



**CompNet-ECB Workshop,
Rome 13 and 14 March 2014
Follow-Up**

Dear CompNet Members,

Below you will find a brief summary of the meeting. The final program and presentations are available on our website (http://www.ecb.europa.eu/home/html/researcher_compnet.en.html).

The workshop was structured on three prominent policy sessions, namely (i) productivity and reallocation; (ii) GVC and FDI; (iii) External performance determinants, and two keynote speeches by Gian Maria Milesi-Ferretti and Richard Baldwin. Additionally there were workstream sessions during both days of the workshop. This follow-up starts with a summary of the plenary sessions and then moves to the discussions undertaken within the workstream sessions.

Plenary sessions

1. Productivity and reallocation:

- Andrews, Criscuolo and Menon.: *“Do resources flow to innovative firms? Cross-country evidence from firm-level data.”* This paper uses ORBIS data matched with PATSTAT (patents granted by 80 offices), which results in a new database called OECD HAN database comprising data for 23 countries from 2003-2010, including firms with more than 20 employees. The purpose is to explore role of national policies to explain observed differences in the elasticity of patents to output/employment level at the firm level, that is, observed differences in the ability of innovative firms to attract resources. In order to address the endogeneity of patents, they use as instrument patent litigation data within technological fields. They estimate a baseline model where log of output/employment is regressed against the firm-level stock of patents and fixed-effects (industry*country*year). They find an average elasticity of employment to patents of 10%. To explore the role of policy to explain country differences, framework policies, like Product Market Regulation Indicators, EPL, bankruptcy laws, efficiency of the judicial system and development of the financial sector are interacted with the firm-level patent stock.

- Canton: *“Business churn, sectoral performance and economic policy.”* The paper combines the Structural Business Statistics from Eurostat and business demography data, covering the period 2000-2010 and most EU countries. Information is collected at the 2-digit nace sector. Descriptives show large differences in Allocative Efficiency (AE) between manufacturing and other sectors not exposed to competition like (administrative) services. Then the paper explores the link between country/industry/year AE and the corresponding entry and exit rates, controlling for fixed effects, finding that AE is positively affected by business dynamics, and also by employment at birth.

- Dhyne, Fuss and Sevestre: *“Export markets as Olympic games: It’s not only how high you jump but also whether you jump higher than others.”* How can we explain the different evolution of CA in France and Belgium vis-à-vis Germany? Many studies on impact of productivity on propensity to export, that is, on the determinants of the extensive margin, but not so many on export volumes (intensive margin)– and the ones existing find no effect or negative effect. This paper evaluates the role of firm productivity, wages and price competitiveness for both margins, analysing competition on the destination market at highly disaggregated sector and product levels. The paper finds that productivity or productivity-to wage are essential to qualify to export markets. However, once firms have paid the fixed cost to become exporters, productivity is irrelevant to explain export quantities, while prices and wages become the decisive factors.

Policy discussion: Eric Bartelsman (VU University of Amsterdam) *“Tracing policy effects using firm-level data.”* The 3 papers trace effects of policy on macro performance, through heterogeneous firm behaviour. Policies affect within firm decisions but also market selection mechanisms. In the first paper they affect the extent to which resources flow to innovative firms (confirmed using MMD data); the second one worries about the effect of churning on allocative efficiency, and how this role could change during crisis. The third paper highlights the importance to explore exports taking into account the (detailed) market and the competitors in those markets, and to understand the role of wages (quality).

2. GVC and FDI:

- Timmer and de Vries: *“Revealed comparative advantage at the task-level – A GVC perspective.”* The paper examines global value chains in Europe by matching occupation data with production stages. Using this data, the authors split the production process in pre-fabrication, fabrication and post-fabrication services and investigate the patterns of comparative advantages across countries. Unsurprisingly, rich countries have an advantage in the pre-manufacturing and post manufacturing stages while Eastern European countries have an advantage in manufacturing. These patterns are not constant over time and poorer countries are catching up in the pre and post fabrication stages.
- Cappariello and Felettigh: *“How does foreign demand activate domestic value added? A dashboard for the Italian economy.”* The paper investigates the impact of foreign demand shocks on Italian gross exports. The main motivation behind the paper is the fragmentation of the production process makes it much harder to disentangle the domestic value added of exports and their corresponding demand. The paper uses the Koopman (2012) methodology to breakdown gross Italian exports into several components: absorption, redirection and reflection. The main results of the paper include: most of Italian gross exports consist of domestic value added; intermediates make up a large share of exports, a third of exports are



due to product fragmentation; Italy is becoming more dependent on extra-EU demand; there is strong heterogeneity across sectors in the share of GDP in exports.

- Vicard: *“Transfer pricing of multinational companies and aggregate trade.”* The paper looks at the link between trade, taxation and investment. It starts from the observation that although France has a relatively high tax rate, it is experiencing positive FDI inflows. Using French firm level data the author examines the transactions between unrelated parties, in order to test the a-priori that the price wedge is larger for places with large tax differences; that is positive for imports and negative for exports. The conclusion of the paper is that, indeed firms use transfer prices to shift profits from high tax countries to lower tax ones.

Policy discussion: Carlo Altomonte (Bocconi University). The key issue brought about by the 2 first papers is where a country should position itself in the GVC. Timmer et al paper finds that mature economies are specialising in pre and post-production tasks whereas emerging markets focus on production. On the other hand, we know that increased GVC participation does not lead directly to higher domestic value added, at least in the short-term. One important question is therefore how could policy affect the speed and extent of that link, taking into account that higher fragmentation of production has also drawbacks such as the higher volatility of trade flows (shown in Cappariello et al paper).

3. External performance determinants: a cross-dimensional approach

- Giordano and Zollino: *“Measuring price competition and the impact on external performance of the largest economies in the Euro area.”* The paper empirically assesses export dynamics in various European economies. The authors conclude that structural reforms boosting productive efficiency could play a key role for improving competitiveness. However, they also suggest that the type of competitiveness indicator and deflator used to compare competitiveness across and within countries can potentially be very important in the evaluation of the results. The paper focuses mainly on Italy, where a large divergence between commonly used price-competitiveness indicators is demonstrated.
- Bugamelli, Barba Navaretti, Forlani and Ottaviano: *“Firms and aggregate trade performance.”* The paper presents an empirical answer to the question how aggregate movements can be adequately tracked over time. This topic has been very central to a debate in economic theory and the authors present a quantitative assessment. Given the large and persistent heterogeneity at the micro-level it is not clear whether in order to understand aggregate dynamics we need to keep track of several higher-order moments of a certain distribution. The authors present an extension of previous approaches, essentially



extending the set of explanatory variables by higher-order moments. The paper demonstrates the merits of this new approach by explaining trade performance within and across several countries, largely drawing from the CompNet database. The results indicate that higher-order moments, e.g. the range between the 10th and 90th percentiles of a distribution can significantly improve the explanatory power of their regression model.

Policy discussion: Fabiano Schivardi (Luiss and EIEF). How to measure price competitiveness and its impact on external performance is clearly at the centre of the policy debate. The first paper presents two diverging indicators of competitiveness, one is ULC-based and the other PPI-based. According to the latter the gap Germany-Italy is 10% whereas according to the latter is 40%. What can explain the misalignment of both indicators, above all in sectors other than manufacturing? Is it a measurement issue? The second paper presents an alternative to the traditional margins approach (exploiting averages) to explain aggregate export performance, namely, the moments approach (exploiting higher moments of distribution). However one is an extension of the other, not an alternative. We need a theoretical framework to understand what is the expected impact of higher moments.

Discussions within the individual work-streams:

Work-stream 1

Chiara Osbat has taken up additional responsibilities in DG-Economics, within the ECB, and therefore will leave Workstream 1 leadership, although will still be involved in several of the Workstream projects. The heads of Workstream 1 are now Konstantins Benkovskis (Bank of Latvia), Pavlos Karadeloglou (ECB), and Ettore Dorrucci (ECB).

The discussion within WS1 focused on two items: the toolkit and the compendium.

On the Competitiveness Diagnostic Toolkit:

- Choice of data sources: It was decided to include also indicators with some countries missing, as they can be of use for country analysts and to check the compatibility of the included series, in terms of definition and data sources, with the ones employed in evaluation procedures by policy makers, e.g. the European Commission's MIP Scoreboard.
- Set of indicators: The list of indicators included in the Toolkit should be revised, keeping only the ones that are considered relevant for competitiveness on the basis of empirical evidence, published literature or standard policy use.
- Organization of the Toolkit: Need to have the indicators readily available for analysis and for report. Thus, even though the final format/organization of the indicator database has to be established (depending on the needs and requests of who will take over), the current database should be reorganized and made more clear.



On the Compendium of the Toolkit:

- WS1 members have agreed on including in the text of the Compendium a one-by-one description only of the novel indicators produced by CompNet. The other variables, i.e. commonly used indicators taken from other sources, will be listed with the relative sourced in the appendix of the text. A general list of the information to be included in the indicator's description has been outlined: i) motivation; ii) novelty; iii) description/ methodology and, possibly, reference to the relative paper or article; iv) pros and cons. Furthermore, once the list of selected indicators is set, the indicators should be divided into groups by concept and introduced by a text explaining why they are included, possibly with references to the literature or empirical evidence.
- Members agreed to include in the text boxes showing stylised facts regarding single indicators or groups of indicators.
- The full draft of the Compendium should be put together by the next CompNet workshop (30 June-1 July) for comments.

Work-stream 2

During the first day of WS2 discussions, the very preliminary results from the new firm-level based database were presented by Paloma Lopez-Garcia. The purpose was to show the enormous potential of the data as well as to point at some coding and definition problems encountered which would make advisable to run the whole code again. In the next couple of weeks, country teams who already run the code will be asked to send a report with the mistakes and problems encountered. The ECB team will also take into account changes and/or additions proposed by the research module coordinators to enrich, even further, the set of computed indicators. After the presentation and subsequent discussion, the WS2 members divided into 4 research groups: Mark-ups (coordinated by Jose Manuel Montero (Bank of Spain), Joao Amador (Bank of Portugal) and Catherine Fuss (Bank of Belgium)), Trade (coordinated by Antoine Berthou (Bank of France) and Emmanuel Dhyne (Bank of Belgium)), Financial (coordinated by Annalisa Ferrando (ECB)) and Labour (coordinated by Benedicta Marzinotto (EC) and Robert Serafini (ECB)). What follows is a short summary of the discussions within each group.

Mark-up group discussion

The discussion was mainly technical.

- Outlier treatment. The group discussed on having a separate treatment of the outliers for the mark-up module. The general idea/fear is that, with the actual outlier treatment, too many observations are dropped. This point should be discussed with Eric Bartelsman.
- There was a discussion on what to do with firms reporting negative profits. The decision was not to eliminate them, for the moment.



- Discussion on the definition of the stock of capital and user cost of capital (involving the financial group)
- The group proposed to check the robustness of the data with respect to several issues, involving eventually EUKLEMS data.
- The possibility to estimate time-varying mark-ups was also discussed.

Trade group discussion

- There was extensive discussion on the threshold for exporting activity. Different thresholds cause a lot of heterogeneity in reporting and affect the comparability across countries and within countries over time. Therefore, two versions of the trade module will be run, one in which the reporting threshold is homogenized over the years within one country and one without this correction (as it is now).
- There was discussion on the joint distributions for trade-finance, as well as on computing mark-ups (joining forces with the mark-up module) for exporting and non-exporting firms.
- One other proposal was to implement in the code an automatic cleaning up the cells with too few observations in the results the countries send us for confidentiality reasons. This is easily do-able; however, for this we need a table with the confidentiality threshold of each country.
- The aim of the group is to write one “methodological” paper for the whole trade module, plus side projects. Additionally, several projects are suggested: (1) how exchange rates are affecting exporters, big/small; (2) exporters/importers and productivity; (3) intensive and extensive margins before and during the crisis.

Financial group discussion

- There was extensive discussion on the refinement of the definition of credit constrained firms and about which indicator/s should be used. Together with the FR indicator, the z-score criterion could be computed. Furthermore, the share of absolutely constrained firms could be validated with the SAFE survey (and the corresponding survey for non-EA countries)
- There was discussion on the refinement of the definition of some variables, to be benchmarked with Amadeus.
- Discussion on outlier treatment, and whether it should be specific for the financial module.
- Suggestion to look deeper into the capital structure of firms, and its changes over the crisis

Labour group discussion

The general question the module is interested in answering is: What are the drivers of firm growth?

- One idea is to run a probit, using for that matter firm-level data, to look at the probability that a firm moves from one class size to another. Do the same to look at labour productivity



transitions by size class, with some controls (check for heterogeneity within size class, quintiles of employment, export, TFP)

- There was also a suggestion to run a probit for small and medium firms (1-49) and one for big firms and compare

Work-stream 3

Within WS3, there were two presentations: one by Juan Blyde on his work with Daniel Molina (both from the Inter-American Development Bank) entitled 'Logistics infrastructure and the international location of fragmented production'; and one by Christian Buelens on his work with Matthias Rau-Göhring (both ECB) entitled 'Drivers of value added trade: A gravity approach'. In addition, Christian Buelens reported back on an ECB workshop on exchange rates where the idea of computing real effective exchange rates based on value added instead of gross trade weights.

In addition to working on on-going projects with colleagues from the CompNet, WS3 discussed in the on-going and planned projects (almost 30). Particular interest was expressed on extending to other countries - in particular CEECs - work done by WS members on Italian and Portuguese GVC data. In this context, the idea of sharing codes done for some countries for the applications to the CEECs and other countries was discussed and will be agreed upon bilaterally. Following the discussions, WS members will update the list of projects, including also a brief description of each them.

Thank you again for your participation!

We are looking forward to meeting all of you in Frankfurt in June.

Filippo and the ECB CompNet team