

# The geography of eco-innovation in Italy. Evidence from patent data at firm level

## Part 1: Data exploratory analysis

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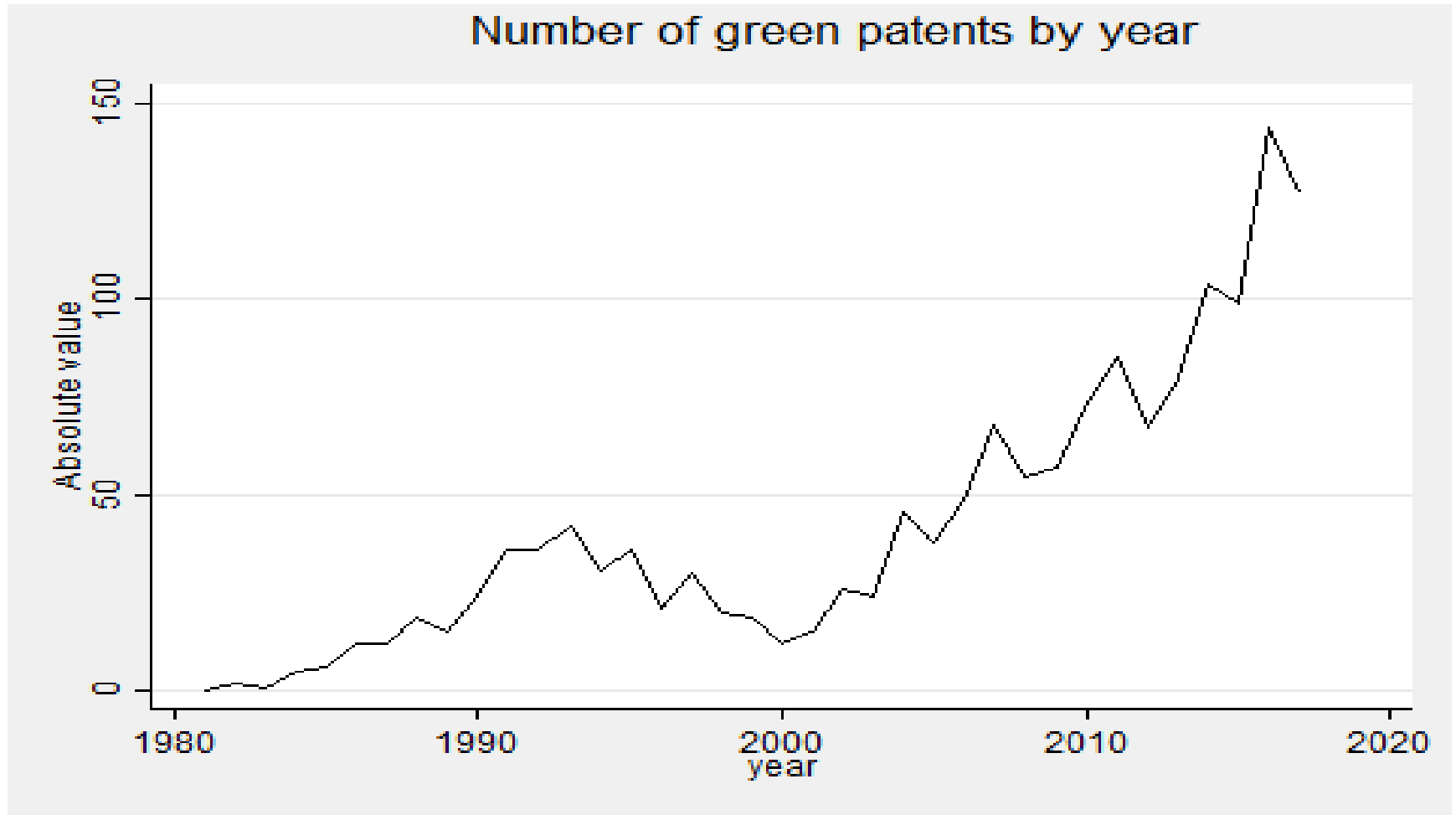
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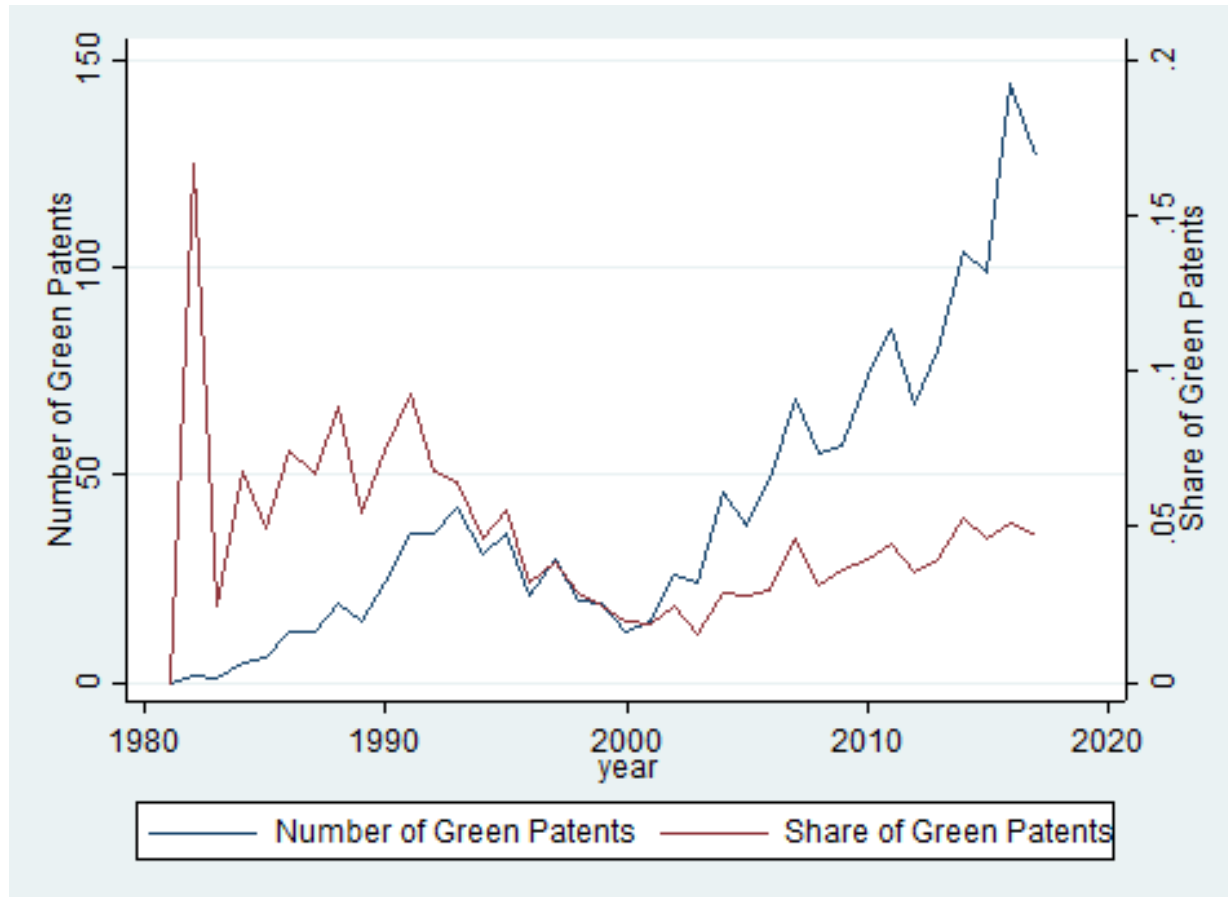
# Dataset construction

- We measure innovation in green technologies by using patents. Data are from Orbis dataset provided by Bureau van Dijk, which has recently been linked to the European Patent Office's (EPO) PATSTAT dataset
- We count the number of granted patents per firm per year, including only priority patents and excluding equivalent patent filings. The fact that we focus on granted patents of firms' registered in Orbis implies that our sample is not likely to include the lowest quality patents (such as non-successful applications)
- In addition green patents are identified using the WIPO Green Inventory
- The WIPO Green Inventory includes all the IPC classes that are associated with environment friendly technologies in a variety of fields. In particular, it includes seven technological fields (alternative energy production, transportation, energy conservation, waste management, agriculture/forestry, and administrative regulatory and nuclear power generation)
- We obtained a final panel spanning from 1981 to 2017, reporting observations on more than 26.000 Italian firms.

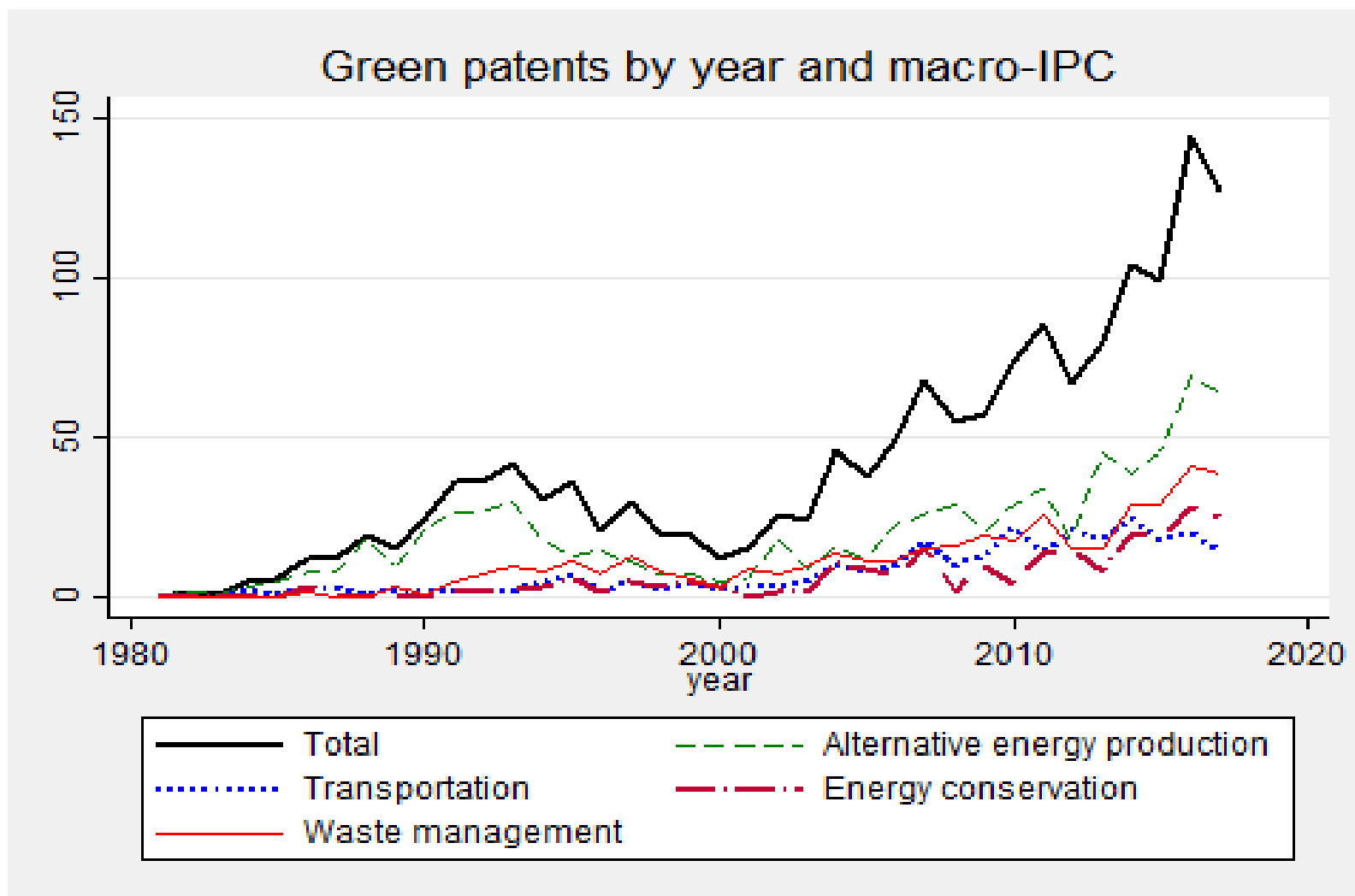
# Green patenting in Italy over time (1/2)



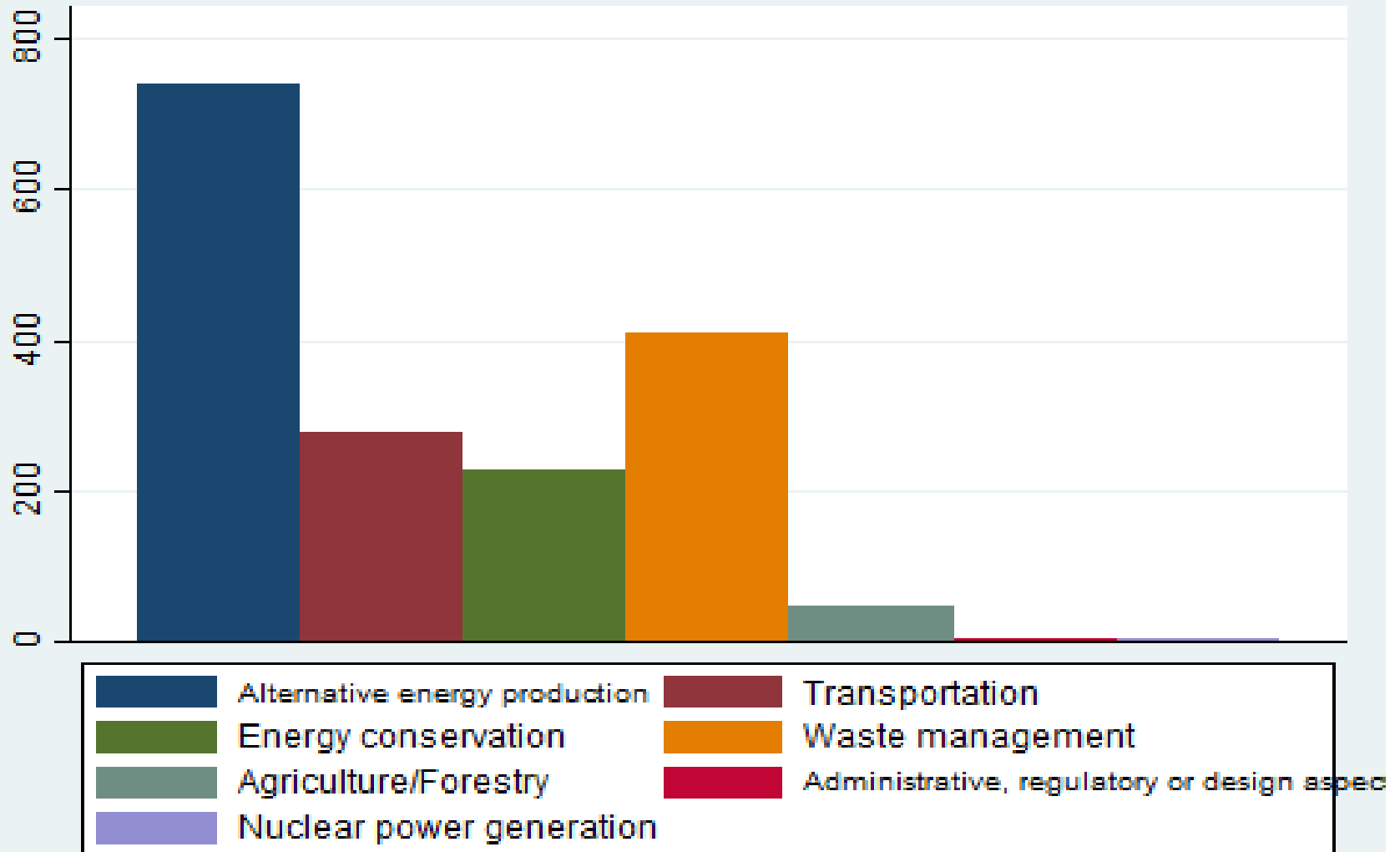
# Green patenting in Italy over time (2/2)



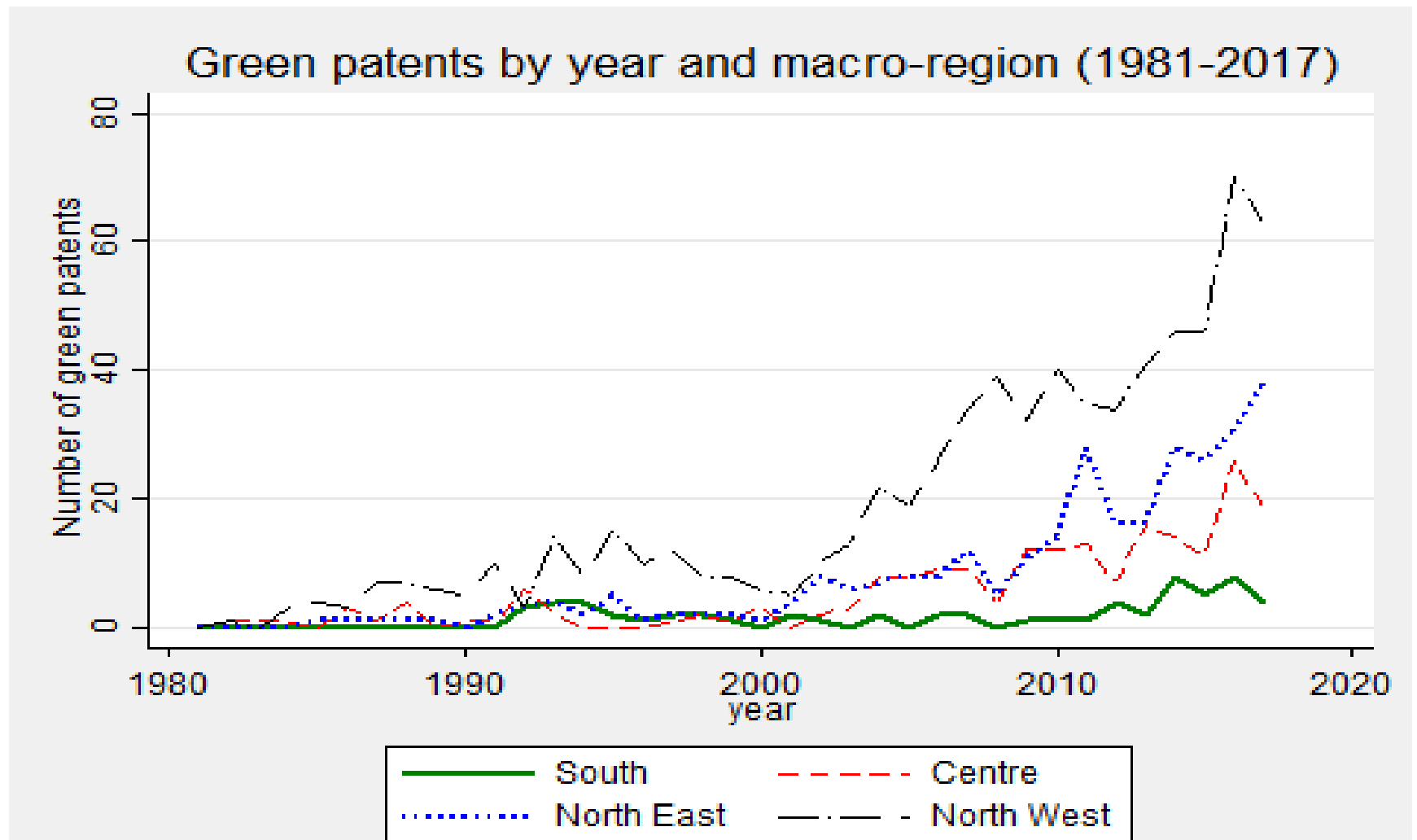
# Green Patents in Italy by IPC codes



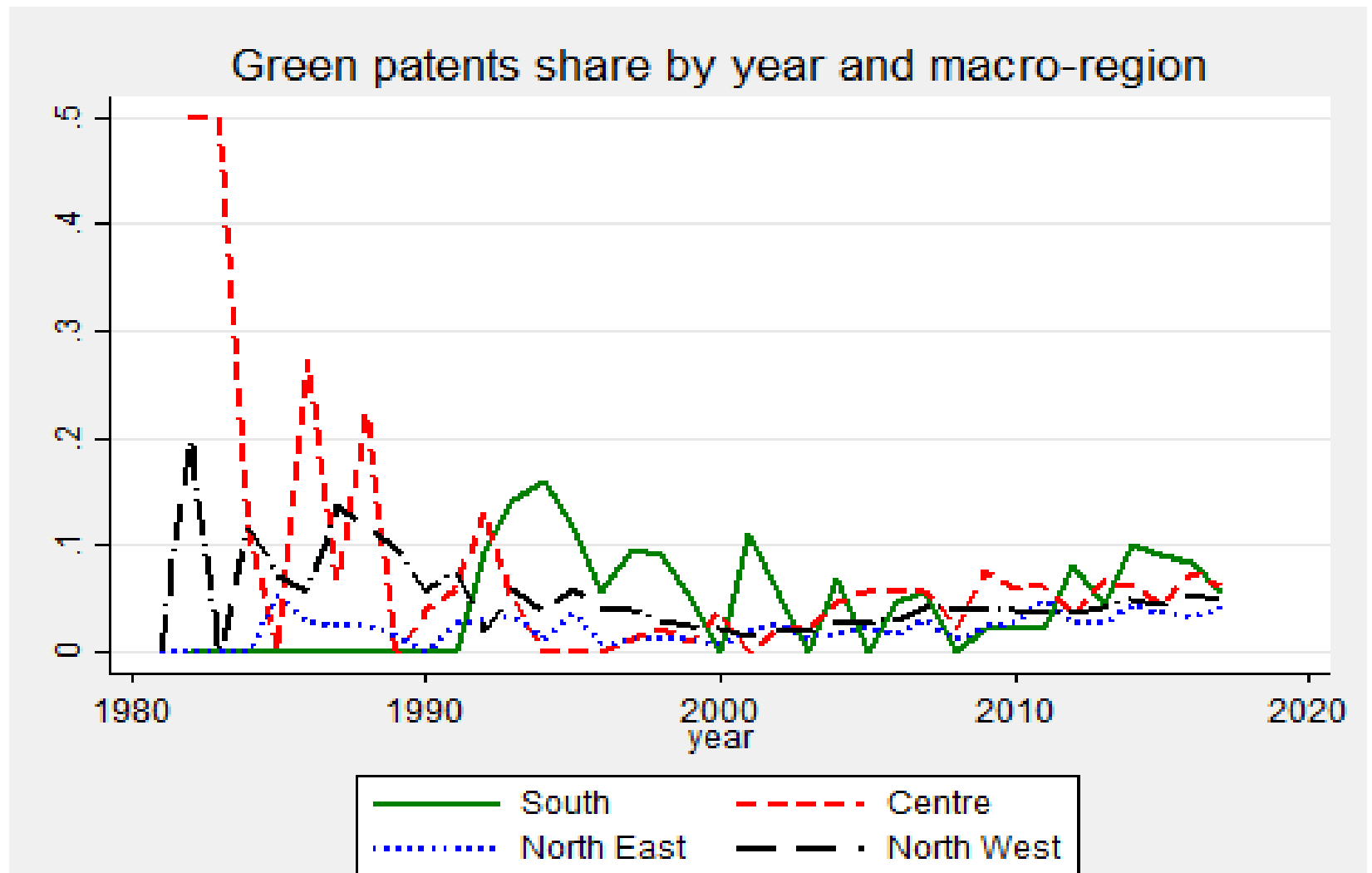
# Cumulative patents green in Italy by IPC codes from 1981 to 2017



# Green patenting by area



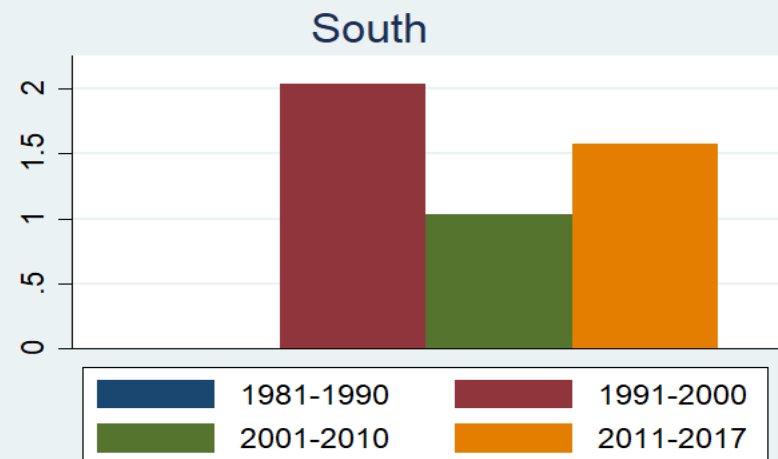
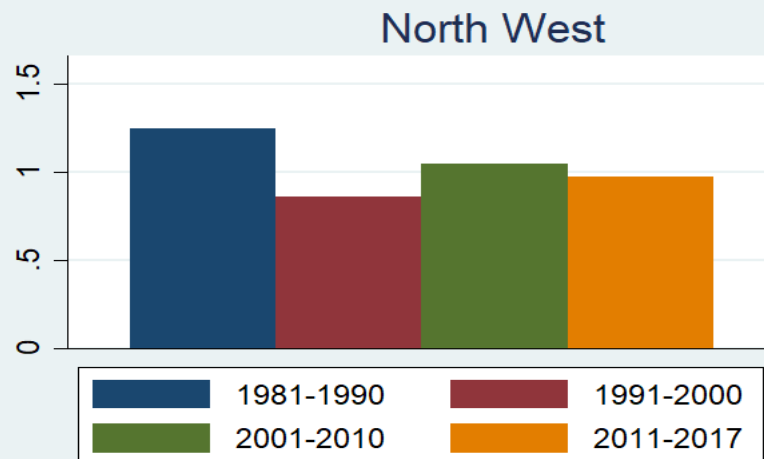
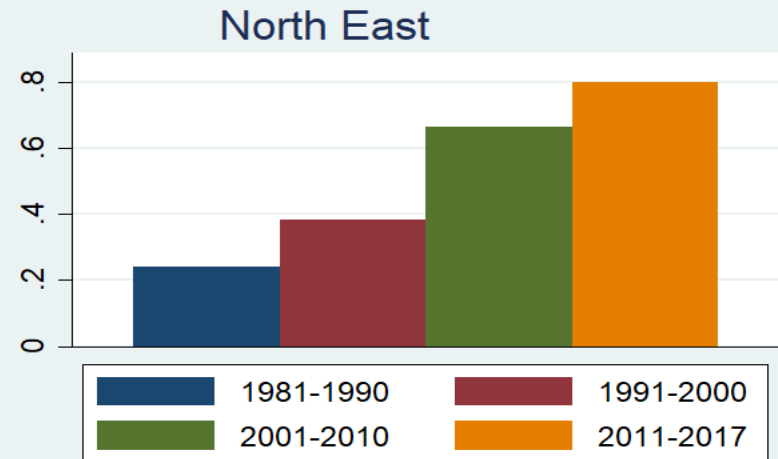
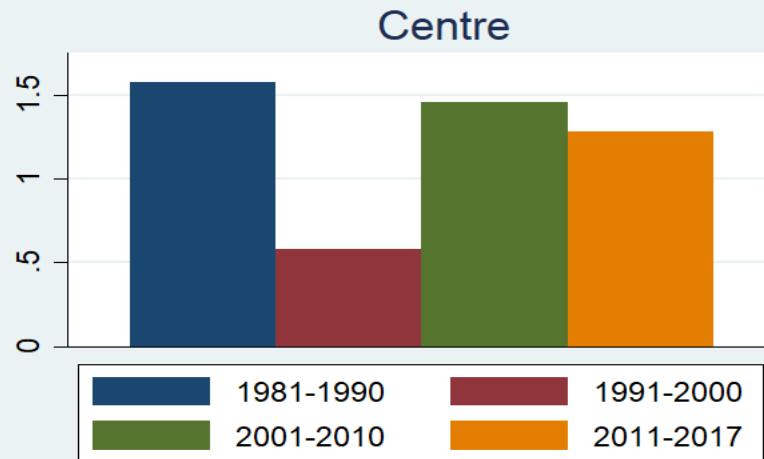
# Green intensity in patenting by area





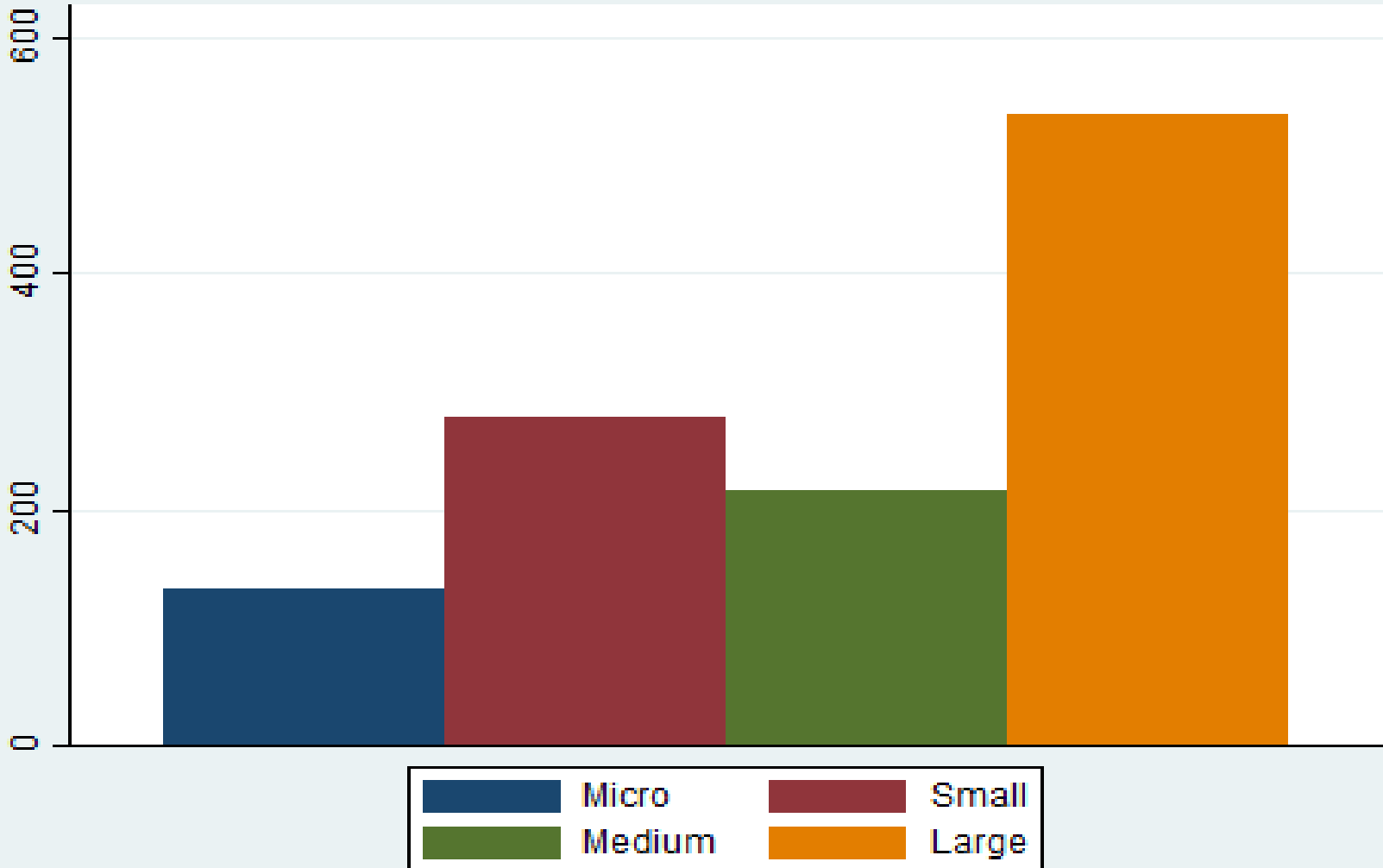
# Specialization in green patenting

Balassa index by region and time



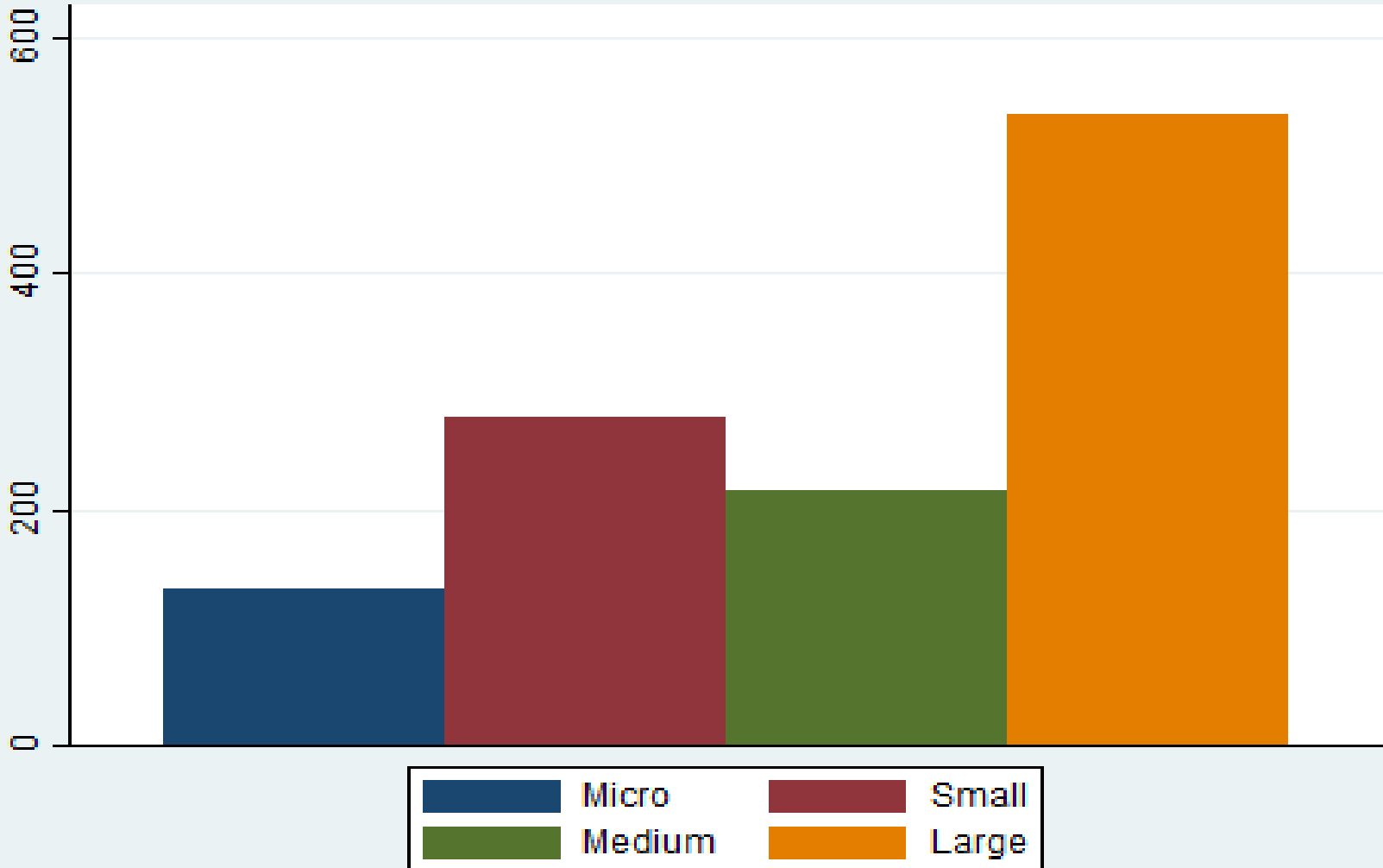
# Green patents by firm size

Patenting accumulation from 1981 to 2017



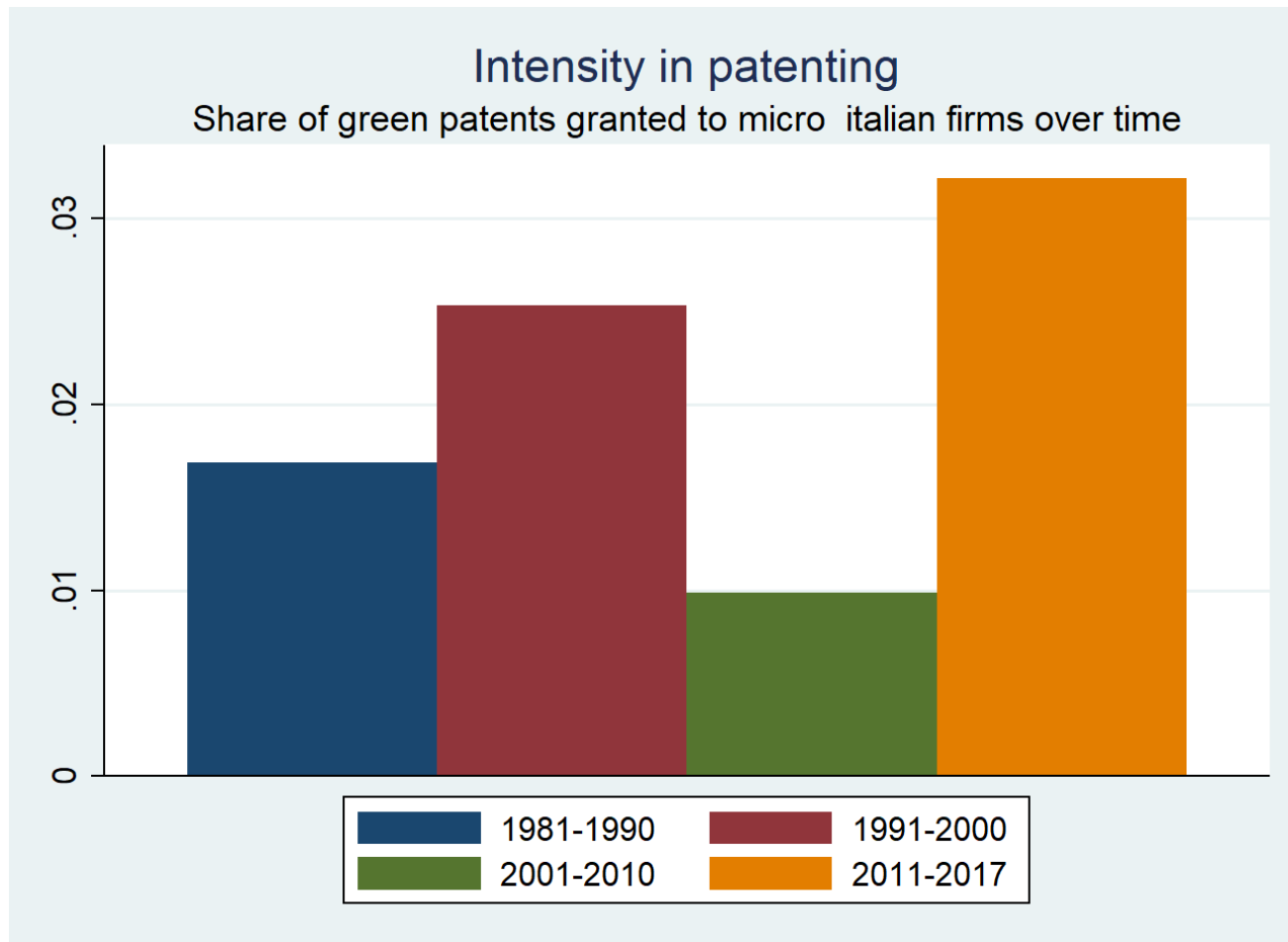
# Green patents by firm size

Patenting accumulation from 1981 to 2017

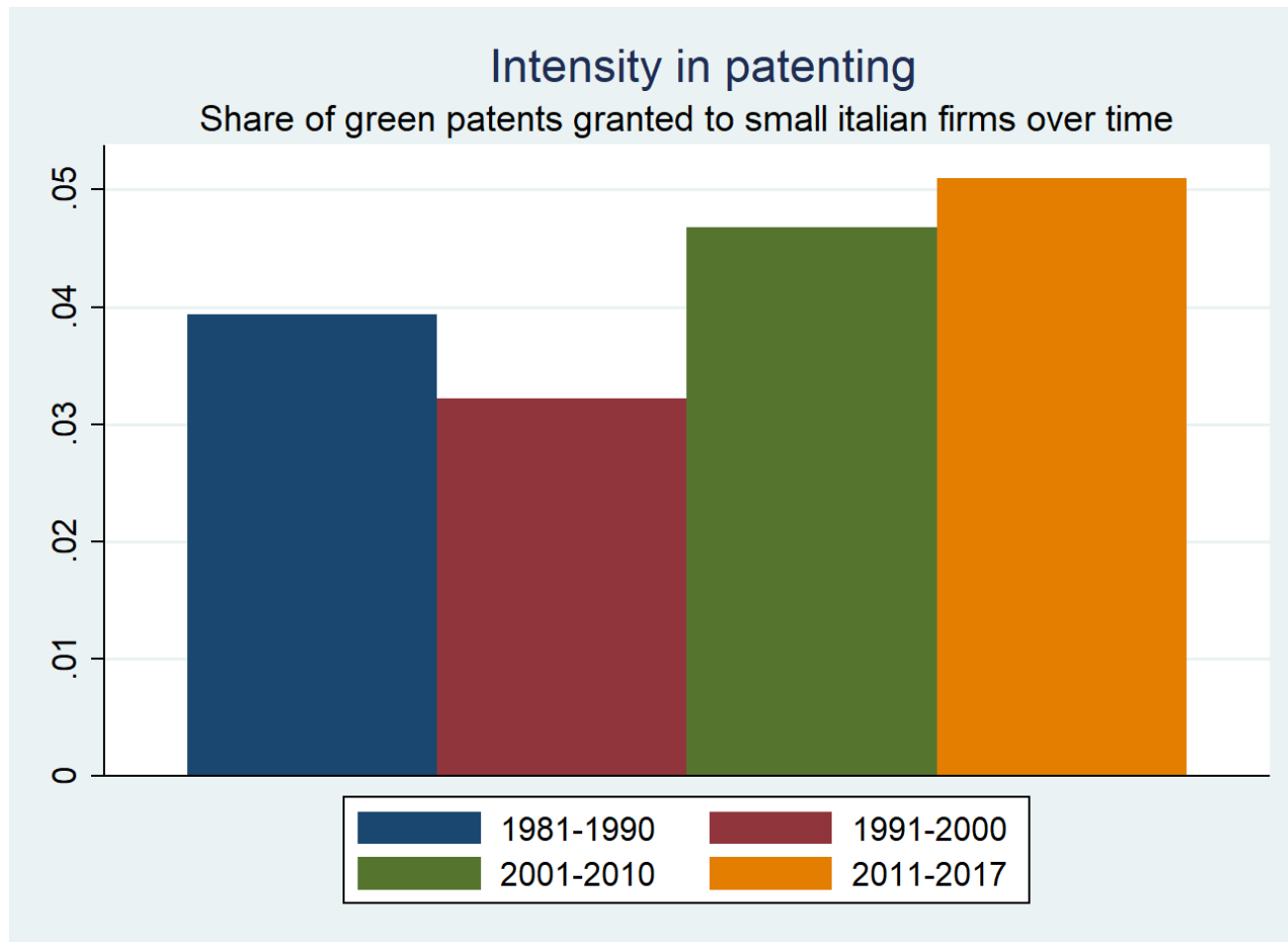


# Green intensity in patenting over time

## Micro-sized firms

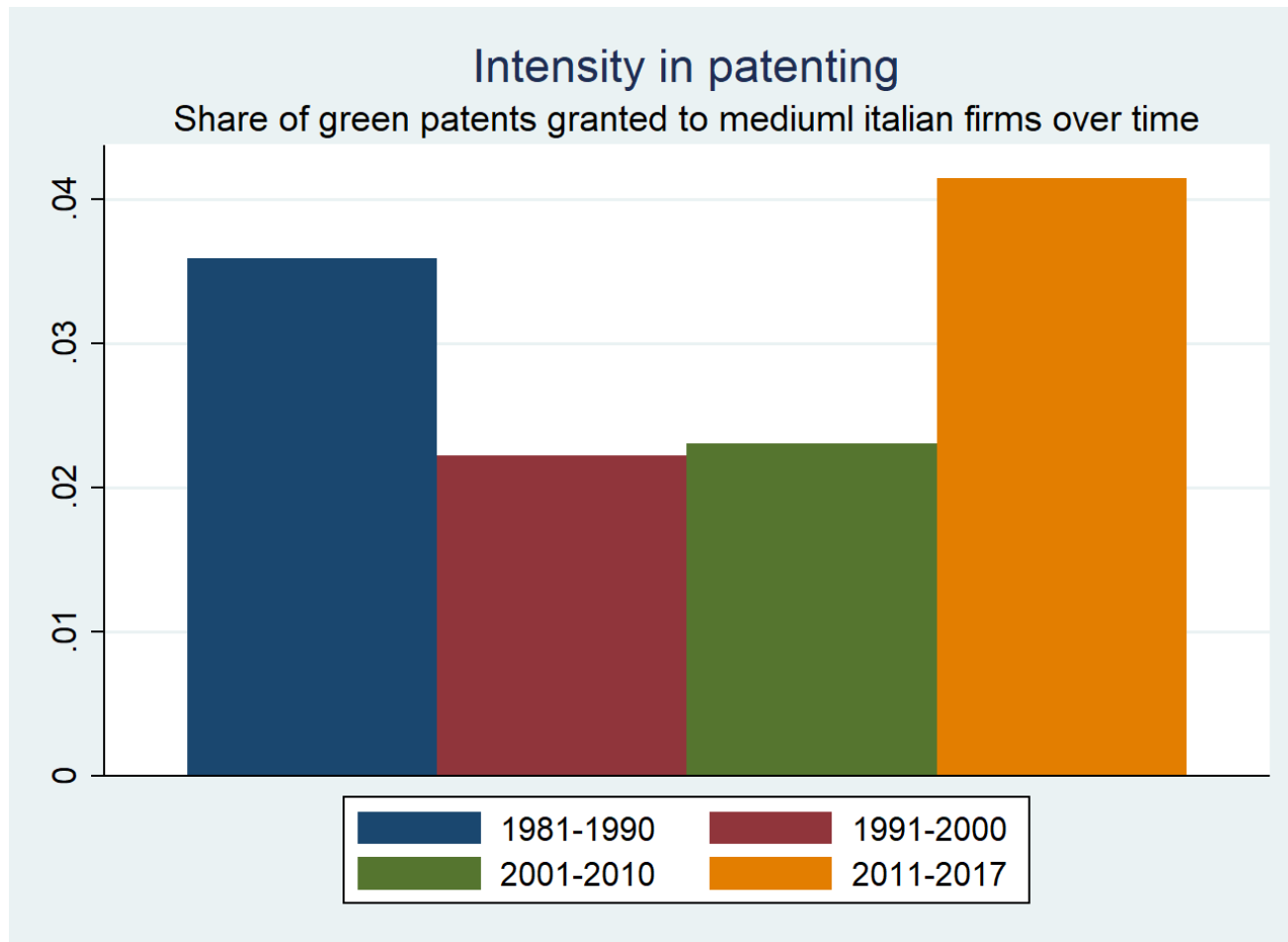


# Green intensity in patenting over time small-sized firms



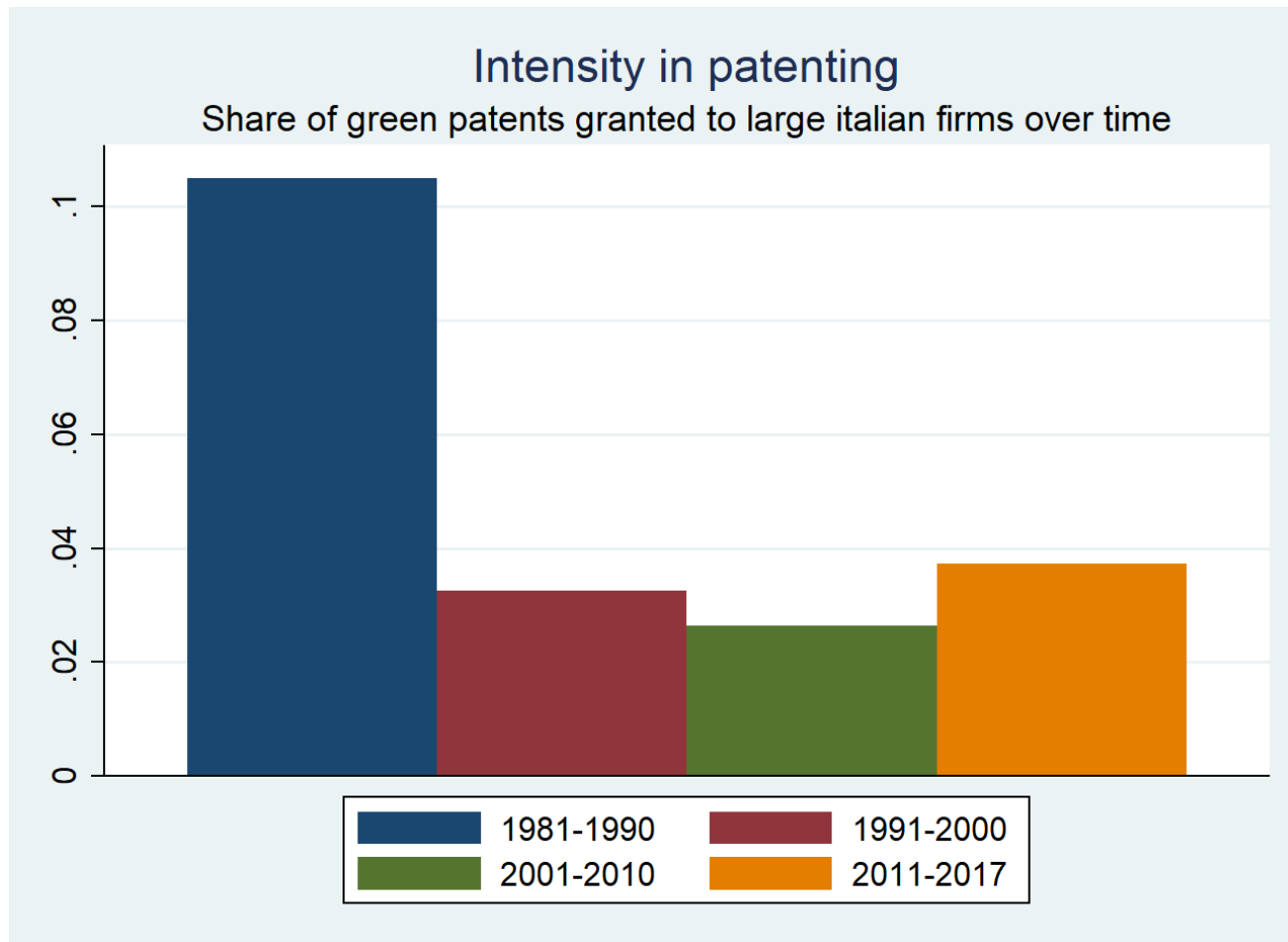
# Green intensity in patenting over time

## Medium-sized firms



# Green intensity in patenting over time

## Large-sized firms



# Intensity in patenting by firm group

