May 2018

Multinational enterprises in the global economy

Heavily debated but hardly measured

The activities and the influence of Multinational Enterprises (MNEs), i.e. firms that have established affiliates or subsidiaries in other countries, have often been the subject of – heated – discussions in the media, policy surroundings or scientific research. This comes traditionally with quite opposing views, going from ones highly critical of MNEs to others instead commending MNE activities. Think for example about the recent debate on tax avoidance strategies by MNEs with some companies reported to not paying taxes in any constituency where they have set up activities, notwithstanding the increase in their corporate profits.

Implicitly underlying the whole discussion on MNEs seems to be a presumption or belief that activities by MNEs dominate national economies and that because of their size, MNEs increasingly 'rule' the global economy (and governments have to follow). Likewise, the growing fragmentation of production within global value chains (GVCs) in the past decades is often argued to be driven by MNEs. It is however remarkable that despite their acclaimed importance, empirical evidence on MNEs is not widely available and largely incomplete, with data only available for a subset of OECD economies. Further on, such data are especially available on activities of foreign affiliates, i.e. the activities established by MNEs abroad, but basically non-existent on the activities of MNEs in the home country.

Illustrative of the lack of MNE data is the flawed comparison that is often made between the sales figures – which are gross measures and easily found in annual company reports - of large MNEs with the GDP (i.e. a net value-added concept) of smaller economies to describe the importance of MNEs. It is then not surprising to find a couple of such 'giant' MNEs ranked above individual countries in economic importance.

This note presents new – and, for the first time, comprehensive – data on MNEs, developed within the OECD analytical AMNE database, and discusses the importance and the role of MNEs in todays' global economy. The objective is not to make the case for or against MNEs but rather to provide hard evidence that hopefully helps assessing the arguments used in discussions on MNEs.

The OECD analytical AMNE database

The OECD has developed a new and comprehensive database on MNE activities across countries and industries using the OECD AMNE database which contains the official data on AMNE collected by National Statistical Offices. This 'official' database contains information for 32 OECD countries plus Costa Rica and Lithuania, and covers more than 50 industries with reporting beginning in 1985. While the coverage has improved over time, information is not equally available across countries, industries and years, particularly at more disaggregated levels (e.g. bilateral at industry level).

In order to estimate the missing information across countries and industries, additional national sources have been used and various statistical methodologies applied. A balancing procedure guarantees the consistency of the final results and compatibility with world, country and industry aggregates of the OECD Inter-country Inter-Industry Input-Output (ICIO) database.

The new analytical database includes full matrices (on a bilateral home country – host country basis) of the output, value added, exports and imports of foreign affiliates and domestic companies in 43 countries plus the 'rest of the world', across 43 industries from 2000 to 2014. For a number of countries, additional information is also available for the group of domestic MNEs, i.e. domestic companies that have established affiliates abroad. Because of the balancing procedure, this new database can be linked to the ICIO database, in order to study the activities of MNEs in GVCs.

MNEs now and in the past

While the origins of MNEs go back a long time – the British East India Trading Company, founded in 1600, is often considered as the first MNE –, the strong growth of MNE activities is however of a much more recent date. The first MNEs in the 17th century were directly motivated by trading activities and/or territorial acquisitions in Asia, Africa and the Americas. The modern MNEs of today, started to emerge only in the late 19th century following the industrial revolution. MNE activity grew especially strongly after the Second World War facilitated by increasing trade and investment liberalisation, but also by the rapid progress in Information and Communication Technologies (ICT). Global estimates indicate that roughly 7,000 parent MNEs were counted in 1970 while in 2000 this number had jumped to 38,000. The most recent figure on the number of non-financial transnational corporations was 82,000 in 2008 (UNCTAD, 2010). Another indication of the spread of MNEs are the 230.000 foreign affiliates (data for 2014 but representing an underestimation as not all countries are included) counted in the OECD Activities of Multinational Enterprises (AMNE) database.

MNEs are attracted to countries because of different reasons: access to large and growing markets of consumers, access to natural resources or specific technologies/knowledge, specific financial and tax legislation etc. Companies seek to optimise their production processes by locating various stages across different sites according to the most optimal location factors across countries. Virtually all governments are keen to attract MNE investment as these promote growth and employment by creating new jobs, realising new investments and bringing in new technologies. A growing competition between countries (OECD and increasingly emerging economies) for international investments is observed, including the provision of specific support measures although it is not clear if such policies are (always) effective. The current discussion in a large number of countries to lower corporate taxes is in no small part motivated by the need for economies to stay competitive in attractiveness rankings for international investments.

Why FDI and MNE data do not measure the same

MNEs are the result from a decision to invest abroad and this explains why FDI statistics have often been used to study MNEs across countries and industries. Collected in the Balance of Payments, FDI data have the advantage of being largely available across countries but they capture a different reality:

• FDI reflects the objective of obtaining a lasting interest by a resident entity in one economy in an entity resident in an economy other than that of the investor. The 'lasting interest' is operationalised by 10% or more of the ordinary shares or voting power. FDI statistics track the value of financial transactions (flows and positions) between direct investors and the direct investment enterprises.

• Activities of multinational enterprises (AMNE) refer to economic transactions (sales, value added, R&D, etc.) reflecting the overall operations of MNEs whether or not financed by the direct investor. The concept of the multinational enterprise is based on the concept of control and refers to 50% or more of the ordinary shares or voting power.

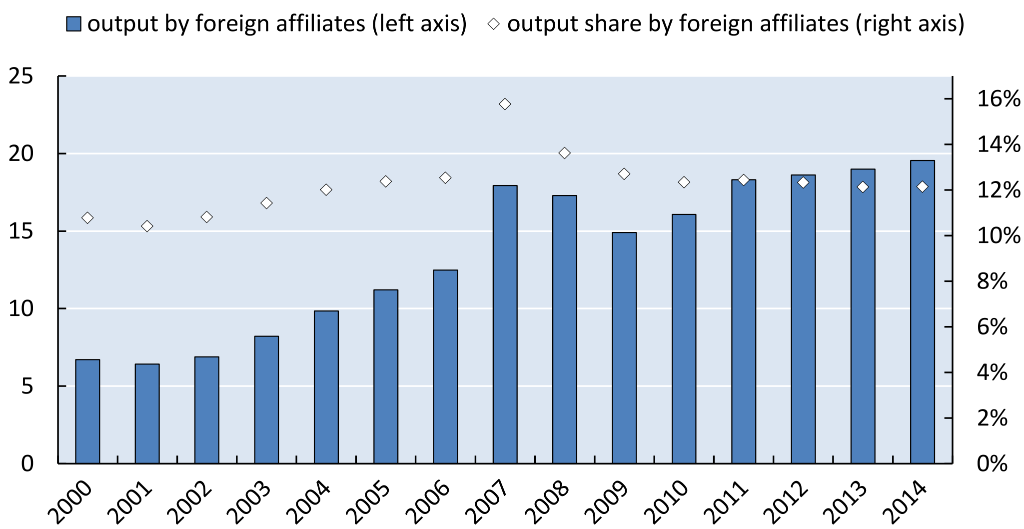
As a result, FDI data do not reveal the economic importance of MNEs. For one, FDI statistics provide information on cross-border capital flows which may be eventually sent to other countries without contributing at all to the local economy. This is especially the case for so-called Special Vehicle Entities (SPE): a large presence of these SPEs in a country typically results in simultaneously high FDI inward and outward flows for that country without the corresponding economic effects. Second, FDI only measures part of what foreign affiliates use to finance their activities and excludes the financial resources they raise from local sources. Third, as FDI is a financial input, excluding the contribution of labour, FDI stocks underestimate MNE activity in countries where labour is relatively more productive.

Activities under foreign control

Growing production by foreign affiliates

An important part of MNE activities is undertaken by foreign affiliates, i.e. the companies that are foreign-owned by MNEs abroad. Production by foreign affiliates accounted for 12% of global output in 2014, which is probably lower than generally expected (Figure 1). Between 2000 and 2014, global gross output of foreign affiliates grew from 7 to 20 trillion USD. This continuous growth of foreign production came to a halt during the economic crisis with a sharp contraction in 2009, just like global trade and FDI dramatically decreased in this period. MNE production abroad rebounded back to its pre-crisis 2007 level but the post-crisis (2010-2014) average annual growth rate of 5% is less than half of the pre-crisis (2000-2008) growth at 13%

Figure 1. Foreign affiliates' gross output and their share in global output, 2000 – 2014



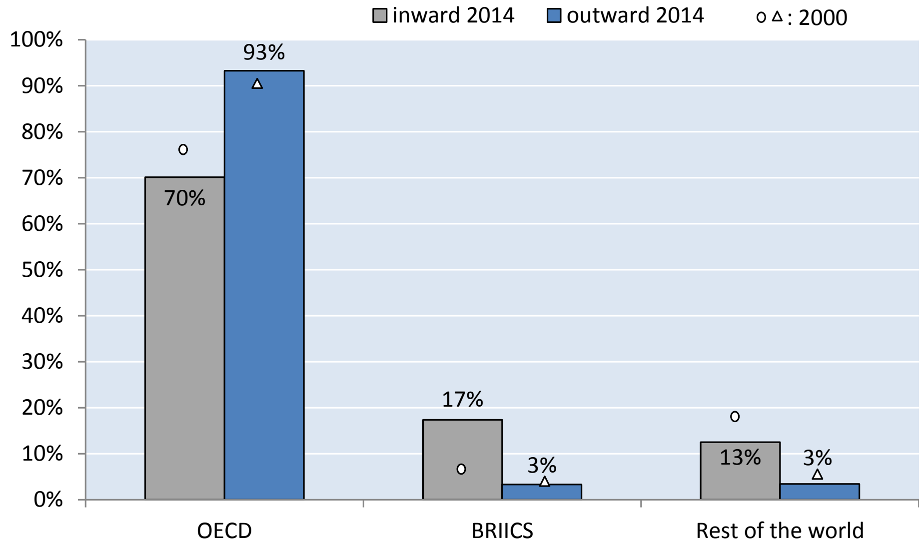
Important differences across regions and countries…

OECD countries host the bulk of global foreign affiliates' output: about 70 per cent of foreign affiliates' output is produced in OECD countries, which amounted to roughly 14 trillion USD in 2014 (Figure 2). The European Union is by far the largest recipient of foreign affiliate activity, accounting for 7.5 trillion USD of output which represents almost one-fifth of total production in the EU. Foreign affiliates within NAFTA were in 2014 responsible for 4.2 trillion USD of output, which means that about 12 per cent of total production in NAFTA is done by foreign affiliates.

OECD economies are even more important when considering instead of the location of production, the ownership of production: 93% of the production by foreign affiliates worldwide is 'controlled' by OECD economies. The majority of outward production is particularly controlled by a small group of OECD economies (the United States, United Kingdom, France, Germany, Japan, Netherlands and Switzerland), accounting for 60 per cent of global foreign affiliate production.

Although the majority of inward and outward investment is still largely concentrated among OECD economies, the BRIICS economies are becoming more important actors in MNEs. This generally reflects the continuing globalisation of economic activity and the change in patterns of MNE investment flows. BRIICS economies have attracted large investments of (OECD) MNEs – particularly China after the economic crisis - and in more recent years are also investing themselves increasingly abroad.

Figure 2. Share of regions in the global output by foreign affiliates (inward and outward), 2014 and 2000



… as well as industries

Not surprisingly, foreign affiliates' production varies also significantly by industry. A number of industries are characterised by a small foreign presence: foreign affiliate activity accounts for less than 1 per cent of total agricultural output while 4% in construction. Foreign involvement is typically more substantial in manufacturing industries reflected in a high foreign share of output (i.e. between 20 and 30 per cent) in the production of "chemicals", "basic metals", "electrical equipment", "transport equipment" and "financial intermediation". Foreign presence in services industries is traditionally lower, but has substantially grown over the past decade. Overall, foreign-owned firms produced one-fifth of goods and one-tenth of services in 2014. Of course, the differences by industry also vary across countries. For example, foreign affiliates in the BRIICS economies are specialised in manufacturing, accounting for one third of global foreign affiliate output in the manufacturing sector.

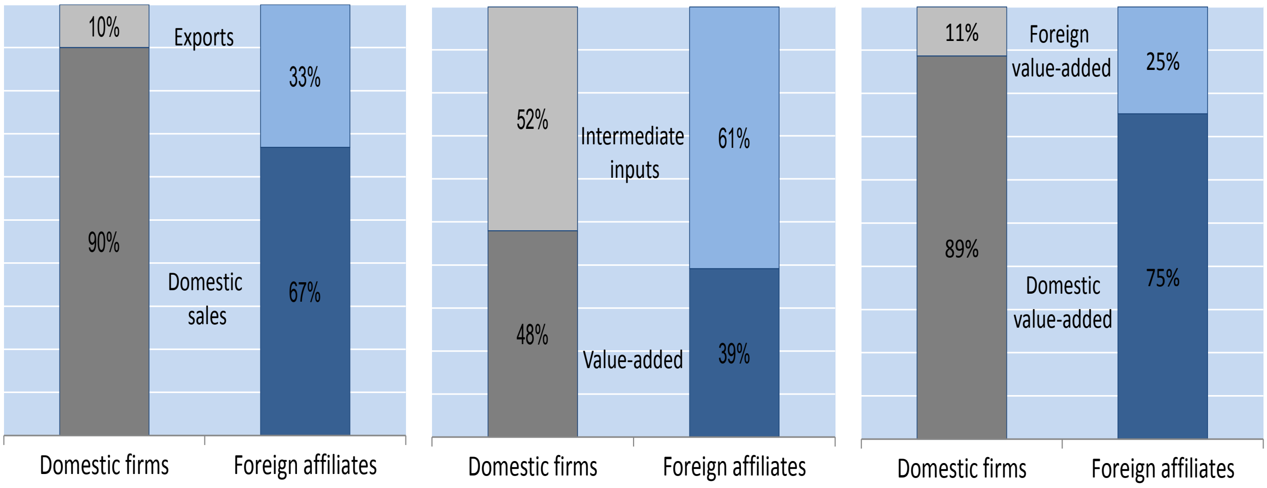
Foreign affiliates are different from domestic companies

Previous research for individual countries has shown that foreign affiliates differ significantly from domestic companies: foreign affiliates are overall found to be larger, more capital intensive, more (labour) productive, invest more R&D, etc. The new evidence additionally indicates that foreign affiliates are more oriented to international markets (through exports), buy more intermediates than domestic companies (consequently, have a lower value-added/output ratio) and source these intermediates more from abroad, hence incorporating larger foreign value added in their output (Figure 3). These differences between the foreign and domestic sector are due to differences in production technologies but also because of the specific roles of MNE affiliates. Some affiliates are motivated by the desire to place production close to customers and avoid trade costs (i.e. horizontal MNEs) while others produce goods and services that are used as inputs for production activities within the MNE network in other countries (i.e. vertical MNEs).

Because of their higher intermediate consumption of goods and services – often sourced from within their MNE networks abroad, foreign affiliates create less domestic value added per unit production than domestic companies in host countries. One part of that value added is used to pay the salaries for the (mostly local) employees of MNEs and thus 'sticks' to the domestic economy, while another part may or may not leave the host country. It is very difficult to gain detailed insights on this important policy issue – especially on a bilateral level – as first, the necessary data are not available and second this repatriation of value added/profits depends on a broad range of factors: for example, the investment strategy of the MNEs including in the host economy, how the use of proprietary knowledge within the MNE network is used and paid for, etc. Further on, the international transfer of value added and profits is not exclusive for foreign affiliates, as also domestic companies (e.g. domestic MNEs) are reported to shift resources across borders. Lastly, in the whole discussion on the benefits and costs MNEs may bring to host economies, also nonpecuniary (technological) spillovers which may arise because of employee mobility, learning and demonstration effects, supply relationships, etc. have to be taken into account.

Figure 3. Differences between foreign affiliates and domestic companies, 2014

(in % of output)



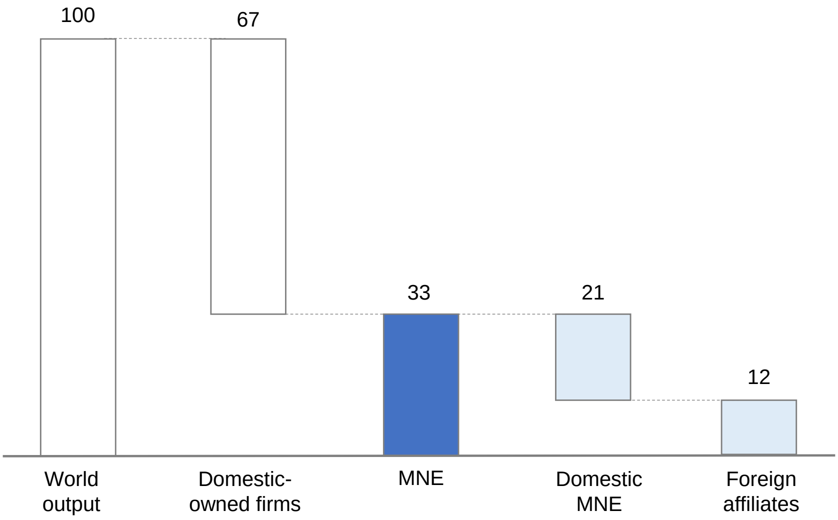
MNE activities at home and abroad

Almost one-third of global production is done by MNEs

The discussion on the role of MNEs has focused primarily on the activities of foreign affiliates (in host countries), thereby abstracting from the activities of MNEs in their home countries. The importance of MNEs in the global economy is larger as MNE headquarters and domestic plants in the home country of the MNE account for another - and often larger - part. Information on home country activities is however limited with only a couple of countries collecting (consistent) data on MNE headquarters and domestic plants. The data in the OECD analytical AMNE database allow however, by taking into account a number of assumptions, to get an indication of the importance of MNEs in the global economy. In what follows, estimates are presented for three groups of firms: foreign affiliates (i.e. foreign-owned firms by MNEs in host countries), domestic MNEs (i.e. headquarters and domestic plants owned by MNEs in their home country) and domestic firms (i.e. domestically-owned firms that do not have own affiliates abroad; the majority of these domestic firms are SMEs). It is clear however, that from a legal perspective, all three categories of firms are 'domestic' firms in a specific (host and home) country: they are all legally incorporated in that country.

At the global level, MNEs and their foreign affiliates are estimated to produce 33% of global output (Figure 4). In addition to the 12 per cent of gross output by their foreign affiliates, MNE headquarters and domestic plants in the home country make up another 21 per cent of global output. This estimate – the first global figure based on official AMNE data – demonstrate the importance of MNEs and their networks in today's global economy with a central and important role for the MNE headquarters and domestic plants.

Figure 4. Decomposition of global gross output by ownership status, 2014



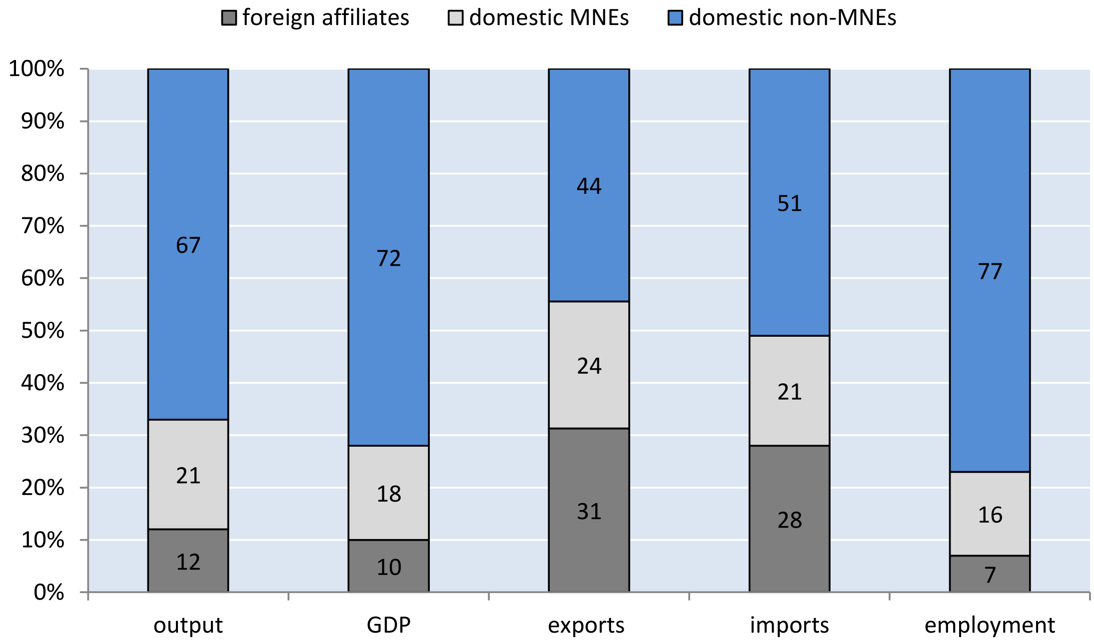
MNEs also account for half of global exports, almost one-third of world GDP and about one-fourth of employment

MNEs are also responsible for more than half of world exports in 2014 (and 49% of imports) with a large part of world trade taking place within MNE networks (Figure 5). Especially MNE affiliates abroad are trading internationally (31% of world exports), more than MNE headquarters and domestic plants (24%). Important differences however exist across countries as available data for individual countries demonstrate. For example, MNEs account for more than 80% of exports by both France and Hungary, but mainly because of foreign affiliates in the case of Hungary while domestic MNEs play a much more important role in France.

The contribution of MNEs to world GDP is estimated at 28%, of which roughly one-third by foreign affiliates abroad and two-thirds by MNE headquarters and domestic plants in the home country. More than 60 per cent of the global output by foreign affiliates consists of intermediate goods/services – as discussed above, often sourced from other countries within their MNE network – whose value count only once as a GDP contribution, in the original country. In contrast, the value of these intermediates is included in the gross output statistics in different countries. For instance, when a foreign affiliate sources inputs from its headquarters to be incorporated into a final product, the value of the inputs is counted twice: in the output of the home country and of the host country of the affiliate, while only once in the GDP of the home country.

Since MNEs are typically characterised by higher labour productivity, their overall share in global employment is relatively lower: about 23%. When abstracting from the public sector and thus exclusively focusing on the business sector, the share of MNEs in total employment rises to 26%. MNEs still employ more personnel in their home countries than abroad: for each job created abroad, more than two jobs (still) exist at home.

Figure 5. The importance of MNEs in the global economy, 2014



A number of (policy) considerations

The new evidence presented in this note clearly confirms that MNEs play a central role in the global economy particularly in international activities. The contribution of non-MNE to national economies cannot be ignored however as witnessed by their large share in output, GDP and employment. Further on, in addition to their domestic activities – SMEs producing final products exclusively for the domestic market (e.g. in services) and/or or supplying inputs to MNEs in their country (e.g. in manufacturing), some of these firms are also significantly active on international markets through exports and imports. Competitive national economies harbour domestic firms (which are to a large extent SMEs), domestic MNEs as well as foreign affiliates, reflecting economies' attractiveness for doing business locally.

Policies need thus to be inclusive for the different types of companies. A wrong approach would be to create incentives for some companies to participate in GVCs – e.g. on the presumption that international active companies provide important benefits to the host economy – while largely ignoring domestic companies involved in the value chain. The domestic part of the value chain is often as important as its foreign part since MNEs frequently rely on SMEs to become global firms and expand internationally. As such, there is no contradiction in supporting SMEs and promoting MNEs in order to establish a conducive domestic policy environment. Policies related to access to capital, skills, innovation, and the simplification of administrative procedures to name a few are key, as well as the development of physical and virtual infrastructure.

While the new evidence provides us with better insights, as always with statistical data, a number of caveats have to be taken into account in interpreting the results presented above. First, there is (growing) evidence that MNEs are channelling activities and shifting profits around through the use of transfer (mis)pricing often because of tax considerations. Such practices may affect the results to some extent, for example the level of exports and imports by MNEs.

In addition to this, income transfers between affiliates and parent companies arise from the use of intangible assets. Some of these payments are recorded as trade in services in the balance of payments and included in GDP data but others are earnings and not part of the output of MNEs. Fiscal optimisation strategies have increased the share of such earnings kept in affiliates abroad, thus distorting the measurement of production of MNEs. In the absence of more detailed data on income flows involving MNEs, it is not possible to correct for this at this stage.

Second, exports and imports by MNE consist of intra-firm trade (i.e. trade among MNEs headquarters and their affiliates) and trade between MNE headquarters/affiliates and independent partners. Until now, only a couple of countries publish some data on intra-firm trade, at the aggregate rather than bilateral level due to confidentiality reasons. While important from a research and policy point of view, the available data do not (yet) allow for the disentanglement of both types of trade in MNEs' exports and imports.

Third, ownership through foreign affiliates is only one way for companies to organise their international activities. Recent evidence seems to show that in addition to setting up their own affiliates abroad, MNEs increasingly use arms-length contracts with independent partners (e.g. contract manufacturing, franchising and licensing, etc.) in organising their value chains. For the production of its iPhone, Apple for example is mainly working together with independent suppliers (of intermediate goods as well as services) in several countries using different contractual agreement rather than setting up their own affiliates abroad. In discussing the importance of these new governance forms, UNCTAD (2011) reported that 80% of global trade would be 'governed' by MNEs taking into account all different agreements, but no hard data are available hence the accuracy of such an estimate cannot be assessed.

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Comment on this Policy Note is invited, and may be sent to OECD, 2 rue André Pascal, 75775 Paris Cedex 16, France, or by e-mail to koen.debacker@oecd.org or sebastien.miroudot@oecd.org.

More information can be found on oe.cd/gvc-mne.

Further reading

Andrenelli, A. et al. (2018), "Multinational production and trade in services", *OECD Trade Policy Papers*, No. 212, OECD Publishing, Paris. http://dx.doi.org/10.1787/16ec6b55-en

Cadestin, C. et al. (2018), "Multinational enterprises and global value chains: the OECD analytical AMNE database", *OECD Trade Policy Papers*, No. 211, OECD Publishing, Paris. http://dx.doi.org/10.1787/d9de288d-en

Cadestin, C. et al. (2018), "Multinational Enterprises and Global Value Chains: New Insights on the Trade-Investment Nexus", *STI Working Paper*, No 5, OECD Publishing, Paris.