

OPINION PIECE

“Is the WTO 3D printing-ready?”

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New disruptive technologies are affecting firms' production decisions and reshaping global patterns of trade and investment. 3D printing, or additive manufacturing, is a perfect example.

An article in the *Global Trade Review* suggests that 3D printing may wipe out as much as 40 per cent of world trade by 2040 (ING, 2017). The question asked here is: what challenges will the progress of 3D printing have on WTO and the multilateral trading system?

With 3D printing, computer-aided design (CAD) data is used to build physical objects by adding material layer by layer. 3D printing is already changing trade and production flows by moving production closer to customers, reducing transportation time, allowing for customized production, and lessening the need to stock products. We also see new types of firms emerging, such as CAD designers, CAD-file market places, and 3D-print shops. On the supply side, we see new “ink” producers challenging established firms. 3D printing is also bringing about labour market changes, from goods- to services-related occupations, such as CAD-design programmers and designers, post-production specialists, 3D material experts and consultants.

From a trade policy perspective, one can say that certain stages of the manufacturing production are merged into the 3D printing process, which in turn replaces trade in intermediate goods.

Even if it is difficult to make an exact prediction of the future landscape of trade and production, they appear to point toward increased trade in services, data, IPR and user rights.

The speed and magnitude of this transmission will partly depend on the regulatory environment governing trade and location of 3D printing activities.

Current WTO rules generally work well in the ongoing transition from trade in goods to trade in services, as concluded in a study by the National Board of Trade, Sweden. There are several reasons for this, including the fact that many WTO rules are flexible and technologically neutral.

Nevertheless, with the evolution of 3D printing and the shift from trade in intermediates to cross-border data flows, including IP content, we anticipate three ways in which 3D printing may challenge the multilateral trading system.

First, WTO rules on goods do not apply if there is no cross-border trade. Tariffs and trade facilitation are obvious examples. Additionally, agreements like the Anti-dumping Agreement become less relevant when there is no border crossing and when production can be easily moved out of the country facing anti-dumping duties.

Second, some agreements, or parts of them, gain importance at the expense of others. Most notably, services take centre stage, making GATS relatively more important. In other agreements, 3D printing changes how countries can use them. Under the Anti-dumping Agreement, questions arise on how to prove dumping and how to enforce an anti-dumping decision if production can be moved easily. For rules of origin, proof of origin must be shown in different ways.

Finally, some rules might need to be updated, for example:

- There is no horizontal rule on the right to transfer data, and if measures are not covered by commitments made, this opens up the possibility of protectionism and barriers on digital transfers.
- The increased degree of product differentiation complicates the use of rules of national treatment and the notion of a “like” product.
- Insufficient rules on export restrictions open the door for curbing exports of raw material and “ink”.
- Differences in intellectual property rights between countries will become increasingly important in regard to where actual production will take place. In addition, current rules can be hard to apply to 3D printing.
- The GATS lacks detailed rules on issues such as subsidies. This makes WTO members less bound by trade regulations, meaning that companies that embrace 3D printing also move into less regulated territory.

In summary, the production and trade landscape is changing rapidly, with 3D printing as a key contributor. As shown, trade rules will not be a major barrier. However, some adjustments might be needed to ensure that WTO regulations do not stand in the way of progress. At the same time, it is also vital that the WTO is capable of providing clear and safe regulations for the multilateral trading system.