

Agriculture in Portugal (1980 – 2022)

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Agenda



Research question



Data used

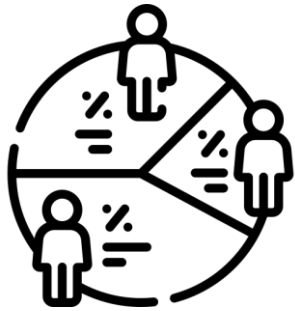


Key findings

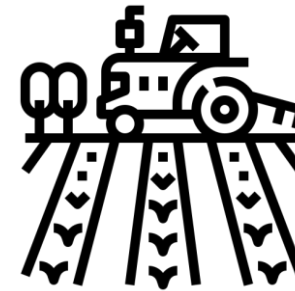


Conclusions

Research question



How has the **demography** of the agriculture workforce in Portugal changed over the last 30 years?



How are the demographic changes related to the **value created** by agriculture in Portugal over the last 30 years?

Data used

Data collected from the PORDATA website on January 19th of 2023.

Data concerning the agricultural sector in Portugal between 1989 and 2022.

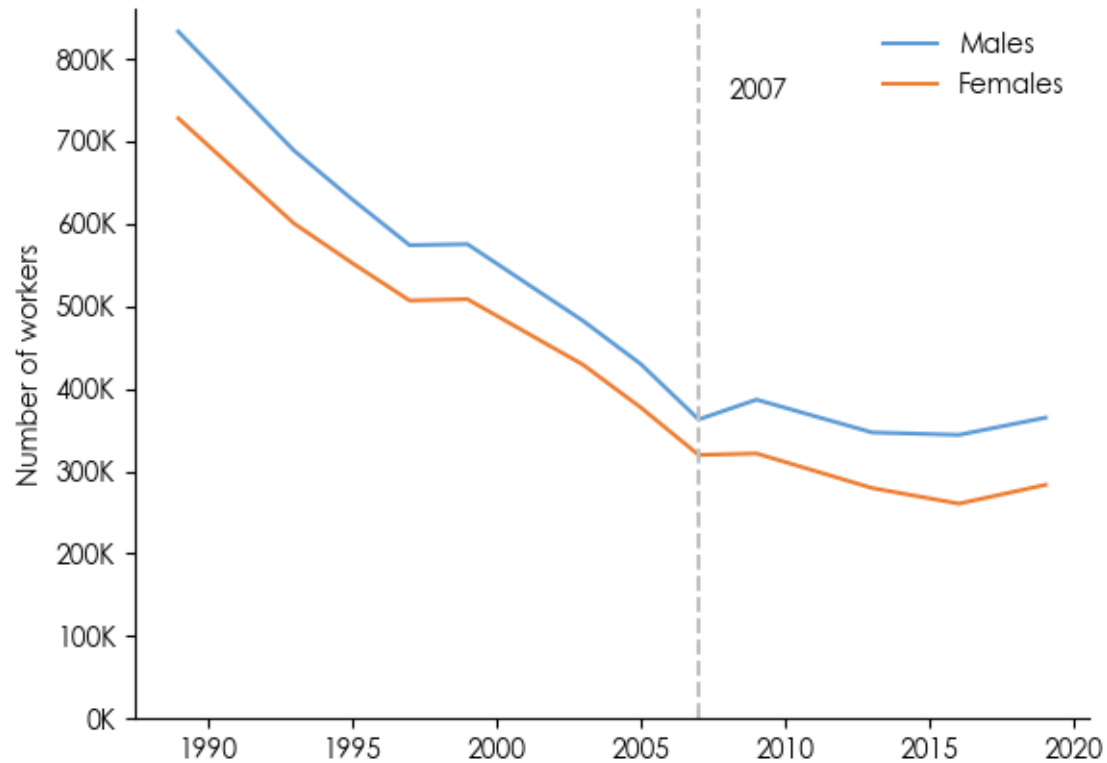
Main data cleaning changes:

- Collected the tables from excel files, by jumping over initial context rows;
- Translated column names to English;
- Formatted values as whole and decimal numbers instead of text;
- Formatted percentages correctly.

Demographics

Gender of workers

Evolution of Males and Females working in agriculture



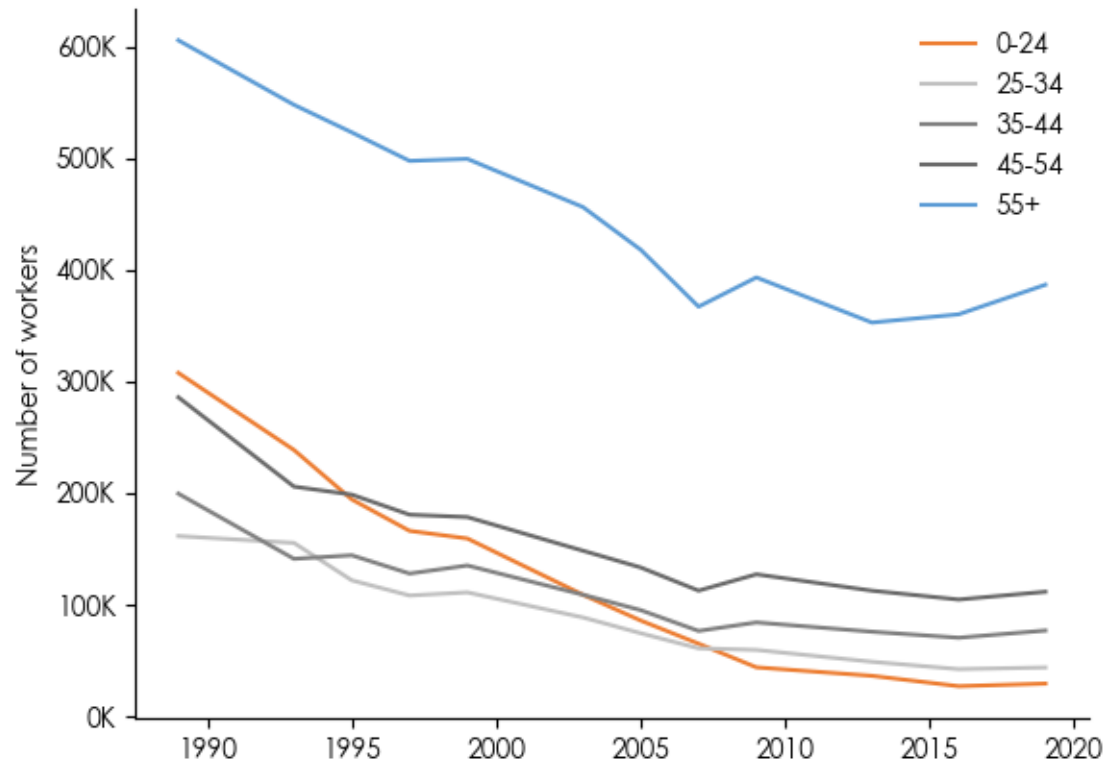
Both in Males and Females the number of workers has been **decreasing** since 1990.

Since 2007 the number of workers looks like **stabilizing**.

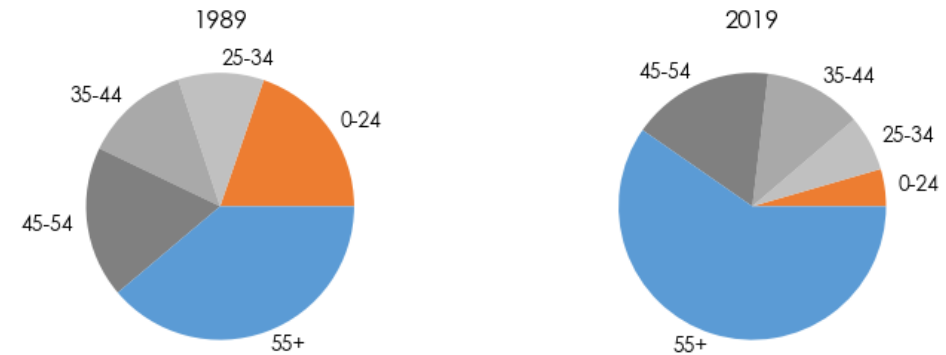
Surprisingly for me, females have represented between **43 and 48%** of the workforce until today.

Age of workers

Evolution of age groups working in agriculture



The proportion of age groups in 1989 vs 2019

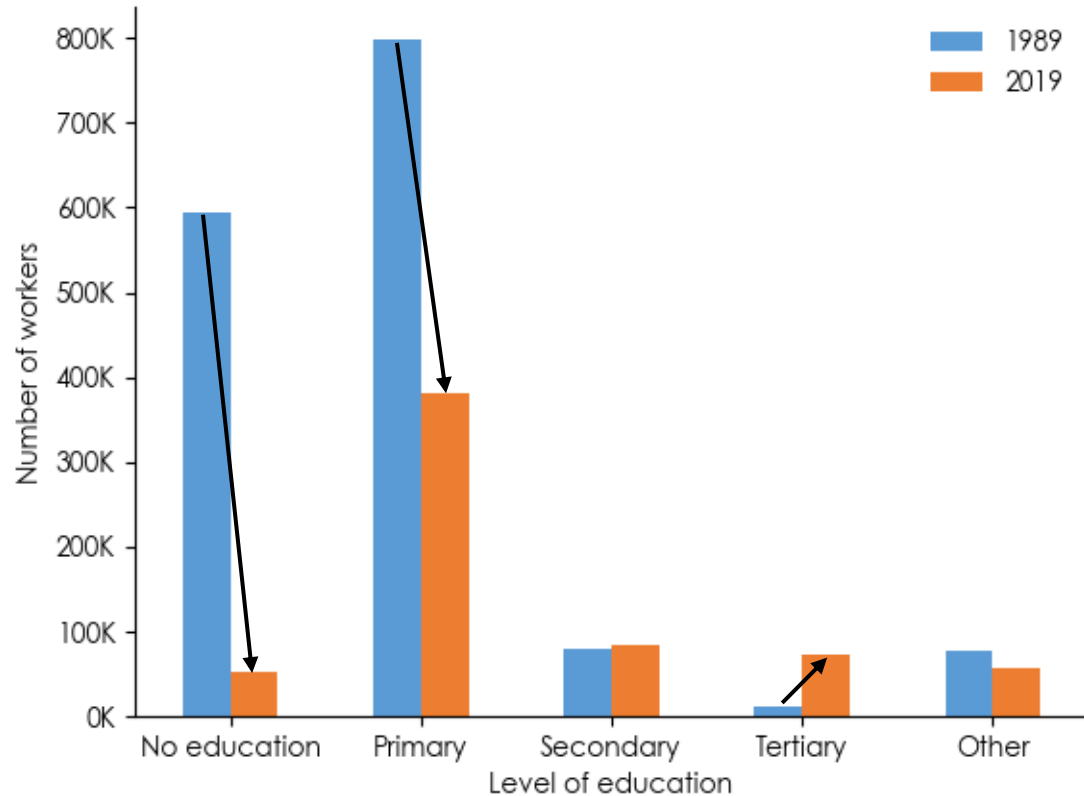


Most of the workforce is **55 or older**.

The group of workers younger than 24 years old was the group with the greatest decrease, falling from **20%** in 1989 to **5%** in 2019.

Education of workers

Evolution of age groups working in agriculture



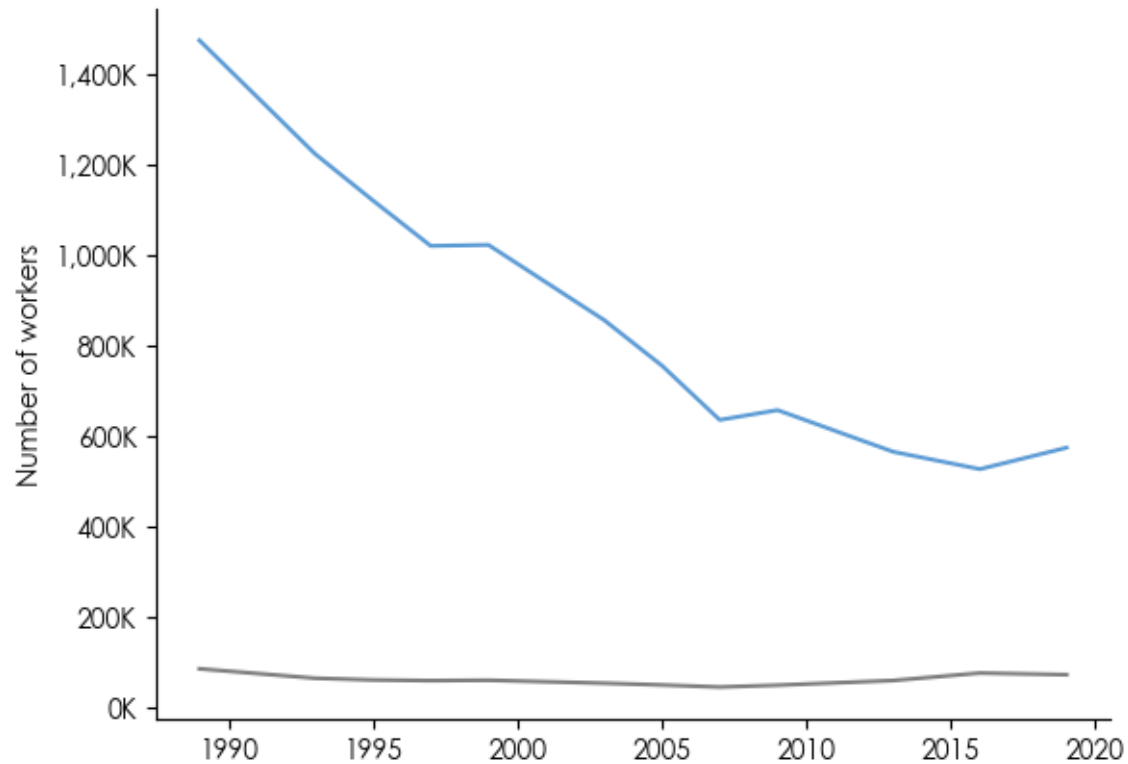
In 1989, **89%** of workers had no more than primary education.

In 2019, this percentage fell to **67%**, with only **8%** having no education.

The number of workers with tertiary education grew by **667%** from 1989 to 2019, but it still only represents **11%**.

Familiar farms

Evolution of familiar work in agriculture

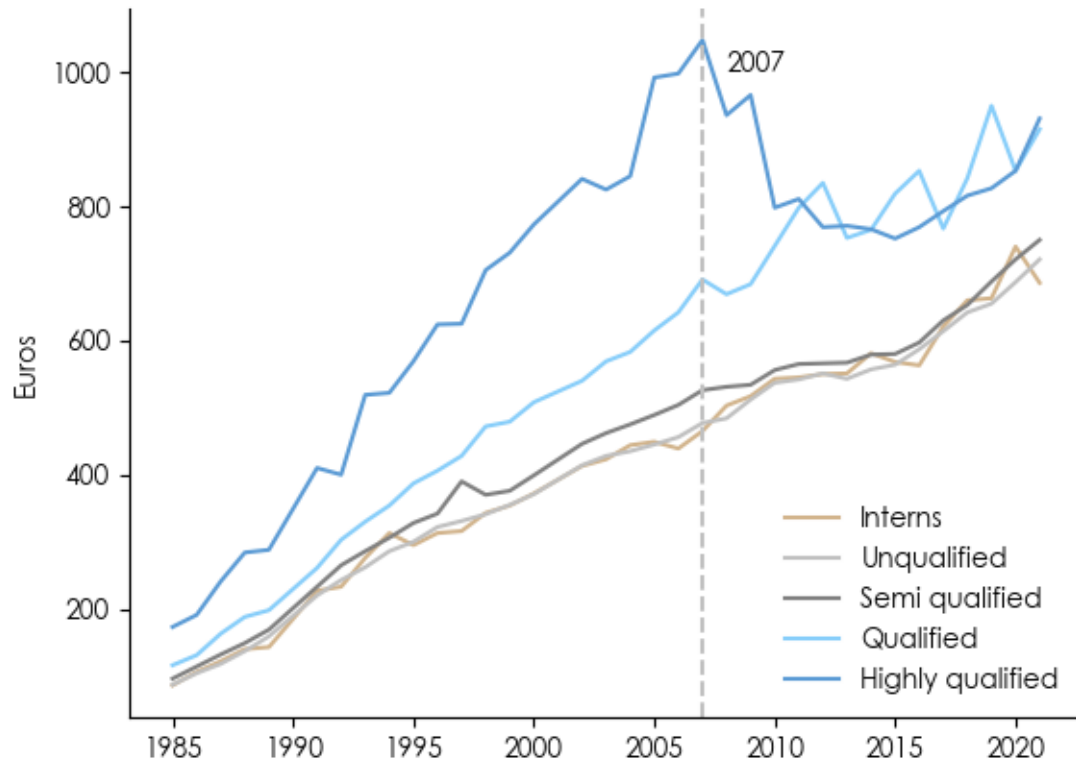


The great shrinkage of agricultural labor is mainly caused by the decrease of **61%** in people working on farms owned by a family member.

Still, in 2019, **89%** of the workforce was working on a family farm, compared with **94%**, in 1989.

Remuneration of workers

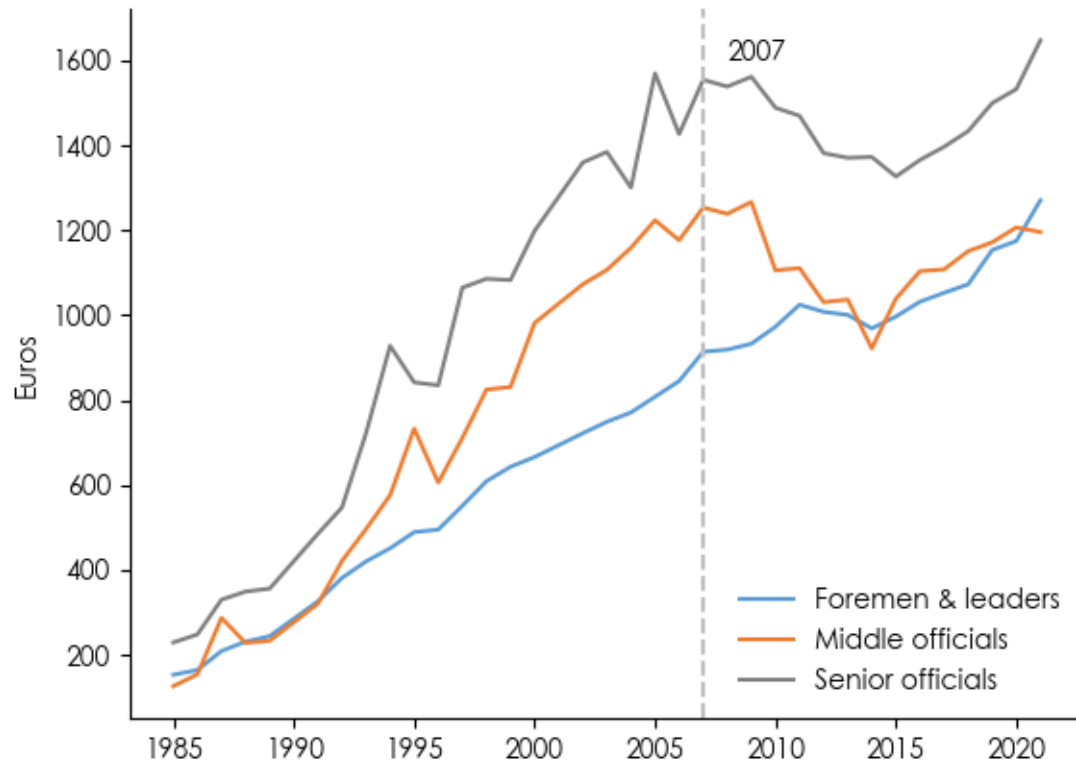
Evolution of average monthly remuneration of workers



Highly qualified professionals suffered a severe cut after 2007, losing their advantage over the salary of qualified workers.

Remuneration of leaders

Evolution of average monthly remuneration of leaders and officials

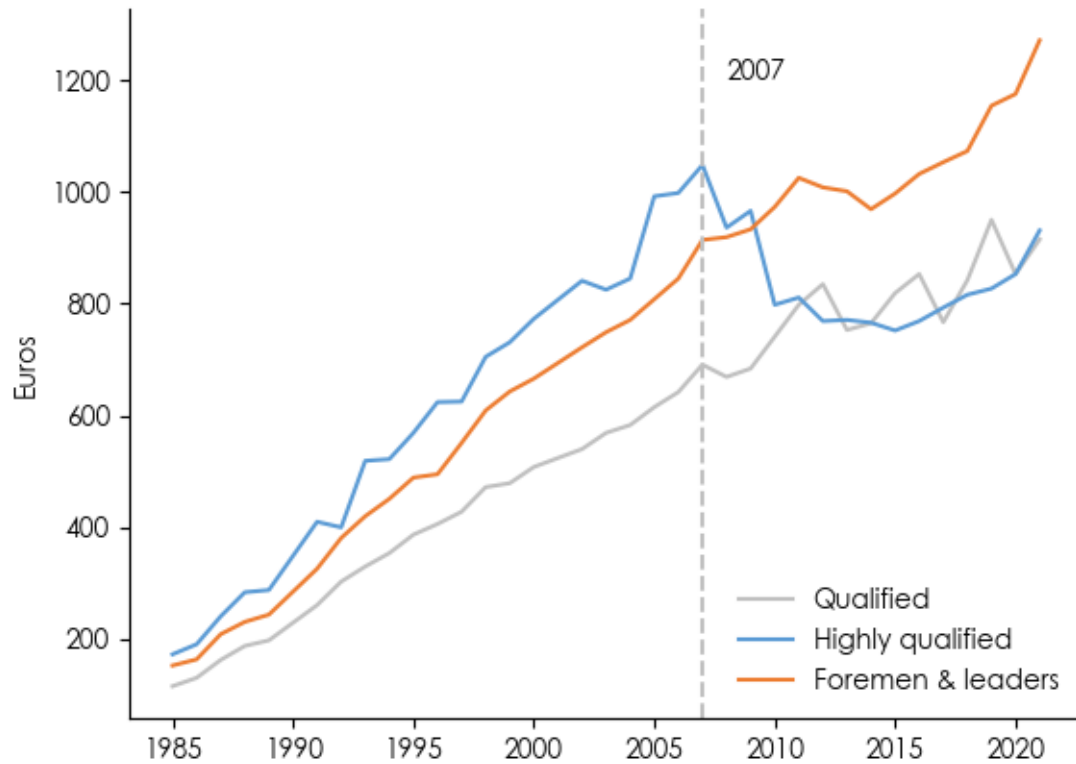


Senior and middle officials also saw their remuneration fall after 2007.

The average pay of middle officials got close to the pay of foremen and team leaders.

Remuneration

Foreman & leaders vs highly qualified professionals

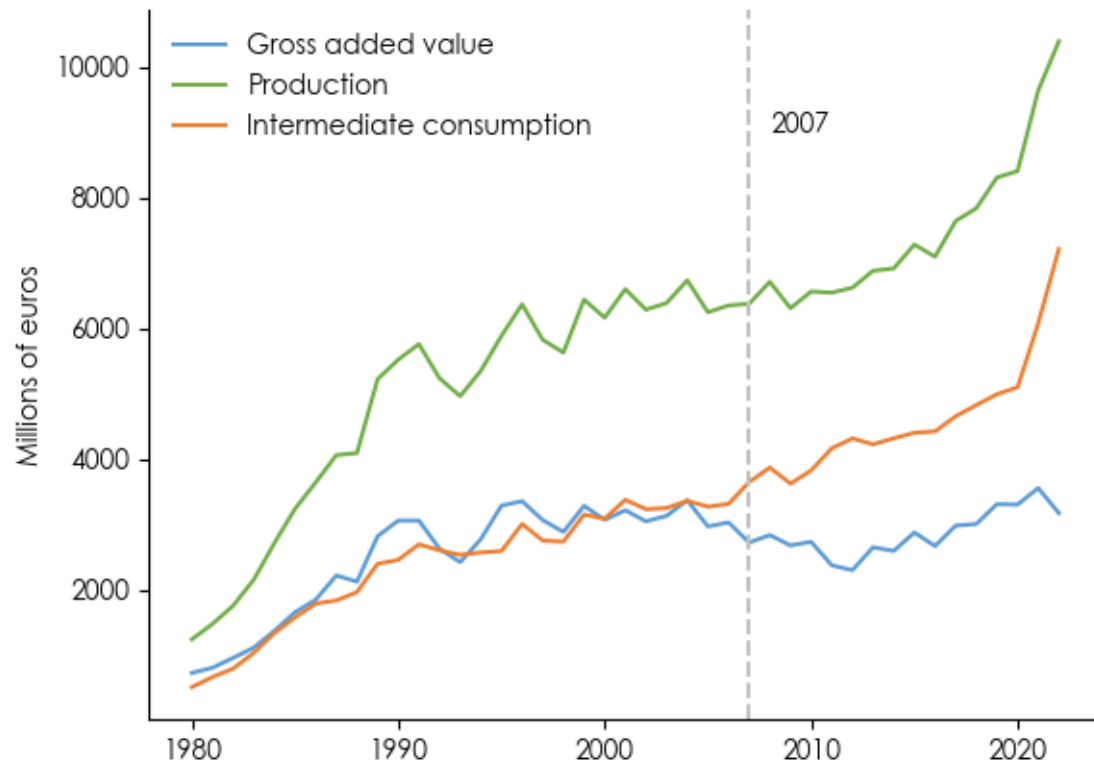


After 2007, highly qualified workers also lost their premium over foremen and team leaders.

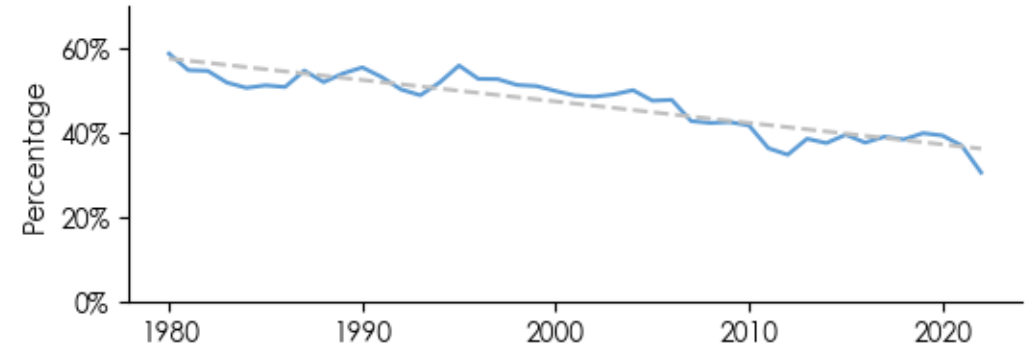
Value creation

Value added

Evolution of the production value of agriculture



Gross added value over production value

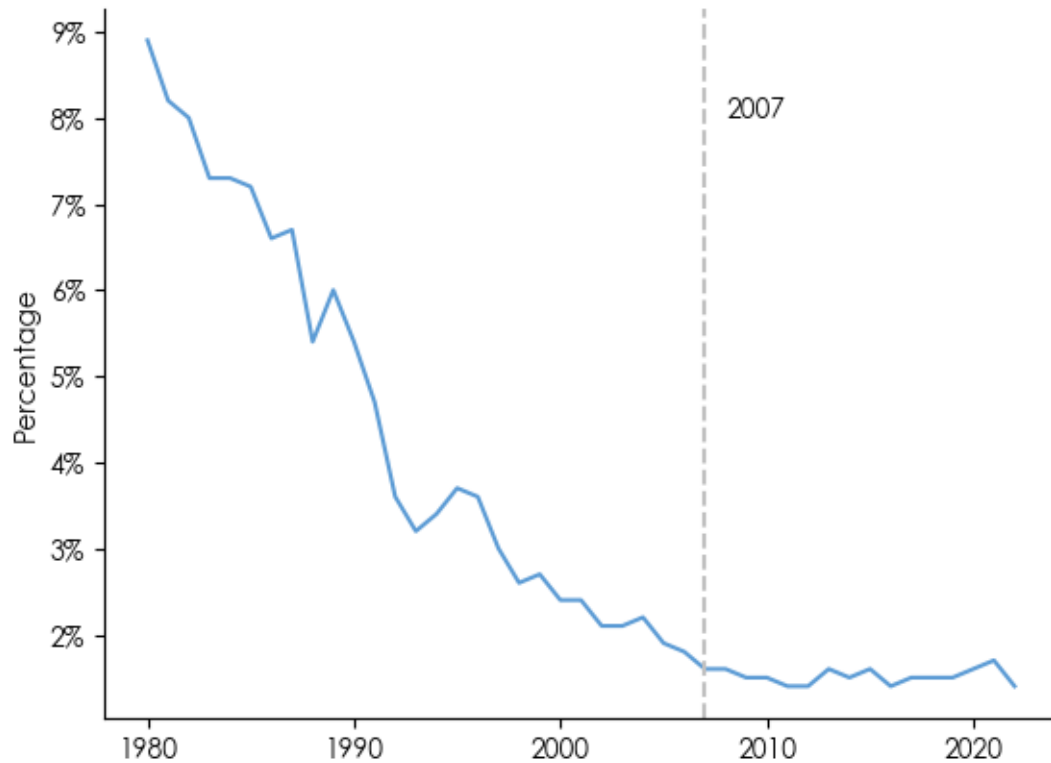


The value of production from agriculture increased a lot from 2007 to 2022.

However, the intermediate consumption ate most of that increase, and the gross added value remained low.

Weight of agriculture in GDP

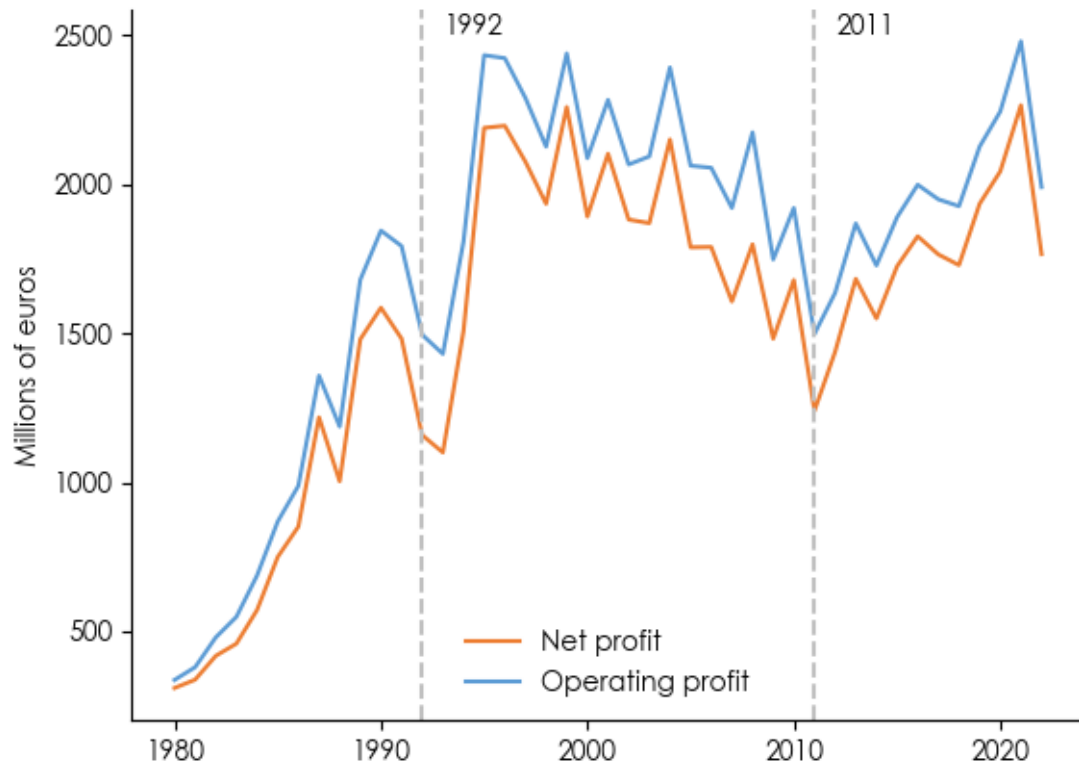
Evolution of the value of agriculture in GDP



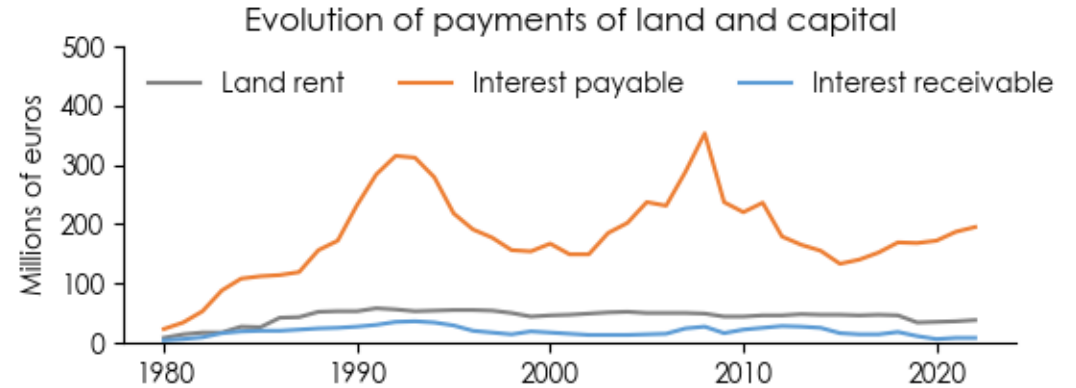
The percentage of the Portuguese GDP that corresponds to the agricultural sector decreased dramatically since 1980, staying around **1.5%** since 2007.

Profits from agriculture

Evolution of profit from agriculture



Cost of land and capital

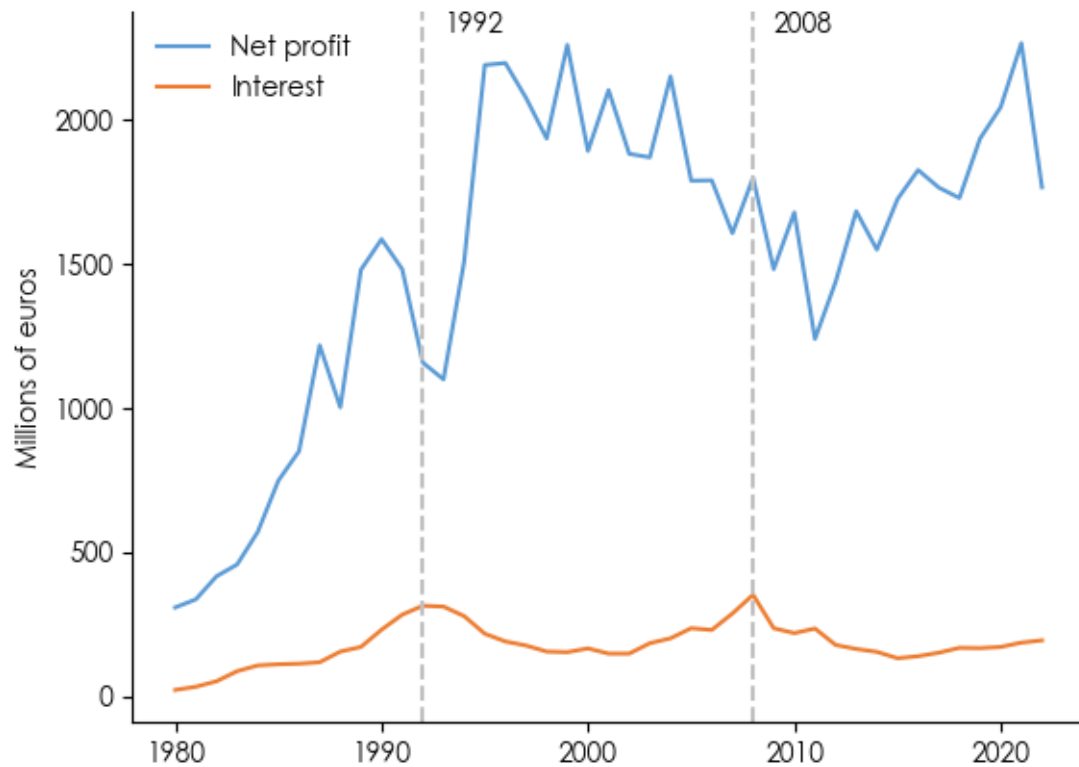


Net profit = Operating profit - Land rent - Interest payable + Interest receivable

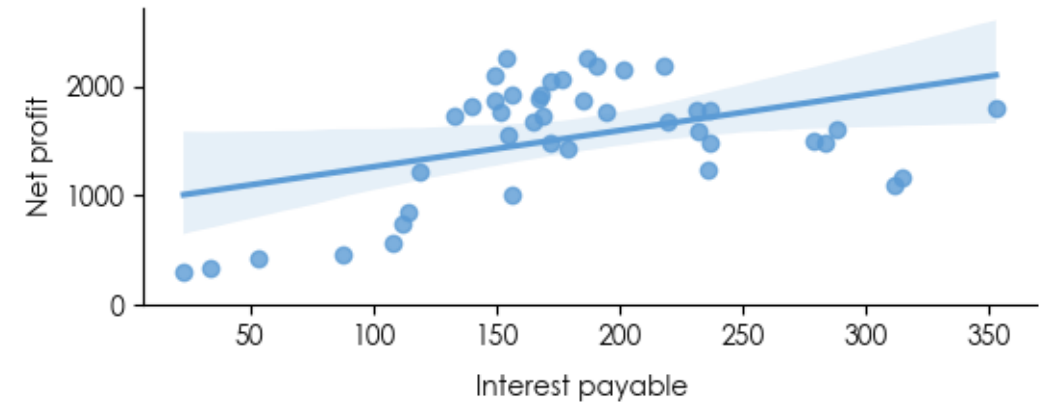
Profits from agriculture had 2 major dips, in 1992 and 2011.

Profits and interest

Evolution of profit from agriculture



Cost of land and capital



R-squared: 0.189

Correlation: 0.435

Contrary to my hypothesis, there is not a relevant correlation between profit and paid interest data.

Yet, higher interest rates may be associated with periods of financial distress, which might impact agricultural businesses.

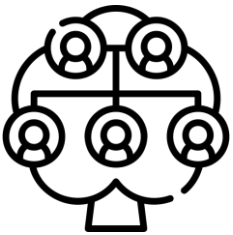
Conclusion



The Portuguese agricultural workforce has been **diminishing** and **aging**, but getting more educated.



Although salaries have had a positive growth tendency, there was a **disruption in 2007** for the highest paid.



Portuguese farms are still mainly employing **family** members.



The production value of agriculture has been growing, but **faster-increasing costs** have caused diminishing value added.

Q&A

Thank you for your attention.