

# WP 6: Schumpeter meeting Keynes", or not ...? Innovation, demand creation and pattern of growth

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# Objectives

- Building on the evidence from WPs 1–5, the goal of WP6 is to develop a family of models to test a series of policies for achieving sustainable and inclusive growth
- Special emphasis on how the possible alignments/misalignments between Schumpeterian processes of innovation and creative destruction and Keynesian aggregate demand dynamics may or may not lead to sustainable and inclusive patterns of growth

# Task 6.1: The interactions between innovation, demand generation and aggregate growth (SSSA)

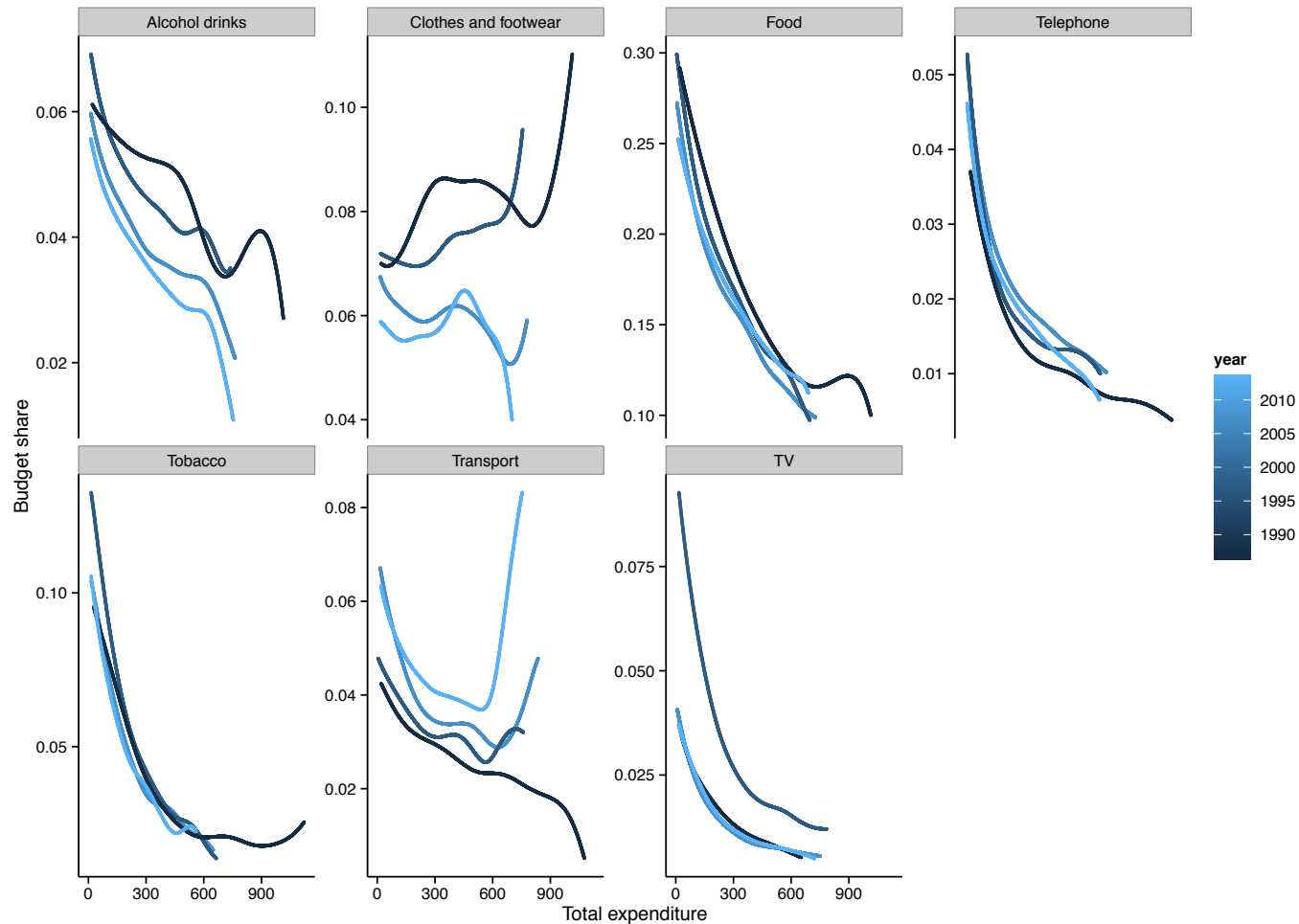
Moneta A. and E. Stepanova, “Changes in consumption patterns and innovation: an empirical analysis”, ISIGrowth WP, forthcoming

- study of the causal relations between households consumption patterns, (proxied by Engel curves) and firms innovative activity (proxied by patents applications)
- UK data, 1968-2013
- Sectors largely oriented towards domestic market and home consumer and services with high patent activity (e.g. ICT)
- SVAR model

# Task 6.1: The interactions between innovation, demand generation and aggregate growth (SSSA)

- evidence of the impact of changes in pattern of demand (shifts in real Engel curves) on innovation (patent applications)
- the impact is heterogeneous across sectors: stronger in industry than service sectors
- the contemporaneous impact is significantly negative, while the lagged impact is positive
- changes in consumption patterns are also associated with changes in the distribution of the marginal propensity to consume across households
- these results underline the role of saturation of demand (cfr. Pasinetti 1981) in the interaction between innovation, distribution and growth

# Task 6.1: The interactions between innovation, demand generation and aggregate growth (SSSA)



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- Theoretical study employing an agent-based model to investigate the main causal mechanisms linking innovation, income distribution and demand generation and the possible fiscal and innovation policies responses (month 24)
- Papers:
  - [Ciarli T. and Valente, M., “The complex interactions between economic growth and market concentration in a model of structural change, ISIGrowth WP 11/2016](#)
  - Ciarli T., Lorentz A., Savona M., Valente M., “Structural change and growth regimes”, forthcoming
  - Dosi G., Pereira M., Roventini A, and Virgillito, M. E., “The effects of labour market reforms upon unemployment and income inequalities: An agent based model”, ISIGrowth WP forthcoming

## Task 6.2: The interactions between innovation, demand generation and aggregate growth (SPO)

- Employing input-output network to study EU international competitiveness and import-export flows (month 30)
  - studying how the possible I/O inter-linkages between firms in different industries and countries can magnify or dampen productivity and demand shocks, possibly giving rise to multiplicative processes akin to the Keynesian multiplier and affecting international trade patterns and countries' growth performance
  - developing a simple two-country model (EU and RoW) representing the microeconomic I/O relations between firms in different sectors of the value chain in order to analyse the effect of different processes of de-industrialisation and concentration on business and financial services on the prospects for EU innovation and economic growth

# Task 6.3: The crucial role of fiscal policies for income redistribution, inclusiveness and ultimately sustainable growth (SSSA)

- Employing an ABM to assess the role of fiscal policies as a tool to reduce the inequality in the economy and promote inclusive and sustainable long-run growth (30 month)
  - analysing the effects of various fiscal instruments (e.g. different degrees of the progressivity of the tax system, wealth and financial taxes) in tackling inequality
  - designing and testing taxes to reap the fruits of government-sponsored innovations introduced by private firms
  - studying how the lower level of inequality, together with the higher amount of resources to support government-funded, mission-oriented research, can put European economies on a more inclusive and sustainable growth path

# Task 6.4: Analysing the aggregate outcomes of the interactions between finance, innovative firms and the overall economy (SPO)

- Build a family of ABM to theoretically analyse (30 month):
  - how access to credit and financial markets affect firms' innovation, investment and production decisions;
  - the conditions under which financial markets lead to unstable growth regimes, financial crises and which early warning signals can be detected to prevent such crises;
  - interactions between Keynesian demand-management and Schumpeterian innovation policies under different finance scenarios shaped by macro-prudential regulations (e.g., Basel II vs. Basel III);
  - which structural reforms are appropriate to improve the growth performance of European economies, under different combinations of innovation, fiscal and monetary policies;
  - the financial systems under which firms have greater incentives to use available financial resources to invest, innovate and increase productivity

# Task 6.4: Analysing the aggregate outcomes of the interactions between finance, innovative firms and the overall economy (SPO)

- Papers:
  - [Van der Hoog, S. and Dawid H., “Bubbles, crashes and the financial cycle: insights from a stock-flow consistent agent-based macroeconomic model”, ISIGrowth WP 3/2015](#)
  - [Van der Hoog, S., “The limits to credit growth: mitigation policies and macroprudential regulations to foster macrofinancial stability and sustainable debt” ISIGrowth WP 4/2015](#)
  - [Popoyan, L., Napoletano M., and Roventini A., “Taming macroeconomic instability: monetary and macro prudential policy interactions in an agent-based model”, ISIGrowth WP 6/2015](#)
  - [Dosi G., Pereira M., Roventini A, and Virgillito, M. E., “When more flexibility yields more fragility: the microfoundations of Keynesian aggregate unemployment”, ISIGrowth WP 5/2016](#)

# Task 6.5: Assessing the conditions for making the environmental transition happen (SPO)

- Family of models to study which innovation patterns, skills, investments and demand incentives are required to achieve a transition toward green development trajectories (35 month):
  - the role of consumption patterns in inducing the use of cleaner production techniques;
  - the extent of the rebound effects for different producers and consumers;
  - the role of technological innovation and different growth strategies to meet the environmental standards to reduce global warming;
  - the impact of “greening” the economy on employment patterns.
  - which mix of innovation, monetary, fiscal, and regulatory policies favour the transition of the economy to a green growth path characterised by higher growth rates and sustainable public debt

# Task 6.5: Assessing the conditions for making the environmental transition happen (SPO)

- Papers
  - [Lamperti, F., Napoletano, M. and Roventini, A. Preventing Environmental Disasters: Market-Based vs. Command-and-Control Policies, ISIGrowth WP forthcoming](#)
  - Ciarli, T. and Savona, M., “From quadratic to exponential changes: The relations between economic structure and sustainability
  - DSK model, work in progress

# Deliverables:

- DD 6.1 Empirical paper on the interactions between innovation, demand generation and aggregate growth (month 12)
- DA 6.2 Report on causal mechanisms linking innovation, income distribution and demand generation (month 24)
- DA 6.3 Paper on the network-based Keynesian multiplier (month 30)
- DA 6.4 Paper on the role of fiscal policies for achieving inclusive and sustainable growth (month 30)
- DA 6.5 Paper on the interactions between Schumpeterian and Keynesian policies (month 36)
- DA 6.6 Paper studying how to achieve the green transition (month 35)
- DP 6.7 Policy report on the interactions between technology, fiscal, and monetary policies (month 36)