished her master degree in law at the University of Paris the same year. Jean and Nathalie have three children: Naïs (1989), Margot (1992) and Romain (1996). The MIT years were seven years of research and teaching, focused mainly on doctoral courses, in a perfect intellectual and working environment. The economics department had a very collective and congenial atmosphere. The tone was set by professors such as Paul Samuelson, Bob Solow, and Franco Modigliani, all Nobel Prize winners, who showed humility, refused to set themselves above others and encouraged the capable younger faculty in their scientific endeavors.

Working at MIT, Tirole learned about the successful mechanisms for good governance in a department and university, which later helped him think about potential reforms in the French university system. Even after he left MIT, he has maintained good relations with the administration, and kept his ties to this university, spending six weeks per year as a visiting professor. According to his own words, Tirole always returns there with much pleasure, even though older mentors and many of his collaborators there have moved to other academic or non-academic institutions, retired or passed away. The key point is that a top department is more than its members; it is a culture. Whenever he returns, he is struck by the observation that the spirit, the creativity of research and the devotion to students have remained intact.

In 1991 Tirole returned to Toulouse to finish a book *A Theory of Incentives in Regulation and Procurement* with Jean-Jacques Laffont. Namely, back in the 1980s they had discussed the plans to make the University of Toulouse 1 Capitole one of the best European universities in the field of economics, in particular thanks to the creation of an Institute for Industrial Economics (IDEI) which would be financed largely by partners from the public and private sector. The IDEI was established in 1990. Laffont was appointed the Director, and with a group of friends already in this initial phase managed to bring in a handful of leading researchers. Tirole was the IDEI's scientific director since its creation. He was attracted to this position by the collective ambition and the desire to

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industrije - IDEI koji bi se finansirao uglavnom sredstvima partnera iz javnog i privatnog sektora. IDEI je osnovan 1990. godine. Lafont je postavljen za direktora i sa grupom prijatelja doveo je već na početku rada Instituta nekoliko vodećih istraživača. Tirol je bio naučni direktor od samog osnivanja. Ovo zvanje je prihvatio jer je bio privučen kolektivnom ambicijom i željom da se unapredi univerzitetsko okruženje Francuske. Tirol je imao potpuno poverenje u Lafonta, ne samo zbog njegovih intelektualnih sposobnosti, već i zbog zapaženih ljudskih kvaliteta i činjenice da je bio jako sposoban menadžer, što je retko u svetu istraživača.

Bojazan za budući status Ekonomskog fakulteta u Tuluzu i IDEI javila se kada je Lafont umro 2004. godine. Tirol je u autobiografiji izneo svoje mišljenje da je Lafont za života zaslužio Nobelovu nagradu koju nažalost nije dobio. Očigledno ovo mišljenje je imao i Komitet Švedske kraljevske akademije, po načinu na koji je u odluci i obrazloženju dodeljenje Nobelove nagrade Žanu Tirolu ukazao na Lafontov doprinos. Odnosno, bio je to nagoveštaj da bi Komitet, da je Lafont poživio, Nobelovu nagradu u 2014. godini dodelio Lafontu i Tirolu.

Istraživačka grupa ekonomista u Tuluzu nije se raspala što je, po mišljenju Tirola bilo Lafontu najbolje priznanje. Oni su, naprotiv, svojim preduzetničkim radom još unapredili ovaj organizacioni projekat. Grupa IDEI istraživača pobedila je 2006. godine na nacionalnom

konkursu za stvaranje 13 centara izvrsnosti raspoređenih u svim oblastima Francuske. To im je obezbedilo finansijska sredstva i omogućilo da 2009. godine osnuju privatnu fondaciju pod nazivom Fondacija Ž. Ž. Lafont / Fakultet za ekonomiju Tuluz - TSE.

Iako su mu akademske obaveze predstavljale prioritet Tirol je bio angažovan u radu mnogih ekonomskih odbora i udruženja: bio je član Francuskog ekonomskog saveta, predsednik Ekonometrijskog društva i Evropske ekonomske asocijacije. U svom istraživačkom radu često je ulazio i u prostore drugih društvenih nauka: sociologije, psihologije, politike, itd. Bio je veoma srećan kada je 2011. godine internacionalni žiri izabrao njegov projekat osnivanja Instituta za napredne studije u Tuluzu u okviru programa finansiranja "Investissements d'Avenir".

Nobelovu nagradu za ekonomiju Tirol je dobio 2014. godine. Ona je, kako naglašava, rezultat ne samo sopstvenog rada nego i mnogih drugih saradnika kojih je toliko mnogo da mu je nemoguće da ih sve nabroji. Osim saradnika za ovo priznanje zaslužni su i njegova porodica, nastavnici i studenti. Ovog puta izdvajamo jednu njegovu karakterističnu rečenicu povodom dobijanja Nobelove nagrade: "Mudrost me sada tera da se što pre vratim prethodnim aktivnostima, kolegama kojima sam zahvalan za nagradu, ukratko divnom životu istraživača".

improve the university environment in France. He had total trust in Laffont, who apart from his well-known intellectual capacity had remarkable human qualities and was also a highly competent manager, which is quite unusual in the research world.

There was some apprehension about the future status of the University of Economics in Toulouse and the IDEI after Laffont passed away in 2004. In his autobiography Tirole stated his opinion that Laffont had earned the Nobel Prize although he never got a chance to actually receive it. This opinion was evidently shared by the Committee of the Swedish Royal Academy, which is reflected in its decision and the accompanying explanation of having awarded the Nobel Prize to Jean Tirole, highlighting Laffont's contribution as well. In other words, it was suggested that the Committee would have awarded the 2014 Nobel Prize to both Laffont and Tirole, had the former lived to experience it.

The research group gathering economists in Toulouse did not break apart, which was, according to Tirole, the best tribute to Laffont. On the contrary, they actually worked entrepreneurially to further his organizational project. In 2006 the group won a national competition to create 13 centers of excellence across all fields in France. This provided some financial resources and most importantly enabled us to create a private foundation in



2009, i.e. the Fondation Jean-Jacques Laffont/Toulouse School of Economics (TSE).

Although his academic engagements were a priority, Tirole was also actively engaged in the work of many economic councils and associations: he was a member of the French Economic Council, president of the Econometric Society and the European Economic Association. During his research work he often delved into other social sciences, including sociology, psychology, politics, etc. He was, therefore, very happy when, in 2011, his project to create an Institute of Advanced Study in Toulouse (IAST) was selected by an international jury and funded within the program "Investissements d'Avenir".

Tirole won the Nobel Prize in Economics for 2014. This Prize, as he himself underlined, is so much the outcome of a collective effort that it is impossible to acknowledge all those who contributed to it in their own ways. In his speech he thanked his wife and family for their unfaltering support; his teachers, colleagues and students. To conclude, we will quote one of his characteristic sentences spoken on the occasion of the Nobel Prize reception: "Wisdom now forces me to return as soon as possible to my previous activities, to the colleagues to whom I am indebted for the Prize, in short to the wonderful life of a researcher".

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