



Productivity

Overview of results from the Internationalization Monitor 2022-Q4

Loe Franssen and Michael Polder
World Cafe webinar, April 4 2023

What is productivity?

- How much output can be produced with a given amount of input?
- Usually: comparison over time or across units
 - Productivity **change**: what is the **change in output** related to a **change in inputs**?
 - **Relative** productivity: how much does a firm/industry/country produce **relative** to its inputs, compared to a benchmark firm/industry/country?
- Lots of measurement issues!
 - Prices and volumes
 - Input measurement
 - Multiple outputs and inputs
 - ...



Is productivity important?

“Productivity isn't everything, but in the long run, it's almost everything.”

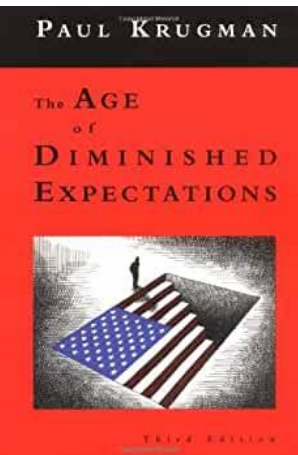
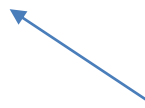
- Paul Krugman, *The Age of Diminished Expectations*.

Why?

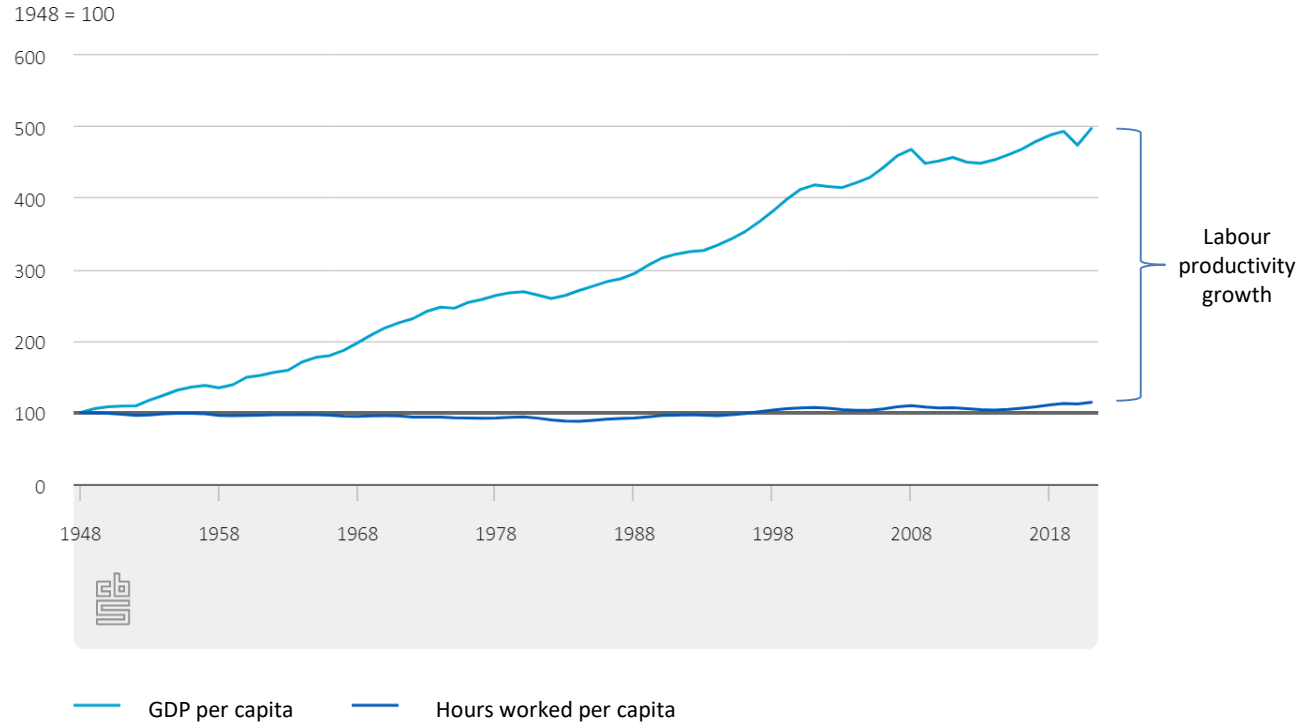
Standard of living (GDP per capita)

= (GDP per hour worked) × (hours worked per capita)

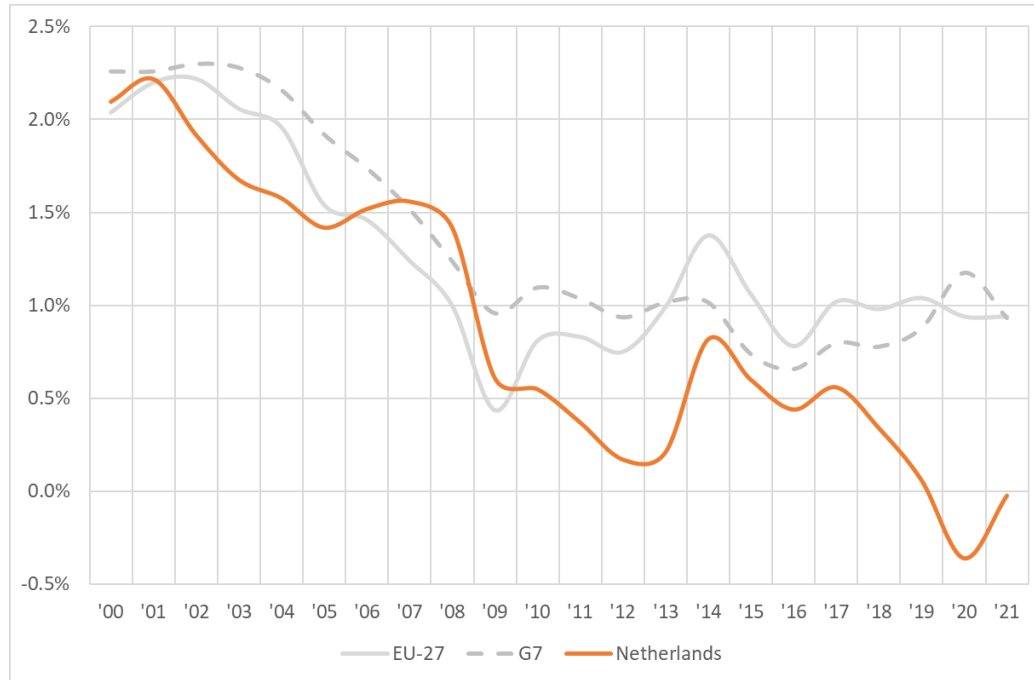
labour productivity
(macro)



Productivity dominant driver GDP per capita



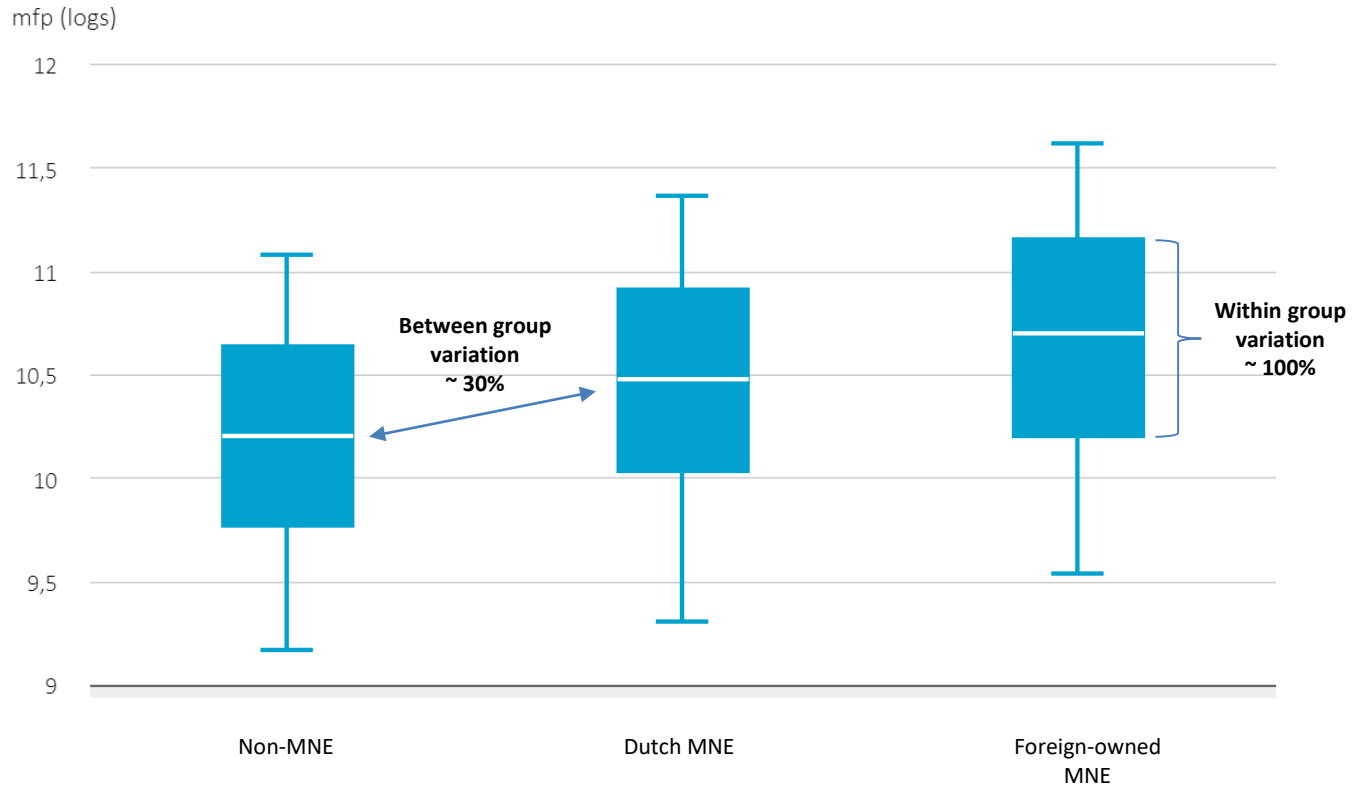
But... a slowdown in many countries



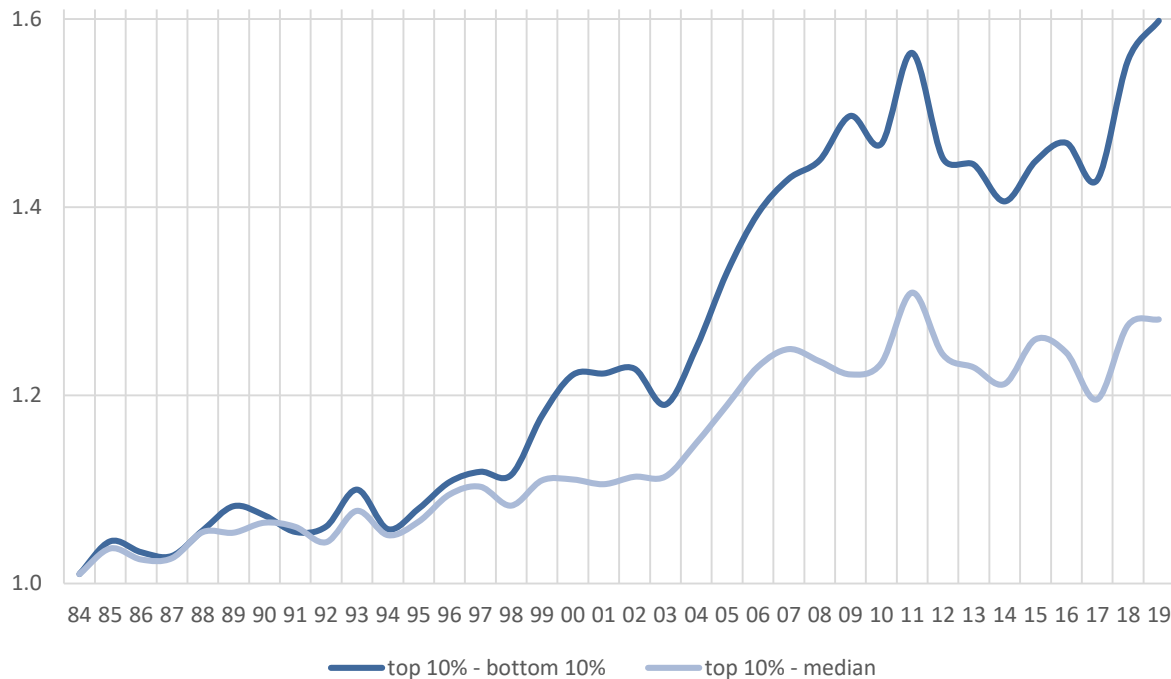
GDP per hour (% change, smoothed)



Differences between firms



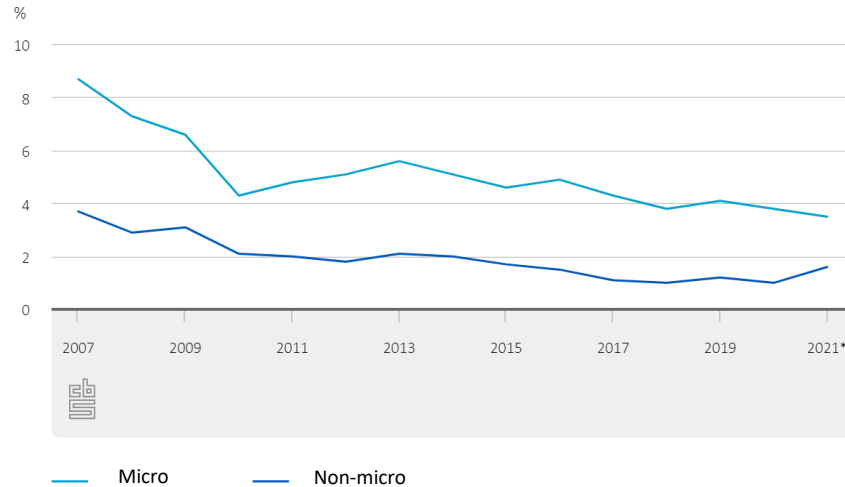
Differences between firms: growing?



Manufacturing: productivity difference (tfp) of top-10% firms with bottom 10% and median (% change, 1984 = 1)

Less efficient markets?

(1) Decreasing entry/exit dynamics: “churn”



Manufacturing and trade (excludes self-employed and non-employers)



Less efficient markets?

(2) Allocation

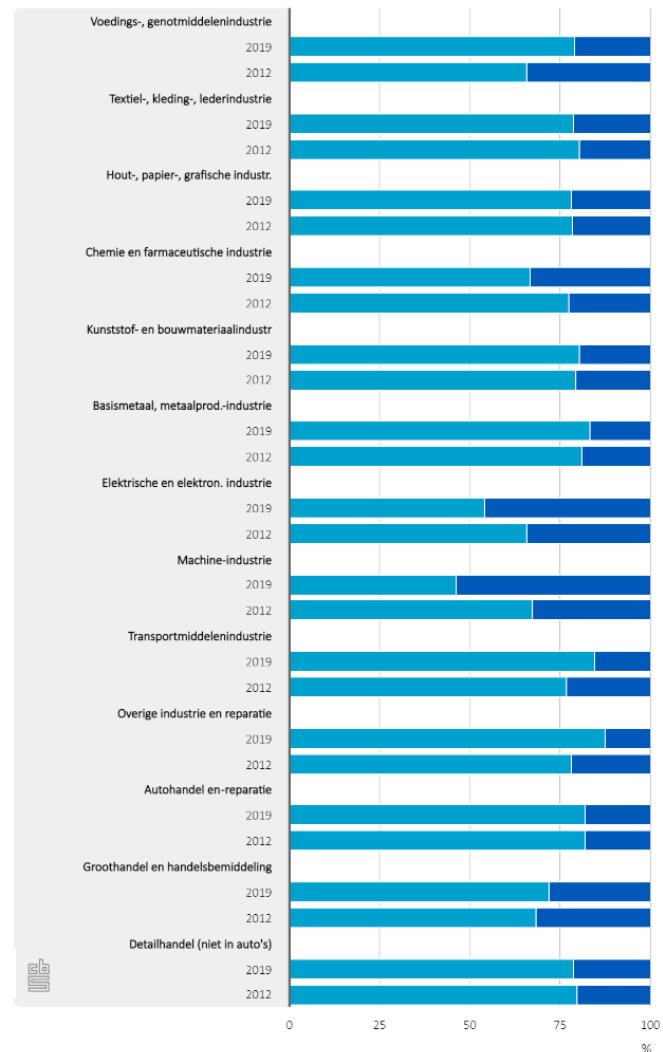
= distribution of labour and capital across firms

Contributes to industry productivity if more productive firms are larger

On average ~25% of industry productivity is due to allocation

Overall, this contribution is steady, but there are differences across industries

 Average productivity  Allocation



Summary

Productivity is an important part of material well-being (and will continue to be in the face of aging population, labour shortages, climate change, digitalization, globalization, and international competitiveness)

However, there are some concerns: long-run slowdown (macro), (growing?) differences between firms (micro), declining competition and “market efficiency” (from micro to macro)

By nature, this requires research both at the macro and micro level



To be continued!

Statistics Netherlands is exploring ways to provide more information on heterogeneity and distributional aspects:

- (i) Impact of digitalization
- (ii) Productivity, business dynamics and industry structure (with Javier Miranda)



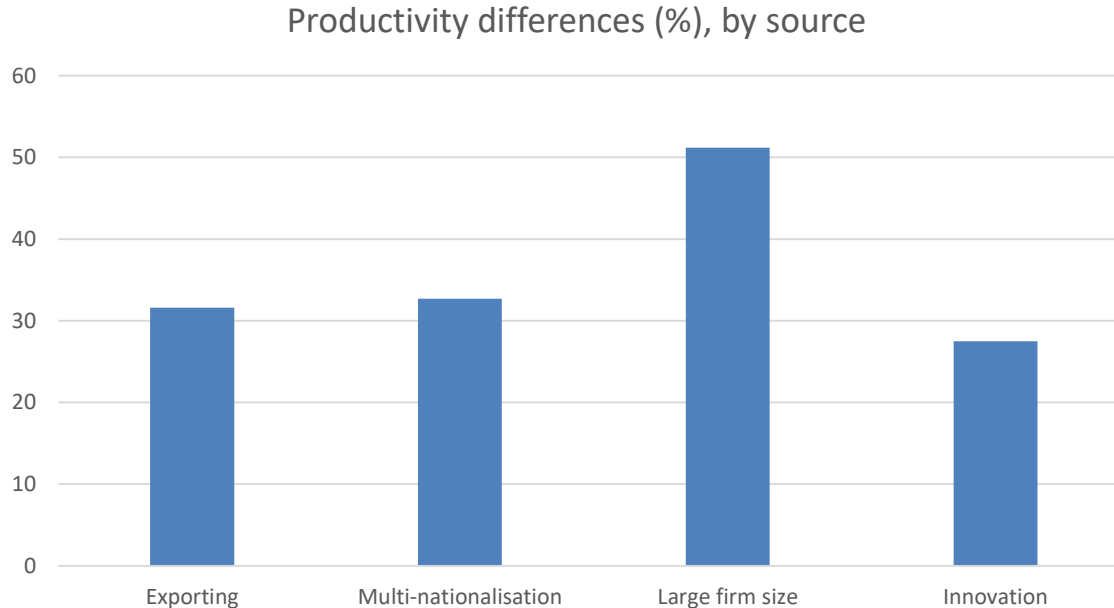
Internationalization and Productivity

Learning by exporting?

World Cafe webinar, April 4 2023

Internationalization and productivity

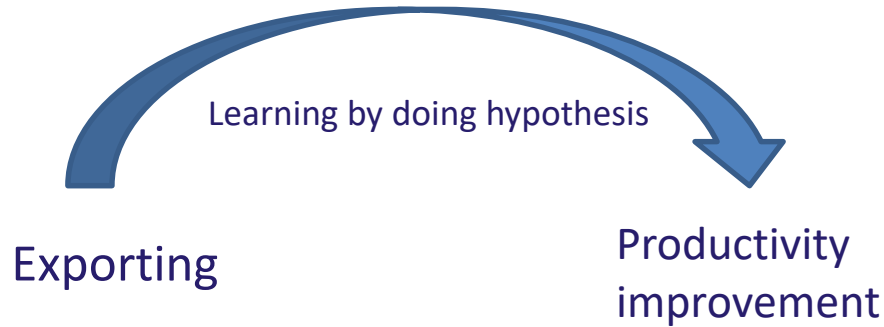
- International firms are typically **larger**, more **productive** and pay higher **wages**.



Internationalization and productivity

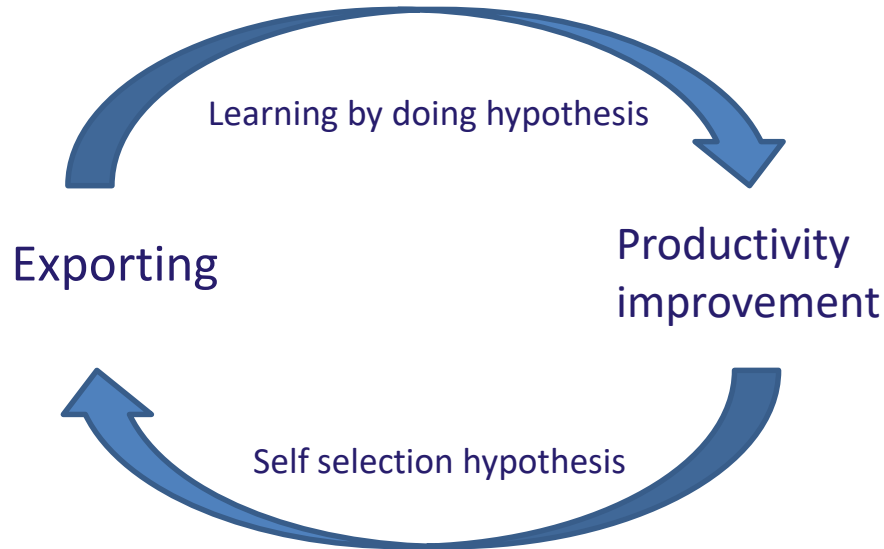
- International firms are typically **larger**, more **productive** and pay higher **wages**.
- They are also the **main contributors** to average productivity growth within an industry.
- As such, internationalization is often seen as an **important vehicle** for productivity improvements.

A complex relationship



- Firms get in touch with foreign suppliers, customer preferences, regulations, ...
 - Can stimulate innovation
- Productivity premium is caused by learning effects

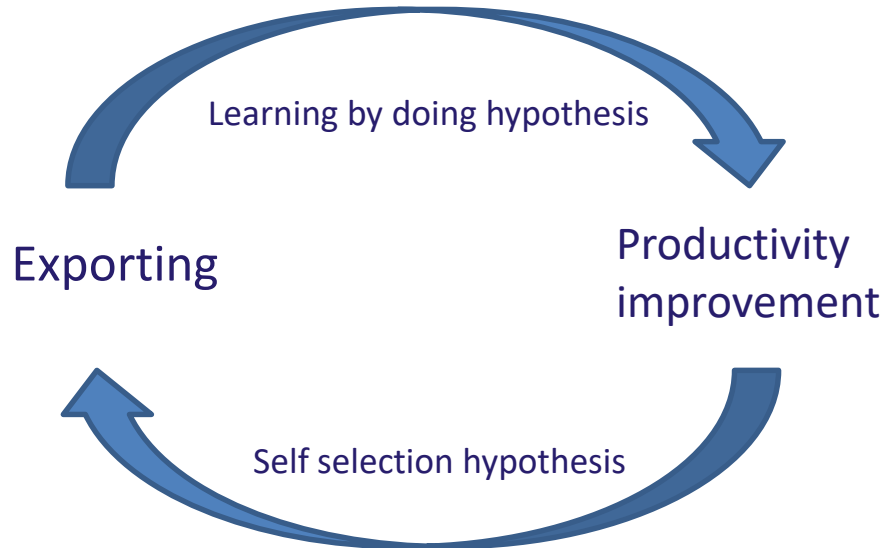
A complex relationship



But does exporting really **lead to** productivity improvements?

Or do productivity premia lead to internationalization?

A complex relationship



Exporting is a **costly undertaking** that requires e.g.:

- Market research
- Product adaptation
- Entry barriers, e.g. trade barriers
- Language issues
- Etc..

Only the most productive firms can **afford this**, such that **self selection** into exporting explains the productivity premium

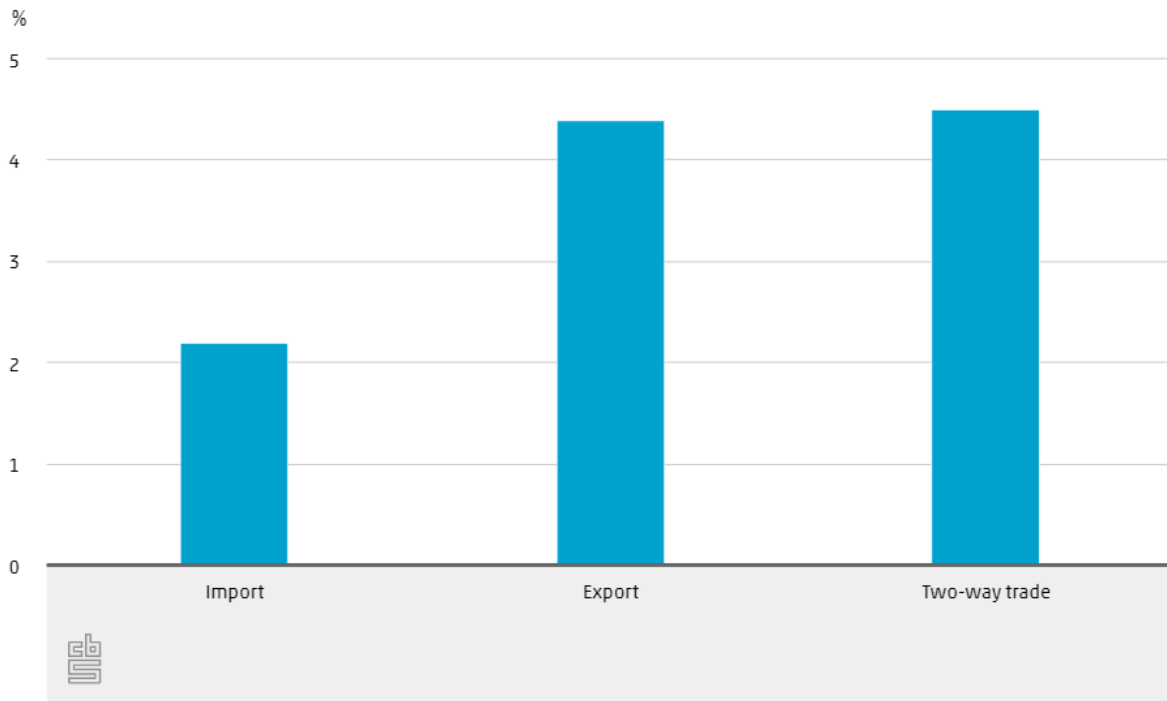
Important policy implications!

- Policies are typically focused on **pushing** firms towards international markets, assuming learning by exporting
 - E.g. trade missions, export subsidies, ...
- But if (more productive) firms **self-select** into export markets, this won't work.
- Instead, policy should focus on **improving overall firm competitiveness**, and exports will naturally follow.

Literature

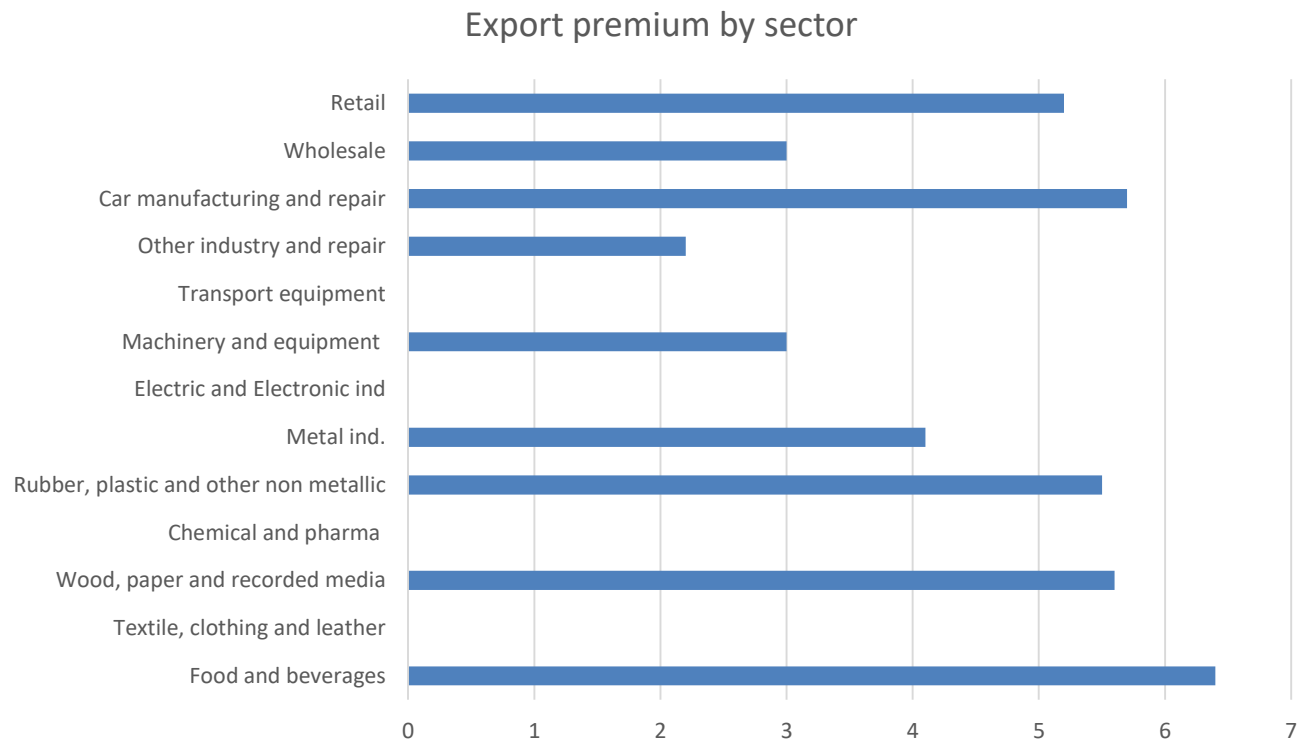
- **Econometrically challenging** to separate pre-existing productivity premia from learning effects.
- **Large debate** in the literature on the presence and correct measurement of learning effects.
- Self-selection effect is commonly accepted, but **what room** is left for Learning?

Results, overall

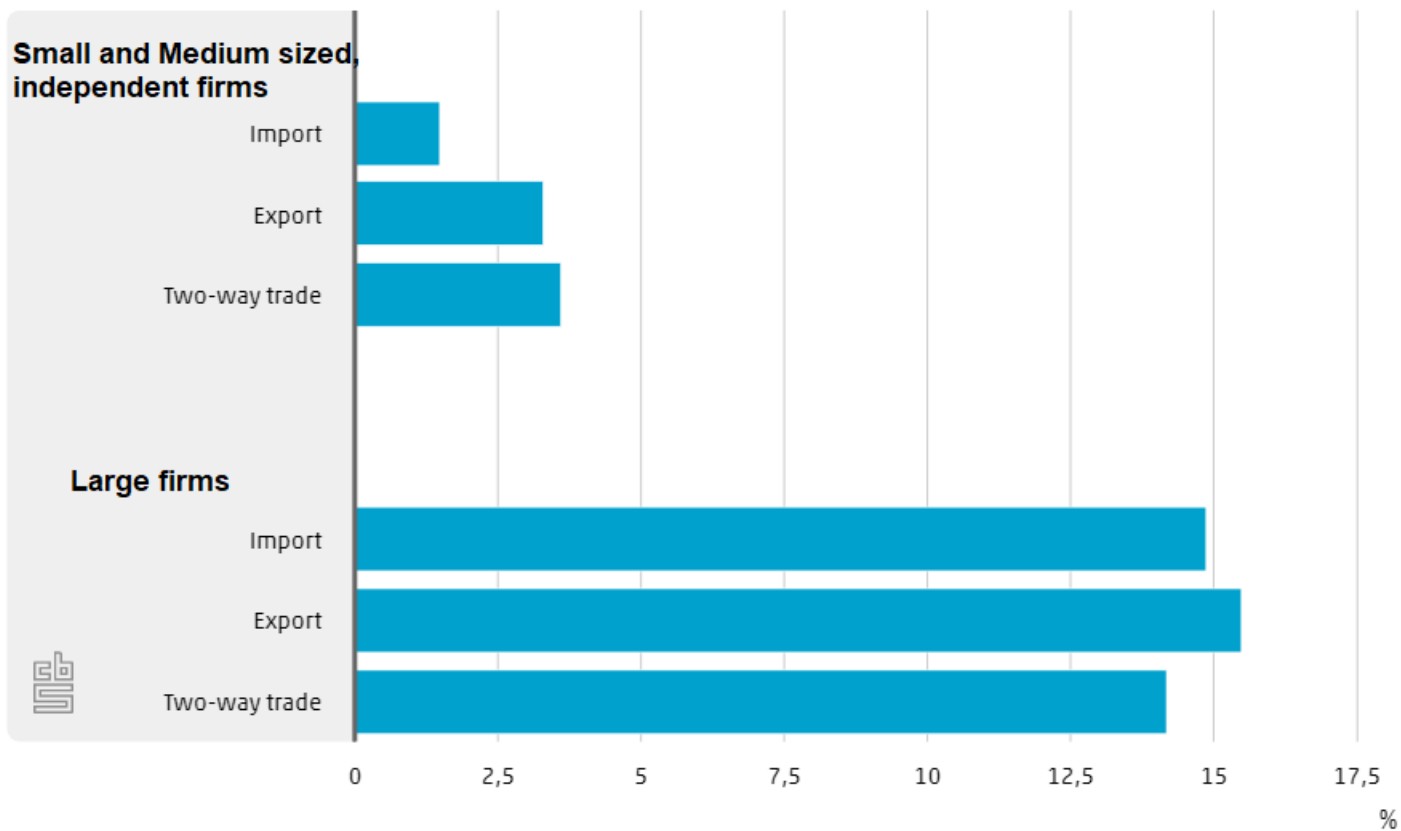


Exporting makes Dutch firms 4.4% more productive, *after* controlling for self selection!

Results, by sector



Results, by firm size



Conclusion

- Firm productivity can be a key indicator of performance and will therefore remain important
- Ongoing work:
 - Productivity measurement
 - Drivers of productivity
 - Effect of internationalisation (trade, but also e.g. FDI)
 - Trade barriers or stimulants
 - Effect of R&D, innovation, ..