Introduction to the Special Issue: "New Perspectives on Consumption Measures"

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In the past ten years, research on consumption dynamics has made tremendous progress. This is in large part due to tireless efforts to exploit new methods and data to measure consumption. In particular, the availability of administrative data on income and wealth, as well as the access to proprietary data on transactions and household portfolio's, are quickly transforming our ability to understand the economics of consumption behaviours. This active and fruitful area of research on consumption, in turn, is opening new and interesting perspectives in various fields in economics, from labor to public economics, from household finance to macroeconomics.

This symposium wishes to highlight this tremendous progress in the economics of consumption. The five papers assembled in this issue were presented at the CEPR Public Economics Conference dedicated to "New Perspectives on Consumption Measures". The conference was held at the London School of Economics on 16-17 December 2016 and was jointly organized by Richard Blundell (UCL), Camille Landais (LSE), Magne Mogstad (UChicago) and Johannes Spinnewijn (LSE). The papers have gone through the normal refereeing process under the editorial supervision of Camille Landais & Johannes Spinnewijn.

The goal of the conference was to present and discuss the new data and methods that have been recently developed to measure income and consumption dynamics. The presented research also documented new facts about consumption inequality, consumption responses to shocks and the links between consumption and macroeconomic volatility. Several presentations also showcased applications of these new consumption measures in the fields of labor and public economics, in particular, stressing how these new consumption measures can help assessing the welfare consequences of social insurance programs, and help determining the optimal features of dynamic tax and social insurance systems. Finally, one important goal was also to branch out this new area of empirical research to the macro literature on macroeconomic models with heterogeneous agents.

One of the most notable developments in the empirical analysis of consumption has been the revolution brought about by access to administrative data. The first two papers in this sympo-

sium highlight how registry-based measures of consumption expenditures can be created from the accounting identity that total household spending is equal to total income minus the change in asset holdings over the period. Doing this requires extremely rich data on all income and transfers as well as precise information on household balance sheets. In particular, one needs to be able to separate changes in wealth that are due to changes in asset holdings rather than changes in asset prices. This type of administrative data has become available in several countries, especially in Scandinavia. In "What can we learn about household consumption expenditure from data on income and assets?", Lasse Eika, Magne Mogstad and Ola L. Vestad use Norwegian administrative data to show how to derive household expenditure from the registry-based data and they assess the sensitivity of the constructed measure of consumption expenditure to the assumptions made and the data used. In "The value of registry data for consumption analysis: An application to health shocks", Jonas Kolsrud, Camille Landais, and Johannes Spinnewijn provide a similar exercise in the context of Sweden. Both papers clearly demonstrate the value of the registry-based measure to study consumption responses to shocks. Among their key advantages, compared to consumption survey data, registry-based measures of expenditures have a panel dimension, and are available for the universe of the population. Their ability to be linked to other administrative registries also offers countless opportunities for quasi-experimental research using well-identified shocks or treatments.

Both papers also discuss at length the potential shortcomings of such registry-based measures of consumption. In particular, they offer a thorough assessment of the various sources of measurement error, and propose many ways to alleviate these limitations. They show that the availability of detailed transaction registers for financial and real assets enables to overcome most of the significant measurement issues encountered by early attempts at constructing such registry-based measures. Furthermore, both papers also stress the important point that the consequences of measurement error can sometimes be rather limited: this will be the case when expenditures measures are used as left-hand side variables, and when the sources of measurement error are orthogonal to the various treatments of interest.

Importantly, both papers wish to foster research that uses registry-based measures of consumption. To this effect, the authors have created a repository where they have posted all the documentation, and programs to construct their registry-based measures for Norway and Sweden. These are available at the following address: `http://sticerd.lse.ac.uk/_new/research/pep/consumption/default.asp` They invite all interested researchers to use these programs, and contribute to the public good by improving them, and posting their updated versions on this repository.

The second data revolution in the context of consumption analysis, besides registry-based consumption measures, has been the availability of rich proprietary data on transaction and household income and wealth. In "How individuals respond to a liquidity shock: Evidence from the 2013

government shutdown", Michael Gelman, Shachar Kariv, Matthew D. Shapiro, Dan Silverman and Steven Tadelis use data from a financial aggregation and bill-paying computer and smart phone application that had approximately 1.5 million active users in the U.S in 2013. This offers them the unique ability to identify the consumption response to liquidity shocks, using the 2013 government shut-down in the US as a quasi-experimental setting. Their results reveal the surprising extreme sensitivity of expenditures to liquidity, although consumption dropped less than recorded expenditures.

While the wider use of proprietary data, like the one used by Gelman and his co-authors, provides unique research opportunities, it may also constrain the ability to replicate scientific results, precisely in a time where the issue of replicability is rightfully taking a lot more importance in the scientific debate. For instance, one of the most influential paper on the dynamics of consumption during the Great Recession, by Mian, Rao, and Sufi (2013), highlighted the role of the burst of the housing price bubble in explaining the large drop in household expenditures during the financial crisis. But their widely-cited estimates were based on proprietary house price and proprietary expenditure data and therefore not easily replicable. In "Non-durable consumption and housing net worth in the Great Recession: Evidence from easily accessible data", Greg Kaplan, Kurt Mitman, and Giovanni L. Violante use alternative data on a subset of non-durable goods and on house prices, which are more easily accessible, to replicate their study. Importantly, they show that the results of Mian, Rao, and Sufi (2013), can be replicated with their non-proprietary data. But their analyses yield much more nuanced conclusions about the separate roles of house prices and initial leverage. This in turn calls for a much more nuanced interpretation of the mechanisms responsible for the estimated reduced-form effects found by Mian, Rao and Sufi.

Finally, the paper "Optimal progressivity with age-dependent taxation", by Jonathan Heathcote, Kjetil Storesletten, Giovanni L. Violante reminds us that documenting empirically the dynamics of consumption is ultimately key to understand optimal taxation and redistribution. Their paper asks the question: should optimal taxation be dynamic, and use age as a "tag" when individuals face shocks against which they can only partially insure themselves? Because the uninsurable (and permanent) component of these shocks passes through to consumption, they generate a rising age profile for within-cohort consumption inequality, which has been repeatedly observed in the data. This in turn opens a fundamental trade-off that the paper studies both analytically, and using a calibrated model. The nature of the trade-off is the following: on the one hand tax progressivity is desirable as age increases to compress the ex post dispersion in consumption. Thus, the social insurance embedded in the tax and transfer system partially offsets inequality in initial conditions and also provides a substitute for the lack of private insurance against life cycle shocks. On the other hand, tax progressivity discourages labor supply and skill investment early in life.

They find that first in a benchmark economy without intertemporal trade, that age-dependent

taxation can be desirable because, as the planner lets the average tax rate increase with age, it allows him to redistribute from the (more productive) old to the (less productive) young. In a calibrated model where households can smooth consumption independently via borrowing and lending, they then show that this conclusion remains broadly valid.

We would finally like to thank the European Research Council, for providing funding for the conference.[1] And we thank STICERD at the LSE for agreeing to host the conference. We also greatly appreciated the contributions by all of the authors listed above and all of the other seminar participants at the conference. We are also very grateful to the Editors of the Journal of Public Economics for agreeing to publish this special issue and extend our sincere thanks to Liz Carlson for her excellent work in helping to edit the manuscripts.

We are particularly excited to see that the area of research showcased in this symposium has continued to thrive after our initial London conference. And we would like to thank Soren-Leth Petersen and the CEBI at the University of Copenhagen for having provided the funding to continue to host an annual conference in Copenhagen on "New Consumption Data", with the explicit aim to continue the job we started in London in 2016, that is, to bring together young and promising scholars doing topical research on consumption.

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