

## Fall 2016 Research Projects

1.

### **Taxation and Multinational Activity**

Prof. Costas Arkolakis ([costas.arkolakis@yale.edu](mailto:costas.arkolakis@yale.edu))

This project aims to apply new mathematical techniques to the study of multinational firms' location choices around the world. In particular, we are interested in understanding how spatial differences in corporate taxation rates, both across regions within countries and across country borders, affect multinational firm location choices. We aim to combine the firm level data on corporate tax schedules around the world, new mathematical tools and frontier economic modeling techniques to produce a quantitative study to contribute and inform this debate. The RA is required to have good knowledge of matlab and stata.

2. **Gender Networks and Labor Market Outcomes**

Ilse Lindenlaub ([ilse.lindenlaub@yale.edu](mailto:ilse.lindenlaub@yale.edu))

This project investigates the link between differences in men's and women's social networks and differences in their labor market outcomes. In many settings it has been documented that male and female informal networks differ. At the same time, differences in labor market outcomes remain striking. We have developed a theory that provides a connection between the two and now want to test this theory in the data.

I am looking for an RA with a strong background in network analysis. The RA-task would involve working with networks data and assessing the characteristics of informal networks of a private firm's employees, using network analysis. The main objective would be to work out how informal networks at the work place differ across gender.

3. **Note: All positions have been filled for this project - no longer accepting applications**

### **The Long Waves of Economic Growth**

Michael Peters ([m.peters@yale.edu](mailto:m.peters@yale.edu)) and Aleh Tsyvinski ([a.tsyvinski@yale.edu](mailto:a.tsyvinski@yale.edu))

Understanding the nature of economic fluctuations is a central topic of macroeconomics. According to the current textbook model, the macroeconomy is characterized by two distinct processes: a long-run growth trend and a short-run cycle. In this project we want to revisit an influential debate from the first half of the 20th century, which challenges this perspective. Scholars like Kondratiev or Schumpeter argued that the behavior of economy is characterized by both short-run and long-run waves of economic expansions and downturns, which determine both business-cycles and long-run growth simultaneously. We want to use a host of newly available time-series data and recent techniques in time-series econometrics to quantify the importance of such waves for the macroeconomy. We are particularly interested to study whether this can add to our understanding of whether US growth is indeed coming to an end as recently argued by Robert Gordon.

While we will be using theory, this project is mainly empirically oriented. In particular, we will construct a novel database of historical statistics both for the US and other countries in the world. Experience with empirical research would therefore be a plus.

#### 4. How Have National and Multinational Bodies Responded to Financial Crises?

Andrew Metrick ([andrew.metrick@yale.edu](mailto:andrew.metrick@yale.edu))

The Global Financial Crisis of 2007-2009 was the source of hundreds of interventions by national and multinational bodies working to manage and resolve the crisis, yet these interventions have not been catalogued or codified in any comprehensive way. A similar lack of comprehensive cataloguing and codification is true of other financial crises throughout history. As part of its mission to further the understanding of the management of systemic risk in financial markets among a community of financial regulators and scholars, the Yale Program on Financial Stability is embarking on a multi-year project to develop case studies for each of the interventions attempted by select national and multinational bodies in response to select financial crises. The cases will ultimately form the core of a database to be used by practitioners in the event of future financial crises. We will use a standardized style for the cases, intended to be useful even in an emergency, so that (if necessary), decision makers could search through many cases, find interventions relevant for their current problem, and quickly review the justification for specific design decisions. An example of one of these cases can be found at the link below.

[http://som.yale.edu/download-ypfs/  
Temporary-Guarantee-Program-for-Money-Market-Funds-13Jan16%20v1.pdf](http://som.yale.edu/download-ypfs/Temporary-Guarantee-Program-for-Money-Market-Funds-13Jan16%20v1.pdf)

Our undergraduate research assistants would assist full-time YPFS staff in the development of the cases by gathering and reviewing documents and information associated with specified interventions (program term sheets, government reports, academics papers, etc.) and, in some instances, drafting the cases themselves. Successful applicants will have strong research and writing skills, familiarity with financial markets and an interest in learning more about financial crises.

#### 5. Quantitative Trade and Migration Analysis

Lorenzo Caliendo ([lorenzo.caliendo@yale.edu](mailto:lorenzo.caliendo@yale.edu))

The research project explores the use of quantitative economics model, and mathematical tools, to advance knowledge in macroeconomics and international trade. In particular, during the process of the research the student will learn several economics models and help develop new models for quantitative analysis. Moreover, the project will required the analysis and use of new data to evaluate the welfare impact of trade policy. This is an ideal project for someone looking to get exposure to high level research in quantitative trade.

#### 6. Note: All positions have been filled for this project - no longer accepting applications

##### Misallocation in the Global Economy

Aleh Tsyvinski ([a.tsyvinski@yale.edu](mailto:a.tsyvinski@yale.edu))

A highly motivated student that is proficient at Matlab and Stata and wants to learn how to work with large datasets. The project will require the student to gather data, codeing, and then performing numerical simulations with data. The end result of this project is expected to deliver a study that would aim to understand which are the most important countries and sectors for the world economy. The student would benefit from interacting with Yale Economics and SOM professors and would acquire very useful skills for any Economic career he would like to pursue in the future.

#### 7. Proposal Title TBA

Martin Shubik ([martin.shubik@yale.edu](mailto:martin.shubik@yale.edu))

The project involves experimentation with several 2 X 2 matrix games concentrating on the prisoner's dilemma, the stag hunt and battle of the sexes. And one other I call "The best of all possible worlds" The experiments involve a live player playing against a set of automata. There are only a few automata that can be

associate with the game played once. The first experiment would be with a play of the one shot games followed by play of many stage games with the same automata.

**8. Note: All positions have been filled for this project - no longer accepting applications**

**Growth and Structural Change: Lessons From the Micro Data**

Michael Peters ([m.peters@yale.edu](mailto:m.peters@yale.edu))

Economic growth is a relatively new phenomenon – it is only since the mid 19th century that some countries like the US, Britain and other European economies started to systematically “outgrow” the rest of the world. This process of growth has been accompanied by sweeping changes in how we produce and – more generally – how we live. At the sectoral level, all successful economies experience declines in agricultural employment and increases in the importance of manufacturing and service jobs. At the regional level, we see an increasing concentration of economic activity across space, which is usually referred to as urbanization. And at the individual level we see drastic increases in the acquisition of human capital. In this project, which is joint work with Fabian Eckert, who is a Phd Student at the Economics Department, we want to use micro-data on millions of individuals across the world to study the empirical regularities of these processes of structural change. This will not only be informative to understand the historical correlates of growth but also important to predict future economic development in both frontier economies like the US and developing countries.

Applicants should ideally have some experience in empirical work using STATA and be willing to learn more. We will also use new theoretical tools, which will require us to solve economic models using MATLAB. Hence, knowledge of (or willingness to learn) MATLAB would be a big plus. Ideally we would have a team of 2 or 3 students working on the project, who could also benefit from interacting with each other.

**9. Using Observational Data to Aid in the External Validity of Randomized Controlled Trials**

Ed Vytlačil ([edward.vytlacil@yale.edu](mailto:edward.vytlacil@yale.edu))

Randomized controlled trials (RCTs) represent the gold standard for evaluating the effect of treatments within both medicine and the social sciences. However, if the effect of the treatment varies across subjects, and enrollment into the RCT is related to individual-level treatment effect heterogeneity, then the estimated effect of the treatment from the RCT may not be indicative of the effect of the treatment in the population of interest. This project will develop the econometric methodology for combining data from an RCT with nonexperimental data to adjust for nonrandom selection of participants into the RCT with the goal of providing results with greater external validity than would be possible from the RCT alone. The RA should have a strong interest in working with data and some experience with statistical software packages such as STATA.

**10. Note: All positions have been filled for this project - no longer accepting applications**

**Revisiting Chinatown**

José Antonio Espín Sánchez ([jose-antonio.espin-sanchez@yale.edu](mailto:jose-antonio.espin-sanchez@yale.edu))

In the 1974 motion picture Chinatown the private investigator J. J. “Jake” Gites (Jack Nicholson) is involved in a conspiracy that involved corruption, deceit and “family secrets.” The goal of the conspirators consisted of buying the lands of unsuspected farmers in the Owens Valley (some 400 miles north of Los Angeles) and then building an aqueduct to bring the water to the city, where it would be worth a fortune. Although, this description is fictional and far from reality, there is much controversy on the way the city of L.A. purchase the water and land rights in the Owens Valley.

The goal of the project is to gather individual unpublished detailed data of all the purchases of land and water rights (1905-1934). With the individual data we will be able to assess whether the prices paid were “fair.” We will also assess why some farmers and not others were able to organize in sellers’ pools. Finally we will test whether the city of L.A. established a purchasing patter of “checkers,” thereby isolating farmers’ properties in

order to buy them later at a lower price.

The goal for the RA will be to help processing the data from the farmer's plots. She will use GIS software to create maps of the plots and to transform that information into econometric analysis. Knowledge of GIS is advisable, but it is not a prerequisite. The RA will then help process the data and program the estimators for the econometric analysis. Knowledge of R is recommended.

### **11. Note: All positions have been filled for this project - no longer accepting applications** **Inequality and Vertical Mobility over the very long run**

José Antonio Espín Sánchez ([jose-antonio.espin-sanchez@yale.edu](mailto:jose-antonio.espin-sanchez@yale.edu))

The recent increase in inequality in the U.S. and other developed countries has stimulated the debate among economists. This debate is best exemplified by Thomas Piketty's *Capital in the twenty-first century* and his critics. Taking aside the predictions for the future and the role that capital gains play in this debate, a deeper question is: what is a "normal" level of inequality in historical terms? In other words, if we take the estimates at face value, and inequality today is similar to that of the 19th century and higher than most of the middle of the 20th century, which one is the historical anomaly? Is it normal to have high levels of inequality, and the 20th century was an exception, or is it normal to have low levels of inequality and the 19th century was an exception? Without information on inequality before the 19th century, it is hard to answer the above questions.

A second question, which might be even more important than the first one, is the role of vertical mobility, especially over the very long run. Recent work by Gregory Clark (*The Son Also Rises*) advanced the idea that there is a magic rule/number in all societies and at all times. This rule implies a vertical mobility that is neither specially slow nor high, and is universal to the human race. This work and the notion of universality of this force are receiving fierce criticism. The main criticism is the source of the data and its inherent bias. Although the data in the book and related works comes from different sources, they share important shortcomings.

The data from the Cambridge Group (for the history of Population and Social Structure) relies has a survivor bias, that is, they look at (male) individuals alive today, and reconstruct their family tree backward. They do not have data on individuals without descendants, or whether any of their individuals have siblings without descendant. Data from censuses typically have information about the occupation, but not about income. Assigning average occupation-income to each individual in one category means that the changes are measuring at the extensive but not intensive margin, creating important biases. Finally, there is severe criticism for the use of "names" as a proxy for income or status.

I propose a project to reconstruct an individual level full population database from a region in southern Spain. The first part of the project is to collect and clean the demographic data from online sources (baptisms, marriage and death). The second part consists of collecting first proxies for income (wealth at death) and then actual income from personal tithe records.

The RA will help create the demographic dataset. The RA will expand it with auxiliary data from other sources. Knowledge of econometric software such as STATA or R is required. Knowledge of Spanish language at a basic level is recommended but not required.

### **12. Experimental Design as Market Design**

Yusuke Narita ([yusuke.narita@yale.edu](mailto:yusuke.narita@yale.edu))

This project investigates the design of randomized experiments with high-stakes treatment such as cancer treatment or basic income. Unlike usual designs, my approach not only randomly assigns treatment, but also caters to subjects' welfare. As much as possible, the proposed design assigns a treatment to subjects with better

predicted treatment effects or stronger preferences for the treatment, where predicted effects and preferences are freely correlated. My proposal also allows the designer to easily shut down the welfare consideration, in which case my proposal reduces to existing designs. I am applying the above theoretical idea to real data in a development/health context.

Required skills: I am looking for an RA to help the empirical and computational implementation of the above theoretical idea.

An ideal candidate is somebody who (1) has done coursework in theoretical and empirical/applied microeconomics (especially some of development, education, health, labor, and market design) and (2) has done coursework in or at the very least has a strong interest in coding up a theoretical idea into an efficient algorithm with a programming language such as Matlab, Python, or R.

### 13. Global Muslim Attitudes

Mushfiq Mobarak ([ahmed.mobarak@yale.edu](mailto:ahmed.mobarak@yale.edu))

**Background:** In recent years, terms such as “sharia law” and “Islamic extremism” have been used repeatedly by the media, politicians, and everyday people. The values and beliefs of Muslims are constantly being judged and, but most claims (positive and negative) about Muslims lack any significant quantitative proof behind them. For example, some argue that the violent extremists represent less than 1% of Muslims, whereas others believe that these Muslims represent the majority. It is becoming increasingly important to better understand Muslim attitudes on violence, gender equality, and other social issues. In this research project, we examine attitudes of Muslims as well as people with other religious identities according to their demographics from countries around the world.

#### **Datasets:**

Tolerance and Tension: Islam and Christianity in Sub-Saharan Africa (2009)

- Sample size: 25000
- 19 countries (Djibouti, Chad, Cameroon, Ghana, etc.)
- Respondents were mostly either Christian or Muslim, small number of traditional African religions/Unaffiliated Pew Muslim Attitudes (2012)
- Sample size: 19360
- 26 majority/major Muslim countries (Afghanistan, Algeria, Uzbekistan, Indonesia, Tunisia, etc.)
- Data retrieved from survey limited to only Muslim respondents World Values Survey (2005-2014)
- Sample size: 90350

- 59 countries from around the world (Albania, Algeria, Argentina, etc.)
- Diverse population, respondents from many different backgrounds and religions

**Summary:** The first step in the project was acquiring data from attitude surveys that covered large regions or parts of the world. The datasets above were picked because they include demographic info as well as questions of interest to the project, such as opinions on violence, women's rights, homosexuality, etc. For example, the survey may ask, "Can violence against civilians be justified by religion?" If the respondent selects "Always/Sometimes Justifiable" he is exhibiting a negative attitude. Next, the data was cleaned and dummy variables were added, such as an indicator variable for each religion (Muslim, Christian, etc.). The questions of interest, our dependent variables, were also coded as binary, with a "1" indicating the negative or unfavorable attitude. We then regressed these variables, controlling for factors such as religion, income, education, gender, immigrant status, religiosity, age, and urbanity. Regressions were done with and also without country-fixed effects. Standard errors were clustered by country. The project has four general focuses: first, comparing the effect of Islam to the effects of other religions, both within and across nations. Next, we examined the effect of religiosity on attitudes, in order to reveal whether religious people were more or less likely to have the negative attitude. Third, we created indicator variables for different areas of the world (South Asia, Southeast Asia, etc.) in order to compare attitudes across regions. Fourth, we began to look at how a country's trade relationship to the U.S. impacts opinions in a country by controlling for each country's ratio of imports and exports with the U.S. over their GDP.

#### 14. The Impact of Trade Liberalization with China on the United States

Prof Peter Schott ([peter.schott@yale.edu](mailto:peter.schott@yale.edu))

This project investigates the impact of the U.S. granting of Permanent Normal Trade Relations (PNTR) to China in the year 2000 on U.S. firms and workers. (For background, see [this paper](#).) Specific areas of investigation for this project include how this trade liberalization affected: (1) the flows of workers across industries as well as entry and exit from the labor force; (2) the flows of workers across regions; (3) capital investment by U.S. firms; (4) human capital accumulation by U.S. workers; and (4) product upgrading by Chinese firms. The principal task of the RAs will be to refine raw datasets collected from the web using STATA and to use the refined data to examine various outcomes via regression analysis, also using STATA.

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