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Learning to Be Different: Quantitative Research in Economics and Political Science*

Comment on Achim Schlüter and Róger Madrigal,
“The SES Framework in a Marine Setting: Methodological Lessons”

Abstract:

The comment addresses the subtle differences that exist between economics and political science in terms of how the standards for the empirical quantitative research are set. It shows that the common methodology is applied by the disciplines in a different fashion. These differences could become obstacles for communication, but could also provide fruitful background for discussion of disciplines, if one explicitly takes them into account.

1. Introduction

The spread of rational choice theories and quantitative methods in political science and the advancement of political economics from the periphery to the core of economics created numerous opportunities for learning and exchange between economics and political science. Researchers, theories and empirical results cross disciplinary borders more and more frequently. Achim Schlüter and Roger Madrigal point out yet another possible area of fruitful exchange between disciplines: the use of phenomena-driven research.

I intend to use Schlüter’s and Madrigal’s instructive discussion of how economics and political science can address similar topics with similar methods to illustrate that despite topical and methodological overlap the two disciplines may still be going different ways. In doing so I focus on the empirical quantitative scholarship in political science and political economics and try to look at more subtle differences in the way arguments are constructed and weighted by the disciplines.

My comment does not aim to take a stance for or against any of the disciplinary approaches; it merely intends to describe the differences, which seem

* The author appreciates the very helpful comments and suggestions of Hartmut Kliemt. All mistakes remain my own.

to exist between disciplines. In a world where both economists and political scientists try to learn from empirical evidence produced by the other, understanding these differences will facilitate communication. Both the economics and the political science view on how to do empirical research have advantages and disadvantages.

2. What Do Regression Results Mean?

The starting point of empirical quantitative research in both economics and political science is similar. There is a research question, which is derived from the theoretical debate in the literature, and typically asks for the existence of a causal link between a number of variables (e.g. democracy and public spending; resource availability and likelihood of civil wars). To test the existence of this causal link, some sort of econometric procedure is used: typically regression analysis, based either on an original or a secondary dataset. The way how this statistical analysis is performed is itself subject to debate (see for critical assessments of how econometrics is done in economics (Kraemer 2011), political science (Schrodt 2010) and business administration (Kmetz 2011)). Yet my comment is interested in what happens after statistics has been done: how can we interpret our findings?

Within the perspective of economics, straightforward cross-sectional OLS regressions are unlikely to provide accurate empirical evidence. The endogeneity problem is pervasive. This has severe repercussions for most political economics papers. In fact, endogeneity has been the central concern of empirical economics in the last decades. Substantial advancements have been achieved. Angrist and Pischke (2010) describe what they call a ‘credibility revolution’ in economics, associated with better identification strategies and more active use of natural experiments. Indeed, a lot of work in modern empirical political economics is associated with improvements of identification strategies, by searching for better instruments, random treatments or panel data settings allowing to remove the unobserved heterogeneity (e.g. Acemoglu et al. 2002; Miguel et al. 2004; Gorodnichenko and Roland 2010; Enikolopov et al. 2011). The central premise underlying this is that if the empirical design is sound and endogeneity problems are taken care of then the outcomes of regressions can be viewed as evidence for or against the theoretical conjecture the paper aims to test.

Political scientists are also cautious about simple cross-sectional OLS regressions, and a lot of attention has been devoted to identification strategies in political science as well (see the survey in Sovey and Green 2011 and an example in Kern and Hainmueller 2009). However, unlike economists, political scientists often seem to be generally skeptical about the ability of econometrics and statistics to prove the existence of causal links between variables and even if there are no endogeneity problems in estimations. Instead, the researcher is required to describe a possible causal mechanism, which would explain the link between

variables, and also provide at least partial evidence in favor of this mechanism. This evidence can be derived from qualitative research (e.g. process tracing) or be based on well-developed theory.

There is a striking difference between how economics and political science deal with causality. In economics qualitative research is typically not accepted as evidence; causality is inferred from econometric regressions, if the latter manage to deal with endogeneity problem. In political science on the contrary a lot of work has recently been devoted to qualitative (Mahoney 2010) and mixed methods (Lieberman 2005) to provide background knowledge on causal mechanisms; econometrics as such is considered as merely an indication of possible existence of causal effects, but not as proof.¹

As such, the task of identification in political science is in some regards easier than in economics and more difficult in other. On the one hand, since statistical evidence is not considered the ultimate criterion of truth, there is more space for simpler models and estimations than in economics, even if endogeneity could be present; the (often hopeless) quest for perfect instruments does not pose a challenge comparable to that in economics. On the other hand, even the most advanced statistical technique is unlikely to be accepted as compelling evidence, as long as no mechanism is suggested linking the variables in a convincing and systematic way and based (possibly) on thorough qualitative research, elaborated theory and knowledge of the case.

3. Theory and Conceptualization

Both economics and political science share the idea that empirical research should be guided by theoretical investigation. Yet the role of theory and the way theory is constructed is different again. Economics clearly equates theory to a formal model. This formal model, in turn, can either be used as a motivation for the paper, providing a simplified description of the logic one intends to test in the empirical case, or may directly generate equations to be estimated empirically. Though the second option is by far less often present in political economics (unlike other fields of economic research), it is considered superior since it makes the link between the theory and the empirics easier to trace. Empirical papers that do not use an explicit formal model, are at least expected to refer to the established formal results when they formulate their hypotheses.

Political science is, generally speaking, more open to testing theories, which have not originated from formal models. However, at the same time political science is much more cautious in terms of conceptualization of key elements of the model, i.e. definitions of concepts and of applicability of the model. While discussing democracy, autocracy, federalism, decentralization, regionalism or in-

¹ I am well aware that the notion of causality is treated much more carefully in theoretical econometrics; my comments rather reflect the perception of (many) empiricists.

tegration a political scientist is by far more likely to be asked about the precise meaning of the concepts applied and their relation to each other. Conceptualization is in fact more important than a formal model; the latter ‘makes sense’ only if embedded in the general discussion of key concepts.

This difference could be explained by two reasons. On the one hand, economics is a much more homogenous discipline, with a universal language provided by standard microeconomics and macroeconomics. The basic concepts of that language are much less often subject to debate than basic concepts in political science (although, possibly, unjustly, see Green and Kotlikoff 2007). The very idea of political economics and public choice was to use this already existing language and body of theories to describe and to explain political phenomena. And, even researchers who are skeptical about the empirical validity and explanatory power of basic theories like that of the model of rational economic man still seem to be convinced of the value of a rather precise language to express their ‘economic stories’ unambiguously. Political science, on the other hand, contains multiple frameworks (for example, those described by Schlüter and Madrigal): each of them offers its own vocabulary for theory-building. Developing a new conceptual framework is considered an acceptable and necessary part of research (e.g. Buzan and Waever 2011). And it is much more difficult to select the appropriate framework based on any objective criteria—more so than to confront different theories in an empirical study. Hence, it becomes crucial to ‘root’ one’s discussion in a particular literature or argument to signal its link to a particular framework and to avoid confusion and misunderstanding.

The dominance of formal models in economics is also explained by the idea that the same model can be applied to entirely different circumstances, just by re-defining the notation (Schofield 2004). Political science is more open to other ways of theorizing than formal models and to a multiplicity of domain specific conceptual frameworks. Obviously in political science more attention to terminology is required.

It is interesting to observe how these differences reflect themselves in a typical shape of an economics vs. political science paper. A political science article typically starts with a thorough and detailed literature review, followed by the discussion of possible causal links (‘theory’), which is then tested empirically. An economics paper sets off with a brief and compact literature discussion (sometimes limited to introduction), and moves to the formal model or econometric equations as soon as possible. These compositional differences are, in fact, often sufficient to confuse the researcher: an economist is lost in endless debates on terminology and lengthy verbal discussion, while the political scientist lacks the understanding of what actually the presented formal model and subsequent econometric test aim to look at and is concerned about the sloppy use of terminology.

4. Data

The very definition of the quantitative research in economics and political science requires the use of sufficiently large datasets for econometric analysis. Here, again, political science and economics diverge in terms of accepted practices. Traditionally, economists have been mostly using secondary statistical data. Though this has changed to some extent by the ascent of experimental economics the—in this regard—particularly relevant field experiments are still limited in application and today an ‘ideal’ economics paper takes advantage of a large (secondary) micro-dataset.² Political scientists are much more likely to use primary statistical data generated by researchers themselves.³ It is therefore less surprising that political scientists are typically much more concerned with the way the data is measured and the variables are coded and with the quality of data. The fact that political scientists are typically more knowledgeable about institutional details of a particular setting leads to additional concerns and questions about the data. At the same time, an innovative dataset is more likely to be considered a benefit for the discipline as such, while for an economist it is of merely instrumental value. The need to incentivize researchers to collect novel data is strongly pointed out in political science (e.g. Gibson 1995) and less so in economics (the experimental economics development notwithstanding).

Economists and political scientists may find it difficult to understand each other, precisely because the methodologies they use appear to be so similar. For an economist, an empirical political science paper may seem to be doing the right thing by using econometric technique but be based on too simple econometrics. The economist would expect more robustness checks and methodological advancements to be present in this respect. A political scientist would be concerned about the economists’ use of inadequate or questionable data and typically feel that an econometric sledge-hammer is used to crack a conceptually soft problem.

² Typically, political economists and political scientists describe as ‘natural experiments’ political changes, which created circumstances similar to randomized treatment and not experiments in the sense that they have been designed and implemented by economists themselves. For example, a natural experiment can be a consequence of unexpected policy changes and reforms (e.g. German reunification, see Alesina and Fuchs-Schündeln 2007 or, with some caveats, post-Communist transformation, see Gehlbach and Malesky 2011; Frye 2012) or of the influence of geographical factors orthogonal to policy variables (e.g. Yanagizawa-Drott 2012). True ‘field experiments’ are popular in some areas of economics as well (e.g. development economics, see Duflo and Kremer 2005), but rare and difficult to implement in political economics and political science (although there are some examples of natural experiments in this area as well, see Banerjee et al. 2012; Beath et al. 2012).

³ These datasets are often based on coding qualitative information, e.g. legal texts and acts, political events (wars, elections, rebellions, etc.), party programs, biographies of politicians etc., or on surveys implemented by researchers.

4. Concluding Remarks

This comment probably provides a biased picture of both economics and political science—more of the latter, since political science is more heterogeneous than economics. Thus, it should not be considered an empirically accurate analysis—it merely offers some observations for further discussion. The stylized facts presented here should serve as a reminder how essentially the same topics and methods can be applied with different emphasis by different disciplines. The construction of inter-disciplinary bridges, therefore, requires not only attention to the grand methodological debates, but also to more subtle differences.

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