TSEconomist

TSE Student Magazine

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Second Issue - Autumn 2012

Toulouse School of Economics

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INTRODUCTION TO THE SECOND ISSUE

The first issue of TSEconomist, published in May 2012, was the outcome of lengthy discussions, numerous meetings and a lot of work of a team of 13 TSE students who were in charge of this new initiative as well as the contributions by several other TSE students and professors. The warm welcome of the first issue by our student community was the main motive to continue this effort and to create this second issue that you are currently reading. Despite the fact that the team has substantially changed its composition, we continued applying the same philosophy and we tried to improve the quality of the magazine based on the feedback we received. Of course, as in every beginning, there are still many things that need to be improved and we will be really glad to receive your feedback, your detailed thoughts and suggestions for the future editions.

Before starting with the presentation of what you can find in the following pages, we would like to invite the interested students to participate in TSEconomist as members of the new editorial board which will be formed after the publication of the second issue and/or as contributors. We feel that TSEconomist should represent ALL TSE students. We are very open to new ideas and suggestions and everyone who feels like contributing is very welcome to join us!

This second issue deals with various topics. To begin with, George Alogoskoufis, the Greek minister of Economy and Finance from 2004 till the beginning of 2009, presents us the Greek debt crisis and possible ways for its resolution. The readers have a unique opportunity to develop an insight on the Greek case, guided by an experienced Greek politician and academic teacher and researcher.

Since the political temperature is increasing on the other side of the Atlantic, Philippe De Donder approaches the coming US presidential elections in an innovative, very informative and stimulating way deviating from the sometimes conventional approach of the mass media. At the same time, TSEconomist continues interviewing top economists. In this issue, Philippe Aghion, full of ideas and inspiration, introduces to us the policy implications of his main academic contributions, discusses with us the main differences between the US and European universities and, motivated by the recent political intensity in France, talks frankly about the necessary changes that need to be implemented in the French society.

Economics and Biology may at first glance seem to be two completely unrelated fields. With the help of a specialist such as Ingela Alger, the readers can explore the links between these two disciplines and identify the extent to which natural laws apply to the economic development.

Furthermore, Adam B. Jaffe touches the very sensitive issue of climate change and explores how it can be addressed using as a vehicle the technology policy. Takuro Yamashita introduces to us the theory of mechanism design following the steps of the 2007 Sveriges Riksbank Prize winners Leonid Hurwicz, Eric Maskin, and Roger Myerson.

In April 2012, TSE participated for the first time in the Econometric Game, an international competition in applied econometrics that takes place every year in Amsterdam. Samuele Centorrino, the captain of the TSE team, shares with us this unique experience!

Two PhD students of our School, Julien Sauvagnat (who defended his PhD dissertation in September) and Nikrooz Nasr write about their research papers, their motivation, contribution and main results, while M Carling travels in time in order to interview Antoine Augustin Cournot…

In this issue, we also make a first attempt to link our community with the job market. Gildas de Muizon, the managing partner of the economic consulting company Microeconomix, enthusiastically responded to our invitation to present his company to our student community.

TSEconomist continues to support the Enter Network, a network of leading European universities that facilitates the exchange of ideas and further interaction of PhD students of the participating universities. Christoph Schottmüller shares with us his experience during his TSE visit while Rob Nijskens motivates our students to pay a visit to Tilburg University.

Last but not least, we try to keep solid links with our alumni members. In this issue, Charmaine Tan, Stephen Wolf and Carolina Moreno Droguett inform us about their professional lives after graduating from TSE and conclude about how TSE contributed to their current development.

Before closing, we feel the necessity to thank the new director of the TSE School Jean-Philippe Lesne, the managing director of TSE Christian Gollier and the director of operations and HR Joël Echévarria for their continuous support and endorsement. We are also highly indebted to the scientific communication manager Jennifer Stephenson, the corporate communication manager Claire Navarro and the web communication manager Valérie Servieres for accepting so kindly to help us at various stages of the preparation of this issue. Their help is very valuable to us! Many thanks also to our sponsor LCL for accepting to print this issue.

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TSEconomist is a magazine which is "by the students, of the students and for the students"! We hope to hear from you soon!

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Messages from the Directors

Having really enjoyed reading its predecessor, let me welcome this second issue of TSEconomist, TSE's student magazine. For a first attempt the former was just brilliant: well-crafted, entertaining, and serious enough to be informative and thought-provoking.

The students' initiative and the quality of their work will no doubt contribute to the vibrancy of our intellectual community. It will provide a platform for exchanging information and ideas. The debate of opinions about current economic issues among researchers, students and the broader economic community has a real potential for "developing a critical way of thinking about these issues and getting in touch with recent research developments in various economic areas", as stated by the editorial team.

Warm congratulations. I can't wait to read the second issue!!

JEAN TIROLE, CHAIRMAN OF THE BOARD OF DIRECTORS, TSE AND SCIENTIFIC DIRECTOR OF IDEI

I read the introductory issue (May 2012) of TSEconomist, " TSE student Magazine" with great pleasure. Congratulations for your initiative. This magazine can be an excellent tool to know point of views of students on issues of interest to our community. And it is also a tool to explain the activities of the various components of our community, including those of IDEI (Institut d 'Economie Industrielle), which organize partnerships with companies. IDEI is apparently very far from students. This is an opportunity to learn from both sides on our activities.

HERVÉ OSSARD, DIRECTOR OF IDEI

JEAN-PHILIPPE LESNE,
DIRECTOR OF ÉCOLE TSE

I am very glad to have been invited to write a few words for this second issue of TSEconomist. This journal clearly proves that the vast heterogeneity of the students population is a real wealth, and I hope the number and variety of contributors to the next issues will keep increasing: local and foreign students from various countries and cultures, various degrees, etc. Everyone can bring its part in order to create a vivid landscape of economics in progress at TSE, be it a worldwide famous researcher or an "standard student" (beginner, Master or PhD): we need deep insights coming from the former, as well as practical examples developed by the latter when s/he works on research projects, internships, or contracts with the Junior Etudes. And it is the same when we go outside TSE: we also need both interviews of brilliant researchers and talks from economists and managers working in businesses or administration.

Thanks to the TSEconomist team for showing us the wide range of creativity and interaction produced by our community!

Having missed the deadline to endorse the first TSE students' magazine, it is with great pleasure that I do so now! Let me also take this opportunity to advertise a number of events, both regular and occasional ones, which should be of interest to students and faculties alike.

First, Arqade students will be organizing the European Development Network (EUDN) student workshop in Toulouse this fall, bringing in graduate students from all over Europe. The event will be advertised in coming weeks. Note that Jean-Marie Baland, from Namur, has kindly accepted to give a keynote speech on that occasion.

Also, starting with an initiative from Marti Mestieri, the development group now regularly holds "development barazas", which are informal-no slide seminars where any interested students or faculties can discuss their ongoing research, whatever its stage of development, and ask for comments and advice on anything from technical difficulties to access to data for example. We look forward to seeing you all, and especially students from any field, in those occasions.

STÉPHANE STRAUB,
DIRECTOR OF ARQADE

Conditions for a Resolution of the Greek Crisis

— George Alogoskoufis

George Alogoskoufis is Professor of Economics at the Athens University of Economics and Business. He was a member of the Hellenic Parliament from September 1996 till October 2009. Between 2004 and 2008 he served as Greece's Minister of Economy and Finance and was a member of the Eurogroup and the Ecofin Council. His research focuses on unemployment, inflation, exchange rates, economic growth and monetary and fiscal policy. He has published five books including "The Drachma: From the Phoenix to the Euro", a monetary and economic history of Greece since the 19th century, which was awarded the Prize of the Academy of Athens.

Since the beginnings of 2010, the Greek economy emerged as the first casualty of a sovereign debt crisis that still threatens to destabilize the euro area and put the fragile recovery of the European economy from the recession of 2009 at risk.

The Greek fiscal situation became the centre of international attention after the elections of October 2009. The fiscal deficit of Greece worsened during the crisis, not unlike in many other economies in the euro area and the rest of the world. In addition, after many years of strong economic growth, in 2009 the Greek economy entered into a prolonged recession, the end of which is not yet visible.

The international financial crisis hit the Greek economy at its Achilles heel: The refinancing of the country's high public debt. Greece's public debt was accumulated mainly during the 1980s. Although the fundamentals of the Greek economy had improved significantly in the twenty years to 2008, during preparations for entry into the euro area, but especially since Greece's entry, public finances and international competitiveness remained as persistent and significant problems throughout the period. There were two periods of significant improvement in the fiscal situation, but there were also many instances of relapse, especially around election years.

After a steep rise throughout the 1980s, public debt had stabilized at about 100% of GDP since the early 1990s. Greece had no problem refinancing its debt until the end of 2009. However, in the circumstances of the international financial crisis, the refinancing of the debt started becoming a problem, and spreads over the German benchmark rates started to widen. The problem became much more serious after the elections of October 2009, when Greece found itself in the centre of a wave of criticism by the international press, international organizations, rating agencies and the European Commission. Despite the fact that the fiscal situation in 2009 worsened throughout the world, in many countries much more than in Greece, Greece found itself in the centre of a confidence crisis.

This happened for three reasons. First, and foremost, because of the high level of Greece's public debt. Greece's public debt had stabilized since the early 1990s at roughly 100% of GDP, versus 70% for the average of the Euro area. The second was the sudden announcement of the dramatic deterioration of the projected deficit and debt for 2009, by the new government elected in October 2009. This took the markets by surprise and contributed to the confidence crisis, as the previous administration insisted throughout 2009 that it would achieve a much lower deficit. The third reason is related to the delay of the new administration to start tackling the fiscal slippages of 2009, and the shortcomings of the fiscal program initially adopted, which

appeared to be leading to a further widening rather than a contraction of the fiscal deficit.

Under these circumstances, Greece faced a severe confidence crisis, a sustained speculative attack on its bonds, and the eventual setting up of a special European Support Mechanism, with the participation of the IMF. Since the end of April 2010 Greece has effectively been excluded from international financial markets.

Greece found itself in the middle of a dual confidence crisis. It lost the confidence of international investors, and was thus unable to borrow internationally, and it lost the confidence of domestic consumers and investors, and thus entered into an unprecedented deep and long recession which makes its fiscal predicament even worse.

At the end of April 2010 the Euro Area countries agreed to provide to Greece €80bn in bilateral loans, coordinated by the European Commission, with an additional amount of up to €30bn available from the IMF. A rolling quarterly review process of Greek efforts to address the fiscal situation before the installments are paid out was set up. Euro area countries contribute to the loan package according to the ratio of their contributions to the European Central Bank. Interest rates were set at about 5 per cent, higher than the cost of raising the funds in the markets.

At the same time, it was decided to create the European Financial Stability Facility (EFSF), that would be able to issue bonds or other debt instruments on the market, to raise the funds needed to provide loans to countries in financial difficulties. Issues would be backed by guarantees given by the euro area member countries, and would amount up to € 440 billion.

Under the conditions of the European bailout, the Greek government agreed to follow a drastic 5 year program of fiscal adjustment and structural reforms. The initial measures aimed to reduce the budget deficit by five percentage points of gross domestic product in 2010 and another four points in 2011. Greece was required to reduce its fiscal deficits below 3 per cent of GDP by 2014.

The Greek program has two main aims: first, to restore the sustainability of the Greek fiscal situation and, second, to improve the competitiveness of the Greek economy.

The original adjustment program has been officially revised twice already, in the face of insufficient fiscal adjustment and another revision of Greece's fiscal accounts. The first revision followed the decision in the autumn of 2010 to include public enterprises in the general government accounts, while the second revision, in the spring of 2011, became necessary because of the failure of the 2010 budget to meet the program targets. A third revision was under way, but the calling of new elections in May and then June 2012 has led to its postponement. However, the revised programs have a similar structure to the original program and rely on similar policies. They rely on drastic but gradual fiscal adjustment and reforms to improve the competitiveness of the Greek economy.

In addition, as it appeared unlikely that Greece would be able to return to the markets in 2012, in July 2011, Euro Area countries agreed "to support a new program for Greece and, together with the IMF and the voluntary contribution of the private sector, to fully cover the financing gap. The total additional official financing will amount to an estimated 109 billion euro." The maturity of official loans to Greece was extended and interest rates were reduced. The European Financial Stability Facility (EFSF) was also given new powers to make short-term loans, provide funds to recapitalize banks and in "exceptional" circumstances even buy back bonds of debt-laden governments.

There are many who doubt that Greece can indeed get out of its fiscal predicament through the stabilization program agreed between Greece, the European Commission, the ECB and the IMF.

Financial market analysts, prominent economists and influential financial newspapers have almost continuously been expressing serious doubts, arguing that Greece's fiscal situation is unsustainable without further debt write-offs and exit from the euro area.

The fiscal adjustment effort is taking place in a framework of falling real GDP and rising unemployment. According to the 2nd revision of the Greek Stabilization Program of May 2011, the deficit of the general government is projected to fall from 15.4% of GDP in 2009 to 2.6% of GDP in 2014. Yet, the debt to GDP ratio is projected to rise from 127.1% of GDP in 2009 to 153% of GDP in 2014. This is because of the negative differential between growth and the real interest rate, and the fact that Greece will continue having primary deficits until 2012. It is only in the fourth and fifth year of the program that Greece is projected to have substantial primary surpluses. Although the program appears front-loaded at first sight, in actual fact it also envisages a steep fiscal adjustment effort at the end of the program period as well.

Many international analysts have been advocating that Greece ought to further restructure its public debt, as, even if the stabilization program succeeds, it will be very difficult to persuade the markets that it has achieved fiscal sustainability. After all, the stabilization program itself envisages that the public debt to GDP ratio will reach almost 153% of GDP in 2014, from less than 100% in 2008.

In fact, a restructuring of Greek debt has already taken place, following the agreements of July and then October 2011. Under the terms of the so-called Private Sector Involvement (PSI), institutional investors such as banks, pension funds and hedge funds have agreed to exchange their holdings of Greek bonds for new bonds of longer maturities, at a steep discount. For the period 2011-2019, the total net contribution of the private

sector involvement is estimated at 106 billion euros. In exchange, adequate resources to recapitalize Greek banks, if needed, have been pledged.

The question on everybody's lips is whether the Greek program can succeed and under what conditions. This question acquires additional significance since the dual elections of 2012 that have ushered in a new three party government.

My answer is a qualified yes. The Greek program can succeed if Greece were to exercise long-term fiscal discipline as envisaged in the program and respect the rules of the stability and growth pact moving gradually into a budget surplus which will have to be maintained for a number of years. However, the program must undergo significant further adjustments that will speed up the recovery of the Greek economy.

Greece's crisis is not simply a debt crisis. It is a dual confidence crisis, due to the mismanagement of the expectations of international creditors and domestic consumers and investors. Thus, to resolve the crisis, confidence needs to be restored on both fronts. The main difficulty of the Greek program is that it has so far failed to address the confidence crisis that has led to its adoption. The Greek program ought to be modified to break this vicious circle.

Three conditions are required for the restoration of confidence.

First, a clear pledge from all relevant parties that Greece will remain in the euro area. This is a commitment that has repeatedly been made by Greek political authorities, but the commitment lacks credibility as long as Greece's partners do not back it up unequivocally. Unless the fear of Greece's exit subsides, there will be the risk of further capital flight that stifles the Greek economy of liquidity, exacerbates the problems of the Greek banking sector, and causes a deepening of the recession.

The second is an effective tax reform that will restore the stability and predictability of the Greek tax system. This is a necessary precondition for a recovery of the Greek economy that will also help the fiscal adjustment effort. Greece can achieve the necessary fiscal adjustment with much lower business taxation, much lower property taxes and a much simpler income tax schedule for households than the one envisaged in the program. It is right and proper to rely more on consumption taxes, such as VAT and excise duties, in an economy where consumption is clearly excessive relative to the productive potential. A radical reform of the direct and property tax system, which will create expectations of stability and predictability, is probably the best tool for restoring the confidence of domestic investors, and thus allow the Greek economy to recover. The tax regime that was put in place at the end of 2009 is unduly complicated, contains significant disincentives to economic activity and investment, and is being revised far too frequently, almost every three months. All these elements work against both the recovery and the fiscal adjustment of the Greek economy.

The third and final priority would be a detailed program of reductions in public expenditure that should be the main tool of further fiscal consolidation. The program should include loss making public enterprises, local authorities, the administration of the social security system, health and education. This is the most difficult condition as it will involve hitherto untouchable areas, and requires detailed planning and a clear political strategy to implement it. However, it is much more central for the fiscal consolidation effort than any of the other two conditions. Structural reforms should be concentrated in this area as a matter of the highest priority. Structural reforms that do not directly contribute to the fiscal consolidation effort could be introduced more slowly, without significant risks.

The first sign of success will be the stabilization of the debt to GDP ratio. Under the current program this is not envisaged before 2014. This is due to the prolonged and deep recession, which serves to destabilize the debt to GDP ratio. Under current projections, the recession is set to continue well into 2013. To address the dual confidence crisis, the Greek program ought to be revised in a way that enhances its credibility, and produces some early results.

So far, both Greece and its European partners have failed in restoring confidence. This does not mean that they cannot learn from past mistakes and eventually succeed. This is possible, if the Greek program is adjusted so that the recovery of Greece's economy is speeded up and its credibility enhanced. This would be good for both Greece and the rest of the world.

A primer on recent US elections

— Philippe De Donder

Like every four years, media worldwide are focused on the US Presidential elections. The results of these elections may actually be especially important this year, given the worldwide economic context. Unfortunately, the media tend to focus on the "horse race" aspects of the contest, the gaffes of the candidates and the color of their ties. It is a pity, since there are many interesting recent developments below this surface.

Let us start with the following apparently easy question: in the last elections, who has voted for the Democratic candidate (for President or Congress), and who for the Republican? With the Democrats being to the left of the Republicans on economic issues, it seems reasonable to posit that poor voters tend to favor Democrats and richer voters Republicans. But one then faces the following puzzle: Democrats have won the last several elections in the rich coastal states (the so-called blue states) while Republicans have won the poorer states of the center and the south of the country (the red states). How to explain this apparent paradox?

Historian Thomas Frank, in his book "What's the matter with Kansas?" alleges that non-economic, or cultural, issues have now acquired so much importance in voting decisions that poor voters (from Kansas and elsewhere) actually vote "against their economic interests" by supporting the more socially conservative Republican party. At the same time, some commentators (such as David Brooks from the New York Times) assert that rich

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voters now favor en masse the Democrats. If true, this would mean that poor US voters vote for the economically and culturally conservative Republicans, while rich voters support the more progressive Democratic party!

Gelman (2010) shows that the explanation is more subtle and interesting. Using exit poll data at the district level, together with other survey data, he first shows that poor voters do not differ much across states in terms of voting behavior, and support in their majority the Democrats. He also finds that the proportion of voters favoring the Republicans increases with income in all states! The observation that explains the puzzle is that the intensity of the relationship between voter's income and support for Republicans differs a lot among states: it is large in poor/red states but much smaller in rich/blue states. In other words, while poor voters are very much alike across the US in terms of voting behavior, it is the richer people who differ a lot and explain the red/blue geographical pattern of voting! Red (and poorer) states are won by the Republicans with the overwhelming support of the richer voters, while Democrats win the blue (and richer) states thanks to the votes of the poorer voters!

Gelman (2010) then looks at what could explain the different voting behavior of rich citizens across states. He obtains that they differ a lot in their cultural characteristics, with richer voters in the South being much more conservative (on issues such as attitude to race, abortion, religion, gun control or immigration) than richer voters on the coasts. Since the Republican party is more socially conservative than the Democrats, this non-economic dimension reinforces the attraction of Republicans for rich southern voters, while rich voters from the coastal states are torn between economic incentives (favoring the Republicans) and ideological considerations (favoring the Democrats). According to Gellman, this explains why income is a much better predictor of voting patterns in the south than along the coasts.

What influences do these considerations have on the positions taken by both parties? The political scientist Keith Poole (together with Howard Rosenthal) has been measuring the positions taken by US members of Congress literally since the beginning of the Republic (see his website at voteview.com)! He first confirms that two dimensions are necessary to represent the US parties positions: an economic one, and an ideological/cultural one. Second, he shows that parties have become more distant (or polarized) in recent elections. This polarization is actually due mostly to the Republican party, that has veered toward the more conservative extreme. In terms of Presidents, Obama is actually, according to Poole's measure, a very centrist candidate.[1] A good example of both the centrism of Obama and the move to the right of the Republicans can be found by looking at President Obama's signature legislation on health insurance ("Obamacare"), which borrows heavily from a proposition made in 1989 by the conservative Heritage Foundation, and put in practice in Massachusetts by its former governor … Mitt Romney!

Interestingly, Gelman (2010) also shows that representatives are most of the time more extreme than their constituents, so that the distribution of policy positions in Congress is more polarized than among the voting population, and that the population is not more polarized on economic issues than it used to be twenty years ago. Political scientist Larry Bartels completes this analysis in his 2008 book "Unequal democracy". Using micro data at the district level, he shows that elected officials from both political parties are overwhelmingly responsive to the positions of the richer among their constituents, but ignore the views of poor people.

There are several potential reasons for this focus on richer citizens. To start with, they vote more often than poorer citizens. Bartels also shows that they have more knowledge of the issues at stake and that they contact much more often their representative in Congress. They also give much higher financial contributions to political parties and candidates.

Hacker and Pierson (2011) stress the importance of lobbying to explain why parties have become more polarized. They brilliantly describe the fall, since the 1970ies, of the labor lobbies (and so-called Political Action Committees, or PACs) and the concurrent rise of the more conservative lobbies funded by firms in

[1] See http://voteview.com/blog/?p=317

finance and elsewhere. Finally, Hacker and Pierson make the link between the rise of money in US politics, the move to the right of parties on the economic dimension, and the staggering increase in economic inequalities (especially at the very top of the income distribution) in the US. This latter topic would deserve its own column, but I can't resist recommending the superb book by Robert Frank and Philip Cook on the subject (see references).

To conclude, if the "race horse" aspect of the Presidential contest is what is of interest to you, you can access the prediction market intrade website (http://www.intrade.com/v4/markets/contract/?contractId=743474) to see the latest odds. At the time of this writing, President Obama is assumed to have a 57.1% chance of reelection…

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TSE At The Econometric Game

By Samuele Centorrino,
PhD Candidate, TSE and Captain of the Econometric Game 2012 TSE Team

Every year, in April, the University of Amsterdam hosts the Econometric Game, an international competition for PhD students in Economics and Statistical Sciences, organized by the study association for Actuarial Science, Econometrics & Operational Research (VSAE) at the University of Amsterdam[1]. This is a three-day competition in which teams from around the globe have to apply econometrics to unfamiliar fields and test their abilities to use theoretical knowledge in a practical setting.

From the moment the first Game was organized in 1999, it has evolved from a one-day national contest to a highly respected international event. During the previous three editions, competitive teams of over 20 universities have analyzed information about child mortality, HIV/AIDS in Sub-Saharan Africa and the effect of alcohol consumption during pregnancy.

The participating universities are expected to send delegations of five students (two PhD students and three masters students). Teams are given a case study that they must resolve in two days, using econometric modeling and a data set provided by the organization. At the end of the second day, every team has to submit a report with its results. The 10 teams with the best solutions continue to the third day. In this second phase of the game, the 10 finalists receive new data and questions on the same topic, to which they have to report a solution and give a short presentation in front of all other participants and the jury. The winner of the game is finally selected among these 10 finalists. Solutions are reviewed and evaluated by a jury of highly qualified and independent professors.

This year, for the first time, TSE sent a delegation of students to the Econometric Game. The group was composed of Çagri Dalgiç, Vitalijs Jascisens, Zhennan Liu, Georgios Petropoulos, and myself, Samuele Centorrino.

The proposal to apply for the Game came from Georgios who, having studied previously in the Netherlands, was aware of the existence of this competition. The faculty members were enthusiastic about the idea of finally including TSE in the list of universities that ever took part to the Game and TSE's managing director, Christian Gollier, was happy to fund our expedition. Georgios became then de jure a member of the team. When he asked me if I was interested in participating to this initiative, I did not hesitate. I thought that it would be a challenging and stimulating experience.

Together with Georgios, we then selected the three masters students to complete our team. Our first selection criterion was motivation: we allowed interested students to self-select themselves. We finally chose Çagri, Vitalijs, and Zhennan because of their previous experience in applied studies and their strong record in theoretical econometric courses.

When the team was complete, we decided to meet every week in order to discuss and solve case studies from previous years of the competition. Meetings were quite serious but relaxed. We discussed theoretical implications of the issues presented in the case and tried to provide some modeling solutions.

[1] www.econometricgame.com

Other students also joined us during some of those meetings, as a proof that many among us found the idea of the Game appealing.

The atmosphere in Amsterdam was exciting for all of us. This year 30 departments of Economics and related sciences joined the competition. Among those, Harvard University, LSE, Universidad Carlos III, Aarthus University and many other prestigious universities around the world. The topic of the game was the effect of maternal smoking during pregnancy on infants' birth weight, an argument to which empirical economists and econometricians have devoted a lot of attention lately. This has relevant implication in economics, as low birth weight is often associated with higher infant mortality, lower education attainment, higher unemployment rate and lower cognitive skills[2].

The organizers of the Game have done a very good job balancing the serious work of the competition with spare time, during which we had the opportunity to discuss with other participants about our research, our general interests, exchange ideas and, above all, have fun.

As expected, the Game was challenging. In less than 24 hours, teams are asked to understand the data and the literature; choose their preferred model and empirical approach; use the data to provide results; and, finally, discuss and defend their steps in a written report, which is ultimately evaluated by the jury. I believe our team did a great job splitting the tasks and worked together in order to achieve the best possible result. Decisions were always discussed and not for a single moment was there tension between our team members. That is something of which, above all, we have been proud: for the entire duration of the game, we played as a team.

Unfortunately, we did not make the final phase of the game. I believe that our bad result can be attributed to our lack of previous experience, and to a short joint preparation. It was not easy to understand what exactly the committee expected from us, and we devoted too much of our attention to fancy models, instead of discussing the essential problems of a simple econometric approach.

However, I would like to stress that participation in the game was above all a great experience. On the one hand, it allowed us to meet other PhD and Masters students from all over the world, establish contacts and perhaps collaborations. Furthermore, for some among us, this was the first real experience of applied work, and we have profited tremendously.

On the other hand, the case studies of the Econometric Game are always based on topics which are on the frontier of applied econometrics and that can possibly contribute to broaden the scope of our research at TSE. Such an experience would be extremely useful for future TSE students working on applied topics. Last but not least, I think the entire school can benefit from a continuous TSE presence at such international events.

We hope that new PhD and masters students, starting this year, will overtake the organization of the TSE team; and that TSE will be a regular contender at the Econometric Game, eventually bringing the trophy to Toulouse.

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Interview With Philippe Aghion

By Georgios Petropoulos
PhD candidate, TSE

Philippe Aghion is the Robert C. Waggoner Professor of Economics at Harvard University. He received his PhD in Economics from Harvard in 1987. His research interests include contract theory, industrial organization, growth theory, economics of innovation and education. He is the author of 8 academic books among which "The Economics of Growth" (with Peter Howitt).

Looking at your contributions and research activities I can tell that you are interested in many fields that at first glance do not seem to be closely related. On the one hand, mechanism design and contract theory; on the other hand, economic growth and economics of innovation. Of course I should not forget to mention political, experimental economics and economics of education. It is a very interesting mix. What is your motivation to work in so many different fields?

I was trained as an applied theorist. My thesis was on industrial organization and contract theory. I was particularly interested in the applications of incomplete contracts. But, basically what I tried to do was to incorporate growth theory with industrial organization and firms. I worked together with Peter Howitt on that. The idea was to develop a growth model where you look at growth from the point of view of firms and entrepreneurs. This did not exist before. With this model we could look at growth policy design: the effect of competition, education policy, finance, R&D policy, environmental policy, macro policy which I am doing recently. So, the idea was to have a framework with which we could talk about growth policy design but always to look at it from the point of view of the effects it has on firms, on entry, on turnover, on the nature of innovations chosen by firms and to be able to test those models. Initially, my first phase was to do theory. I worked with Peter developing various extensions of our initial model. But then I moved to the empirical part. First, with Richard Blundell at University College London where we did the work on competition and growth which was based

on firm level data. That was a very new type of econometrics because before, the econometrics of growth was cross country. In contrast, we followed a more microeconomic approach using firm level and sectoral level data. That is what I have been trying to do so far.

So, basically, your main contribution is that you developed a link between industrial organization and growth theory that did not exist before…

Exactly! There wasn't any link between industrial organization and growth theory before.

This brings me to my second question. As the field of economics grows and expands with new developing areas, specialization is necessary. However, in the last years we observe that the borders between different areas are not so distinct. Do you think that in the effort for new substantial contributions we gradually move from the time of specialization to the time of generalization? Do you feel that economists should be specialized in a particular field of study or they should have broader horizons in order to be able to identify links between different fields in economics?

I think that it is a little bit of both. You cannot be too broad. If you are too broad, you are too thin. So, you need to spend some time on a particular topic. To be trained as a researcher you have to write papers that are publishable in the best journals. So, you need to go intensive! You cannot just go extensive. But, I think that it is good to have a PhD training that acquaints you with some other secondary fields. In my case, it was useful that I learnt contract theory, industrial organization and macroeconomics. But, it is true that I did my PhD more in industrial organization and theory of contracts at that time. I think that specialization, especially in the PhD phase, is necessary.

Let's begin covering your research areas and let's start with economics of education. In a recent study you showed how the governance structure of the EU and the US universities affects their research output. Why do you think that the top European universities cannot compete with the top US universities in terms of research and job market placements? Is it a matter of funding, governance…?

I think it is actually both. In fact, part of my growth program has been devoted to education and its interaction with growth. The first thing we realized was that when you are an economy closer to the technological frontier, where growth relies more on innovation, especially on frontier innovation, not just on imitation, you need to have really good graduate schools. This is very important. If you are a catching up economy, it is less important. For a catching up economy, primary, secondary and good undergraduate programs are enough. You do not need to have necessarily very good graduate schools. But, when you become a frontier innovative economy, you need to have good graduate schools. That was one of the first conclusions of our studies. So, education is very much linked to the growth policy, to the growth work I have done.

Then, the idea was to say that you should not only invest more in higher and graduate education but also govern differently. And this is true not only for education but also for industrial and macro policy. The way you govern the allocation of funding is very important. Further, we saw that it was important to invest more not only in graduate education but also in more autonomous universities. So, autonomy is also important. There is a complementarity between autonomy and funding and the fact that you compete for grants. The fact that universities compete for grants is very important. Afterwards, we looked at other governance aspects and we saw that universities with boards of directors which have a significant fraction of external members seem to work well! So, we carried out a cross-country analysis and we examined different structures of governance. The board of directors may vary; you can have universities which are public, others which are private, universities with tuition fees or without tuition fees. But usually a governance structure with two main bodies, an academic senate composed of professors and a board of directors with a significant fraction of external members, works well. This is something we have been trying to push in France for example. I know that in Germany there are similar efforts towards such a governance structure in universities.

Next stop, economics of innovation. Your work showing that the relationship between product market competition and innovation is inverted-U is quite influential, popular and criticized to some extent. What do you think are the implications of your work for the possible ways we could use competition to promote innovation? What do you think are the main reasons for the fact that Lisbon strategy does not appear to be as successful as it was expected? Do instruments such as liberalization and privatization really work?

It is not enough to liberalize to have innovation happening. It is true that competition is a driving force of innovation because you innovate to escape competition. At first this was not obvious. Initially, there was a view that, since you innovate to get some monopoly rents, competition is a bad thing because it reduces these rents and therefore discourages innovation. This is the Schumpeterian effect. The downward sloping part of the inverted-U relationship is driven by this Schumpeterian effect. But, you have another effect which is called the "escape from competition" effect. It is that you innovate in order to escape competition with other firms. This effect drives the upward sloping part of the inverted-U curve. In fact, in most sectors that are frontier, it is the upward sloping part that matters. The backward sectors are more subject to the Schumpeterian effect. But, the more frontier sectors or frontier countries are more subject to the "escape from competition" effect. So, it's true that liberalizing helps, but it is not enough. You also need to have knowledge as well as a good higher educational system – this is very important. This is something that I have looked at in particular studies in various countries. Liberalization is good for the sectors that are frontier, but it is very bad for the sectors that are behind. So, for liberalization to work well, it is required to have complementary policies that train workers and help them to move from lagging to frontier sectors as well as policies that promote research and good functioning and organization of universities. So, it is a set of policies that accompany liberalization that determines whether liberalization works well or not. Thus, in countries where liberalization did not work so well, one has to look at whether such complementary policies were set in place or not, and in most cases they were not!

There are situations where liberalization does not always do the right thing. For example, Spain and other countries in the Southern Europe liberalized and invested massively in real estate and non-tradable goods. And this is not good! So, you may need the government to play a role to induce innovation and to direct it to sectors that are related to tradable goods. You need what I call an industrial policy, but it has to be a new kind of industrial policy, the one that is competition friendly. So, the role of the government is also very important. In the instances where there is too much investment in real estate, non-tradable goods, polluting innovations, there is a role for a smart state, a smart government policy, probably monitored by a European institution to make sure that competition is preserved. This is because the big danger is that industrial or sectoral policy will kill competition policy, which we do not want.

So, from what you say, I understand that there is a long way for the realization of the goals of the Lisbon strategy.

Yes, because, in fact, initially, the Lisbon strategy adopted the view that you should give R&D subsidies and it works. Then, we realized that you needed also liberalization. And now people realize that you need on the top of that a smart state. Many countries that liberalized did not have a smart state. They followed the Washington consensus which says: liberalize, privatize and stabilize; but a smart state is more than that.

Influenced by the experience and the political intensity of the recent French presidential election, I would like to ask you the following question. What do you think about the role of the mass media in democracies? Do you identify any conflict of interest in their function? Do you think that stricter regulation needs to be imposed in the framework they operate?

Yes, absolutely. The big problem for a country like France is that you need to modernize the state. For example, in the Northern Europe or in Germany, the government is transparent. They have very high standards in terms of fighting corruption and nepotism. For example, in Sweden, a minister

had to resign because they found out that she had bought a Toblerone chocolate with the credit card of the ministry. Just for a Toblerone she had to resign!! In France, we are very far from that. When I talked about a smart state, I said that the state has to select priorities where to invest in favor of innovation. It can be horizontal targeting: R&D, education, smart industrial policy or small business act, and also vertical targeting: the state favors sectors that are growth enhancing. But, if you do not have transparency, targeting may turn into corruption because then you will give to your friends, you will not have objective criteria to allocate investments in a growth enhancing way… So, it is very important to have independent media. In France, the big problem is that the most of the big media, the big newspapers or television, are in the hands either of the state (the head of the television is named by the president of the Republic himself now; this was not the case in the past) or of groups that benefit from public procurement contracts. So, these groups make sure that they do not displease the presidents because otherwise they stop having these public procurement contracts. We should find ways to make sure that such groups do not influence political actions. The other thing is about justice. For example, the executive power intervenes too much in the choice of judges. That should be much more independent. Moreover, while most of the Northern European countries have developed very good institutions to evaluate public policies and the effects of laws, while in the US there exists the Congressional Budget Office, in France there are no commissions or institutions for evaluating public policies and laws. So, all that part, you see, is missing in France very much. France needs to upgrade itself to become immune to nepotism.

My final question is motivated by the current Eurozone crisis. Nowadays, in Europe we experience a very sharp recession which led to fiscal imbalances and stagnation. What do you think is the impact of the imposed austerity measures on economic growth? Is there really a trade-off between austerity and growth? Should we go for austerity policies or policies that promote economic growth? How can we recover faster from this stagnation?

I think that the choice is not between austerity and growth. I think one actually needs both. One needs to combine fiscal and budgetary discipline with growth enhancing policies. Both things are needed, not the one or the other. So, you can no longer implement Keynesian policies where you stimulate public spending everywhere to stimulate demand and then stimulate growth. Those days are gone! There are areas where the state can save money, but there are areas in which the state should invest. Then, there are sectors where you can save money. For example, with the progress in the ICT revolution, monitoring costs have gone down. Thanks to the ICT and computers, the information revolution, there are a number of services the operating cost of which can be reduced. So, it is important to have good governments to make sure that the money spent is well used. That's what a smart state is. It is not either austerity or growth. Also, it is important austerity to be well shared. In some countries people refuse austerity because they think some people get away with it. For example, in countries where people do not pay taxes, how can you implement an austerity program when you know that some people get away with everything? It is very hard! For this reason, it is very important to have a transparent and fair fiscal system. You need some austerity somewhere, but you need to invest in growth somewhere else. And you need to combine both. In fact, I very much believe in the triangle of budgetary discipline, growth and social justice. I very much believe that these three things work together. I think this is what, for example, Mario Monti is trying to do in Italy with a very narrow political margin that he has. He knows that he has to ask everyone for a sacrifice so that they feel that everyone contributes in a fair way. He knows that fiscal and budgetary discipline is needed not only to get good ratings but also to be able to conduct countercyclical macroeconomic policy. Otherwise, it is very hard to conduct such policies as it is very hard to borrow in recessions. Growth is obviously also important because if you do not have growth, you cannot have fiscal discipline in the long run. So, those three sides of the triangle are really complementary.

Is The Internet Killing Quality Journalism?

By Nikrooz Nasr
PhD candidate, Toulouse School of Economics.

The advent of internet has dramatically changed the economics of media and entertainment industries. Before the rise of the internet, we were receiving the contents in a bundle format, whether it was music in CDs, TV Series in Cables or news in newspapers. The speed and efficiency of accessing to a wealth of information via internet has altered the way we consume the contents. Now, we live in an era where people listen to music via Spotify, watch TV series via Netflix, and read news via Google News. This has profoundly affected the business of traditional content providers, especially the ones which are based on advertising like newspapers. The introduction of new media (like Google News) has led to a fall in their advertising revenue, and has threatened their market share. There are serious concerns that this loss in the revenue of traditional media may lead to a decrease in the quality of contents.

One of the major concerns is about newspapers and journalism, as the good quality journalism is a central pillar for democratic societies to function. With the rise of the internet, Newspapers' revenues from advertising have fallen approximately 45% since 2000; for instance, classified advertising accounted for $19.6 billion in revenue for newspapers in 2000, $10.2 billion in 2008, and is estimated to be only $6.0 billion in 2009 (FTC, 2010).

The traditional newspapers are in stiff competition with new media on the internet (web-only news, blogs and news aggregators). With the increase of news sites, consumers face many options and sources of information. Search engines and online portals have responded to consumers' demand for finding the best information by creating online news aggregators, such as Google News and Yahoo! News. Pew Research Center survey data (2010) shows people are spending more time with news than ever before. However, when it comes to the platform of choice, the online media is growing rapidly while other sectors are losing. Their findings also support that digital was the only media sector seeing audience growth, in 2010. According to Outsell report (2009), 57 percent of users now go to digital sources, instead of 33 percent of users few years ago. They're also likelier to turn to an aggregator (31 percent) than a newspaper site (8 percent) or other site (18 percent). Indeed, Gentzkow and Shapiro (2010), and Athey and Mobius (2012) have shown that aggregators, like Yahoo! News, AOL News and Google News, attract more than one half of the traffic of online news in U.S.

This success of news aggregators raises a big debate. At the heart of the debate is the effect of news aggregators on the quality of newspapers. There are two types of arguments in this debate.

One group, including content producers, argues that news aggregators make money by free riding on their contents. This money is pulled out of the content providers' pocket. So, they have less incentive to invest on high quality contents. This leads to a situation with a bunch of poor quality contents. The other group, including news aggregators, believes that news aggregators find the high quality contents and conduct a huge traffic to the news website for those contents, so, the content providers can make money out of it. Hence, news aggregators encourage the content providers to invest more on quality by providing more revenues opportunity for the high quality contents. Google [2010], for instance, in a response to the FTC report, claims that it sends more than four billion clicks each month to news publishers via Google Search, Google News, and other products. That is, every minute Google sends approximately 100,000 visitors to news publishers around the world. Google believes each click – each visit – provides publishers with an opportunity to show users ads, register users, charge users for access to content, and so forth.

Doh-shin Jeon and I are trying to investigate this issue. More precisely, we study how the presence of a news aggregator affects competition among newspapers in the Internet. For this purpose, we build a novel model of multiple issues which allows each newspaper to choose quality on each issue. Hence, each newspaper's strategy has both a vertical dimension (through quality choice) and a horizontal dimension (through choice of issues to cover in depth). Our multi-issue model enables us to provide a micro-foundation for the benefit generated by the aggregator. In this model, we study how the presence of an aggregator affects each newspaper's choice of quality and coverage, newspapers' profits and readers' surplus.

The aggregator has two effects on newspapers, the business-stealing effect, and the readership-expansion effect. The former arises as long as the aggregator attracts some readers who would read the index pages of the newspapers if the aggregator did not exist, while the latter exists since the aggregator improves match between each reader's attention and high quality contents and increases the readership for high quality content. In other words, each newspaper can reach to more readers which include those who are loyal to the rival newspapers.

One of our major findings is that the presence of an aggregator changes in a fundamental way the strategic interactions of quality choice among newspapers from strategic substitutes to strategic complements. In the absence of the aggregator, if a newspaper provides readers with higher quality, this decreases the market share of other newspapers and hence their incentives to invest on quality. On the contrary, in the presence of the aggregator, if a newspaper improves its quality, this expands the market share of the aggregator. This in turn implies that the high quality content of other newspapers can reach a larger number of readers. Therefore, other newspapers have more incentives to invest on quality.

As a consequence of this change, the presence of an aggregator is likely to lead to specialized newspapers, and induces each newspaper to choose a higher quality, implying an increase in the surplus of readers. In addition, no newspaper has an incentive to unilaterally break the link to the aggregator; furthermore, newspapers have no incentive to collectively break the links.

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Links between Economics and Biology

— Ingela Alger

Ingela Alger is a TSE researcher and the research director of CNRS. She holds a PhD degree in economics from Université des Sciences Sociales. Her research interests include evolution of preferences, contract theory and industrial organization.

When I left Toulouse as a freshly minted Ph.D., I would have been surprised to learn that fifteen years later part of my job would consist in building bridges between economists and biologists. At the time I had no intention whatsoever to make this connection, and if somebody had mentioned it, I would probably have asked myself: What could economists and biologists possibly have in common?

At first glance, the answer is, "Nothing": for while biologists study cells, plants, animals, and the human body, economists analyze markets, firms, and other institutions created by humans. However, while these two disciplines clearly have distinct objects of study, they share an important goal, namely, to discover laws governing the functioning and behavior of the objects of study. Now, physicists and chemists also seek to uncover such laws; a key difference, however, is that their objects of study are not living beings, while those of biologists and economists are. At second glance, then, the answer is, "Potentially a lot".

Opening a biology journal or textbook would likely bring surprise to many an economist, who would quickly notice that "costs," "benefits," and "scarce resources" are mentioned quite frequently. Nonetheless, the currency is not the same: whereas economists use some numeraire good to express costs and benefits, biologists use reproductive success as currency. For biologists, living beings all share one goal, which is to reproduce, and, hence, an individual's success is measured by his or her reproductive success, or fitness.

Many people would certainly find it shocking to reduce the purpose of life to reproductive success, and we economists take pride in our ability to provide models where general results do not necessitate strong assumptions about individual preferences. However, there are strong and compelling arguments in favor of

the biologists' view.

By definition, any living individual descends from a long string of ancestors who were all successful at reproducing. By the same token, at any point in time, there are billions of individuals who could have existed, but who failed to do so. Clearly, the ancestors of the former set of individuals must, on average, have followed strategies that led to higher reproductive success than did the ancestors of the latter set of individuals. Hence, by way of "Darwinian revealed preference," those who are alive today may be expected to be equipped with traits that have been selected for by evolutionary pressure to maximize, or at least favor, reproductive success.

Depending on the species and the habitat at hand, surviving and reproducing requires a more or less complex set of traits. These traits come in many forms, including body design, sensory abilities, and behavioral responses. Just like economists, biologists collect data and use mathematical models to produce theoretical predictions. This, then, points to one natural point of connection between economics and biology: using evolutionary logic, what kind of behavioral responses, and preferences triggering these responses, may be expected from first principles, provided that reproductive success is the driving force?

In the 1970's theoretical biologists developed evolutionary game theory, the tool of choice to study this question. Starting about twenty years ago, economists have relied on and further developed evolutionary game theory to model preference evolution. This literature has produced evolutionary foundations for expected and non-expected utility, prospect theory, intertemporal preferences, a host of other-regarding preferences – such as altruism, inequity aversion, spite, and status-seeking – as well as moral values.

Importantly, this literature holds the potential for establishing a link between, on the one hand, the preferences that may be expected to arise in a population, and on the other hand, the environment in which the population evolves. Which in turn leads me to how I got into conducting research on preference evolution...

Ever since I was a child, I have had the opportunity to observe different cultures from within over long stretches of time. Differences appeared to run deep. At some point I became particularly struck by differences in the amount of helping within families. Broadly speaking, helping within families is less common in developed countries than in developing ones. I soon discovered that biologists had looked into the issue of helping behaviors within the family for decades. Theoretical work published by British biologist William Hamilton in 1964 had shown that, ceteris paribus, the amount of help between relatives should be determined by the degree of relatedness (e.g., helping should be more commonly observed between siblings than between cousins). My work with Jörgen Weibull on the evolution of altruistic preferences builds on and refines Hamilton's insights. It predicts that the degree of intrafamily altruism selected for by evolutionary forces will typically depend on factors in the environment, where the environment is the set of factors that jointly determine how reproductive success is achieved.

In particular, we find that harsher environments may lead to weaker family ties. Hence, while an obvious explanation for the pattern of family ties is that in developed countries formal insurance mechanisms have rendered informal insurance within the family obsolete, this research suggests another hypothesis, namely, that family ties grew weak several centuries ago in regions that are now well developed. Could it be, then, that the formal insurance mechanisms in developed countries are not only the "chicken," but also to some extent the "egg"? If so, how would such an insight inform our view of economic development?

Preference evolution is but one research topic at the border between economics and biology. There are several other natural potential connections.

For instance, it is clear that two powerful forces stand out as being ubiquitous not only among humans, but also in a host of other species: competition and cooperation. The cells that make up our bodies all contain the same genetic material, and yet, while some of them produce a liver, others produce a brain: they cooperate in a rather grandiose manner. Anthills are built and maintained by way of teamwork by myriad ants. Among humans cooperation occurs in many different settings, including families, groups of friends, clans, tribes, firms, political parties, government, etc. One can even argue that there is cooperation as long as individuals refrain from killing each other. Competition occurs both between and within species. Often, individuals, or groups of individuals (like firms), that share the same habitat (or the same market) will vie for the same resources. A special but important kind of competition arises in species with sexual reproduction, where individuals of the same sex compete for mates. While cooperation and competition are common among all living beings, economists and biologists may have approached the subject from different angles, and perhaps there are "gains from trade" to be made between the disciplines.

Last but not least, building models that recognize that humans are but one species in the dynamic ecosystem that is Earth would likely be useful not only for humans, but also for other species, some of which we depend on to survive.

My Enter visit : Toulouse School of Economics

By Christoph Schottmüller ,
PhD candidate, Tilburg University (by 08/2012) and assistant professor at the University of Copenhagen (as of 09/2012)

Some rainy January day, I walked together with a postdoc from a seminar at Tilburg University back to my office. We chatted a bit and he told me that he visited Toulouse for a few months during his PhD. He mentioned: "With your research interests, you should visit there, too. It's great." Hmmm, rainy Netherlands vs. sunny southern France? It did not sound that bad. I talked with my supervisor about it a few days later and he was enthusiastic as well. So, we wrote an email and we quickly found a professor at TSE who was willing to host me.

In retrospect, my visit was bound to lead to disappointment: I don't speak a word of French; I was used to outstanding facilities (e.g. own 1-person office) in Tilburg; when I arrived I found out that my host would still be away for a couple of weeks; and when I finally met him for the first time, he told me that my paper did not work mathematically and that I had to start again from scratch.

Strangely enough, I have fond memories of my visit and I think it was the most important time within my PhD. Let me tell you why. Not speaking French turned out to be a rather manageable problem. I found a shared apartment with some nice flatmates (some French, some not) before I arrived in Toulouse. At university people were friendly: my fellow PhD students who took me to lunch etc.; the IT officer who spend an hour getting my notebook to work again when it refused to boot; administrative staff (library, exchange office); and if I got stuck, there was still Aude who would resolve seemingly big problems within a minute. Other nice memories include food, weather, a wine fair...

Academically, I benefited from the excellent seminar program at TSE. Of course, there are seminars in Tilburg too but the number of micro theory seminars (and these are the ones I was most interested in) is relatively low. Even more important were the comments on my work that I got from Bruno Jullien who hosted me at TSE. I basically wrote my jobmarket paper in the 5 months in which I visited TSE (Bruno was later also so kind to write me a reference letter and to be on my PhD committee). I also learned some things that are hard to describe, let's call it a way to think about and do research, but are nevertheless vital for an academic career.

So, why should you go on exchange? The main reason is that you will get to know another research environment and culture. You will experience a different setting and might be able to follow seminars or courses that are different from the ones in Toulouse. You will meet new colleagues (and meet some of them at every conference you attend later on). You will get comments from different people and improve your work as a result.

Why should you use the ENTER network? ENTER simplifies things: Professors are more likely to host you and the organizational procedure is clearly defined. You will always be able to present in a Brown Bag seminar during your stay. Furthermore, there are quite good universities in the network and at least one of them will have an active research group in your field of interest.

Tilburg University for your ENTER visit

By Rob Nijskens,
Enter student coordinator and PhD candidate, Tilburg University

So you are interested in paying a visit to one of the nodes in the ENTER network? Then I sincerely recommend coming to CentER at Tilburg University in the Netherlands: a very good place to present your work and discuss it with many good economists in one of the leading economics research centers in Europe.

Why visit Tilburg University? Its economics and finance departments have established a leading position in Europe, You can thus interact with well-known researchers in different fields such as micro, macro, experimental economics, finance, econometrics and even organization or marketing. These are united in CentER, the research cooperation of the Tilburg School of Economics and Management (http://center.uvt.nl).

Furthermore, Tilburg University has a number of interdisciplinary research institutes. These include the Center for Innovation Research (CIR, economics/organization), European Banking Center (EBC, economics/finance/law), Tilburg Institute for Behavioral Economics Research (TIBER, economics/psychology), Tilburg Law and Economics Center (TILEC, economics/law) and the Tilburg Sustainability Center (TSC, economics/law/social sciences). Through these cooperation efforts it is possible to better understand the many facets of economic decision making from a different perspective. As you present your work here, you will get input from people working in diverse disciplines.

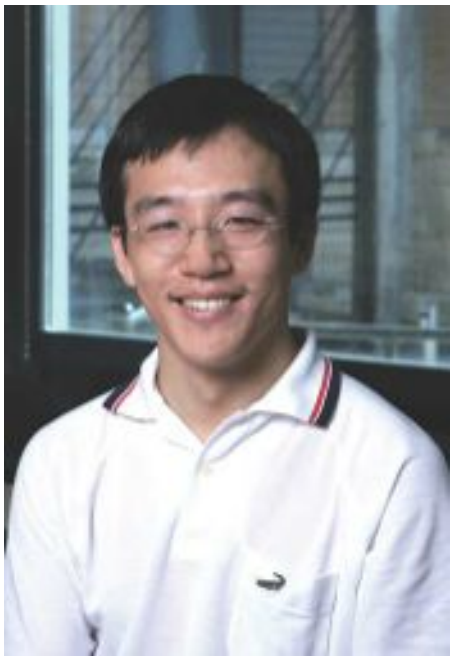
The atmosphere in the departments is quite informal, also during seminars. Many researchers are open to requests for advice, and are willing to give you decent comments and suggestions. As a PhD student you really feel you are part of the department, instead of being treated as "just a student". Moreover, the facilities are good: we have our own (shared) office, a decent conference budget and a very reasonable teaching load.

Tilburg has many PhD students in very different fields, although most of them are either in economics, econometrics or finance. To stimulate interaction the Graduate Students' Society (GSS) organizes seminars specifically aimed at PhD students, both as presenters and audience (of course faculty members are also welcome to attend). The structure of the GSS seminars is "conference-style": there is a relatively short presentation, after which there will be two designated discussants (one student and one faculty). This facilitates receiving targeted, well-structured comments on your work. The GSS seminar series is most likely your venue for presenting your work in front of your peers; additionally, we send invitations to related research groups so interested faculty members can also attend.

Luckily, it's not "all work and no play" here. The GSS also organizes social activities, like potluck dinners, parties and movie nights. Tilburg is also a real student city: many bars, cafes and restaurants focus on a young crowd, students in particular. There's plenty to enjoy in Tilburg and its surroundings; thanks to the efficient and dense railway network Tilburg is also close to large Dutch and Belgian cities such as Amsterdam, Utrecht, Rotterdam and Antwerp.

What is keeping you from paying a visit to Tilburg? We always have some seminar slots reserved for ENTER students, and of course it is also possible to stay for a longer time period (e.g. a week, or even a few months). Please contact me at r.g.m.nijskens@uvt.nl if you are interested!

Mechanism Design Theory



—Takuro Yamashita

Takuro Yamashita is assistant professor at TSE. He holds a PhD degree from Stanford University and he is specialized in mechanism design theory.

In 2007, Leonid Hurwicz, Eric Maskin, and Roger Myerson wereawarded the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Novel, for their fundamental contributions in mechanism design theory. In this article, I try to introduce mechanism design theory very briefly. I hope some of you get interested in this theory and grab any textbook to get really introduced.

Mechanism design theory is about "optimal design of a mechanism". But, what is a mechanism? A famous example is a "market mechanism". If you have taken a microeconomics course, I believe you encountered the notion of "markets". In a market, consumers and producers announce their demand and supply, and the price is determined to equate the total demand and supply. Everyone trades at this price. This is the "rule" in a market, and any participant must follow this rule to make their transactions. Roughly speaking, a mechanism means a rule of transaction.

Perhaps you have also learned that this particular rule of transaction, the market mechanism, sometimes achieves the efficient allocation of goods, but sometimes not. If the market mechanism does not work well, the rule may be modified (for example, by taxes or subsidies). Or perhaps, completely different rules of transaction than the market mechanism may work better, which may involve more complicated procedures such as bargaining or contracting among some groups of individuals, or even voting. There are plenty of alternative mechanisms. Which one is the best mechanism? This is (one of) the fundamental question of mechanism design theory, and to answer the question, we need to describe the problem more formally.

Formally, a mechanism specifies two objects. The set of "messages" for each individual, and the "outcome function". Each individual selects one message in the message set, and send it to the mechanism. You can think of the mechanism as a kind of a computer, in which, each individual inputs a message. Once everyone sends his/her message, then the mechanism outputs an "outcome", based on the outcome function. In the market mechanism, each consumer's message is a demand function, each producer's message is a supply function, and given their messages, the market mechanism outputs the outcome, which is the amount of the goods each individual buys or sells, based on the market-clearing price.

To evaluate a mechanism, we need to know how individuals would behave in the mechanism (called a "solution concept"), and which outcomes are induced by their behaviors. Usually, each individual is assumed to have his own preference over the outcomes, and chooses a message to achieve the outcome that is more preferable to him. Of course, the best message for him may depend on which messages the other individuals

choose. Thus, often, we adopt a Nash equilibrium behavior (or its generalization such as a Bayesian Nash equilibrium) as the solution concept, i.e., they choose the messages so that each individual's choice is the best choice given the others' choices.

The mechanism designer's task is, then, to find a mechanism (i.e., message sets plus an outcome function) in which Nash equilibrium message choices induce desirable outcomes. Or, in other words, a mechanism is carefully designed in order to "incentivize" each individual to choose a message that induces desirable outcomes. For example, consider a good produced by a monopolist. Let the monopolist's marginal cost of production be constant, but suppose that only the monopolist knows the actual value of his marginal cost. To attain the highest possible efficiency, we may want the monopolist to produce more if the marginal cost is lower, and less if it is higher, but the monopolist would do so only when such a choice is consistent with his profit-maximization behavior. Thus, a mechanism must be designed so that the monopolist's choice is aligned with the objective of the mechanism designer (e.g. social planner).

So far, I explained mechanisms and mechanism design problems in an environment with "consumers and producers", but we can think of many other examples. Here are a few of them:

Auction

A seller owns an object. Each bidder has private information about how much he can pay (his "willingness to pay") for the object. In an auction mechanism, each bidder sends a message, and depending on their messages, the winner and the price of the object are determined. The objective of the mechanism designer is, for example, (i) surplus maximization, i.e., to make the bidder with the highest willingness to pay the winner, or (ii) profit maximization, i.e., to make the payment by the bidders as high as possible. The surplus maximization scenario may be more relevant if the mechanism designer is a government who regulates certain auctions to achieve efficient trades. The profit maximization scenario may be more relevant if the mechanism designer is the seller himself.

Public good provision

A group of PhD students wants to buy a new coffee machine (a public good) in their office, which costs a hundred euro. Each student has private information for his/her willingness to pay. In a public-good mechanism, each student sends a message about how much he/she is willing to pay, and depending on their messages, the decision about the purchase of the coffee machine and and the cost allocation among the students are determined. A mechanism needs to be carefully designed to avoid ``free riding" as much as possible, because each student may pretend to be less interested than he/she truly is to save the payment.

Team working

Workers work together in a company, and the company's profit is determined by effort levels the workers make. The head quarter wants to design a wage scheme to incentivize each worker to make an effort, but efforts themselves are only observable to the workers. What is the optimal wage scheme that maximizes the profit, through incentivizing high effort choices?

These problems have different environments (i.e., a set of individuals, their information structure and preferences, and a set of feasible outcomes) and different criteria for desirable outcomes (e.g., efficiency, profit) to each other. However, they have a fundamental problem in common: whether and how can we incentivize the individuals to choose the self-revealing choices that induce desirable outcomes? Identifying incentives as an important issue in economics was one of the main contributions of mechanism design theory, and especially, of the work of the above mentioned three prize winners.

Even though there has been a huge accumulation in the literature, there are still many open questions. Let me describe some of these questions as "puzzles". As explained above, once you specify a mechanism design problem, which consists of an environment, an objective of the mechanism designer (i.e., which outcomes are desirable), and a solution concept (i.e., how individuals would behave in each mechanism), then you can start searching for an optimal mechanism. However, sometimes, the optimal mechanism you find may look "weird": It may look very different from what is typically used in reality, and/or it may look too complicated to understand, etc. The mechanism design literature has been quite successful for some class of problems, but there seem to be cases in which the optimal mechanisms found look "weird". In such a case, one may think that there is something wrong in the way the mechanism design problem is set up. In particular, some recent papers study optimal mechanisms in different solution concepts than the "standard" concepts in the literature (such as the Nash or Bayesian Nash approaches). These attempts have been (and will be) stimulated by recent developments in other fields of economics such as behavioral and experimental economics, and by other disciplines of science such as psychology and computer science, through deeper understanding of human behaviors in decision making.

For those who are interested in more detailed explanation of the contribution by the three prize winners, see "The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2007", Nobelprize.org, http://www.nobelprize.org/nobel_prizes/economics/laureates/2007/press.html. It also has links to some related articles and textbooks.

Takeover Defenses

Julien Sauvagnat,
PhD candidate, TSE.

Intangible assets, which have grown rapidly on the balance sheet of firms in the last twenty years, are key sources of innovation and growth. They represent for instance more than 80% of US firms' assets in the Hi-Tech or Pharmaceutical sector. In the article entitled "Takeover Discipline and Asset Tangibility", I empirically study whether takeover vulnerability has a different effect on the performance of tangible and intangible firms.

Background

The corporate finance literature extensively mentions the role of takeovers in disciplining managers. Empirical evidence shows that managers are likely to be replaced in case of a takeover and that takeovers are more likely to occur in case of bad performance. The prospect of being fired following a takeover pushes ex ante managers to exert effort. Jensen in the 1980s has been a strong advocate of this positive view of takeovers, which received additional support in the seminal paper of Gompers, Ishii and Metrick (2003): they show that firms with less takeover defenses have on average higher firm value and equity returns.

Results

I use data on takeover defenses which are available for around 1500 listed US firms between 1990 and 2007, and construct the entrenchment index proposed by Bebchuk, Cohen and Ferrel (2009) which goes from 0 to 6 depending on the number of takeover defenses (among Classified Boards, limitations to amend bylaws, to amend the charter, supermajority for merger, poison pill and golden parachute) the firm has. I then measure firms' asset tangibility with the ratio of property, plant and equipment over total assets, and rank firms as "tangible" or "intangible" firms.

I obtain two results: first,, poor takeover vulnerability (high value of the entrenchment index) is associated with poor performance, but only so for intangible firms.

If takeover discipline matters relatively more for the performance of intangible firms, shareholders of intangible firms are likely to be more active in fighting against the adoption of takeover defenses than shareholders of tangible firms. Consistent with this claim, I find that intangible firms have on average less takeover defenses than tangible firms.

Antitakeover Laws

Firm-level takeover defenses are likely to be endogenous. In particular, the positive association between takeover vulnerability and performance might be driven by the fact that managers of firms with low performance have incentives to adopt takeover defenses.

In order to address endogeneity, I use the adoption of business combination (BC) laws as an exogenous shock to the market for corporate control. These laws were passed in 30 US states between 1985 and 1991 and generally impose a moratorium on mergers and asset sales between a large shareholder and a firm for a period usually ranging between three to five years after the shareholder's stake reaches a pre-specified threshold. This moratorium makes in practice any hostile takeovers almost impossible.

As previous studies, I find that firms' operating performance drops after the laws' passage. Then, once firms are sorted into tangible and intangible firms, I find that intangible firms protected by BC laws experience a significant drop in operating performance (around -1.4 percentage points) whereas tangible firms experience no significant effect.

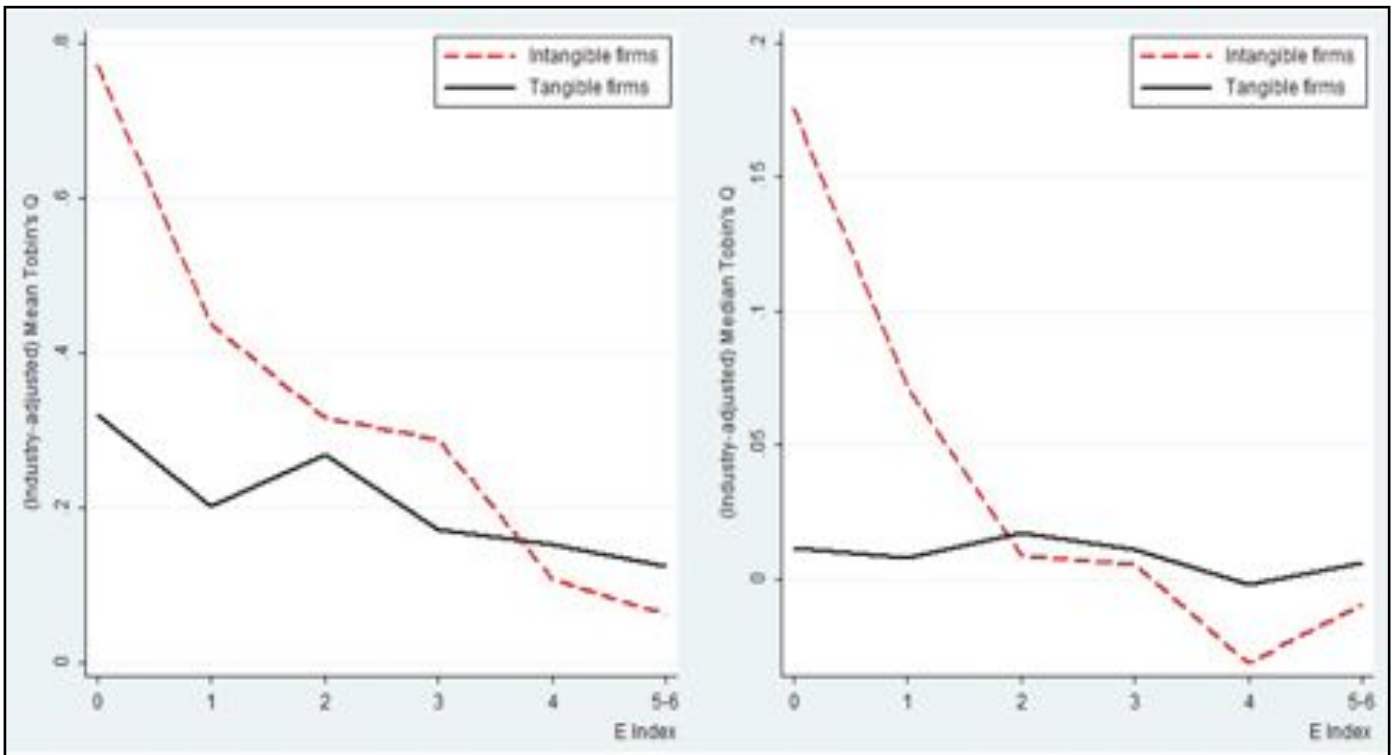
I obtain analogous results with event studies around the dates of the first newspaper reports about the BC laws. Stock prices react negatively to the announcement of BC laws only for intangible firms: cumulative abnormal returns equal -0.8% and are significant for intangible firms, whereas they are small and insignificant for tangible firms.

Debt Discipline

These findings suggest that takeover discipline matters only for intangible firms. My favorite

explanation for these results is that tangible firms are already disciplined by debt. A large literature emphasizes the role of debt in mitigating agency problems between managers and investors. First, debt limits managerial discretion by forcing the firm to disgorge cash flows. Debt discipline also rests on debtholders' ability to exercise control when the firm defaults on its debt contract. Managers dislike default because they generally experience large salary and bonus reductions in that case. Ex ante, this gives them incentives to exert effort in order to avoid default.

However, debt is not an appropriate governance mechanism for intangible firms. Intangible firms have low liquidation values and low asset redeploy ability, and thus they might prefer to avoid debt and delegate monitoring to the market for corporate control.



Graph: Mean and median firm value for each point of the entrenchment index

Alternative Stories

I also examine another story which potentially explains the results. Takeover defenses or BC laws make takeovers less likely and thus reduce the probability that shareholders will receive premium as targets of an acquisition. If mergers and acquisitions (M&As) create on average more value in intangible than in tangible industries, this might explain for instance why stock prices of intangible firms react more at the announcement of a BC law. To address this point, I look directly at a sample of M&As: I find no evidence that industry asset tangibility drives the profitability of an acquisition.

An alternative force is information asymmetry. The relative scarcity of public information on intangible firms makes good corporate governance a relatively more important issue for investors of these firms.

Policy

Overall, the evidence indicates that the appropriate disciplinary mechanism between debt and takeovers depends on the characteristics of the firm assets. This has important implications for governance design, suggesting for instance that owners of intangible firms should avoid installing takeover defenses at the IPO.

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The Role of Technology Policy in Addressing Climate Change

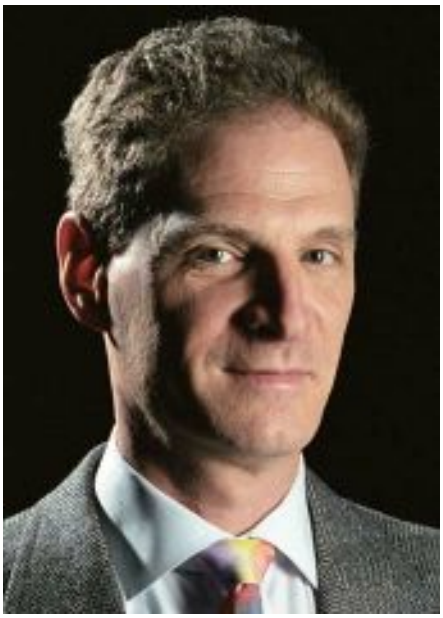
— Adam Jaffe

Climate change is one of the largest policy challenges of the 21st century. Like most economists, I believe that the primary policy response to this challenge must be to raise the price perceived by private agents to be associated with the emission of so-called greenhouse gases ("GHG") through taxation or regulation, in order to create the appropriate economic incentives for such agents to align all of their economic activities—production, consumption, and investment of all kinds—with the social objective. In this article, I argue that such "carbon-price policies" should be complemented by "technology policy," i.e. policies designed to foster the creation, improvement and diffusion of new low-GHG technologies by pathways other than the incentives created by a higher price on GHG emissions.

The problem is big. There is considerable disagreement about how large a reduction in world emissions is needed to avoid catastrophic climate impacts. Resolution of this debate is not necessary in order to conclude that the challenge is enormous, and unlikely to be met solely by making carbon emissions more expensive. Suppose we wished only to stabilize—not reduce—world emissions by 2050, while still allowing world GDP to grow at a modest 2.5% per year in the interim. Simple arithmetic tells you that this would require about a 60% reduction in the ratio of world emissions to world GDP over about forty years. How big is this? Since the "oil crisis" of the early 1970s, the ratio of world oil consumption to world GDP has been reduced by about 40%, as the price of oil has increased by more than a factor of six. Now, "petroleum" is a subset of "fossil fuels," so economic theory tells us that the price elasticity of demand for petroleum has to be larger than the price elasticity of demand for fossil fuels. This suggests strongly that it would require an enormous increase in the effective price of fossil fuels—something like a ten-fold increase—to stabilize or potentially reduce carbon emissions. Even assuming the current policy impasses over climate change are eased, effective price increases of this magnitude seem very unlikely.

Theory says two market failures require two policy instruments. At a conceptual level, the justification for carbon policy is that there is a negative externality associated with GHG emissions; imposition of a carbon tax or permit system internalizes this externality. But there are wholly distinct positive externalities associated with technological innovation and diffusion. Carbon policy cannot internalize these, leaving a separate policy gap to be addressed.

These externalities flow generally from the fact that knowledge is a public good. The two characteristics of a public good are that it is non-rival in consumption, and that it is difficult to exclude people from benefitting from the good if anyone uses it. Knowledge clearly has the first property, and has the second property to varying degrees



Adam Jaffe is the Dean of Arts and Sciences and Fred C. Hecht professor in Economics at Brandeis University.

At the same time he is a research associate at the National Bureau of Economic Research.

He holds a PhD degree in economics from Harvard University and he specializes in industrial organization, environmental economics, technological change and innovation.

depending on the situation, leading economists to talk about the problem of "imperfect appropriability" of the returns to new technology. This appropriability problem is inherent both in research and development, and in the diffusion of new products, because the production and use of new products itself generates knowledge about the production process and the best product designs. This means that in the absence of policy intervention both the research process and the diffusion of new technologies will be undersupplied by the market.

It's not clear what the needed transformation will look like, but history suggests that it won't happen without government support. Given the magnitude of reduction in GHG intensity that is needed, we need to think about a profound transformation in the social-economic-technological system by which we heat and cool, move around and produce things. It is not clear that there is a historical analogy for change of this magnitude, but I submit that digital computation and communication have been improved over the last four decades in a way that is qualitatively comparable to the change we need in our carbon system. And I think the analogy is instructive. We do not calculate or communicate today with improved versions of the instruments that were available for these purposes in 1970. We use a system whose backbone infrastructure and individual components did not exist, and in important aspects were not imagined, in 1970. If we are going to meet the climate challenge, we are going to have to effectuate a comparably broad and deep reconstruction of our energy and industrial systems. The information technology and digital communications transformation was fostered in significant ways by public policy around the world. Particularly in the U.S., the government invested in both research and in acquisition of early-stage technology projects related to defense, space, and communications that accelerated technology development significantly. Other, less extensive technological transformations such as nuclear power, commercial aviation and health care have analogous histories of government research and technology purchase in support of technological development.

Current efforts do not match the importance of the problem. Current public spending on energy research, development and demonstration is about $15 worldwide. This is less than the U.S. alone spends on health sciences research. Policies such as tax credits for electric cars, special tariffs for electricity from renewable sources, and "portfolio" standards that require electricity generators to derive minimum fractions of their power from non-carbon sources have had some impact in expanding the markets for hybrid cars, windmills and solar power. But these policies are largely uncoordinated, and their future is uncertain as fiscal austerity becomes more and more acute.

Evaluation is essential. It would be nice if economists and other experts could advice policy makers on which of the various mechanisms that have been used to foster technology development are the most effective. Unfortunately, careful evaluation of such programs—which requires attention to the incremental impact of the policy over what would have occurred in the absence of the policy—is rare. This is an area in which economic research could have a beneficial impact.

Conclusion. The current divisive debates about climate policy, and the general focus on fiscal austerity around the world make near-term policy innovation in this area unlikely. But climate change is a long-term problem. Academic scholars should analyze it from a long-term perspective, developing the methods and data that will facilitate better policy over the long term.

(This article is a condensed version of an article "Technology Policy and Climate Change" that is forthcoming in the journal Climate Change Economics.)

Selected Further Reading:

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When I decided to pursue a masters in 2010, the Economics of Markets and Organizations (EMO) programme at the Toulouse School of Economics (TSE) was the obvious choice for several reasons: the faculty at Toulouse is made up of many renowned economists who are leaders in their fields; the programme focuses on my interest area of applied microeconomics, including industrial organization, competition policy and economic regulation; and I was fortunate to be awarded a scholarship from TSE that made it a financially viable choice. Going to Toulouse benefitted me in many ways, and I am glad to be given this space by the editor to share my experience and express my heartfelt "merci" for what the city and the school have given me. At the same time, I hope that the reader in Toulouse will also find your time there to be immensely rewarding too.

The year of studying in Toulouse was, in all honesty, not an easy breeze at all. Classes were unrelentingly rigorous. However, TSE professors are as high-quality teachers as they are researchers, and the classmates never held back in helping and pushing each other forward. It was the dual presence of both the challenging and encouraging elements in that TSE academic environment that made learning a most fruitful and fulfilling one.

After Toulouse, I resumed my previous job at the Civil Service College of Singapore, where my work involves putting together economics courses and lectures to advance economics thinking in Singapore's public sector. At TSE I developed useful analytical and research skills that are valuable in my current job. Moreover, TSE has affirmed my interest in economics research, prepared me well to continue to a PhD when I eventually make that move, and provided wider opportunities to move forward because of the high-standing reputation it has around the world.

Charmaine Tan,
Researcher at the Centre for Public Economics in the Civil Service College of Singapore

The intense pace of studies at TSE and the inevitable difficulties of living in a place of foreign language and culture were mitigated by the fact that I was in a mesmerizing part of France, where the sights are wonderful and the atmosphere is idyllic and relaxed. I met some of the most brilliant yet humble people from around the world that made a difference to my social life, and I experienced a way of life that made a difference to my perspectives on happiness. These are perhaps the most valuable take-homes that can come only uniquely from Toulouse.

Stephen Wolf,
PhD candidate, Rice University.

In late July 2010, I arrived in Toulouse a freshly (or, judging from my rumpled travel attire, not-so-freshly) imported tabula rasa from the other side of the Atlantic. I had only a vague notion of what it would mean to study in the Master 2 program at TSE, and even less of an idea about what to expect from life in southern France (I had neglected to bring a winter coat, for example). When I departed from Toulouse in early August of the following year, the city and the university had left on me an indelible impression: rigorous preparation for my future work, fond memories, and cherished new friendships.

TSE's M2 program impressed me with three aspects in particular. First, the program presents a solid foundation of the fundamental concepts in modern economics. It is (almost surely) impossible to internalise everything the first time around -- especially given the furious pace of the M2 year -- and our specific academic backgrounds and study habits will affect the benefit we can derive, but the ideas presented and the training we receive will invariably serve us well. Second, TSE exposes even the most bookish among us to diverse cultures, ideas, and experiences. Finally, TSE enables us to study among brilliant minds. You have been granted access to an élite environment: At the blackboard in front of you, current leaders in the field; in the chairs surrounding you, future academics and practitioners.

Following my year at TSE, I was accepted into the economics Ph.D. program at Rice University in Houston, Texas, where I am currently pursuing my studies and research. With Rice's qualifying exams safely behind me, my immediate academic goals are to write the strongest doctoral thesis I can and to serve as an inspiring and useful resource to others as colleague and TA. Ultimately I aspire to serve

as a university professor, continuing the tradition of conducting quality research and extending knowledge to a wide audience.

Allow me to end with a few pieces of advice, what the present me would have told the rumpled-clothed incoming student that was me two years ago. (1) Work hard, work together. At TSE, courses are rigorous and standards are high; steel yourself for a challenging year. Studying with your colleagues will make the year less overwhelming and more rewarding. (2) Look for ways to share. Contributing to the education of others and to the TSE community will enrich both your own experience and the experience of those around you. (3) Get to know your peers and professors. The people at TSE are unequivocally its greatest asset. (4) The secretaries -- for my year, Mmes Schloesing, Grizeaud, and Delorme -- are among these people. Thank them for their work. (5) Take advantage of opportunities outside the classrooms and library. Yes, you are at TSE to study economics and to study it doggedly. But it would be downright un-French to pass the entire year without a little joie de vivre. Some of my fondest memories include running along the Canal de Brienne and the Garonne, singing with choirs at Université Paul Sabatier, attending the weekly visites-conversations for students at the Musée des Augustins, mixing with M1 and DEEQA students in the Saturday-morning French language course, and learning how to dance in one of the UT1 sports classes. (6) Enjoy the TSE experience. It will be demanding. It will, at times, seem futile. And with a supportive group of friends, a strong work ethic, and committed determination, it will be worth it.

This year you find yourself among brilliant and interesting people who share your passion for economics and your desire to enjoy life. Profit well from the year ahead, and bonnes études!

Had someone asked me a few years ago about my career goals for the future, I would have said: I would like a masters degree in economics from a prestigious foreign university and afterwards I would like to work for the Chilean Competition Agency. Today, both of my dreams are fulfilled and I owe it all directly or indirectly to TSE.

In 2010 I made up my mind to studying abroad and I did not want to wait anymore, so I applied to TSE. They admitted me for September 2010. My arrival in Toulouse was wonderful: there I had the opportunity of living in a country totally different from my own. It was an amazing experience. I really loved the city: so many nice places, coffee shops and boulangeries. I also had the pleasure of meeting new colleagues from around the world. The biggest challenge was balancing the charms of the city and the requirements of a very time consuming and demanding academic program. A roller-coaster is an appropriate metaphor for being enrolled at TSE: you cannot get off during the trip and the speed goes faster and faster until the end comes.

Our program was divided into quarters, in which the ten weeks of classes went by really fast. You did not have time to even realize when the exam period arrived. You had to take all the exams during the same week; when at last you had a little break, and at least you were able to "keep your head out of the water," the next quarter had already started and soon the next exam period as well. I will never forget the facebook posts of my classmates during exam period: "TSE: Torture School of Economics", "Stockholm Syndrome", and other funny sentences trying to illustrate the hard times that we had studying.

Undoubtedly, a year in TSE is not a very easy one. However, despite the effort I really think that it is worth it. I cannot find the words to explain how wonderful is to be exposed to and work with teachers who are at the forefront of their subjects. Courses like Information Economics (micro 2) or Incentives and Regulations, and all the knowledge gained from them, are just amazing. TSE also gives you complementary skills such as learning to work under pressure, to prioritize and to focus effort towards one's comparative advantages (because it is impossible to do everything). What can I say about signaling when you are graduated from TSE? … The opportunities are endless.

Carolina Moreno Droguett,
Economist, Investigation Division, National Economic Prosecutor (Fiscalía Nacional Económica , FNE) of Chile

In my country, for many years the trend has been to study in the USA or the UK. Nevertheless, and even considering that there are few Chilean economists who have graduated from TSE, the university has an excellent reputation among economists, especially in topics such as microeconomics, industrial organization and competition policy. In this sense, it is not a coincidence that just after the memoir presentation, and before even thinking about coming back to Chile, I had several job offers – including one from the Chilean Competition Authority, where I am currently working. My job mainly consists in investigating anticompetitive practices, especially those related to unilateral conducts. Here I have the opportunity of putting into practice most of the knowledge I acquired in Toulouse, but this time in the real world.

Interview With Antoine-Augustin Cournot(1801-77)

By M Carling,
Master 2 student, 2011-2012

French economist and mathematician. Cournot was the first economist who, with competent knowledge of both subjects, endeavoured to apply mathematics to the treatment of economics. His main work in economics is *Recherches sur les principes mathématiques de la théorie des richesses* (1838; *Researches into the Mathematical Principles of the Theory of Wealth*). His primary concern was the analysis of partial market equilibrium, which he based on the assumption that participants in the process of exchange are either producers or merchants whose goal is the maximization of profit. He therefore ignored the concept of utility. His most important contributions were his discussions of supply-and-demand functions and of the establishment of equilibrium under conditions of monopoly, duopoly, and perfect competition; his analysis of the shifting of taxes, which he treated as changes in the cost of production; and his discussion of problems of international trade.

Carling: Why did you decide to be an economist?

Cournot: I'm not an economist. I'm a mathematician.

Carling: Why, as a mathematician, did you decide to work on economic questions?

Cournot: From Xenophon to Adam Smith, economics suffered from a lack of mathematical rigor because predictions were not concrete enough to be rejected by empirical data. In the words of Wolfgang Pauli, they were "not even wrong." A theory which doesn't make falsifiable predictions is worse than a theory which has been disproved. Xenonphon's Oeconomicus is an interesting read, but it doesn't reflect economic reality any better than Aristotle's physics represents physical reality. The introduction of mathematics to economics was just as important as the introduction of mathematics to physics by Copernicus, Galileo, Newton, and others.

Carling: Do you think your contributions to economics were as important as Newton's contributions to physics?

Cournot: Does anyone think otherwise?

Carling: If your contributions to economics have been so important, why have you not been awarded the Nobel Prize?

Cournot: It's true that I've made important original contributions to economics, that my publications are widely cited, and that my protégés are widely cited, but my death was a disqualification. If I were still alive, I would win the prize.

Carling: What do you think was your most important contribution to economics?

Cournot: My most important contributions to economics were the invention of game theory and convincing Léon Walras to become an economist.

Carling: Whose recent work on game theory do you find interesting?

Cournot: Nash's formalization and generalization of what I call Cournot Equilibrium has been important in facilitating the wide application of Cournot Equilibrium. If you mean very recent work, asymmetric information games have helped to make game theory applicable to additional fields, such as international conflict resolution and, more recently, law.

Carling: What do you think of Bertrand's duopoly model?

Cournot: Bertrand is a [deleted] id**t! Everyone knows that firms set quantities, not prices. For example, consider my iPad: Apple place orders with the manufacturers in China and then they have to sell them at a price the market will bear.

Joseph Bertrand (1822-1900)

Carling: Fair enough, but Apple also set a fixed price for iPads and then place orders with the manufacturers every month which vary depending on how many have sold.

Cournot: Bertrand is still a [deleted] id**t! If Bertrand's duopoly model were correct, then duopolies would be perfectly competitive, which is thoroughly refuted by the empirical data.

Carling: Do you have any regrets? What would you do differently if you were still alive?

Cournot: I regret not spending more time mentoring my students. While my work was eventually influential, I could have accomplished more if I had put more effort into helping students develop their research and writing skills.

Carling: What advice do you have for TSE students?

Cournot: Take a broad view and collaborate with colleagues from other disciplines. There are interesting opportunities for economic modeling based on ideas from biology, fluid dynamics, engineering, and cognitive neuroscience. There are also interesting opportunities to apply ideas from economics to other fields such as law, political science, and network engineering.

Carling: Thank you.

Microeconomix

GILDAS DE MUIZON, MANAGING PARTNER OF MICROECONOMIX.

1) Could you present us Microeconomix?

Microeconomix is an economic consultancy created by economic researchers at the Ecole des mines in 2002. At that time we were the first Parisian economic consulting firm to provide companies and their legal advisors with high-level expertise in microeconomics applied to competition and regulatory issues. Since then, the team has grown and Microeconomix has expanded its scope of intervention: we have set up successful practices devoted to energy consulting and to econometric studies. We have recently launched ChemAdvocacy with two partnering firms to provide assistance in REACH registration. We are always looking for new opportunities to apply economic theory and quantitative techniques to new areas.

Since the beginning, we have always maintained close ties with academic research. Microeconomix regularly calls on academic specialists and all our senior consultants have doctorates in economics. They are encouraged to pursue their academic research and regularly give presentations in international conferences and publish in scientific journals. They also give lectures in various masters in order to get students used to economic theory in conjunction with practical cases.

Our three business practices are extremely consistent. We use microeconomic tools and theory to clarify the effects of certain practices or decisions for our clients. We use quantitative analysis and econometric tools to understand and convey observed empirical facts in an intelligible manner. We prepare reports that combine the rigor and precision of an academic approach with clear exposition to produce incisive documents targeting a non-specialist public. Our competition team works closely with antitrust law teams to strengthen defense strategies with robust economic arguments. Our energy

practice responds to the needs of clients wanting to understand the rapid changes occurring in the energy markets, the regulatory issues and their associated risks. Our econometric team mobilizes powerful econometric and data analysis tools. These are often critical in competition cases where demand analysis and damages evaluations are key elements. We also work on purely technical topics that directly interest firms that wish to leverage internal data to inform their activity. Consultants of our teams often work together to deliver high quality reports to clients.

2) Why do you think students and recent graduates of Toulouse Schools of Economics should apply for a job at Microeconomix?

TSE is certainly the best place in France to learn economics and benefits from very high-level professors and researchers. Microeconomix offers very interesting perspectives to outstanding graduates interested in applying economics to real-world issues. Our consultants work in a friendly environment on challenging studies. We believe Microeconomix is an attractive place for young economists who want to work in a very stimulating environment. No day is like another and each day brings new intellectual challenges.

3) Could you briefly describe us the different types of employment you offer (traineeship, senior and junior position)? What is the typical profile (and qualifications) of successful applicants for each of the three different types of employment?

All our consultants have exceptional analytic and research skills. They are also creative and know how to explain complex theories and economic or econometric tools to non-economists. We are looking for the best profiles to join our teams as trainees or junior economists.
The minimum duration of internship is 6 months. Our trainees are fully integrated to the team and have the opportunity to develop their theoretical skills and apply them to real cases. We are looking for outstanding students. Qualifications include strong theoretical background in economics, excellent communication skills and ability to perform intensive data analysis.
Having already a large team of senior PhD economists, our policy is now to grow by hiring junior economists. We are looking for young graduates from Grandes Ecoles or top universities, with at least a Master's degree in economics.

4) How many applications do you receive per year? And how many applicants do you admit?

We receive about fifty applications a year. We usually open three to five internship positions and one or two junior positions per year. Our selection process is highly selective.

5) Is it possible for a trainee to be offered a longer-term position after the end of his/her traineeship?

We indeed favor the recruiting of trainees provided they have demonstrated exceptional ability and good integration to the team. We dedicate time to our trainees and make sure they improve their skills during their internship. We also make them take part in our teams' life. Internships duration is at least 6 months as it gives students time to discover our job and to get into practical matters faced by our clients. It is thus natural for us to offer junior positions to those who have shown the best capability.

6) What kind and type of jobs do your trainees get after the end of their traineeship at Microeconomix?

We try to keep our best trainees! Others can join competing economic consulting firm or apply for jobs in many areas. Some of them prefer to deepen their knowledge in economics and apply to Ph. D. programs.

7) What are the basic principles that characterize the relationship of Microeconomix with its clients?

Mutual trust is the key element. We work with our clients' teams and build relationships of confidence with them. We regularly meet to present our work and to discuss our results. Our clients appreciate our honesty, adaptability and capability for quickly answering their expectations. They also value the fact that we deliver rigorous work, sometimes highly technical, that can be easily understood by non economists. These close ties allow us to have long lasting relations with our clients.

8) Since the foundation of Microeconomix in September 2002, your consultants have dealt with numerous cases in competition law, regulation and network industries. Could you describe us one of the cases that you feel really proud about the work done by your team?

All our cases are intellectually highly stimulating because they involve specific knowledge and skills. Each client indeed raises a different question which calls for a specific analysis. Our policy is not to propose ready-made answers but rather to deeply investigate each case. When a case starts, the team in charge comes quickly on to identify the key characteristics of our clients' industries which is a first necessary step to understand the framework of the case. We then pick the most relevant and up to date economic tools to handle the case.
We feel very proud of the work done by our teams in two recent merger cases.
The first one involved VEOLIA TRANSPORT and TRANSDEV and was cleared by the European Commission, the Dutch NMa and the French Competition Authority in 2010. Our team of economists conducted sophisticated econometric analysis of the French urban public transport

market and we had very challenging discussions with the competition authorities and participated in designing the merger remedies. Beyond the intellectual stimulation associated with the analysis, satisfaction came from the fact that our recommendations had a tangible impact on the decision of the French Competition Authority. We indeed contributed to design an innovative remedy based on economic recommendations: the creation of a competition stimulation fund. The French competition authority welcomed this innovative remedy which helps lowering barriers to entry for new competitors.
The second merger involved the wine producers CASTEL and PATRIARCHE. In this case, we led an in-depth analysis to define markets and studied the potential effects of the merger on prices. We resorted to the calculation of Upward Pricing Pressure indexes to show that the post-merger entity had no incentive to increase its prices. This method is extensively discussed in the academic literature but had not been used prior to that merger by the French Competition Authority. The Authority validated the relevance of our approach and discussed it in its final decision. Again, on top of the intellectual satisfaction, our team was thrilled to convince the competition authority to use state of the art economic tools.

9) Recently, Microeconomix completed an econometric study for OECD about the loss in consumer surplus from excessive pricing in the Mexican telecommunication sector. Is it different for an economic consultant to provide services to an international organization than corporate clients? Do you think that this was a rewarding experience for Microeconomix that may affect its future horizons?

Microeconomix does not work frequently with public organizations because most of them do not need or do not have the ability to hire an independent consulting team and prefer to call on academics. However, we are happy to work for public organizations on substantive topics which are intellectually highly challenging. Each case, whether it comes from public or private bodies, is always the occasion to enrich our economic knowledge and to perform in-depth and creative analysis. Our energy specialists also often work with European research teams on projects for the European Commission or for foreign public companies.
Providing services to an international organization or to a corporate client does not change much. The same level of standard is indeed demanded by both types of client. In all cases, our team performs a scientific and rigorous analysis which is similar to academic research combined with the professionalism of a consulting firm.

For more information about this firm you can visit its website: http://www.microeconomix.com/

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