CompNet-ECB Workshop,
Frankfurt December 15-16 2014

Main conclusions and follow-Up

Dear CompNet Members,

Below you will find a summary and some follow-ups of the meeting, including the main conclusions from the advisory board meeting. The final program and presentations are available on our website (http://www.ecb.europa.eu/home/html/researcher_compnet.en.html). Please be aware that presentations based on firm-level data, still preliminary, will not be uploaded in the web.

Advisory Board Meeting

The Advisory Board meeting took place in the morning of December 15. The main conclusions and follow up are as follows:

CompNet final report: The report will be presented during the final conference in June 2015 and, therefore, the first draft should be ready in March. One of the important decisions taken during the meeting was to move from an approach focused only on individual workstreams to one focusing on common denominators across them. To do so the report will present overarching results related to three main items:

1. Trade performance/elasticity: this section will present results more directly related to CompNet initial mandate and show, by adding up results produced by all three workstreams, that trade outcomes are not only related to price factors of competitiveness but also to non-price ones. Moreover, we will show how taking into account those non-price factors, as well as the GVC participation of countries or the underlying distribution of productivity in the different countries can alter the estimations of trade/exchange rate elasticities.
2. GVC/Regional Value Chains: this section will focus on the process of re-estimating countries' exports market share by accounting for the cross-border dimension of the production processes.
3. Productivity drivers and allocative efficiency: starting from the fact that allocative efficiency is driven by firm heterogeneity, this section will be split in two main parts: efficient allocation of credit and of labour across firms.

    The outline of the report will be circulated for comments and inputs in January. The report will try to encompass in a comprehensive fashion the whole output of the network. To this end, please consider that any relevant input - over and above - what you will find already included in the outline, will need to reach us by end of February at the latest.

Use of the firm-level data produced by CompNet: At the end of this summary you will find the disclosure procedures discussed and agreed during the advisory board meeting. Upon insertion of your comments (by Tuesday 23 December, please) the agreed procedures will be uploaded in the web.

CompNet micro-based database methodology papers

The workstream devoted to firm-level data analysis (WS2) has finalised the second exercise of data collection (which counts on 17 countries) and it is now working on the drafting of the documenting papers. These papers, one horizontal and four module or topic-specific, are expected to be finalised by the end of January. The horizontal methodology paper, covering all indicators and data issues, is the most advanced one. Its revised version, after taking on board comments from all participating countries, will be distributed during the coming days and sent to the ECB WP series for publication in January. The four topic-specific methodology papers (financial, trade, mark-up and labour) are currently being drafted. We expect to circulate to all teams the preliminary completed versions of those papers by the end of January.

The workshop

The workshop was structured as follows. We had two keynote speeches, one by Eric Bartelsman on the use of micro-data for research and policy analysis and the second one by Kalina Manova on global value chains. Besides, we had one plenary session with a joint paper written by several NCBs, and discussed by Luca Opromolla. The rest of the workshop was devoted to workstream discussions.

1. Plenary sessions

Keynote Speech: Eric Bartelsman (Vrije Universiteit Amsterdam), "Micro-based data for research and policy analysis: an historical overview"

Eric gave a thorough overview of the use of micro-data for research and policy analysis since mid-80s, finalising with emerging policy questions that could be addressed with this type of data as well as some suggestions related to the particular use of CompNet micro-based data. Since the mid-90s, the use of micro-based data and models with heterogeneous agents has exploded. This increase in interest results from policy needs. In the early days the bulk of research and policy analysis was done with macro time-series, drawing from aggregate national account numbers. However, there were already some papers (e.g. Caballero and Engel, also in IO and labour literature) questioning the hypothesis of the representative agent. Since then, firm-level databases were made available and a rich cross-country micro-data literature, often driven by the policy need to assess structural issues, competition policy, deregulation of network sectors etc., emerged (OECD, World Bank, Eurostat).

It is important to acknowledge that micro-based data is intrinsically different from National Accounts, due to different coverage and focus. Moreover, firm-level data suffers from 3 sources of measurement errors: error in measuring firm-level variables, sampling errors (although variance is quite robust), and errors in aggregation procedures. The latter is diminished in projects using the micro-distributed approach, like CompNet. Lastly, to extract the most from this type of databases, one has to use the data for its strengths (within-industry heterogeneity, information on higher moments, cross-country

industry panel sets) and avoid uses of the data that cannot be supported (like cross-country level comparisons of indicators published elsewhere).

Keynote Speech: Kalina Manova (Stanford University), "Trade, Finance and Global Value Chains: The Role of Multinational Companies"

The first part of the presentation was focused on the existing literature about International Fragmentation of Production, a key trend in international trade in the last two decades. The second part was devoted to the presentation of very preliminary results from the forthcoming paper entitled "The Global Production Line Position of Chinese Firms", co-authored by David Chor and Zhihong Yu. The paper identifies the position of Chinese firms in the Global Value Chain along 1992-2011 period. The analysis is performed using firm-level customs data combined with manufacturing census data and Input-Output Tables for China. The main indicator used is the upstreamness of each firm's import and export mix. The metric is based on the number of production stages between the selected product mix and final uses. Lastly, the paper concentrates on how this position influences the firm performance, by looking at total exports and sales, as well as some firm characteristics (as ownership, productivity capital and skill intensity).

Plenary session: "Export diversification and output volatility: Comparative firm-level evidence" Cede, Chiriacescu, lalinsky and Merikull

In the plenary session, Jaanika Meriküll presented the working paper "Export diversification and output volatility: Comparative firm-level evidence", written together with other participants in the CompNet network from several National Central Banks, which investigates whether diversifying the product range or the markets severed by a firm leads to lower volatility in output. During the presentation, Jaanika cited both macro and micro level supporting evidence on the negative relationship between volatility and growth and between volatility and diversification. In their paper, Jaanika and co-authors use firm level data from 5 Central and Eastern European Countries running the same code and estimation in order to obtain comparable results. They regress output volatility on firm characteristics and construct a measure of diversification. In order to alleviate simultaneity and omitted variable biases they run a maximum likelihood specification which jointly estimates both the decision of the firm to diversify and its output volatility. They find that diversification, both in terms of markets served and product range, helps reducing firm level volatility by about one standard deviation. Their results are robust to alternative specifications such as addressing endogeneity via instrumental variables.

In the discussion of the paper, Luca Opromolla (Bank of Portugal) gave a brief overview on the sources of bias that could influence the results such as omitted variable bias, simultaneity and measurement error. He proposed the team an alternative instrumental variable approach, used in the literature in similar papers. He also urged the authors to be clearer about the channel they have in mind through which diversification lowers volatility. He also asked them to further explore the differences in results across countries.

2. Discussions within the individual work-streams:

Work-stream 1

DAY 1

Compendium

The discussion about the Compendium followed the one held in Lisbon. There was as well some talk about the idea to add to the compendium an evaluation grid, which is a map to link a specific problem to a specific set of indicator. Finally, the insertion of a new box by Di Mauro and Pappadá (2014) was mentioned. During the course of the discussion, it was announced that the data visualization software "Tableau", which was proposed by CompNet members, has been acquired by the ECB. Related to that, the new codes, to build in a neater and more efficient way the novel macro indicator within the toolkit, were presented.

BMA and Lasso (B. Bluhm)

The Bayesian Model Average, the method that the CompNet macro team chose in order to assess quantitatively the several possible models to explain Competitiveness, was compared with another method standard in the literature as the Lasso (least absolute shrinkage and selection operator). The results were quite satisfactory. An interesting discussion about the properties of the BMA method and the validity of its results followed the presentation.

Export assortativity (A. Joseph)

A new variable is going to be part of the toolkit: export assortativity. Assortativity (or dissortativity) can be defined as the tendency of an exporter to trade and compete with countries, which share similar (or different) characteristics in terms of Unit Value and Sector Concentration. The indicator will be built combining export prices, industry concentration and the nearest-neighbour structure of international trade.

DAY 2

Tourism demand elasticity (W. Gatt)

The author presented some results about the market share evolution of Mediterranean countries. They utilised the Almost Ideal Demand. They find that while Spain was relatively unaffected by the development of the tourism market, countries such as Cyprus, Malta, Turkey and Italy lost significant market share, in part due to a relative loss of competitiveness.

Testing the relevance of price competitiveness for the CEE economies – a GVC approach (A.Leonte)

Classical measures of price competitiveness are grounded on a theoretical framework that does not take into account the existence of international production chains. There have been recent contributions in the Global Value Chain literature which help fundament more theoretically-sound price competitiveness indicators. However, there is scarce literature on testing their empirical relevance. This is precisely the aim of this study which focuses on the" REER in goods" indicator of

Bayoumi, Saito and Turunen (2013) because it is the best fitted to explain the evolution of gross export flows. According to the preliminary results, the explanatory power of the REER in Goods indicator in ECMs based on export equations tends to be superior to that of the classical European Comission REER (based on the GDP deflator).

Sector-specific trade-weighted real exchange rates, Updates (K. Lommatsch)

This work showed some estimation results on average export growth rates in gross and VA terms. In particular it was showed that the standard export equation (gross trade flows) has low explanatory power. This might be due to the increasing role of global value chains. Lastly, it was shown that the significance sensitivity of exports to relative price changes (REER) is much higher in equations for value added exports, with the exception of euro area.

Work-stream 2

During the first day of the workshop, each of WS2 modules (financial, trade, mark-up and labour) discussed separately their respective methodology papers, as well as the presentations to be deliver during the second day. During the second day, there was a common session where several issues related to the use of the new database were discussed, among them the use of the 20E vs. the full sample as well as the use of the data for policy and research. The latter should be less restricted conditional on the introduction of proper controls in the regressions. Lastly, several issues concerning the distribution of productivity, raised during the drafting of the horizontal methodology paper, were also discussed. In the afternoon session, the preliminary version of the methodology papers of the trade, labour and financial modules were presented. What follows is a summary of the discussions within each of the modules, including the main highlights from their respective papers.

Mark-up

The discussions in the Markup Module focused on the structure of the methodological paper, with a particular emphasis on the selection of indicators and main results to be included in order to illustrate the main features (and possibilities) of the data. Given the tight deadlines that we are having and the urgent need to get results, it was decided that the methodological paper will only deal with accounting profit margins, leaving for the future the analysis and release of the database on estimated price-cost markups and bargaining power (as well as the estimates of profit elasticities and TFP estimates adjusted for the existence of market power). It was also highlighted the fact that several countries had not sent their Stata data files yet, which complicated somehow the analysis to be made in the paper. Moreover, some problems and strange patterns were detected in the results for some countries (Spain, Germany, and Romania, among others) which will require a careful examination of the data by these countries.

As regards the content of the paper, it will only put together things that are likely to be comparable. Moreover, given these problems, the paper will not explicitly compare levels across countries. It will devote one section to a general assessment of accounting price-cost margins (PCM) in the sector/country/year dimensions, with a first look at composition effects. Next, it will study the dynamics of PCMs (index by main economic sector) as well as their dispersion (inter quartile range). The following sections will deal with identifying those sectors consistently displaying higher PCMs across countries (proposing a score measure to identify these sectors), and with a preliminary analysis of heterogeneity along other dimensions (age, size, export-status).

Trade

The first day work stream meeting of the trade module was devoted to discussing the methodological paper for the module. During the three hours of discussion, the current draft version of the paper was covered almost page by page. Specific issues raised included the incompleteness of table 1 in the paper which covers the data sources, thresholds and coverage by country. Antoine urged the countries to send updated information on this. Other issues raised included what is the recommended benchmark for the use of the data: is it the full sample or the 20+ employees sample, is it the export threshold adjusted or un-adjusted version. One other issue raised was the particular case of Spain's sample, which is really unlike the other countries, both in terms of construction and coverage. Finally, there was a discussion whether the graphs in the paper should include all countries covered or just focus on the interesting cases. It was decided to include all countries.

During the second day, Antoine Berthou gave a presentation on the current status of the trade module methodological paper. He first explained the proposed goal of the paper and stressed the differences between the adjusted and non-adjusted samples. He gave a brief overview on the validation of the trade module: all the results are sensible both in terms of numbers of firms covered and share of total trade value captured, and with respect to the trend of variables. He went on to present some of the key results of the methodological paper. He first presented the export productivity premium of exporters which is about 20% in all countries covered. He then presented the productivity ranking of exporters by category of exporter: top exporters are much more productive than regular exporters, which are more productive than new exporters, who, in turn, are also more productive than firms that stop exporting. This ranking is consistent across all countries and is robust to alternative productivity measures, such as TFP. He also presented a graph on the evolution of profit margins for exporters and non-exporters with a focus on what happened during the 2009 trade collapse. Finally, Antoine showed the evolution of export growth for firms by TFP, indicating that more productive firms have higher export growth.

Financial

During the first day, the financial module discussed two issues still open: (1) The SAFE methodological note, which explains step by step how the indicator is built, and (2) the debt burden indicator. Regarding the first issue, after the presentation of the indicator, Belgium asked to drop values before 2009 given that internal results of the NBB differ from the constructed indicator before that year (Spain also asked to drop their results before 2009). No other comments have been received from the participants of the module in this respect so for the moment only those two countries will be excluded, and the methodological paper will include a clear warning about the caveats in the construction of the indicator. Regarding the second issue, it was shown that debt burden is computed in a similar way in other databases, like BACH. So the indicator will be kept in the database although, again, highlighting in the methodological paper how it is constructed. Secondly, Marie-Hélèn Felt (ECB) made a presentation where she compared the investment variable of CompNet with the BACH dataset, showing that the trends are very similar even if indicators are computed in a slightly different way. She then tested the hypothesis of a structural break in 2009 and the presence of a nonlinear effect of leverage over investment. Furthermore, Elena Vaccarino (ECB) showed the results of the matching of CompNet dataset with Anacredit, a survey-based dataset containing information on loans both from the borrowers' and the lenders' sides. The matching is now complete for a first set of countries, and several research questions were presented to illustrate the potential of the dataset. Finally, Matteo Iudice (ECB) shared with the participants of the module the outline and the first draft of the financial

module paper. Some participants offered their help to participate actively in the writing process and several comments were received: most of them have been included in the presentation of the financial module paper within WS2.

During the second day, the coordinator of the financial module, Annalisa Ferrando (ECB), presented the first draft of the financial module paper, which was already discussed within the module during the previous specific sessions. She showed the outline of the paper and some of the case studies/stylized facts that will be included in the final version: among others, the non-linear impact of indebtedness on investment (presented the day before by Marie-Hélèn Fellt, ECB) and results on credit constraints and productivity.

Labour

The labour module meeting during the first day was devoted to the preparation of the methodology paper and its presentation. Some graphs on covariates were chosen among the group of graphs prepared in the previous days. The chosen story-line for both the paper and presentation is to confront the pre-crisis and post-crisis period. Hence both the transition matrices and characteristics of firms that grow and shrink will be analysed with special focus on the impact of the crisis. With respect to the structure of the methodology paper, it was agreed to add to the literature review and definition and validation of indicators an initial specific section describing the nature and the differences of the labour module datasets. There are 3 of them, depending on how firm growth is defined: the first one considers movements across size classes, the second one looks at relative growth of firms and, finally, the third one looks at movements across quintiles of the size distribution. The 3 datasets will be used in the paper, depending on the particular research question.

Work-stream 3

In the first WS3 session 3 topics were discussed:

(1) The status of ongoing projects was updated.

(2) Regarding the plan of a voxeu ebook a possible structure was discussed: it could start with chapter 1 on the data on GVCs, followed by chapter 2 on the methodology and indicators, chapter 3 on policy implications and chapter 4 on new lines of research. The outline and proposals of project results to be included will be circulated for comments to all WS3 members.

(3) The input into the final compnet report should mainly draw on chapter 3 of the planned ebook,

The other WS3 sessions were devoted to the individual projects.

Thank you again for your participation and your hard work!

We are looking forward to meeting you all in Madrid next March.

Wish you and your families all the best for the forthcoming festivities

Filippo and the ECB CompNet team

ANNEX

Internal governance rules for the use of CompNet produced firm-level data:

The sets of rules to be followed will depend on the final use of the data and will start to apply as soon as the relevant methodology papers are published:

For policy use:

When the use of CompNet data is limited to the publishing of a graph or a conclusion directly taken from any of the (already published) methodology papers there will be no need to ask for permission to the NCBs and participating NSIs.

In all other cases, the policy output will be distributed to all NCBs and NSIs participating in the firm-level exercise before publication. To facilitate this exchange, we will provide an updated distribution list with contact details of country teams. Country teams will be given a week to check the policy output. If no feedback is received by that time we will consider it as approved.

For research use:

Data can be used only by CompNet members until the end of the current mandate, in June 2015. During this period, although researchers will be the ultimate responsible for his/her piece of research, papers will be subject to the internal referee process of the ECB WP series, which will be particularly careful on data interpretation issues.

After June 2015, it is expected that data (in the aggregated format available at the ECB) will be made available to external users on a case by case basis, after submission of a research project. However, a more detailed procedure will need to be agreed in the coming months with the participating teams, and will be made public in due course.