

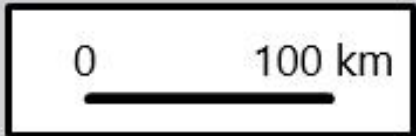
VII Congresso de História Ferroviária

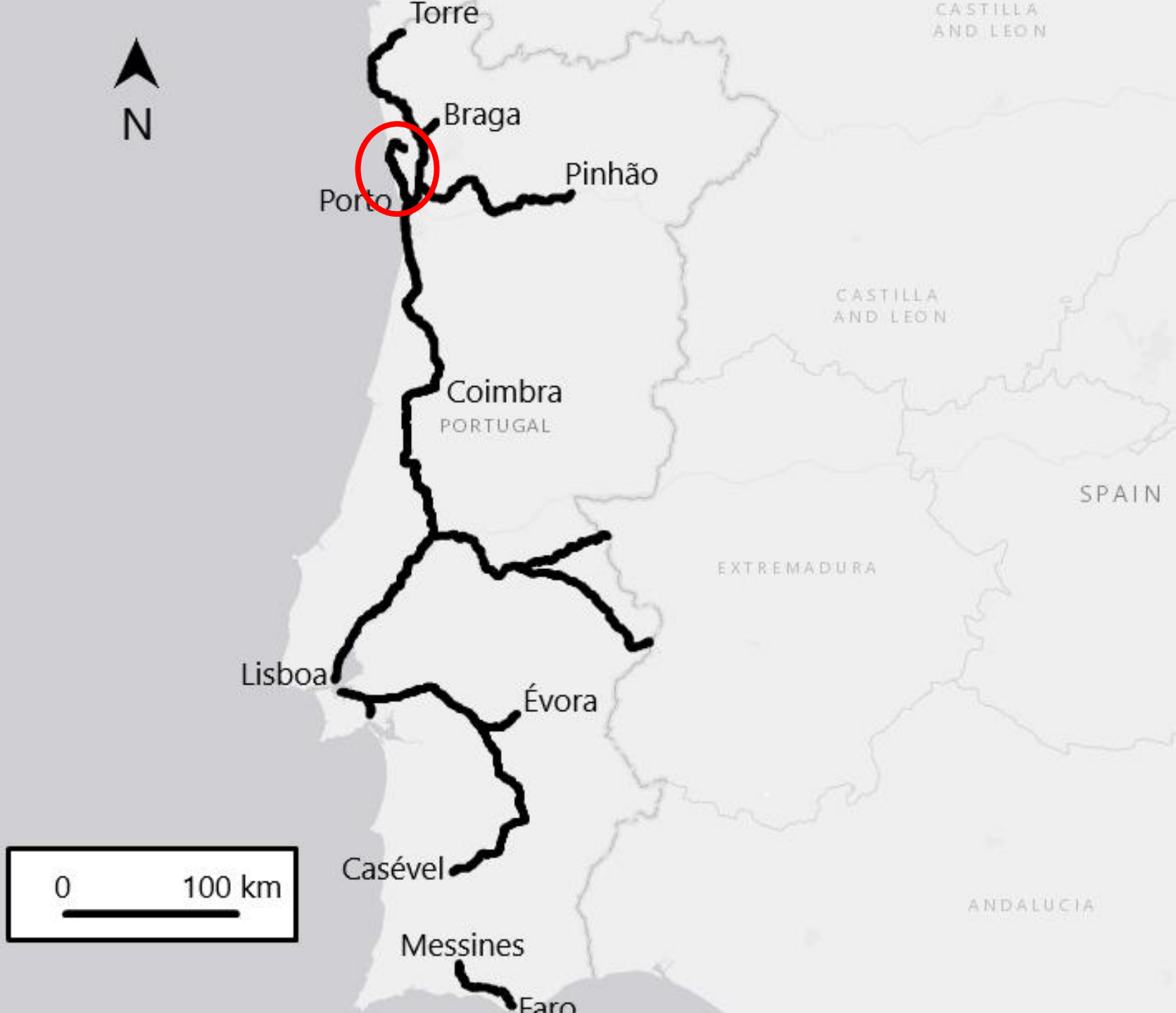
Lisboa, 27-29 de outubro de 2021

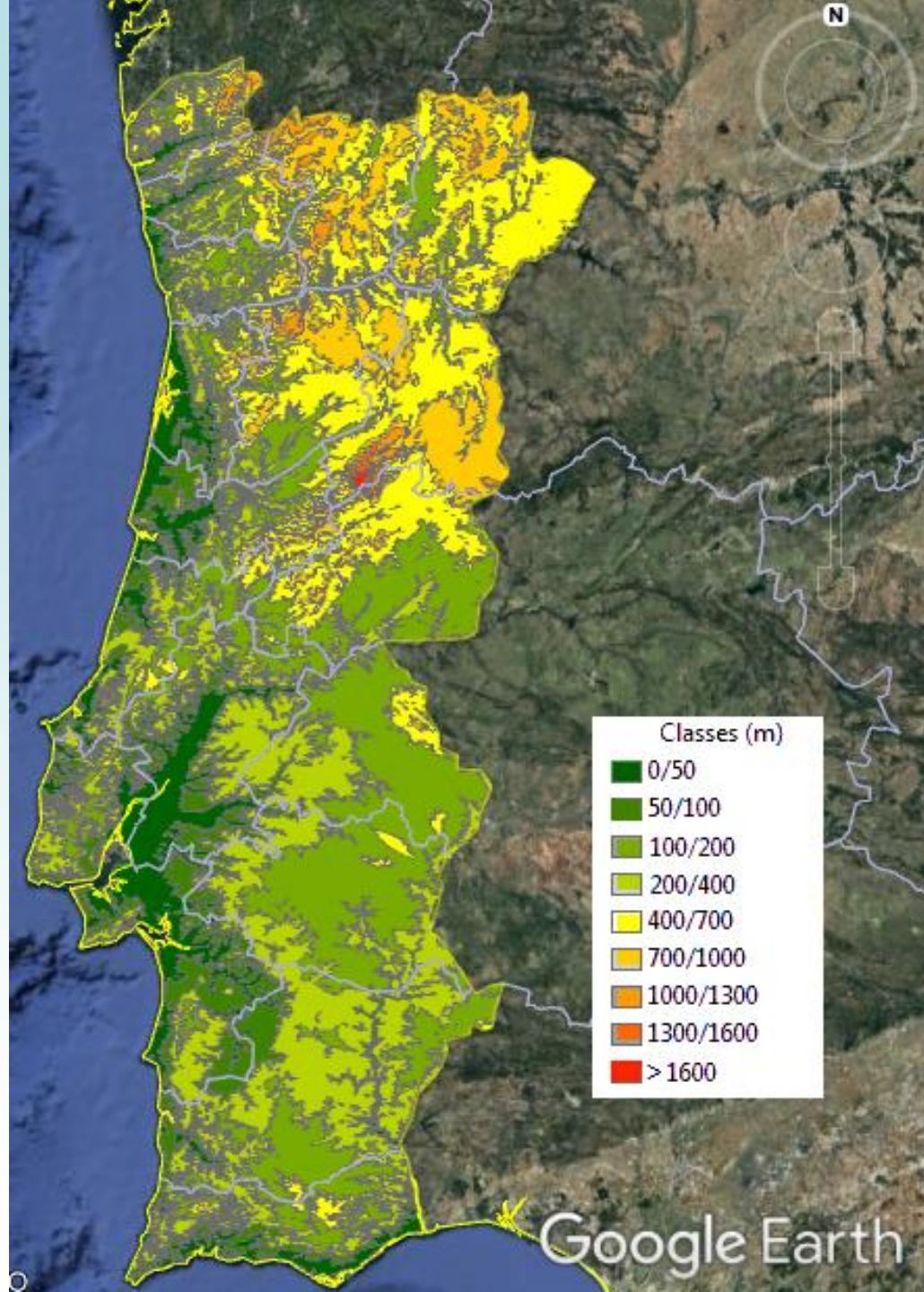
Road competition and narrow-gauge railways: the example of Portugal (1870s-present day)

Hugo Silveira Pereira

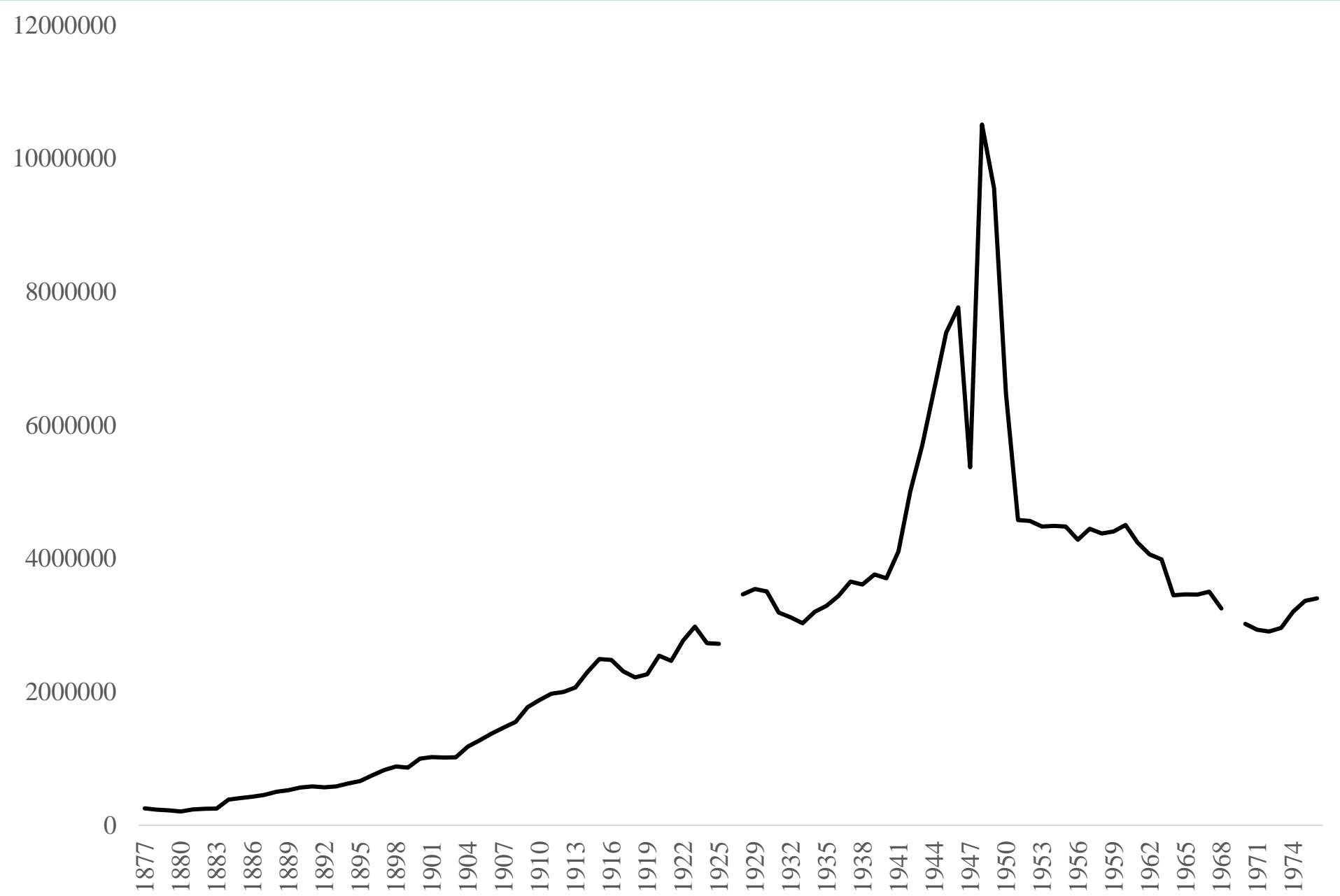
(NOVA School of Sci. & Tech.; Uni. of York)



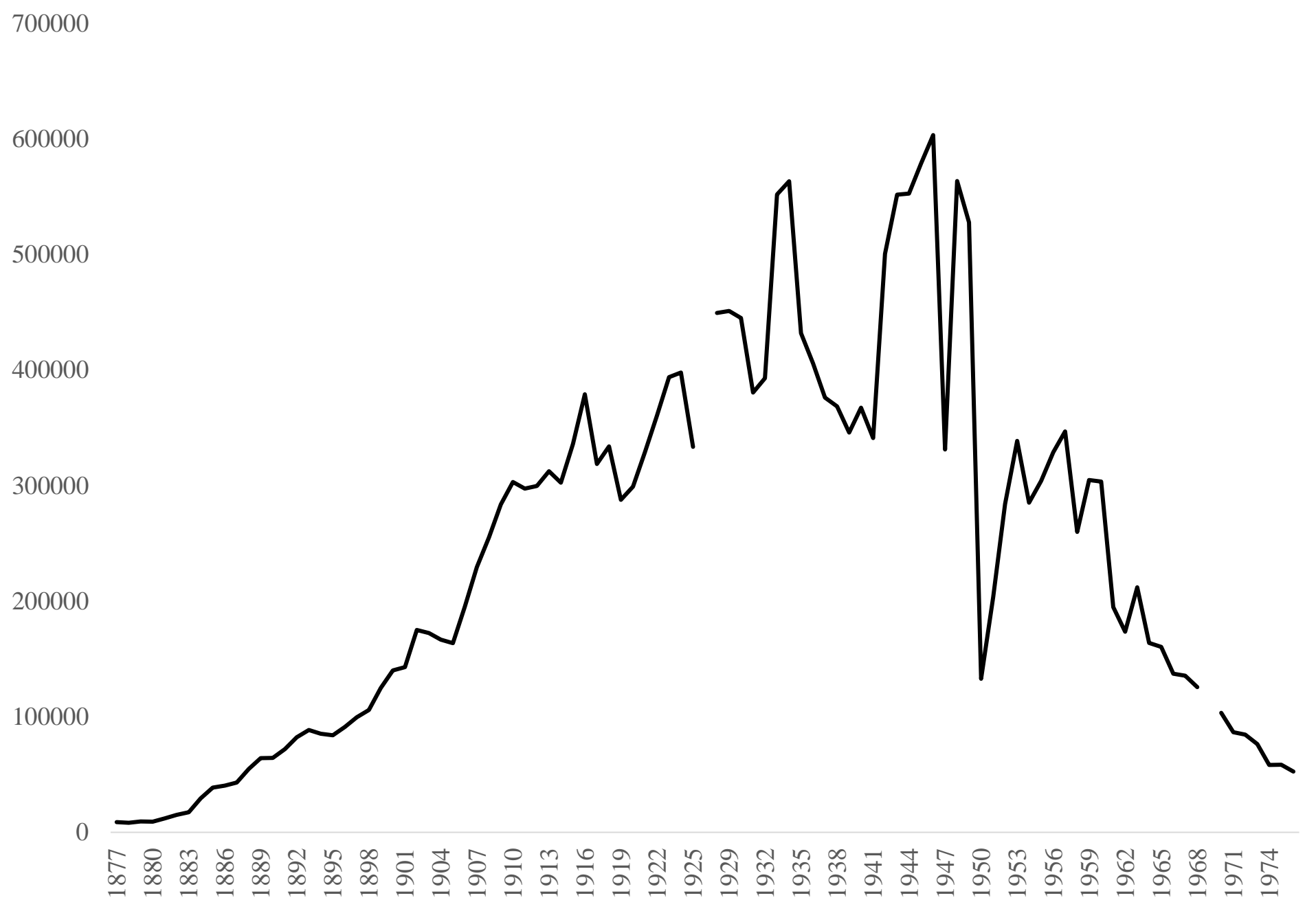




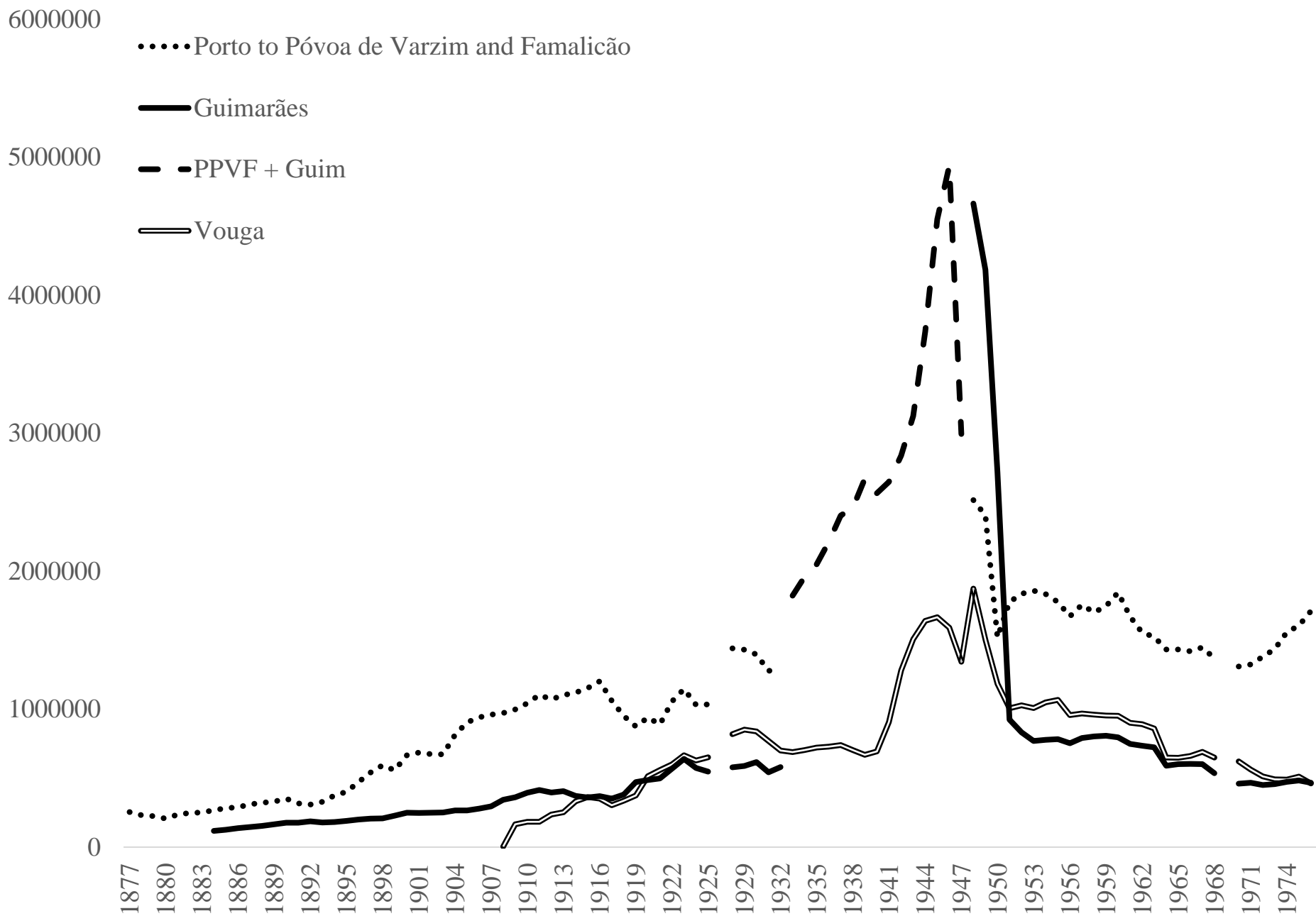




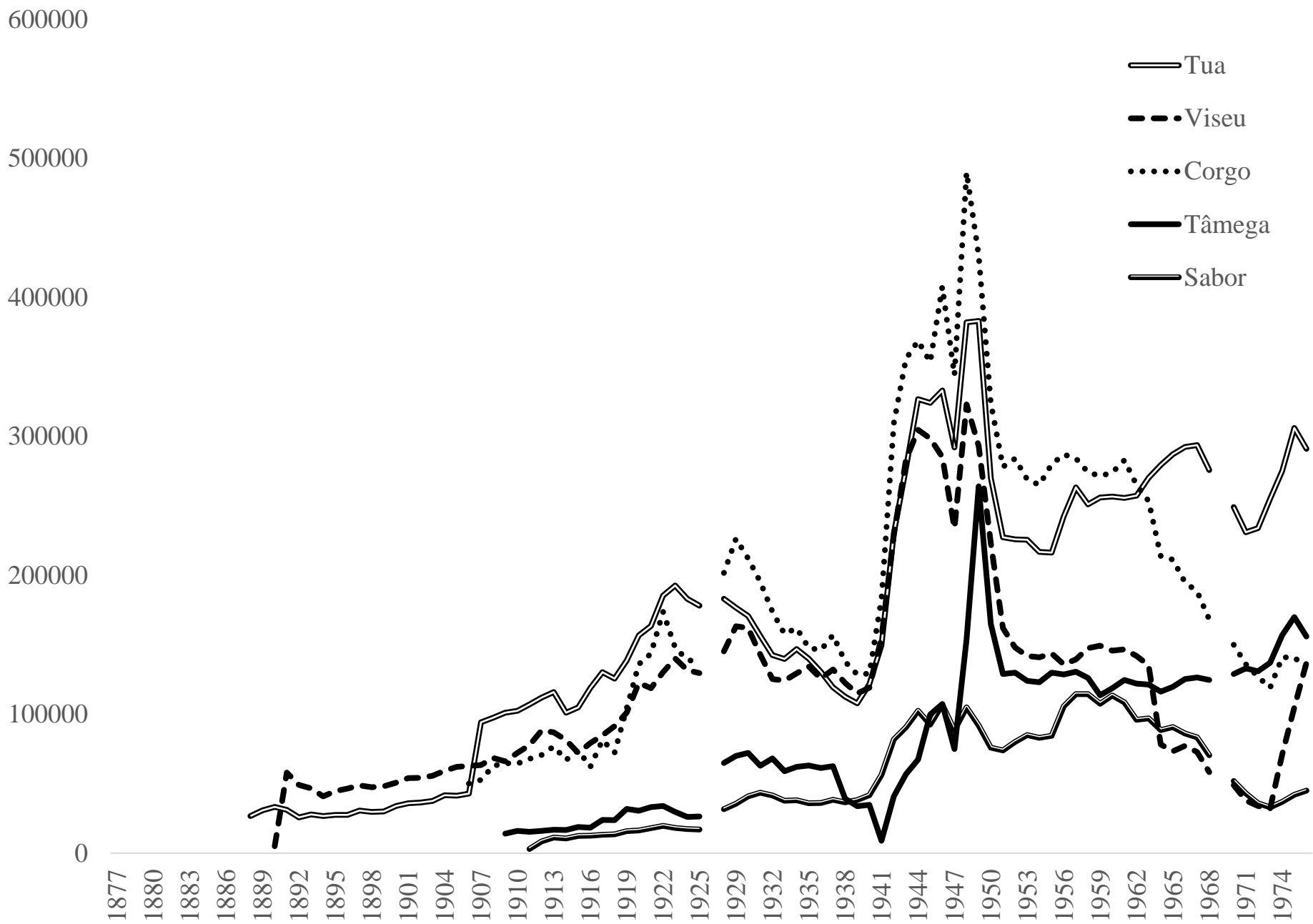
Passengers (1878-1974)



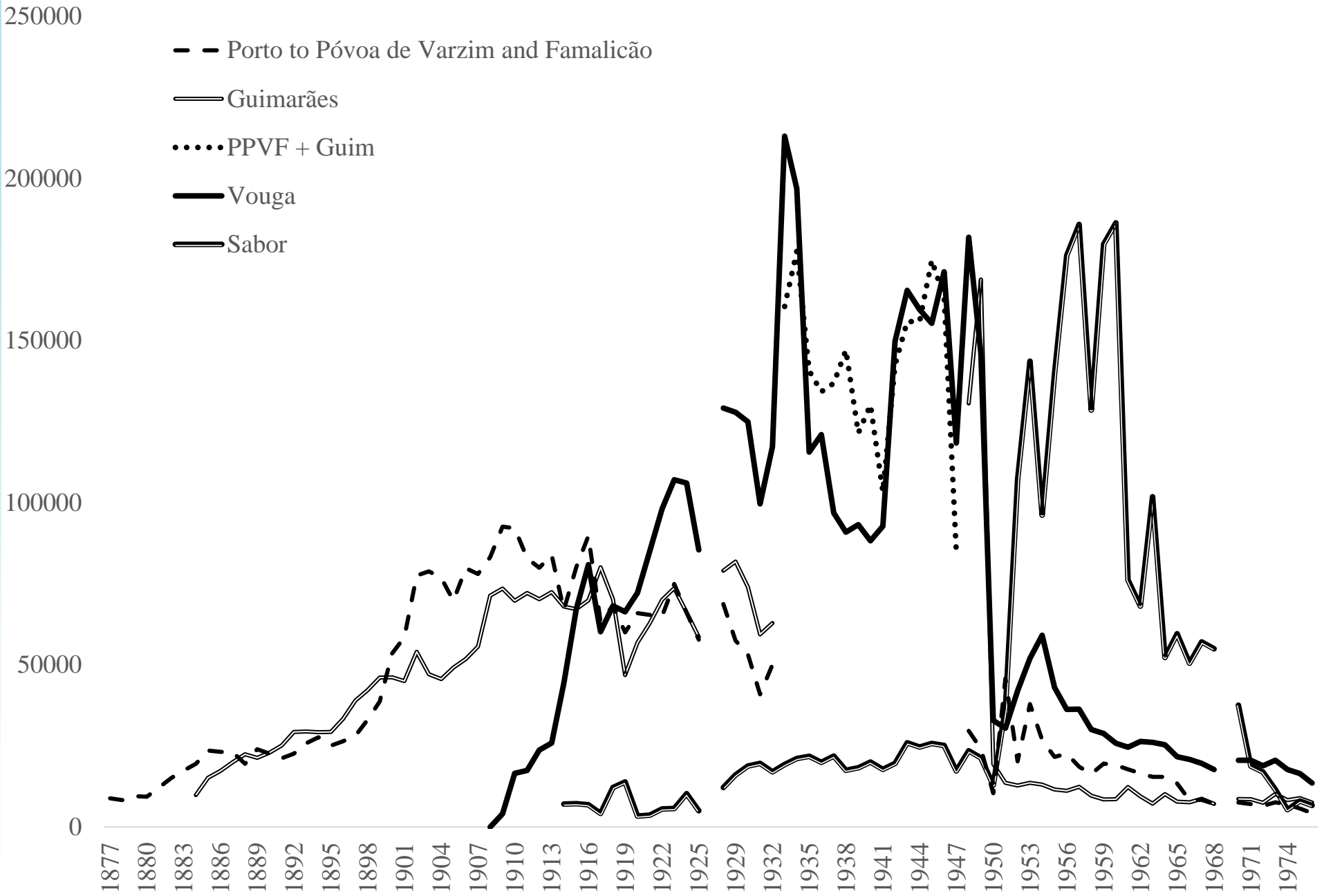
Freight (1877-1974)



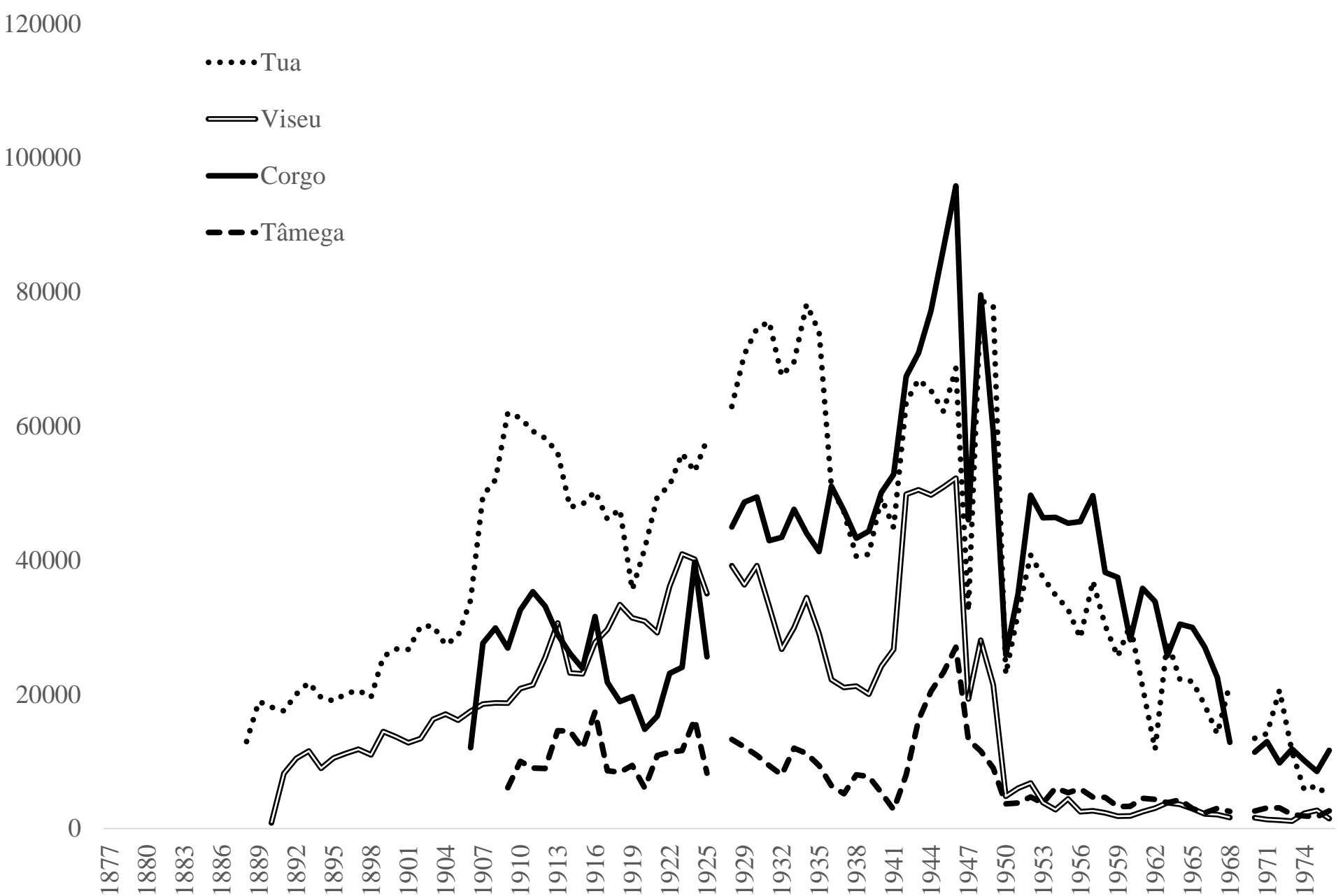
Passengers (PPF, Guim, PPF+Guim, Vouga), 1877-1974



Passengers (Corgo, Tâmega, Tua, Sabor, Viseu), 1877-1974



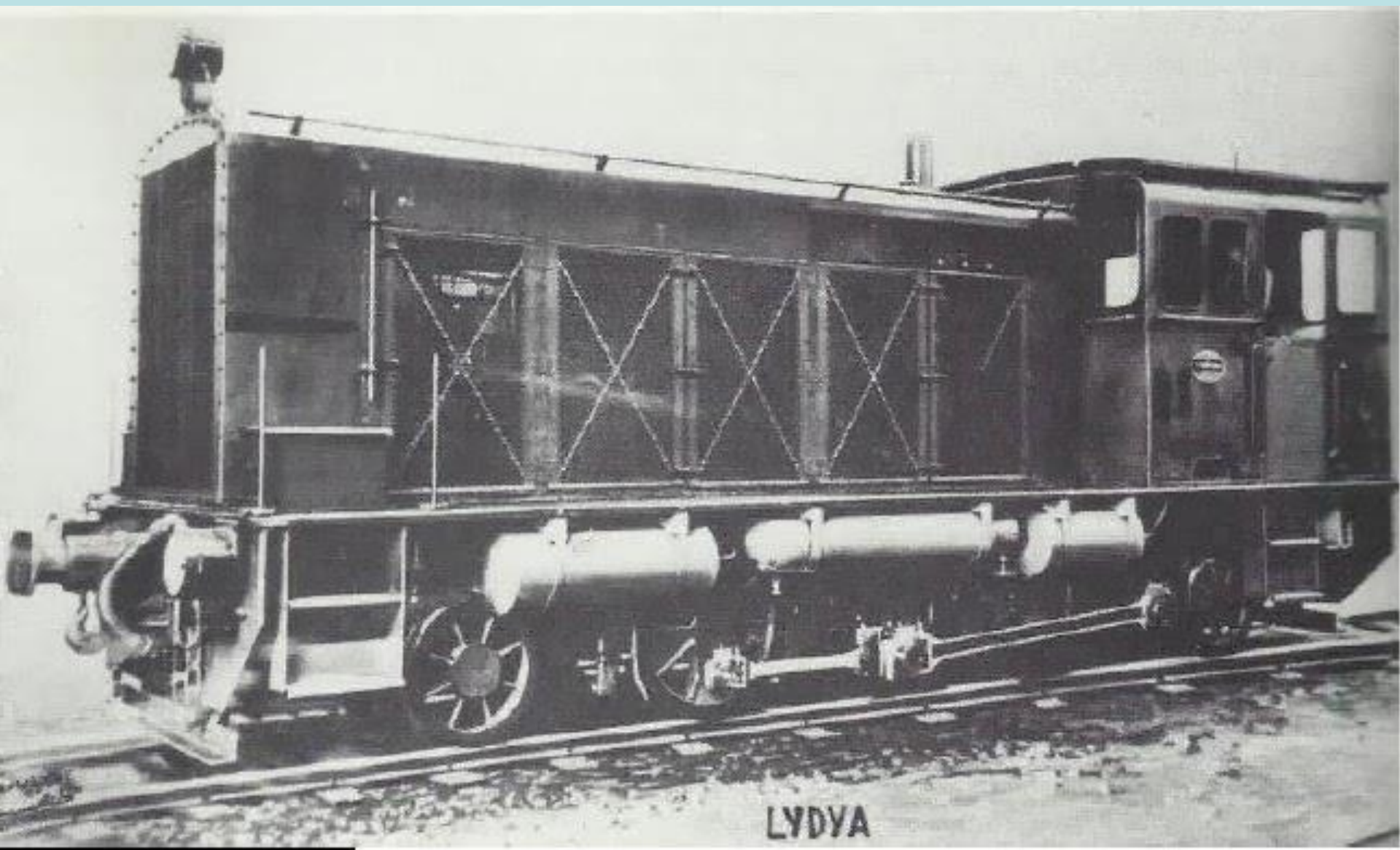
Freight (PPF, Guim, PPF+Guim, Vouga, Sabor), 1877-1974



Freight (Tâmega, Corgo, Tua, Viseu), 1877-1974

Competition and innovation

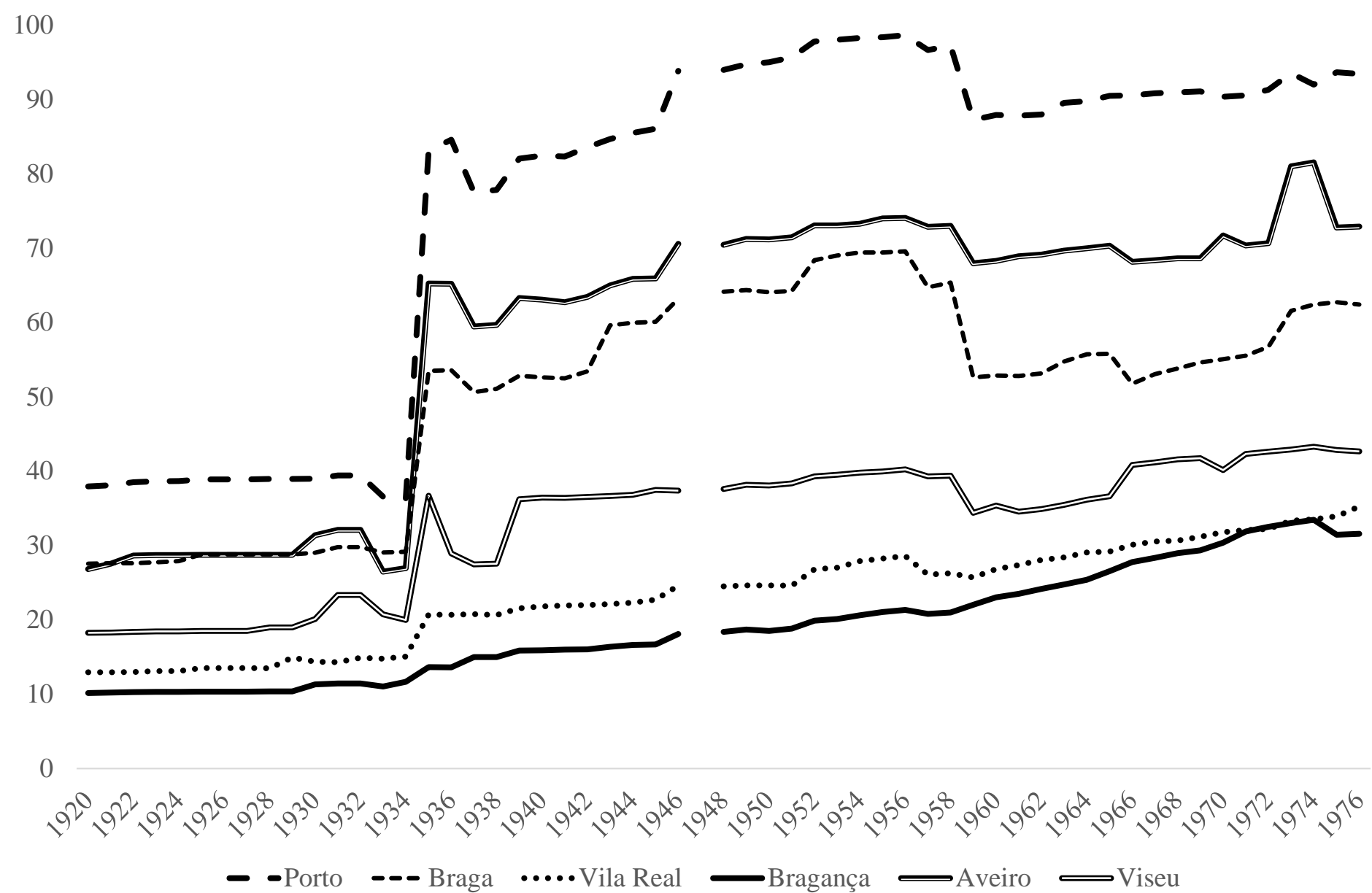
- no competition until the 1930s
- innovation limited and restricted to rolling stock and small improvements in the stations



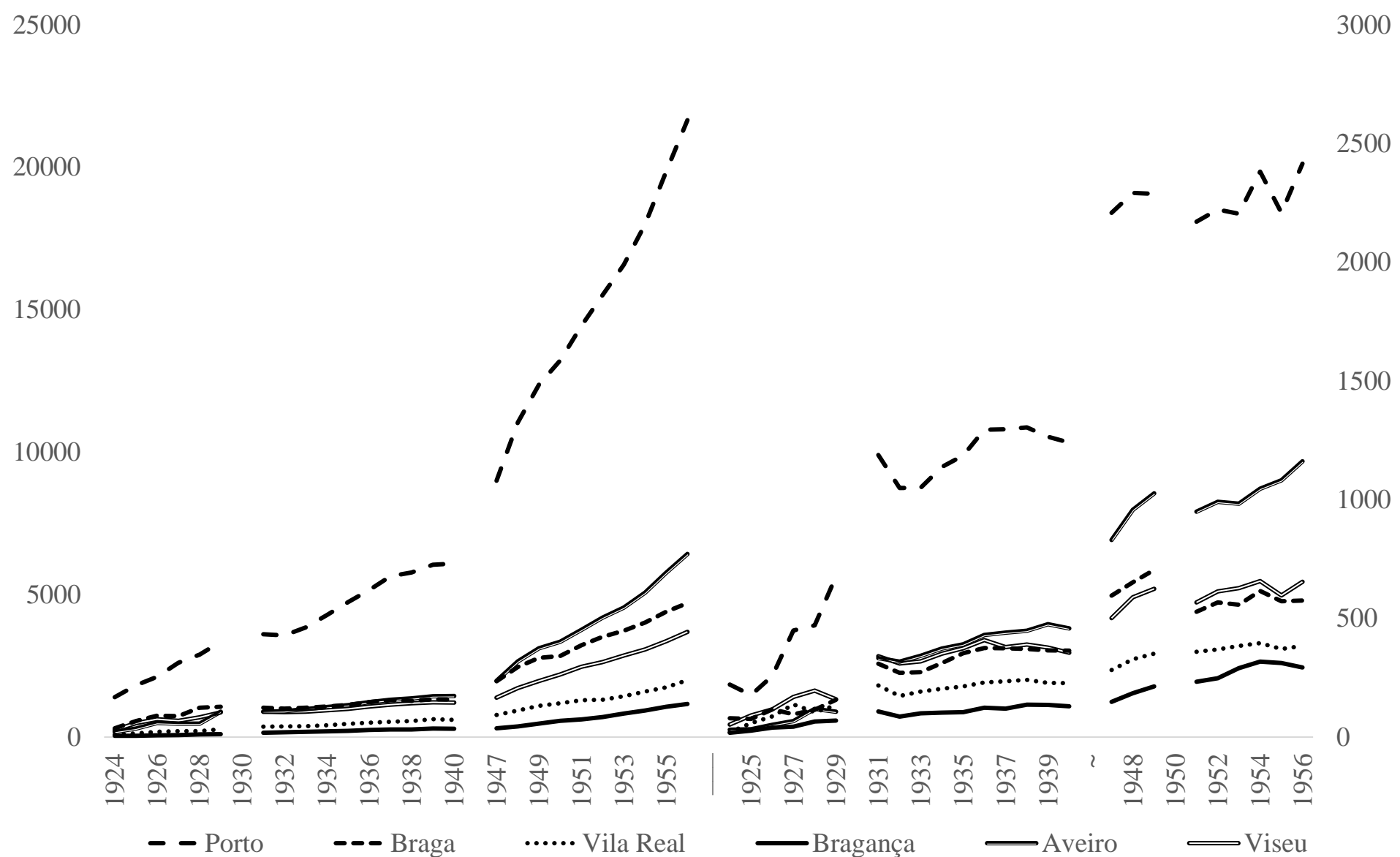
LYDYA

Competition and innovation

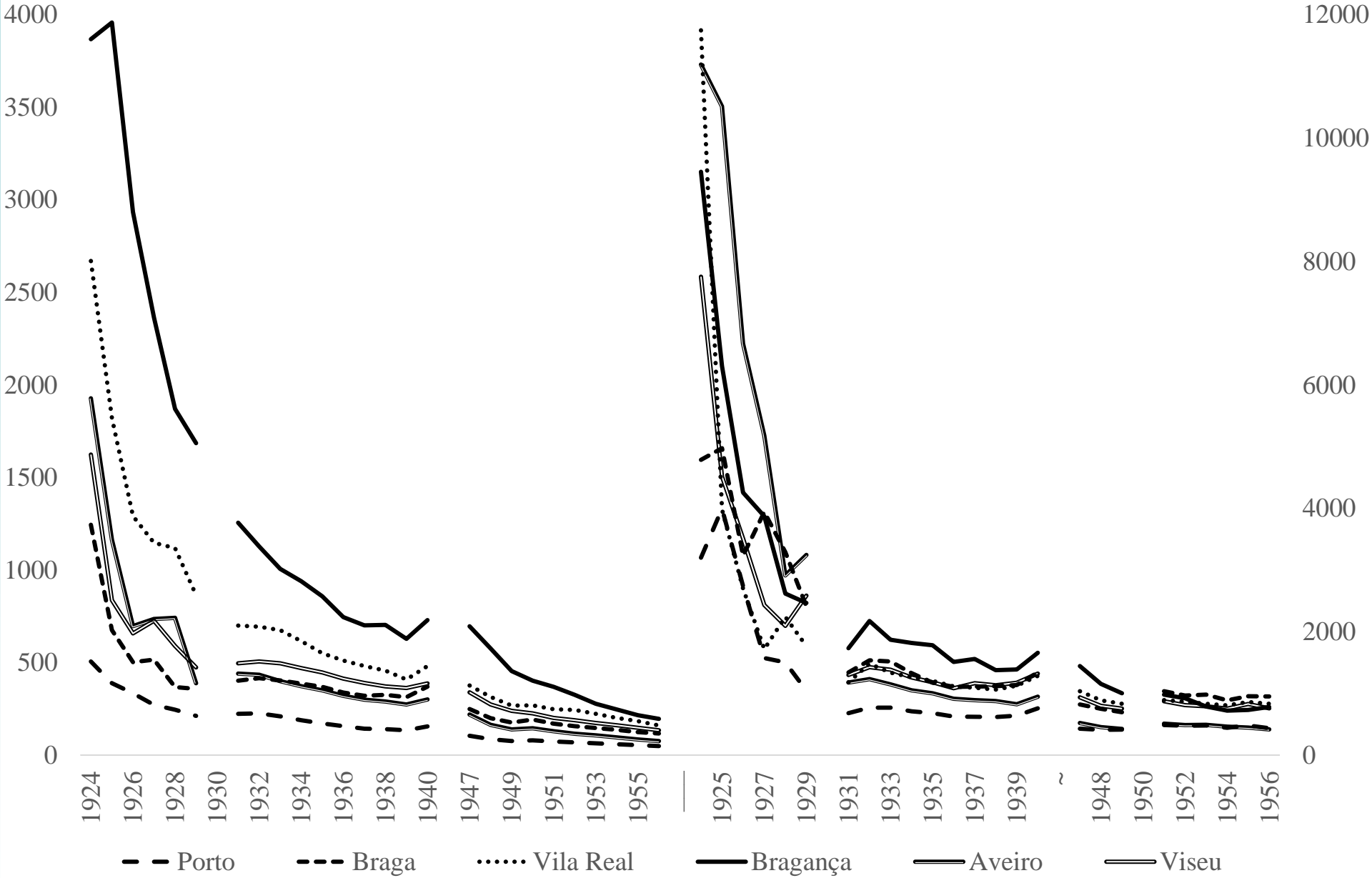
- no competition until the 1930s
- innovation limited and restricted to rolling stock and small improvements in the stations
- improvisation during WWI
- telephone competition (since the 1920s)
- electrification of the country (since the 1920s)
- automobile competition from the mid-1930s



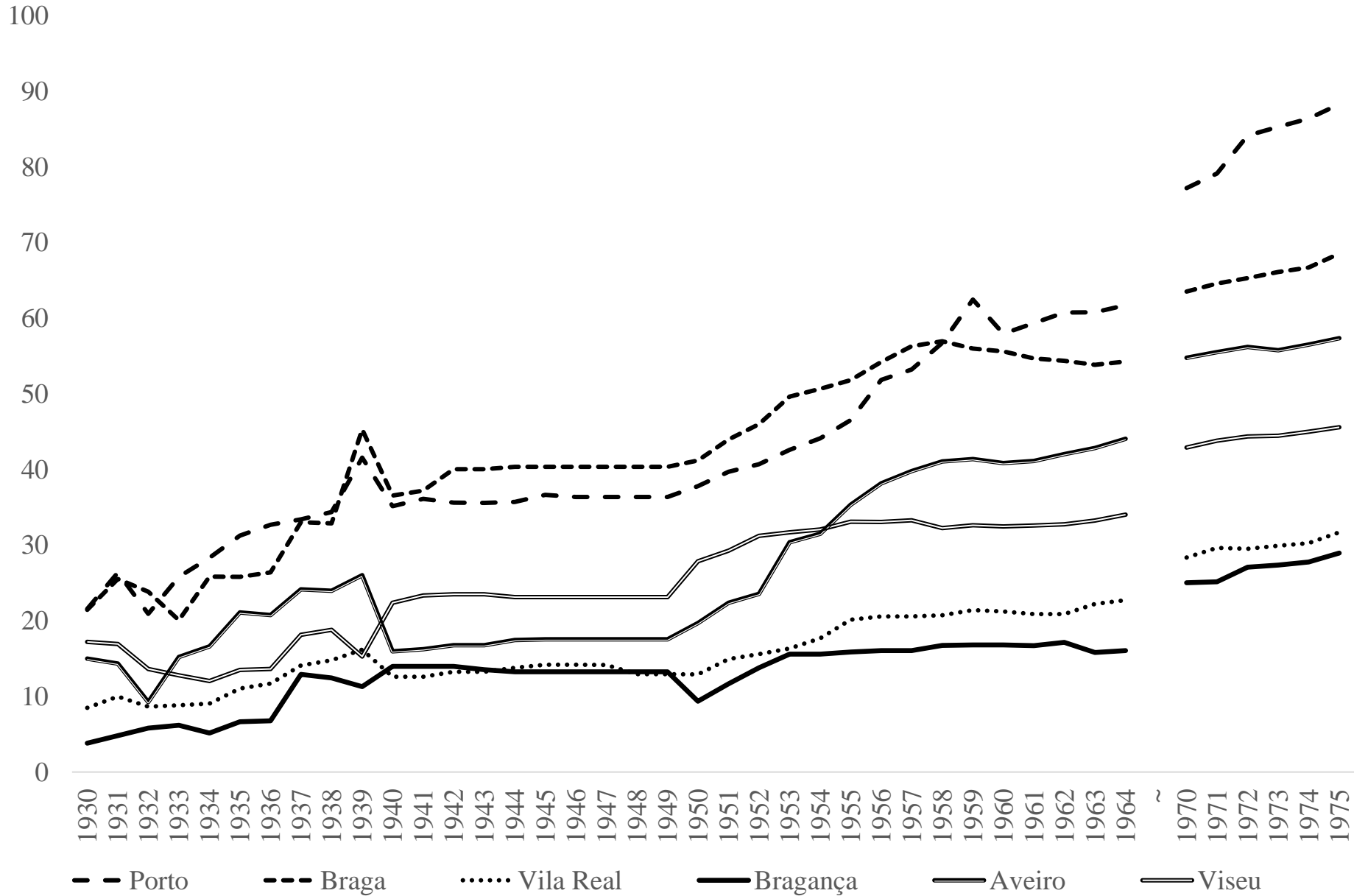
Roads/district (Porto, Braga, V. Real, Bragança, Aveiro, Viseu),
1920-1976



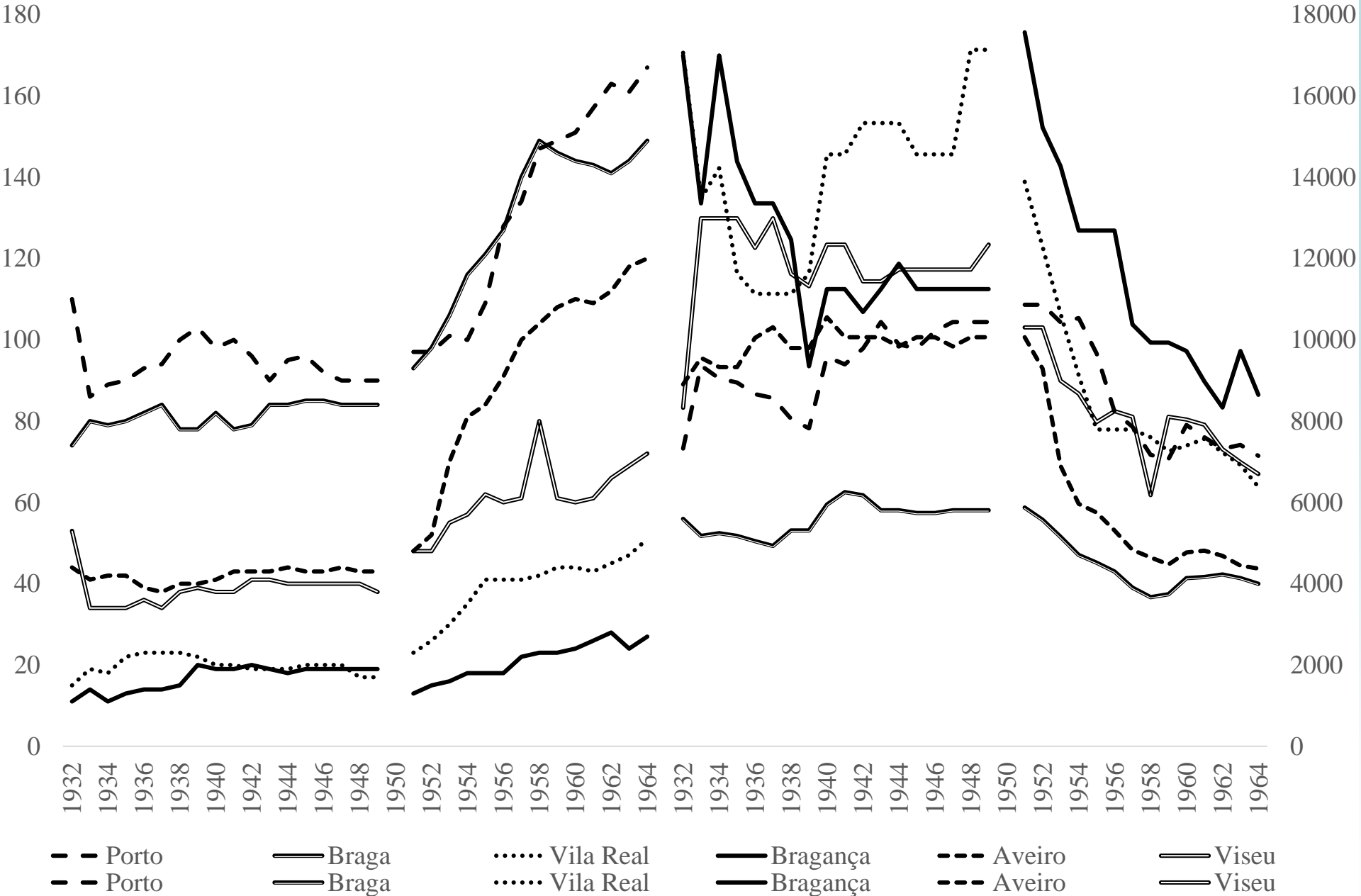
Vehicles/district (Porto, Braga, V. Real, Bragança, Aveiro, Viseu), 1924-1956



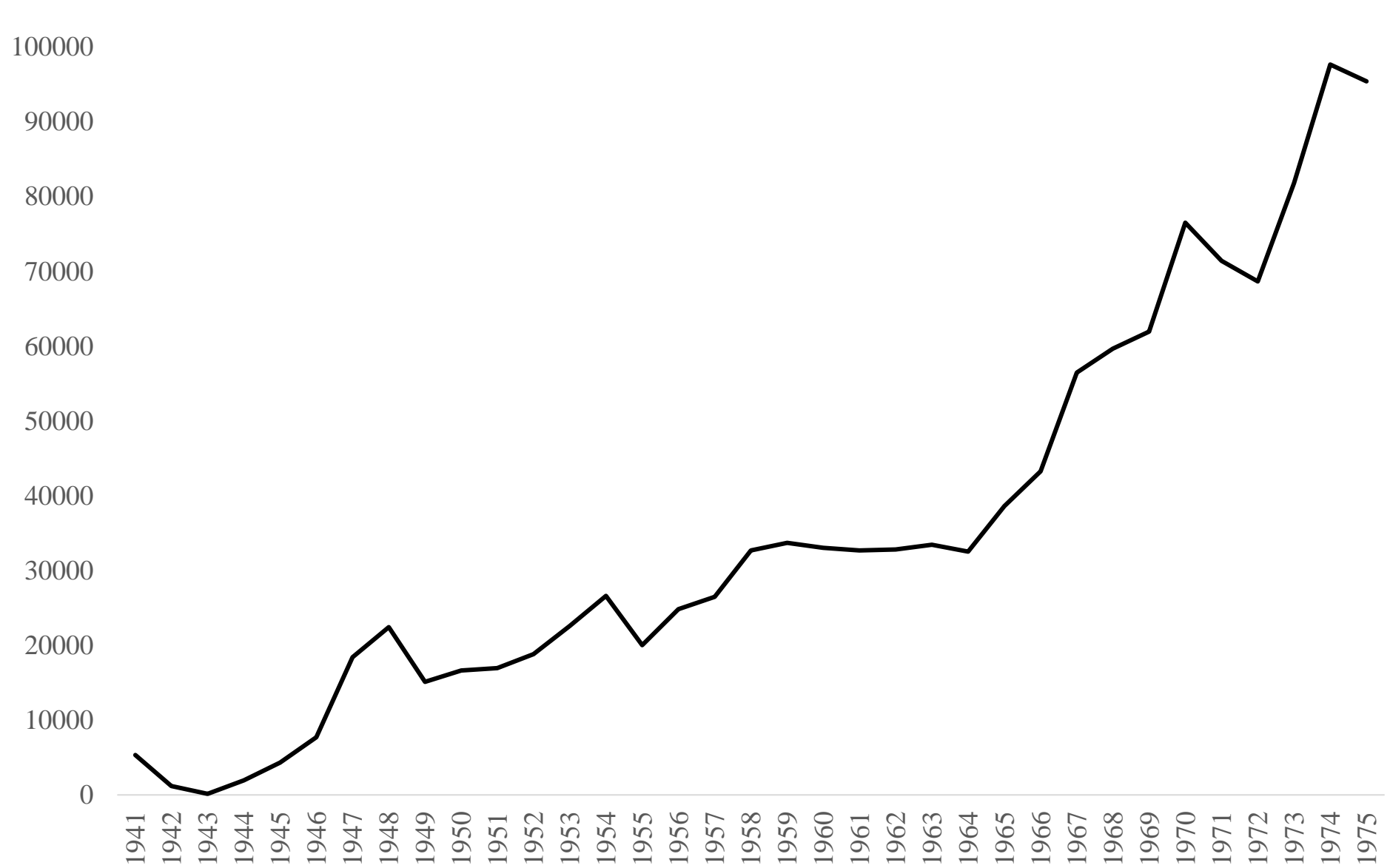
Inhabitants/car/district (Porto, Braga, V. Real, Bragança, Aveiro, Viseu), 1924-1956



Roads with regular car service/district (Porto, Braga, V. Real, Bragança, Aveiro, Viseu), 1930-1975



Passenger and freight/regular car service/district (Porto, Braga, V. Real, Bragança, Aveiro, Viseu), 1932-1964



Drivers licenses

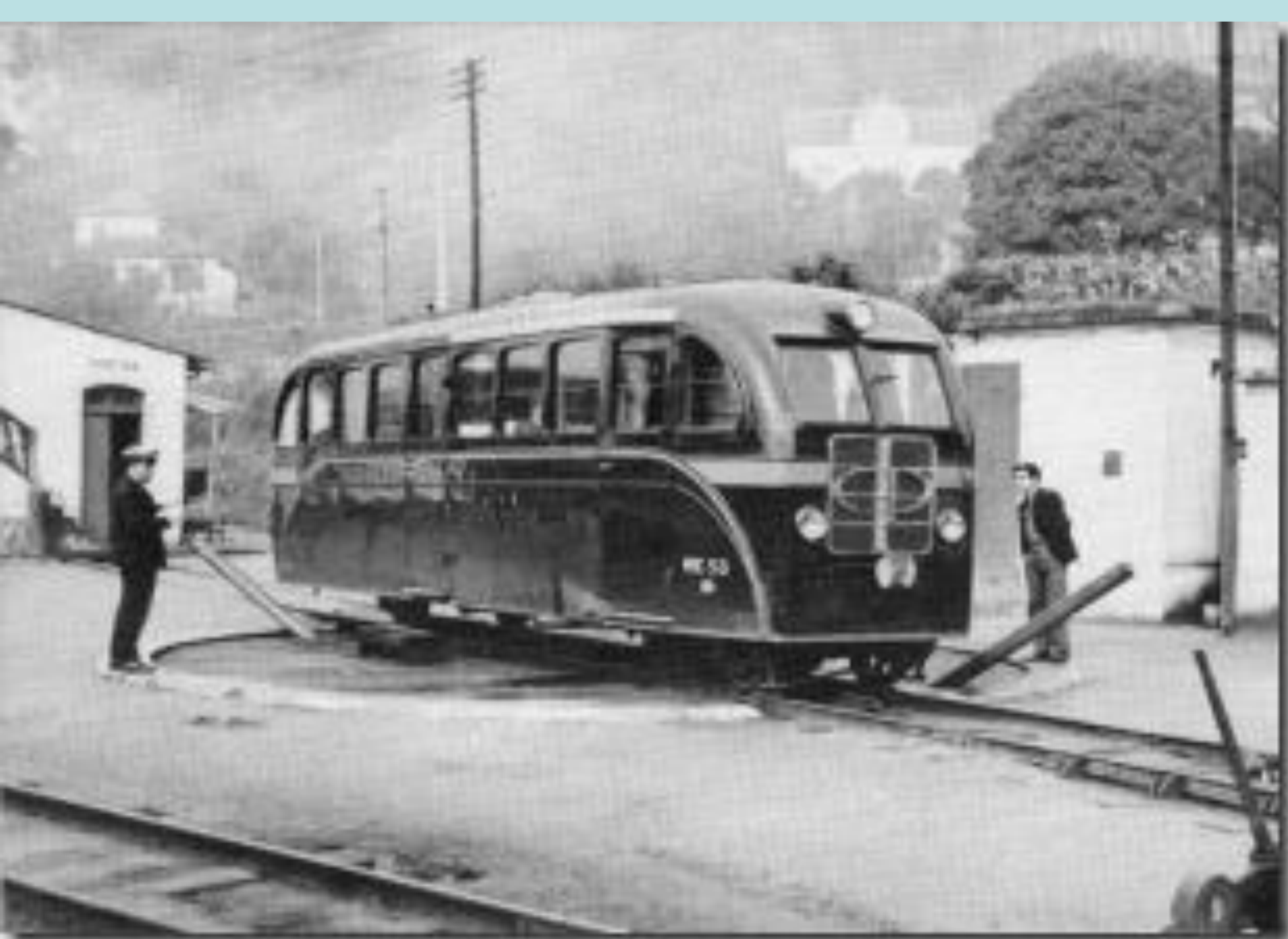
Competition and innovation

- no competition until the 1930s
- innovation limited and restricted to rolling stock and small improvements in the stations
- improvisation during WWI
- telephone competition (since the 1920s)
- electrification of the country (since the 1920s)
- automobile competition from the mid-1930s:
 - In areas also served by railways
 - Automobiles did not pay the maintenance of the roads
 - Issue of transshipment and no sharing of costs between lines

Competition and innovation

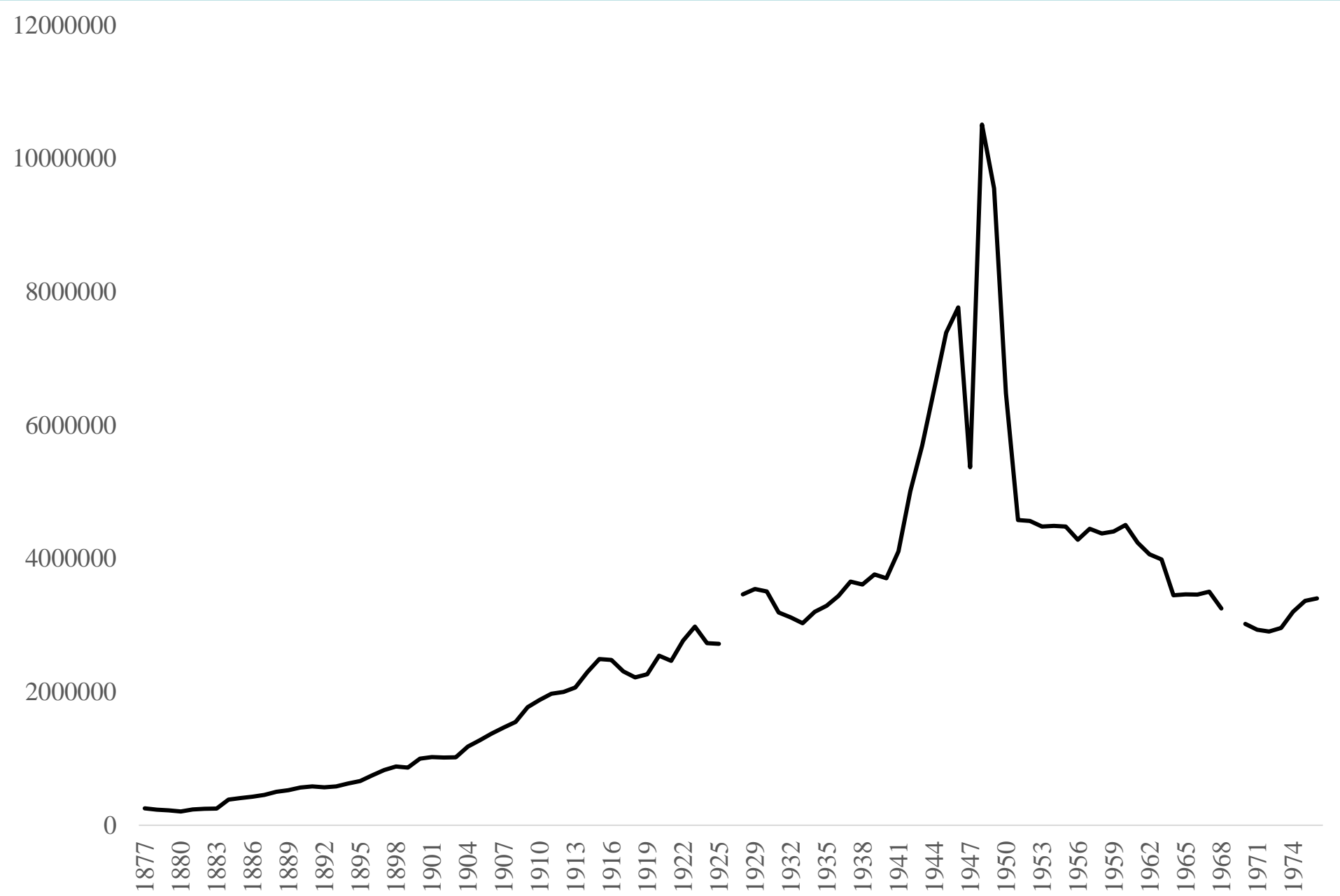
- innovative and not so innovative solutions:
 - Maintenance cuts
 - Combined services with road transportation
 - Unification of operation (1927 and 1951)
 - Acquisition of new rolling stock (especially rail cars)



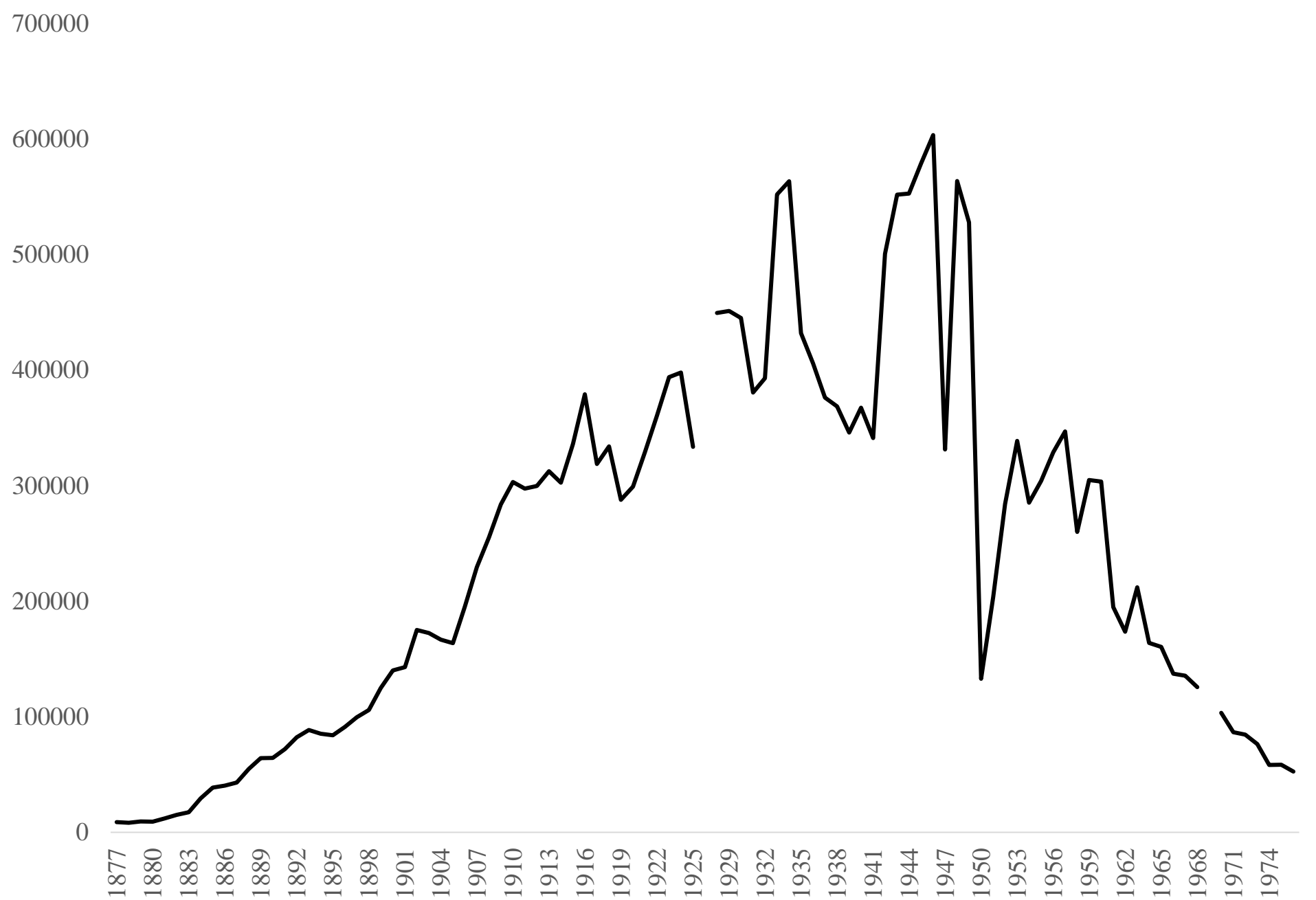








Passengers (1878-1974)



Freight (1877-1974)

Decline

- innovation and fiercer competition from automobile
 - Moderner, more comfortable
 - Faster: 24.7-31.6 km/h vs 60 km/h (1930s)
 - New motorways (especially after 1986)
 - More flexible



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 - Moderner, more comfortable
 - Faster: 24.7-31.6 km/h vs 60 km/h (1930s)
 - New motorways (especially after 1986)
 - More flexible
 - Token of progress
- no palpable effort to modernize narrow-gauge railways (new rolling stock, but no investment in permanent way)
- tourism was still not a solution
- contestation against narrow-gauge amongst stakeholders and suggestions to shut them down (1970s)
- closures (1988-1995 and 2008-2009)



Conclusion

- Narrow-gauge as a low-cost solution of territorial appropriation of the periphery
- Thrived without competition
- Built for the 19th century, could not compete with 20th century mobility technology