

*Why is the rate of  
entrepreneurship so low in  
Japan?*

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# Purpose

- Main purpose
  - To discuss how and why the rate of entrepreneurship is so low in Japan.
- What types of individuals are willing to become an entrepreneur?
  - To show the relationship between **entrepreneurship** (measured by TEA) and the individual's **personal attributes**.
  - To show the relationship between **entrepreneurship** (measured by TEA) and **entrepreneurial attitudes**.
- In addition, we examine what types of individuals become a business angel.

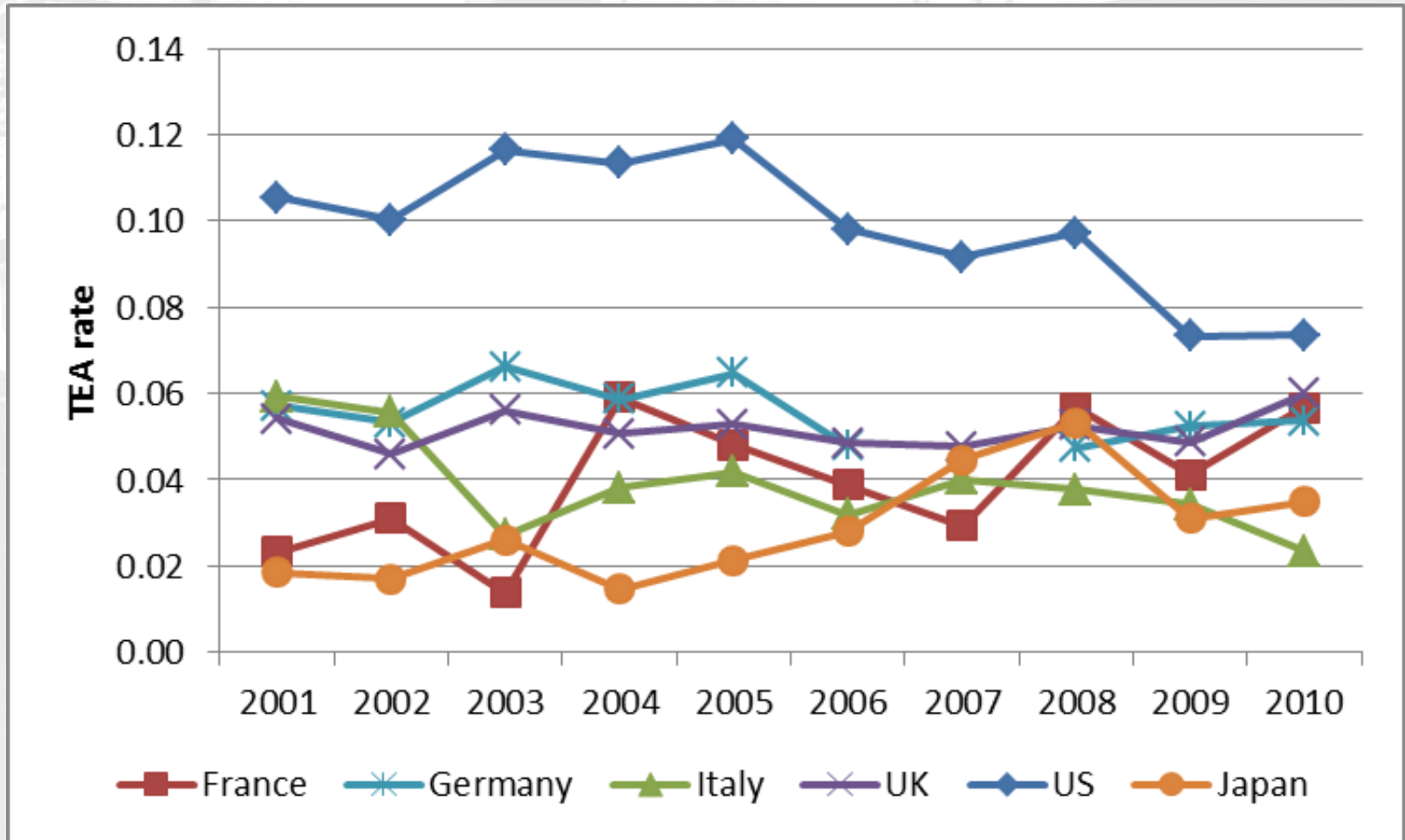
# Data

- Data source
  - APS Global Individual for 2001–2010
- Sample
  - Individuals aged 18–64 years old
  - Sample size: approximately 960,000
- Major variable
  - TEA: This index is used to measure early-stage entrepreneurial activity (entrepreneurship).  
Cf. HEA: Additionally, this index is used to measure high-growth expectation early-stage entrepreneurial activity (high-growth entrepreneurship).
- Methods
  - To compare the Japanese case with other developed countries' (part of G7) ones
  - To identify what factors affect the rate of entrepreneurship by estimating the model of TEA.

# Japan's TEA rate

- Recent trend
  - The TEA rate of Japan is lower after the so-called “Lehman Shock.”
- International comparison
  - The TEA rate of Japan is lower than that of other developed countries.

# Figure 1. TEA rate (percentage of TEA “yes”)

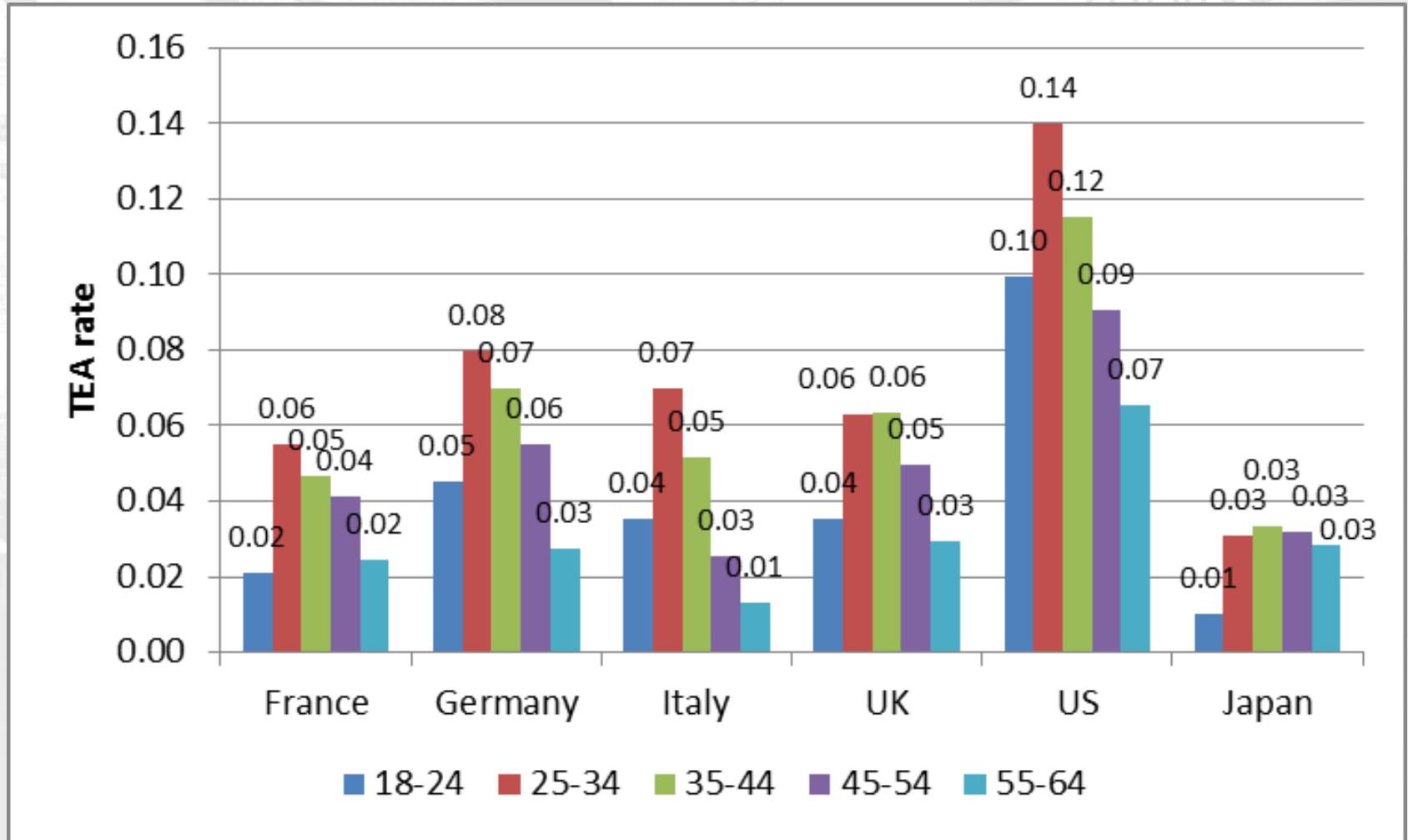


Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64

# TEA rate and personal attributes

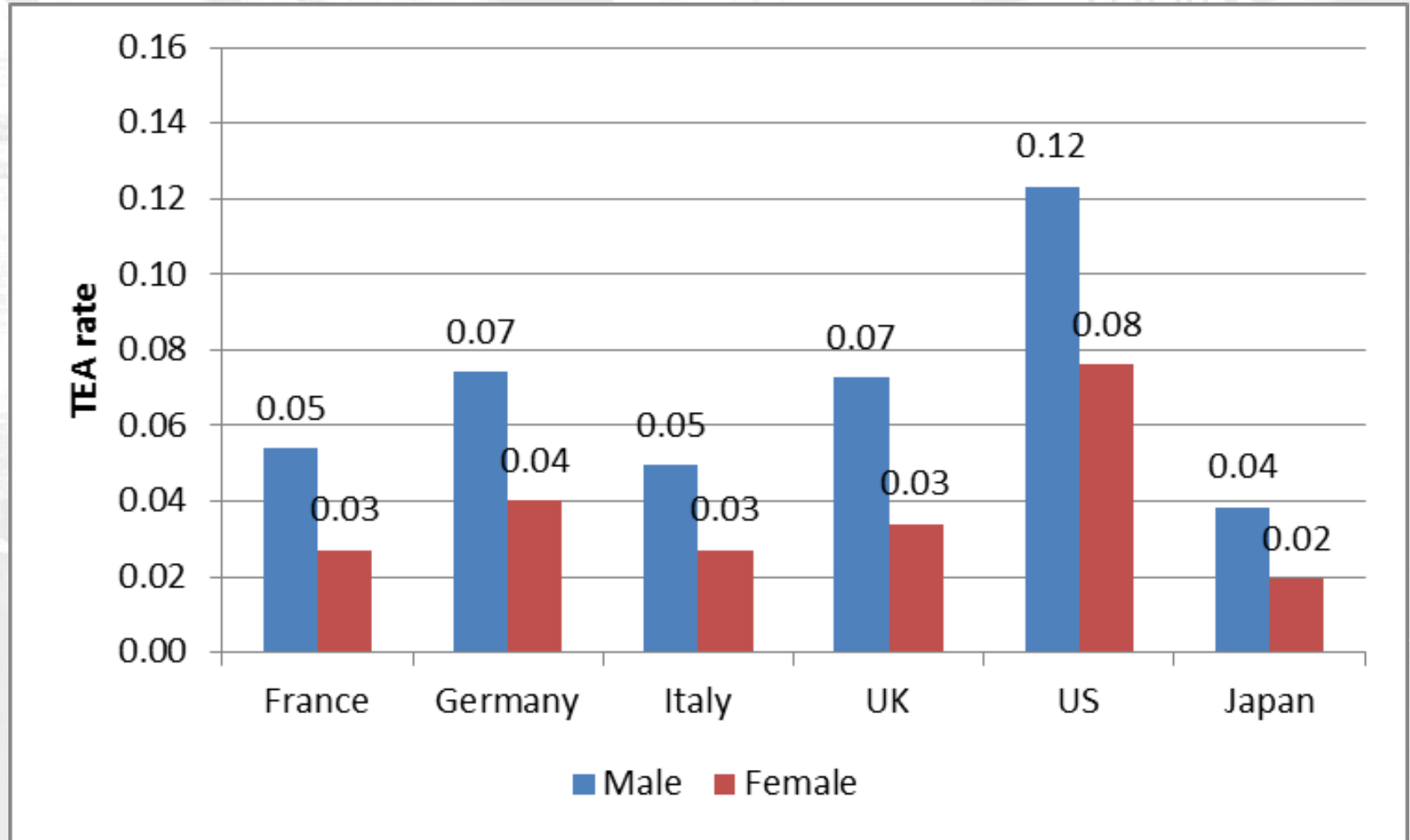
- TEA rate and personal attributes in the developed countries
  - Age
    - While the TEA rate of individuals aged 25–34 is higher in the developed countries, the TEA rate of individuals aged 35–44 is higher in Japan.
  - Gender
    - The TEA rate of females is lower in all the developed countries.
  - Educational levels
    - The TEA rate of highly educated individuals is higher in all the developed countries.

# Figure 2. TEA rate and age



Source: APS Global Individual for 2001-2010  
 Note: Targets for individuals aged 18-64

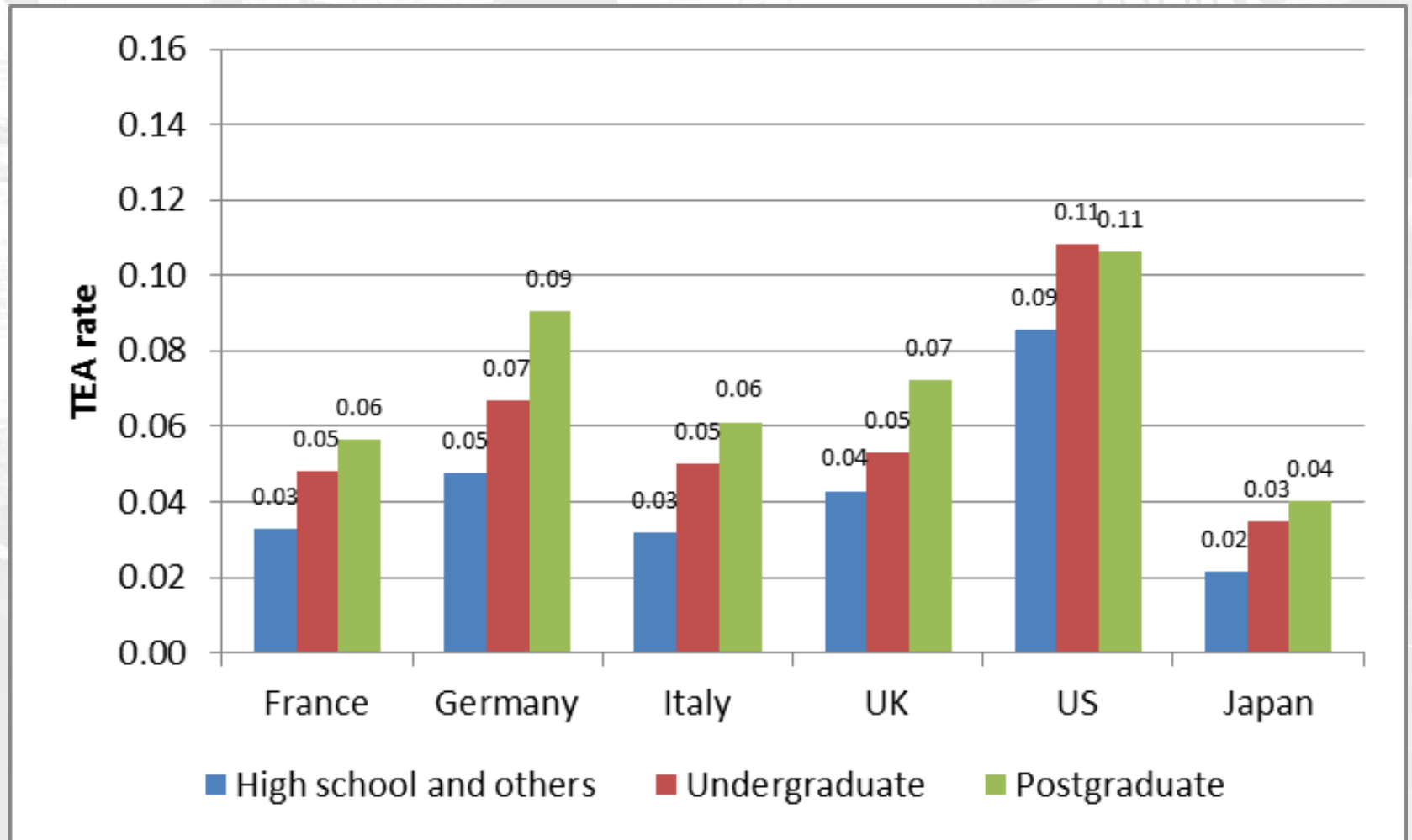
# Figure 3. TEA rate and gender



Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64



# Figure 4. TEA rate and education levels



Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64

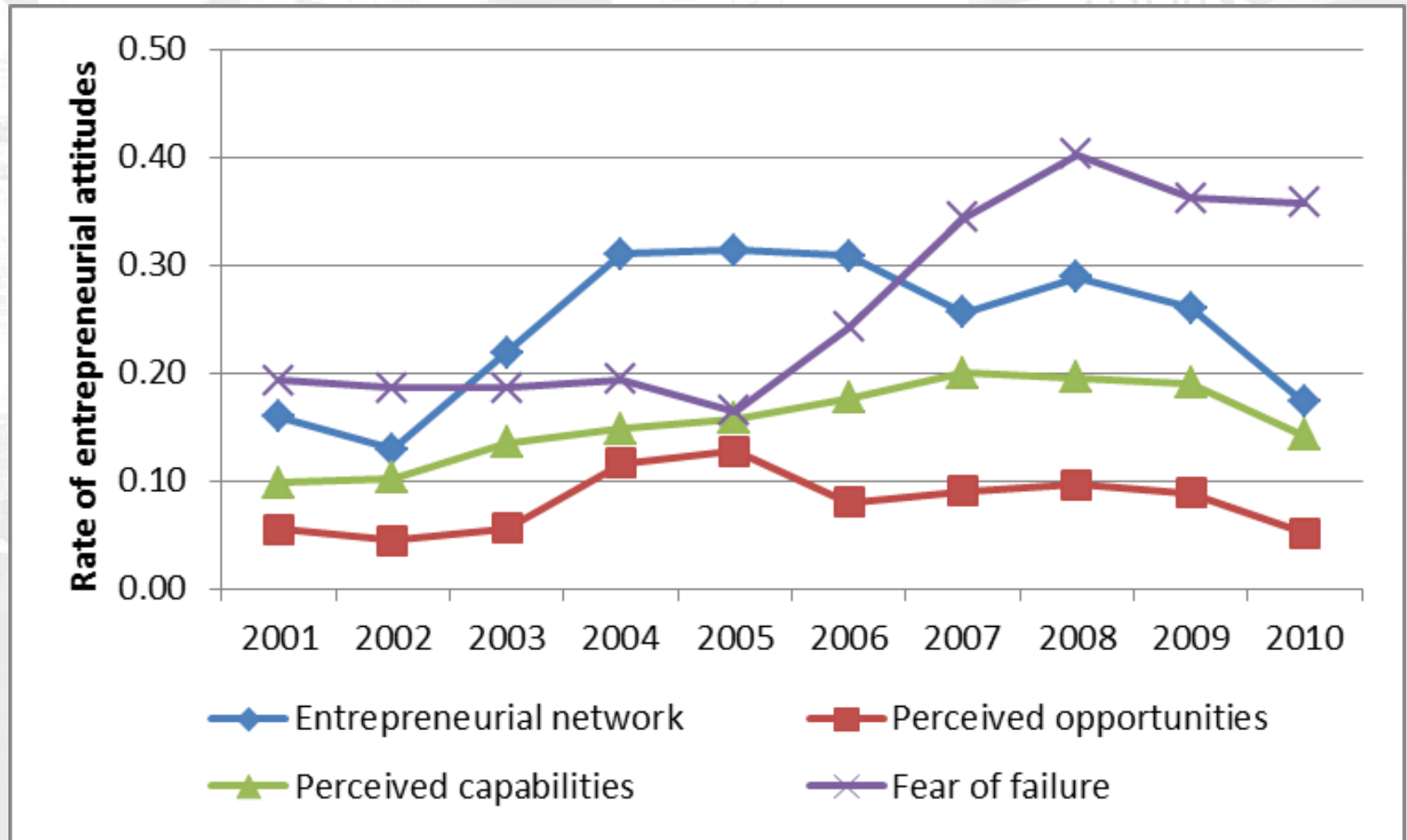
# Four entrepreneurial attitudes

- **Entrepreneurial network**
  - Individuals who know someone personally that start a business in the past two years are more likely to pursue entrepreneurship.
- **Perceived opportunities**
  - Individuals who have good opportunities for starting a business in the next six months are more likely to pursue entrepreneurship.
- **Perceived capabilities**
  - Individuals who have the knowledge, skill and experience required to start a new business are more likely to pursue entrepreneurship.
- **Fear of failure**
  - Individuals who consider that fear of failure would prevent them from starting a business are less likely to pursue entrepreneurship.

# Entrepreneurial attitudes in Japan

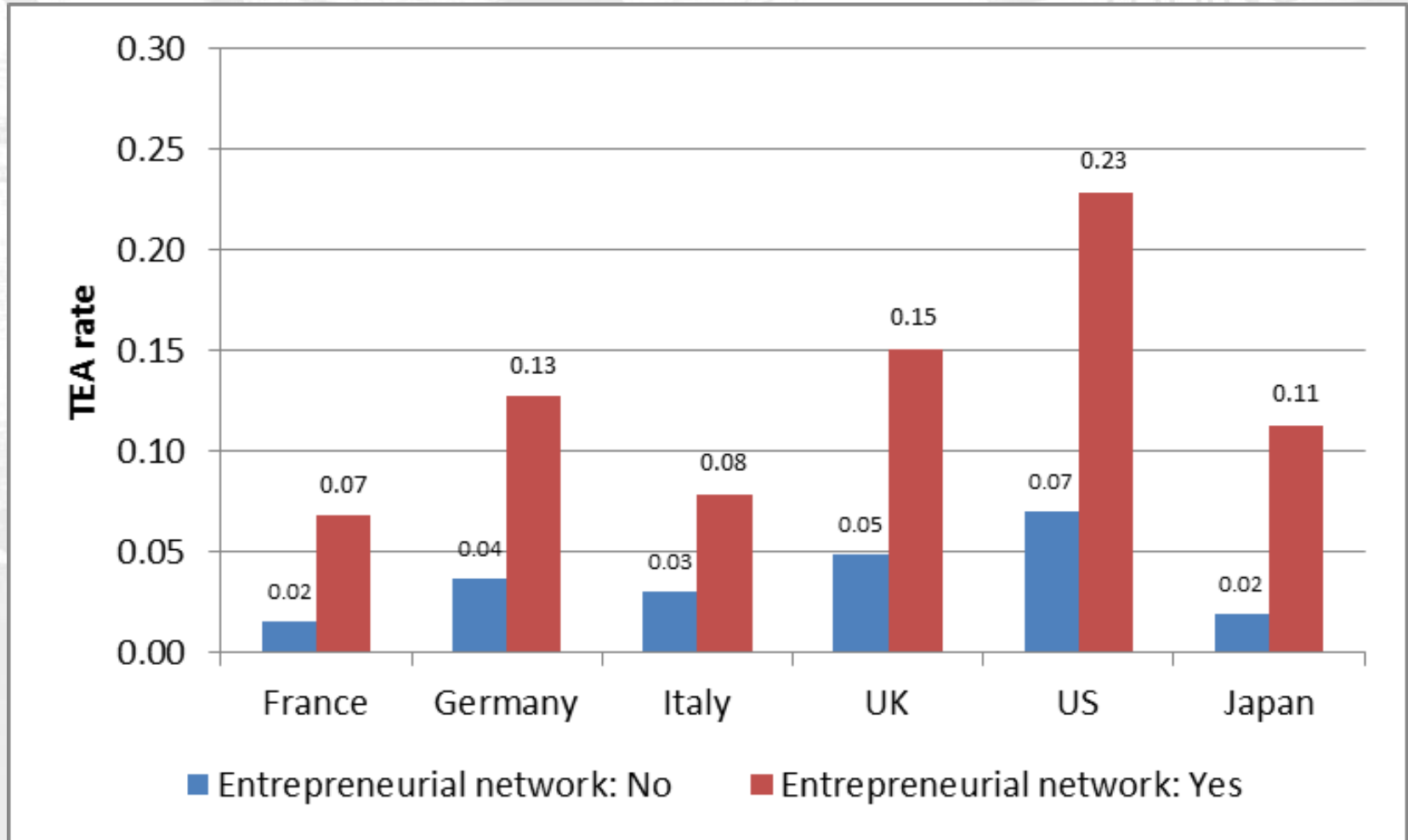
- International comparison of entrepreneurial attitudes
  - Individuals who have entrepreneurial attitudes are more likely to pursue entrepreneurship.
  - In contrast, individual who feel the risk of failure are less likely to pursue entrepreneurship.
- Special characteristics for entrepreneurial attitudes in Japan
  - The rate of individuals who have entrepreneurial attitudes (except for the fear of failure) in Japan is much lower in other developed countries.
  - However, individuals who have entrepreneurial attitudes, especially **perceived capabilities**, in Japan tend to pursue entrepreneurship. Its rate is similar to that in the United States.

# Figure 5. Entrepreneurial attitudes in Japan



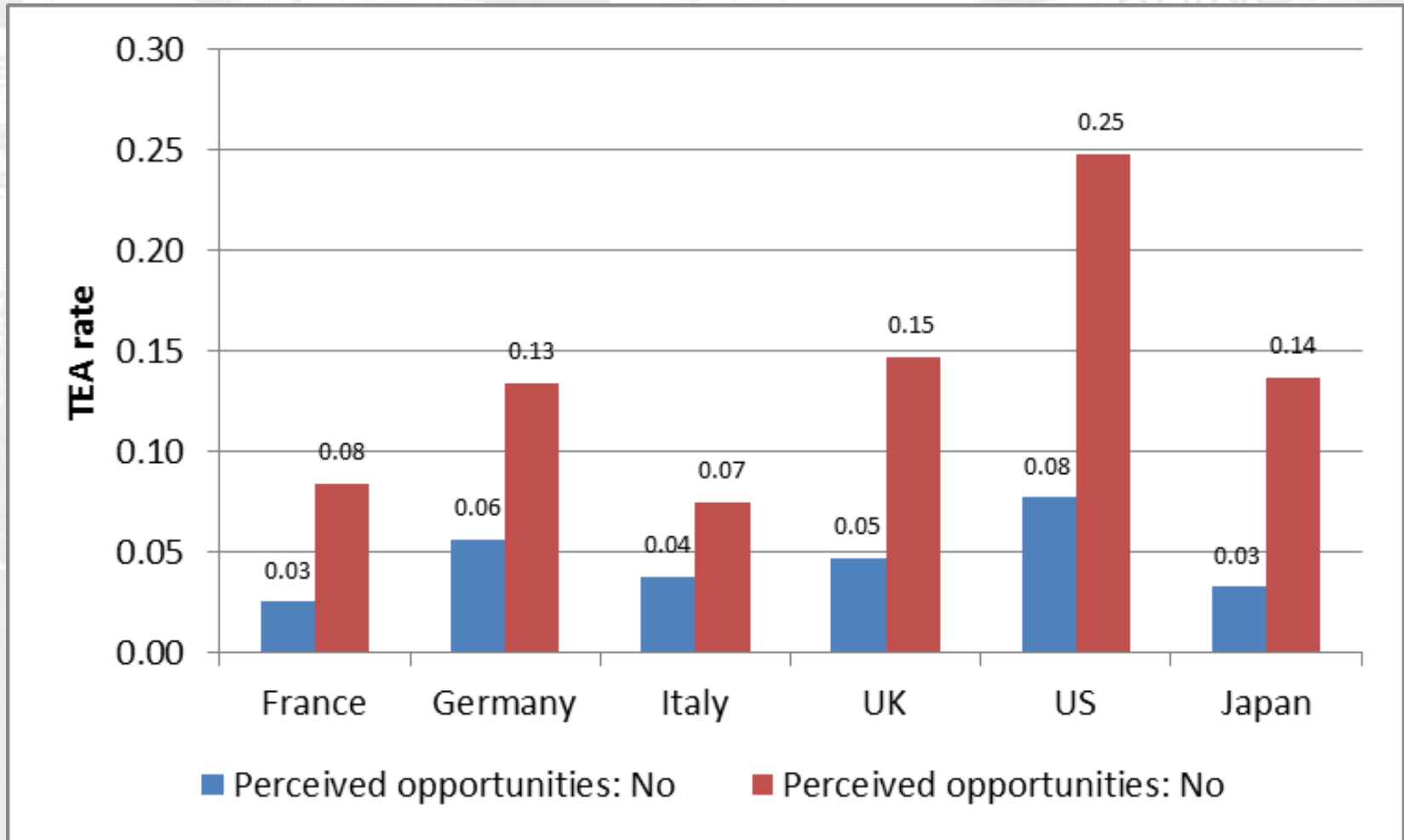
Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64

# Figure 6. TEA rate and entrepreneurial network



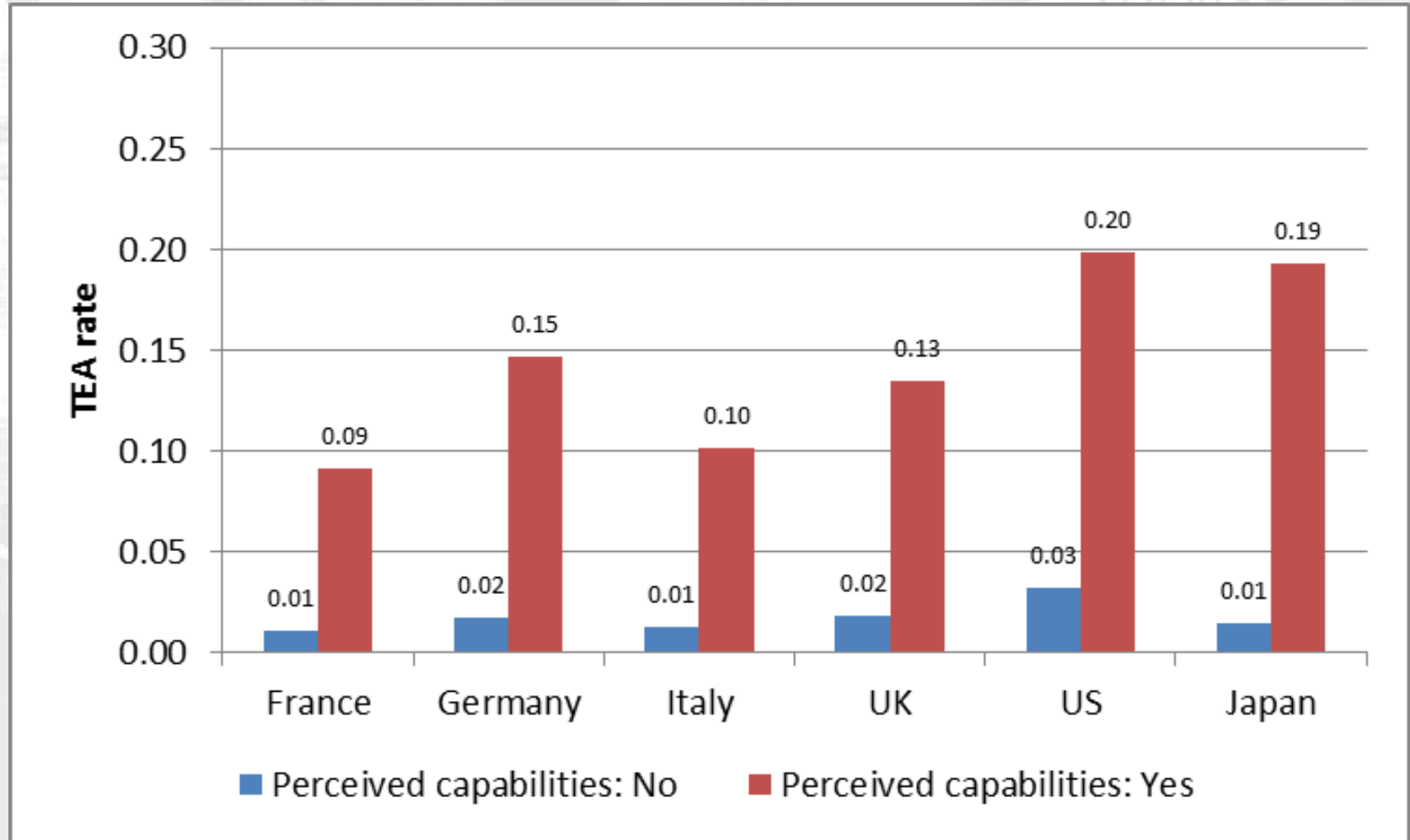
Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64

# Figure 7. TEA rate and perceived opportunities



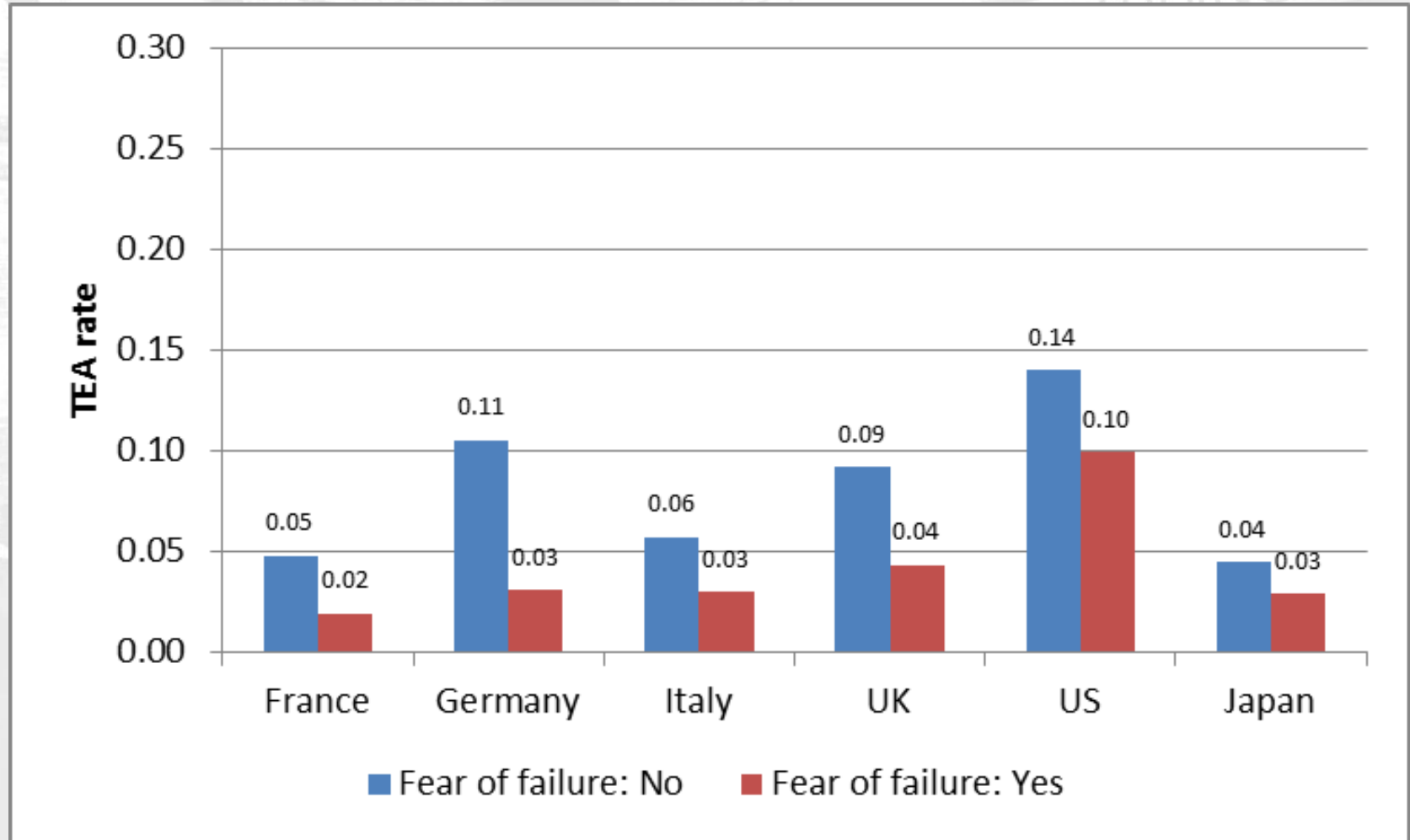
Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64

# Figure 8. TEA rate and perceived capabilities



Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64

# Figure 9. TEA rate and fear of failure



Source: APS Global Individual for 2001-2010  
Note: Targets for individuals aged 18-64



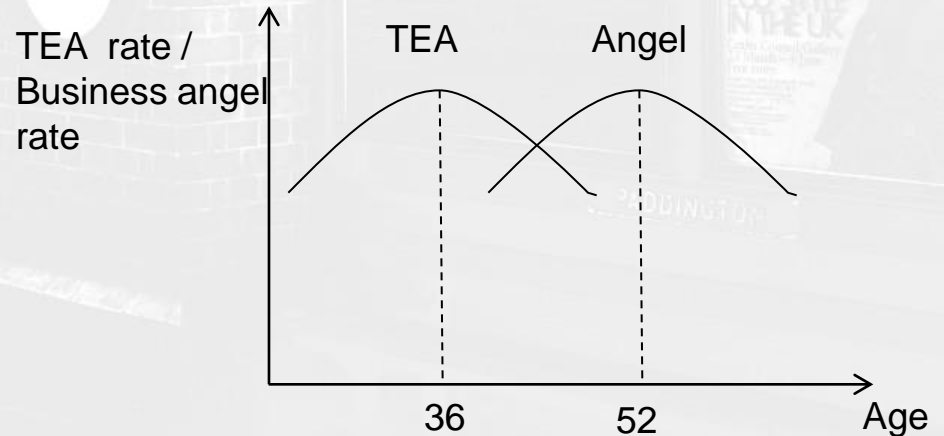
# Model estimation

- Model
  - Dependent variable:
    - The individual has entrepreneurship if  $TEA=1$ ; the individual does not have entrepreneurship if  $TEA=0$ .
  - Independent variables:
    - Personal characteristics (Age, Gender, and Education levels)
    - Entrepreneurial attitudes
    - National attitudes perceived by individuals (but I do not show the results for these variables.)
    - Control variables (Year dummies and Country dummies)
- Data
  - Individuals aged 18–64 in all countries  
(I omit the summary statistics of the variables.)
- Estimation method
  - Probit model (binary choice model)

# Estimation results

- Results

- See Tables 1-3.
- I provide evidence to support the findings of the above-mentioned survey.
- The results of HEA are similar to those of TEA (regarding the results for all countries).
- The results of business angel are similar to those of TEA (regarding the results for all countries). But, the peak of the business angel rate for age is higher than that of the TEA rate.



# Estimation results

- About the country dummies for the model of TEA
  - Higher than Japan
    - ⇒ Canada, China, Korea, Taiwan, US, and etc.
  - Not significantly different from Japan
    - ⇒ Russia, UK, and etc.
  - Lower than Japan
    - ⇒ France, Germany, Italy, and etc.
- Results for Japan
  - The effects of some variables (e.g., undergraduate) are not significant.
  - Among entrepreneurial attitudes, in particular, **perceived capabilities have a significantly effect on TEA and HEA.**

# Concluding remarks

- Characteristics of entrepreneurship in Japan
  - Entrepreneurship in Japan is lower than in other developed countries.
  - Entrepreneurial attitudes (except for the fear of failure) in Japan is lower than in other developed countries.
  - Individuals whose entrepreneurial attitudes are higher (but the fear of failure is lower) are more likely to become an entrepreneur in the countries, including Japan.

In particular, the TEA rate for individuals who have perceived capabilities in Japan is as high as in the United States.

# Concluding remarks

- Is it difficult to become an entrepreneur in Japan?
  - Maybe “Yes,” but **individual who have perceived capabilities tend to become an entrepreneur.**
  - Thus, we consider that low entrepreneurship in Japan results from **low entrepreneurial attitudes.**
- Why do Japanese people have so low entrepreneurial attitudes?
  - They are careful and attentive?
    - ⇒ Rather, rational behavior (lack of “animal spirits”)
- Policy implications for promoting entrepreneurship in Japan
  - Education for entrepreneurial capabilities
  - Risk reduction in the economic society

**Table 1. Determinants of TEA**

Variable	All countries	Japan
Age	0.050 <sup>***</sup>	0.051 <sup>***</sup>
Age × Age	-0.001 <sup>***</sup>	-0.001 <sup>***</sup>
Gender	-0.135 <sup>***</sup>	-0.142 <sup>***</sup>
Undergraduate	0.023 <sup>***</sup>	0.051
Postgraduate	0.063 <sup>***</sup>	-0.155 <sup>**</sup>
Entrepreneurial network	0.312 <sup>***</sup>	0.486 <sup>***</sup>
Perceived opportunities	0.270 <sup>***</sup>	0.228 <sup>***</sup>
Perceived capabilities	0.722 <sup>***</sup>	1.089 <sup>***</sup>
Fear of failure	-0.199 <sup>***</sup>	-0.398 <sup>***</sup>
Year dummies	Yes	Yes
Country dummies	Yes	Yes
Number of observations	977,051	12,620

Notes: \*\*\*: p<0.01, \*\*: p<0.5, \*: p<0.1

**Table 2. Determinants of HEA**

Variable	All countries	Japan
Age	0.022 <sup>***</sup>	0.061
Age × Age	-0.0003 <sup>***</sup>	-0.001
Gender	-0.303 <sup>***</sup>	-0.178
Undergraduate	0.136 <sup>***</sup>	-0.015
Postgraduate	0.246 <sup>***</sup>	-0.112
Entrepreneurial network	0.340 <sup>***</sup>	0.458 <sup>***</sup>
Perceived opportunities	0.258 <sup>***</sup>	0.341 <sup>***</sup>
Perceived capabilities	0.564 <sup>***</sup>	1.014 <sup>***</sup>
Fear of failure	-0.204 <sup>***</sup>	-0.375 <sup>***</sup>
Year dummies	Yes	Yes
Country dummies	Yes	Yes
Number of observations	970,051	12,620

Notes: \*\*\*: p<0.01, \*\*: p<0.5, \*: p<0.1

**Table 3. Determinants of business angel**

Variable	All countries	Japan
Age	0.017 <sup>***</sup>	0.055 <sup>**</sup>
Age × Age	-0.0002 <sup>***</sup>	-0.0005 <sup>*</sup>
Gender	-0.138 <sup>***</sup>	-0.022
Undergraduate	0.085 <sup>***</sup>	-0.015
Postgraduate	0.148 <sup>***</sup>	-0.053
Entrepreneurial network	0.544 <sup>***</sup>	0.916 <sup>***</sup>
Perceived opportunities	0.139 <sup>***</sup>	0.109
Perceived capabilities	0.329 <sup>***</sup>	0.400 <sup>***</sup>
Fear of failure	-0.033 <sup>***</sup>	0.066
Year dummies	Yes	Yes
Country dummies	Yes	Yes
Number of observations	968,895	12,613

Notes: <sup>\*\*\*</sup>: p<0.01, <sup>\*\*</sup>: p<0.5, <sup>\*</sup>: p<0.1