European Central Bank/CompNet online event

Productivity, trade and financial flows in the face of a pandemic: a European perspective

22 September 2020

Summary

The online event opened with welcome addresses by **Frank Smets**, Director General Economics at the ECB, and **Filippo di Mauro**, Chair of the Competitiveness Research Network (CompNet). Mr Smets said that both sessions in the event could be related to the economic implications of the coronavirus (COVID-19) shock. Mr di Mauro presented a brief overview of the governance, activities, outputs and main value added of CompNet, with a focus on the seventh vintage of data collection and the 2020 Firm Productivity Report.

I. Keynote lecture (15:00-16:00)

The keynote speech by **Marc Melitz** (Harvard University) focused on the relationship between firm concentration and productivity. The analysis of this relationship is the more important at present, as the rise in firm inequality may be further intensified by the pandemic, with important implications also for wage inequality.

Existing literature documents high and rising firm concentration in the United States (although the trend has reversed in certain areas of this country). Over time this has been interpreted either as an increase in market power and mark-ups in a context of lax antitrust enforcement (the “negative” view) or as a mechanism rewarding more efficient firms with growing market shares (the “positive” view). Most recent literature also shows that increasing firm concentration has been coupled with rising productivity dispersion, higher investment in intangible capital and a reallocation of market shares towards high mark-up firms, which has led to an increase in aggregate mark-ups and a decrease in labour share.

A deep empirical assessment of the concentration trend in Europe and how it fits with the negative versus positive view has been missing thus far, not least because of the need to harmonise data on different countries. Mr Melitz now provided evidence along this dimension, using the CompNet dataset.

Other existing data sources show conflicting concentration trends in the last 20 years in Europe, with the OECD's MultiProd data pointing to increasing concentration and the ORBIS database to the opposite. In this regard, a firm-level micro-aggregated dataset such as CompNet can provide better information, as it is based on mostly administrative data and a careful harmonisation process, which enables cross-country comparisons. The dataset covers 19 European countries (including the three biggest euro area economies) for the period 2000-17, and includes nine macro-sectors (only six taken into account in order to allow full comparability).

Mr Melitz analysed concentration using two measures: (i) the Herfindahl-Hirschman Index (HHI), based on revenues; and (ii) the share of the ten firms with the highest revenue. The advantage of the HHI approach is that the index can be aggregated at European level and then decomposed by country and sectors. These measures show a trend of increasing concentration for the European aggregate since 2008. The HHI decomposition highlights the predominant contribution of Germany, which explains more than 80% of European concentration. The most concentrated sector is manufacturing, which explains 89% of European concentration in the six macro-sectors considered.

Taking Europe as a whole, rising concentration is not associated with a significantly greater dispersion of aggregate labour productivity over time. Within individual countries, however, the deviation from the European average is in several cases significant. Most importantly, labour productivity is heterogeneous along the firm size dimension; it increases by approximately 15% as it moves from one decile to the next in the size distribution. This size-productivity premium also varies across sectors, being positive in particular for ICT, real estate, manufacturing and professional activities, but not for the transportation and administrative sectors. Across countries, it can be as high as +40% (Lithuania), with all countries but one recording a positive premium.

The final part of the keynote speech analysed the correlation between concentration and labour productivity. The relationship is positive and significant at the aggregate level, with some qualifications. In particular, rising mark-ups do not explain the relationship. Focusing on the manufacturing sector, the same positive relationship is found. The Olley-Pakes (OP) decomposition provides detail here, decomposing the weighted average sector productivity in the between-firms and within-firms components. The regression shows a positive association between the between-firms component (OP gap) and concentration, suggesting that allocative efficiency plays a role in driving concentration.

In conclusion, rising concentration correlates strongly with productivity. Contrary to the pessimistic view, there are quantitative indications that in the case of Europe this was not a sign of weak competition in the period considered. Rather, it may have reflected the fact that efficient firms were rewarded with a larger market share.

During the discussion, **Romain Duval** (International Monetary Fund) provided feedback on mark-ups in the within-firm dimension, reporting a rise in the mark-up in firms with already high mark-up. Mr Melitz replied that, depending on the mark-up specification used, technical

change can appear to be a rise in mark-ups, and acknowledged that the within-firm dimension is very important too. **Atanas Kolev** (European Investment Bank) asked whether firms in the European Union may also be moving in the same direction as in the United States, though with some delay. Mr Melitz noted that a proper comparison between the two regions would be highly interesting, but that there are no data directly linking the two economies. In general, the trends are very heterogeneous and differ by sector and country/region.

II. Policy panel (16:00-17:15)

The policy panel's topic was "How is the COVID-19 reshaping international trade and capital flows?" The panel's Chair – **Philip R. Lane**, member of the Executive Board of the ECB –introduced the discussion by emphasising some important features of international trade and financial flows in the context of the pandemic. A leitmotiv is that differences in economic structures and interconnectedness via supply chains and financial linkages are both very important factors for the transmission of what has been basically a symmetric shock. Referring to international trade and global value chains, Mr Lane highlighted the considerable exposure by firms to both the demand and the supply sources of disruption. This has been associated with significant efforts by firms in terms of risk management and diversification, along with a need to balance individual with collective incentives. Regarding capital flows, the magnitude of the shock, especially in March, called for prompt policy interventions. Although the shock was then largely reabsorbed in the global financial system, longer-term implications via international financial multiplier effects deserve further analysis, amongst other.

The first presentation, by **Caroline Freund** (World Bank), addressed the fundamental question of the impact of COVID-19 on international trade and global value chains. She showed evidence on foreign investor confidence in the initial months of the crisis (April-June 2020), pointing to extreme concern about the pandemic-related disruptions. According to the World Bank pulse survey of foreign-owned companies in developing countries, more than three-quarters of respondents were confronted with supply chain reliability problems. In order to counteract the effects of the pandemic, companies mainly enhanced digital technologies solutions for supply chain management (58% of respondents) and diversified their suppliers or sourcing countries (37%). However, only 14% of the companies in the survey had adjusted their business strategy by implementing reshoring or nearshoring measures. Increased export controls in critical sectors, including exports of medical supplies and medicines, added to the supply chain concerns by producing further price distortions and input scarcity. The consequent sharp fall in global trade in the period from March to May

was followed by a strong (albeit incomplete) recovery in June 2020, showing that trade patterns have been more v-shaped than in the case of GDP. However, the recovery was heterogeneous across regions and sectors. Particularly affected by the collapse in shipping were the poorest world regions, such as South Asia and Sub-Saharan Africa. In the manufacturing sector, passenger motor vehicles, fuels and lubricants suffered the most from the drop in foreign demand. Turning to services trade, the extreme drop experienced by travel (including tourism) and transport was identified as one of the most distinctive features of the COVID-19 crisis compared with the global financial crisis; on the other hand, the ICT sector has been the silver lining, with trade picking up also as a result of an increased use of digital payments and e-commerce.

Looking forward, a core question that is currently widely debated is how global value chains may be reshaped in the future. Ms Freund noted that there are no easy solutions in this regard. For instance, a diversification of the supplier base to manage risks may be costly (e.g. because of customisation and standards) and inefficient (e.g. because there are few suitable suppliers or scale economies). Building up inventories to reduce risks may also be costly and wasteful (e.g. because of perishable goods and volatile demand that requires "just-in-time" delivery in some industries). Moreover, while government intervention may make sense if, for example, individual firms face coordination failures, it may turn out to be counterproductive if forced reshoring were to reduce efficiency without improving resilience, or even produce a spiralling out of control that would undermine openness and predictability. Finally, while some alternatives to excessive reliance on traditional global value chains are available (e.g. 3D printing), they offer only partial answers for the time being. Regarding the possibility of a move out of China in the import of inputs, this looks more likely for those firms that are excessively reliant on this country as a source market, as the experience with the earthquake in Japan would suggest.

Moving to financial flows, **Gian Maria Milesi-Ferretti (International Monetary Fund)** made a distinction between two main periods following the COVID-19 shock. The first period, from mid-February to late-March 2020, was characterised by severe stress, a collapse in stock market valuations (-34% for the MSCI World Index), sharp exchange rate movements, a dramatic reversal of portfolio flows to emerging markets, and a collapse in oil prices, thus triggering massive policy interventions by major central banks and fiscal authorities. The second phase, from April 2020 onwards, witnessed a recovery in market sentiment and risk appetite, a rebound in the exchange rate of several emerging market economies, some stabilisation in portfolio flows (though at modest levels) and substantial issuance (though not for many frontier economies). Other notable developments were more appetite for foreign currency-denominated debt than local currency debt and, later, some normalisation in oil markets coupled with a recovery in metal prices. Comparing the evolution of the dollar during the global financial and COVID-19 crises, Mr Milesi-Ferretti showed that during the first six months of the global financial crisis the dollar appreciated substantially, both in the weeks

immediately after the Lehman Brothers shock and in the subsequent five months. This contrasts with developments during the pandemic. While the dollar also initially appreciated in this case, it peaked after 17 days and then depreciated in the ensuing five-month period, with the two movements broadly offsetting each other. In the period from April to September 2020, real exchange rates appreciated in several advanced economies (with the United States and the United Kingdom being the main exceptions), while developments were more mixed in emerging markets, also reflecting heterogeneity in the incidence of the pandemic. Substantial changes also occurred in the instrument composition of financial flows. While in the first quarter of 2020 portfolio investment outflows were recorded while the remaining instruments remained broadly stable, in the second quarter a drop in foreign direct investment flows and outflows of other investment were recorded. Zooming in on portfolio flows, the sharp drop in the first quarter of 2020 affected mostly equity flows and, to a lesser extent, debt securities. Flows remained relatively subdued in the second quarter. Finally, Mr Milesi-Ferretti noted an overall decrease in foreign exchange reserves, mainly concentrated in eastern Europe and Saudi Arabia and likely to linked to the management of pegged exchange rate regimes. However, the decline in reserves was much less severe than at the height of the global financial crisis.

Mr Milesi-Ferretti said that what comes next in international financial flows is very hard to assess as it is difficult to disentangle all factors and there is massive uncertainty (as regards, for example, the path of the pandemic, market sentiment, the pace of the recovery, debt restructuring needs and future policy measures).

The third presentation, by **Beata Javorcik (European Bank for Reconstruction and Development),** singled out certain aspects of international trade and investment in the face of the pandemic. In particular, three forces – the vulnerability of global value chains, political pressure on firms to relocalise production, and ongoing uncertainty on trade policy – will push firms towards rethinking where they are sourcing their inputs. The search for greater resilience will imply higher costs, especially in certain sectors. Still, there may be opportunities for countries in the EU and its neighbourhood to benefit from this trend. Furthermore, remote work will facilitate the trading of new services, with opportunities for countries with inexpensive skilled labour. Ms Javorcik also said that the current uncertainty has triggered an increase in the demand for trade insurance, with insured flows (e.g. via letters of credit) being more resilient. Data on deviations of exports from historical averages indeed show that such deviations are smaller the stronger the form of insurance. In particular, data on Turkey show that, in March 2020, flows on cash in advance terms and flows where the exporters take the risk (open account flows) experienced falls of 40% and 27%, respectively, whereas flows insured through letters of credit and flows where bank intermediation is used (documentary collection) were much more resilient. Another interesting feature in times of uncertainty has been the relative resilience of intra-firm trade, which has benefited multinationals relative to local firms. Finally, Ms Javorcik expected a

retrenchment in foreign direct investment flows, as for example scenario analysis by the United Nations Conference on Trade and Development (UNCTAD) suggests. According to one scenario, foreign direct investment flows would fall by 40% in 2020 and remain at a structurally low level (even lower than the trough reached in 2009 after the global financial crisis). This would be detrimental for productivity and may also imply a slower transition to a low carbon economy.

In the subsequent debate among panellists, **Philip R. Lane** raised the issue of a possible role being played by geographical diversification (to Ms Freund), enquired about the IMF view on foreign versus domestic currency debt and the potential role of central banks as stabilisers (to Mr Milesi-Ferretti), and asked what the prospects were for remote working, especially within global firms (to Ms Javorcik).

Caroline Freund said that there is no significant evidence of increased geographical diversification. More often than not, changing suppliers just means shifting from one country to another, rather than from one country to many countries. Obviously, this does not reduce overall uncertainty significantly. There are also some insights into the most important drivers of firms' relocation choices. In the automobile and electronic sectors, for instance, the concentration benefits from returns to scale appear more important than country-specific comparative advantages.

Gian Maria Milesi-Ferretti saw various possible avenues for developing and emerging economies. First, a possible drying up of liquidity in hard foreign currency in emerging markets would trigger a rise in volatility in those markets, thus calling for swap or repo arrangements with major central banks. Second, the choice of many governments in developing countries to increase the share of hard foreign currencies in their borrowing is comprehensible, because it diminishes uncertainty and favours foreign investment. At the same time, it involves a strong commitment to bearing the potential costs and adjusting possible imbalances. Third, if particular shocks affecting exchange rates materialise, central banks will probably have to intervene.

Beata Javorcik noted that the main force supporting remote work is the lower cost of office space. Multinationals will be at the forefront in the import of these remote services, as they have more developed HR processes and it is easier for them to find remote workers.

Questions from the floor

First round

Gianmarco Ottaviano (Bocconi University): There is a debate at the moment on a possible decoupling between the United States and China. Is any early evidence of this to be found in your data, and what effect may the pandemic have on this process?

Roland Beck (ECB): Do you see medium to long-term risks from the pandemic for financial integration? If any such risks exist, do they arise from trade restrictions only or do they also propagate through other channels?

Horst Raff (Kiel University): It will be important to disentangle the short-term effects of the COVID-19 pandemic from those over the longer term, such as increased uncertainty on trade policies, reshaped global value chains, and so on. To what extent had such longer-term effects already emerged *before* the pandemic, as a result, for example, of economic nationalism in the United States and the United Kingdom?

Beata Javorcik: Regarding the question from Horst Raff, at this very moment we have a conjunction of two major shocks, namely COVID-19 and uncertain trade policies. A recent ruling of the World Trade Organization, for instance, has added to uncertainty by approving tariffs aimed at contrasting subsidised imports. On top of that, climate change is a third, even more fundamental and lasting source of uncertainty. Considering these sources of uncertainty together, it is likely that a major reshaping of the global economy will occur in many respects.

Gian Maria Milesi-Ferretti: We hope that the effects of the pandemic will mainly be temporary in nature, but some trends are probably there to stay, such as the acceleration in the shift towards digitalisation, remote work and more service-intensive industries. As Caroline Freund has highlighted already, many ICT-related services have been gaining momentum amid the COVID-19 emergency. I also agree that protectionism, trade tensions, decoupling of technological standards, as well as risks to financial integration were there well before the pandemic. We were actually witnessing a shortening of global value chains long before the COVID-19 outbreak, mainly as a result of ongoing geopolitical tensions. At the same time, COVID-19 still retains its own characteristic disruptive role, and brings its own unique consequences.

Caroline Freund: The COVID-19 emergency seems to be more an accelerator of previously existing trends than a properly defined trend in itself. Among the distinctive features of our times are rising economic nationalism, more firm concentration and increased concerns on data protection. A positive aspect is the growing attention to environmental issues, also because of the increasing number and gravity of floods, fires, and other extreme natural events which have taken place even during the pandemic emergency period. Regarding the question from Gianmarco Ottaviano on US-China decoupling, so far what we see is predominantly anecdotal evidence: a vast number of firms are talking about their intention to move out of China, mainly to relocate to Vietnam. This trend was already under way before the trade wars and COVID-19 owing to rising wages in China, but the process is now accelerating. Nevertheless, a lot of uncertainty still surrounds this issue.

Thinking about the long-term implications for trade, it may be useful to recall what happened at the beginning of the 1980s: despite considerable trade tension between the United States and Japan, resulting in stagnant trade for a while, the following decade was arguably the most flourishing in terms of international trade, with falling tariffs and barriers, steady growth of exchanged volumes, and thriving global multilateral economic institutions. Therefore, it is perhaps too early to formulate sound predictions on the future of trade. Luckily, some lessons have been learnt during the pandemic emergency, above all the need for more integration and collaboration.

Second Round

Filippo di Mauro (CompNet): When productivity is considered, we see that a large number of conflicting trends are under way: on the one hand, factors such as global value chain disruptions, state interventions and bankruptcy avoidance which hamper productivity; on the other hand, the push towards digitalisation going in the opposite direction. What could then the *overall* effect of COVID-19 be on aggregate productivity?

Ettore Dorrucci (ECB): Despite the very different timings evidenced by Gian Maria Milesi-Ferretti, the US dollar experienced an extraordinary episode of rise and fall not only during the COVID-19 crisis but also during the global financial crisis. It is true that the dollar appreciated markedly after the Lehman Brothers shock in September 2008, as a result of both a repatriation of funds by US residents to repay debts and a flight to safety in the global scramble for liquidity. However, in the six months after March 2009 the dollar depreciated strongly, returning to pre-crisis levels in real effective terms. So my question is: why during the COVID-19 crisis has the US dollar experienced a similar rise and fall, but over a much more limited lapse of time?

Philip R. Lane (ECB): From the data it is evident that tourism as a sector had a major hit from the COVID-19 crisis. In the light of the correlation between GDP per capita and tourism (i.e. when people become richer they want to travel more), but also considering that growing sensibility on climate issues may spread aversion to travelling long distances, what can be said about the future of this sector, also in the light of the pandemic?

Gian Maria Milesi-Ferretti: Regarding the question from Filippo di Mauro, the negative effects on productivity – deriving from firms' rising costs brought about by the pandemic and the associated containment measures – are massive. The move towards digitalisation and remote work may help in alleviating these effects. However, looking at how most firms work, it seems clear that the additional costs due to the pandemic will have the prevailing effect of

penalising productivity, especially in certain sectors. Costs will be on the rise until an effective vaccine is found. Moreover, the number of zombie firms is likely to increase as a result of governments' temptation to pursue non-economic ends.

Regarding the question from Ettore Dorrucci on US dollar appreciation-depreciation movements, it is true that the chart in my presentation cut out the dollar depreciation phase during the global financial crisis. My aim was indeed to draw attention to the fast-paced timing of the COVID-19 episode. The rapid stabilisation of the US dollar may be welcomed as a sign of market resilience.

Turning to the question from Philip Lane on tourism, one aspect to be considered is that the slowdown of economic activities and remote working stopped people from travelling also because it prevented from moving around for work reasons, which then had implications also for tourism.

Caroline Freund: While productivity may be fostered by "creative destruction", unfortunately what we are observing now in the data on most countries and sectors is "pure destruction". Allocative efficiency may in principle improve, but in the countries surveyed by the World Bank we do not find evidence in that sense, at least for the time being. Instead, the crisis triggered by the pandemic has been indiscriminately taking away both more and less productive firms, smaller and bigger firms, without much benefit in terms of reallocation of resources.

Turning to the question from Philip Lane, tourism appears to be rather idiosyncratic relative to GDP growth as it takes longer to recover after a shock. Evidence in this direction is provided, for instance, by the floods in Thailand. Probably what will happen is a shift towards domestic tourism, but this trend will penalise developing countries, adding one more channel through which inequality can be exacerbated between countries.

Beata Javorcik: I agree that the crisis in the tourism sector will penalise the less developed countries disproportionately, as in those economies the local tourists have lower purchasing power. Regarding productivity, a lot will depend on the nature of state interventions, since they risk creating zombie firms, and now even "green zombie firms", i.e. firms which would not survive in a low carbon emissions environment. Also, there is a risk that new state-owned enterprises will be created, with possible drawbacks for productivity owing to a lack of efficiency-oriented management and poor state governance.

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