



The research questions for April 11th and 12th

Introduction

Unemployment has long been a central concern of economists and social scientists, reflecting the devastating impact of high levels of unemployment on governments and societies. The disruption associated with unemployment is partly due to lost production and lost tax revenues, but also due to the human suffering associated with high levels of unemployment. Episodes of high unemployment in the past have been associated with great political upheaval, witness the aftermath of the Great Depression in the 1930s or the political consequences of the Global Financial Crisis. Government popularity generally goes down during periods of high unemployment and the sustainability of the social contract in place gets questioned, sometimes leading to enormous societal disruption.

The main focus of the Econometric Game 2018 is about the human suffering associated with and caused by unemployment. We in particular will look at how the unemployment of others affects families, regions, and countries.

Individual suffering due to unemployment has been studied in many literatures, and includes contributions from labour economists, macro-economists, sociologists, psychologists, and anthropologists. Western governments have many policies in place to reduce that suffering, such as welfare programs and job creation programs.

What has been studied much less intensively and systematically is how unemployment affects those who are not unemployed themselves. This includes others still employed, family members, peers, streets, neighbourhoods, villages, cities, regions, countries, and even continents. The non-unemployed can be affected in many different ways, and effects can range from positive (eg a firm looking to hire benefits from more unemployed looking for those jobs) to negative (tax payers see government spending and hence lifetime taxation rise).

There are many things that are affected by the unemployment of others, including wealth and health. Yet, what is of interest to us is the total effect on the outcome of final importance: the wellbeing of the whole population.

Wellbeing itself has been measured and thought about in many different ways over the centuries, but for the purposes of this competition you should take a subjective wellbeing approach and presume that the wellbeing of each individual is ultimately a reflection of how an individual thinks about their own circumstances. Societal wellbeing is then some weighted average of the wellbeing of its citizens, for instance the sum of all life satisfaction at that point in time.

Two key initial studies on the link between aggregate unemployment and aggregate wellbeing stand out: the Di Tella et al (2003) paper on the macro-economics of happiness, and the paper by Andrew Clark et al. (2010) on the relation between regional unemployment and regional happiness. Both papers find very strong effects of average levels of happiness: Di Tella et al. (2003) document how average happiness of a whole country goes down when unemployment goes up, whilst Andrew Clark et al (2010) find that the effect of regional levels of unemployment is high. Both are highly cited and influential papers.

Case Research Questions

It is the degree to which the average impact of unemployment on wellbeing is higher than merely the contribution of those who are unemployed themselves that is the central focus of the main case. The central question is then

“What is the multiplier between the detrimental effect of unemployment on the wellbeing of the individual who is unemployed and the total effect of that person’s unemployment on the wellbeing of the group as a whole?”.

This question breaks down into two immediate subcomponents: the effect of unemployment on the individual and the total effect on the group as a whole, which can include families, regions, and/or the country. We are in this case not interested in mechanisms, just the multiplier, though participants can look at mechanisms if they want to use them to get better estimates of the multiplier.

The participants can choose the measure of individual wellbeing they want, but need to make a well-argued case for which measure they use. The data supplied includes measures of mental health and life-evaluations used often in the literature, such as in the World Happiness Report. The literature supplied uses a variety of measures.

The participants can also choose the measure of unemployment they think is appropriate, but again will need to make a well-argued case for that choice. Key candidates are self-report measures, the International Labour Organisation definition, and the definitions used by national agencies.

It is of course understood that association is not the same as causality, and yet findings are far more interesting and relevant if causality does apply. You have not been given the kind of data that would normally be sought in top journals to make causal statements, which means that you will have to rely on plausibility arguments to make the case that you have identified the right multiplier. This means that you will need to be clear about the view of society and its economy that you rely upon for your interpretations, as well as the notion of causality that you have in mind.

Though time periods and dynamics of effects clearly matter in real life, the data given is not particularly useful to go into the issue of temporal patterns of effects and hence the participants are encouraged to adopt simplistic views in which effects are permanent, not transitory or anticipated.

The main dataset available in this case is the European Value Survey. This Survey has several available waves (1990, 1999, and 2008) and we have supplied you with these waves, including a long list of variables in that data (though there are more in the data). You should use this data to construct the main variables you will need that will define the relations of interest and thereby the multiplier of interest.

Apart from the main question, the overall instructions then become:

- [main question] “What is the multiplier between the detrimental effect of unemployment on the wellbeing of the individual who is unemployed and the total effect of that person’s unemployment on the wellbeing of the group as a whole?” Make a distinction between the employment of family members, random people in the own region, and random people in the whole country. Use the EVS itself to generate variables on the unemployment of others. Be clear about what you mean by causality such that you can formulate a Ceteris Paribus condition.

- [Follow-up question 1] Are the effects of the unemployment of others larger depending on own employment and own family situation?
- [Follow-up question 2] Is the effect of regional unemployment the same as national unemployment?
- [Follow-up question 3] Discuss causality and your approach to it. Also, discuss implications of your findings.

What the judges will be looking for

Whilst we hope that you will enjoy the coming days and approach this event with good humour and sportsmanship, this is of course also a competition. So, it's important for you to know how your work will be judged and what the expectations of the judges are.

All the judges are Dutch economists/econometricians who obtained their PhDs in applied fields in the Netherlands and have worked in applied fields for more than 20 years.

The criteria on which contributions will be judged:

1. A **demonstrated clear understanding** of what is being asked and the argued usefulness (or lack of it) of the multiplier to be identified.
2. **Mastery of basic econometric techniques** as applied to the data. For this case, the participants can choose themselves to use classical econometrics (ie econometric techniques supported in asymptotic theory, such as OLS) or pragmatic econometric techniques (eg. Random Forests or Neural Network based techniques).
3. **Creativity** in the use of the data, approach to the research questions, combinations of techniques, and use of external information and data. Participants must base their main results on the data provided, but using additional information from other sources is encouraged.
4. **Presentation**: quality of written English, clarity of the arguments, readability and stylishness of graphs and tables, consistency and quality of referencing styles, etc.

What will be unimportant is a solid understanding of the background and to answer what is asked. It is not important to follow any particular style of writing or presentation form: participants are encouraged to choose any style of presentation and argumentation that is clear and answers the questions, even if that means the end result is a poster, an art work or a vodcast! The same criteria will apply.

Given the limited cognitive abilities of the judges and the limited time they will have to judge 30 pieces of work in a very short space of time, participants should count on judges giving their work no more than 20 minutes of time to come to preliminary judgments, though finalists will be given more attention. Bear this in mind when thinking about the trade-off between quantity and quality.

References and key literature

Main article on regional unemployment spillovers and life satisfaction:

Clark, A., Knabe, A., & Rätzl, S. (2010). Boon or bane? Others' unemployment, well-being and job insecurity. *Labour Economics*, 17(1), 52-61.

Relevant for the general argument:

Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *The Economic Journal*, 104(424), 648-659.

Unemployment and aggregate life satisfaction:

Tella, R. D., MacCulloch, R. J., & Oswald, A. J. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, 85(4), 809-827.

Statistical issues in repeated cross-sections and aggregation:

Anselin, L. (2013). *Spatial econometrics: methods and models* (Vol. 4). Springer Science & Business Media.

Verbeek, M. (2008). Pseudo-panels and repeated cross-sections. In *the econometrics of panel data* (pp. 369-383). Springer, Berlin, Heidelberg