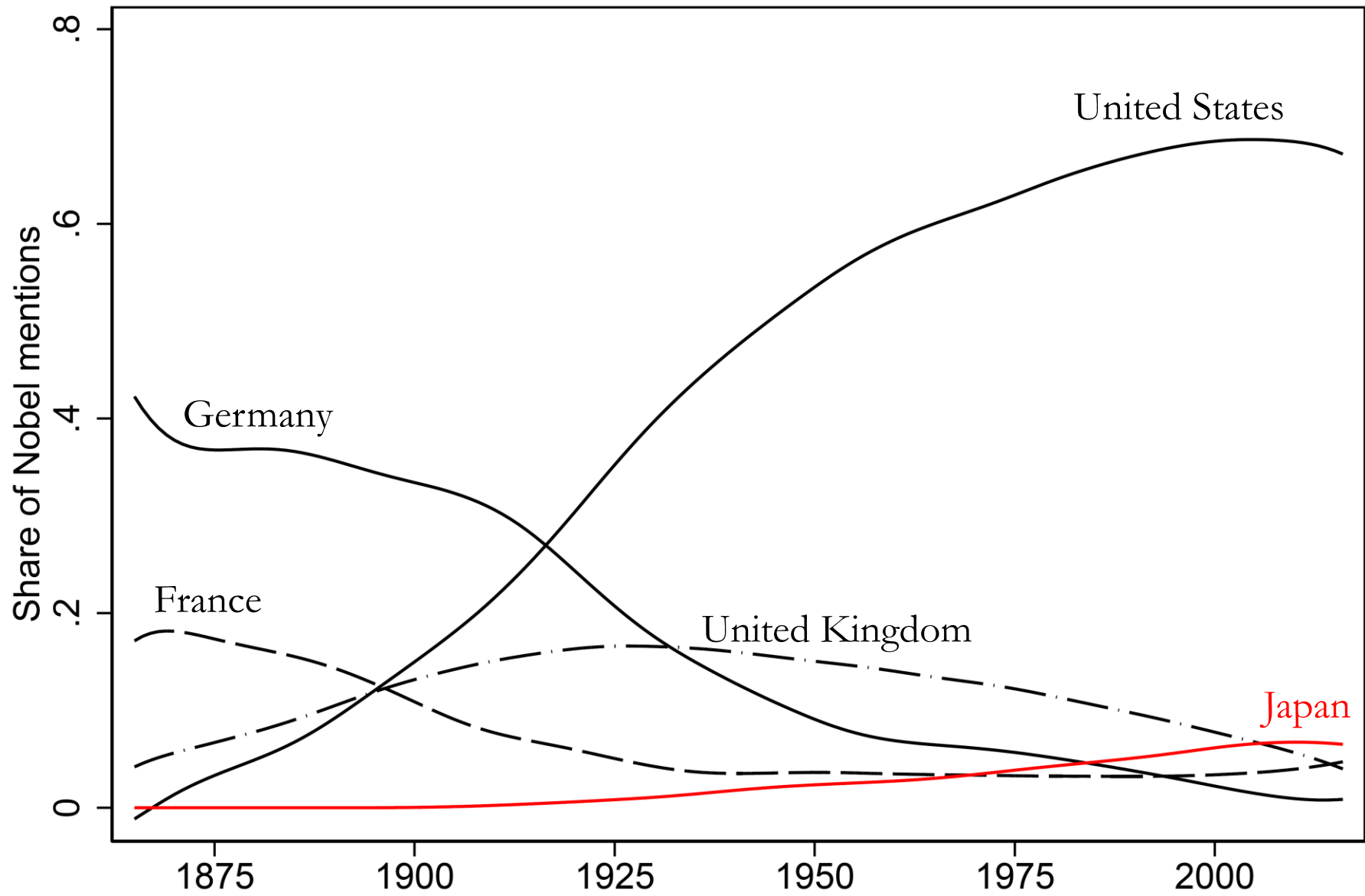


- Historical university research performance
 - Plenty of data since ~1970s
 - Much less before then

- → Use Nobel prizes to develop a measure (Urquiola 2020)
 - A university gets a *mention* when it appears in a laureate's bio/CV
 - e.g., as a professor or student

→ Imperfect measure that reaches into the 1800s

Rank	Country	Total mentions
1	United States	1,548
2	United Kingdom	424
3	Germany	388
4	France	151
5	Japan	77



- Why did the U.S. lead?
 - Developed a market-oriented system; markets amplify:

1) *Differentiation between schools*

- The system features different types of schools (e.g., 2-year, 4-year)
 - Variation in prestige, price, research-orientation

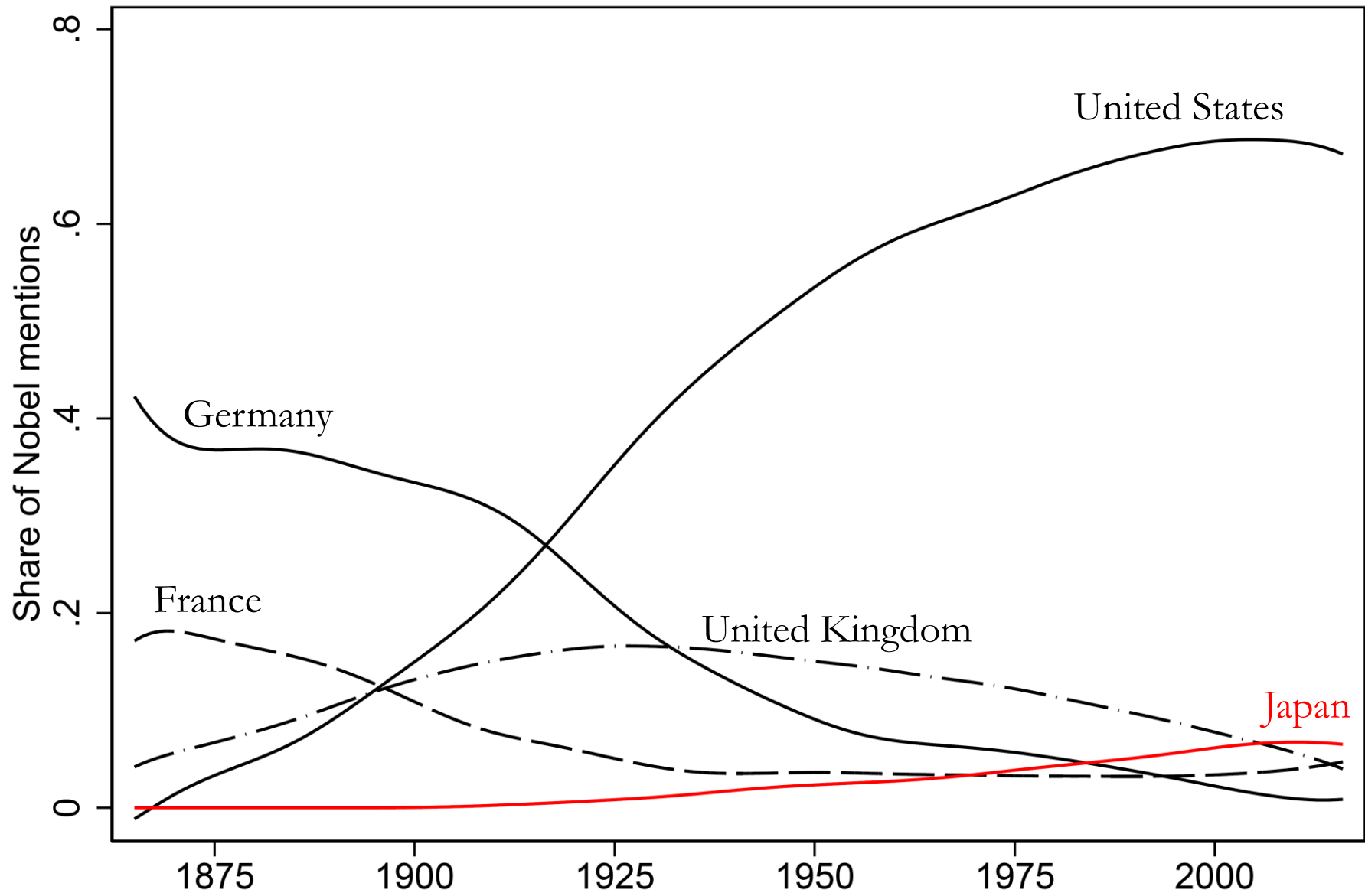
2) *Variation in school reputation*

- Research influences some schools' reputation →
 - The system developed measures of research performance
 - Some schools pay faculty on that basis

- Initially the U.S. system was modeled on the European
- However, Europe's is largely centralized/state-controlled. What happened?
- Europe originally had a decentralized system
 - This ended with the Protestant Reformation
- By contrast, the U.S. college system arose in a setting with religious diversity
 - Multiple denominations each built colleges
 - Each school had to ensure its survival

This created massive entry

- In 1776 the U.S. had 9 colleges; by 1861, more than 900 had entered
 - Colleges were small, poor; taught a basic curriculum; weak at research



This created massive entry

- In 1776 the U.S. had 9 colleges; by 1861, more than 900 had entered
 - Colleges were small, poor; taught a basic curriculum; weak at research
- Differentiation began via entry; e.g.,
 - Cornell, John Hopkins
- Schools like Harvard, Columbia responded by investing in
 - Advanced/specialized instruction
 - Research

- → Differentiation in reputation, e.g.,
 - Degree of research orientation
 - Rise of selective admissions

- → Differentiation in resources
 - *Some* schools (e.g., “Ivy plus”) gained access to enormous resources
 - Tuition, donations, federal funding

- → Some schools have means/motivation to measure/fund research, e.g.,
 - Stratified journals
 - Tenure

Implications – U.S. performance arises from allowing roles for:

1) **Differentiation between schools**

- Large variation in prestige, price, mission research-orientation

2) **Variation in school reputation**

- Some schools' reputation varies with research
- They have the means/incentive
 - To *measure* and *pay for* research performance