



Development of Education-Entrepreneurship Nexus in Turkey

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Total number of patent applications in Japan from 1995 to 2009 is 10,000 times as high as that in Bangladesh.

Total Number of Patent Applications by Residents, Top 5 Countries, 1995-2009

	LDC	Total Number	OECD	Total Number
1	Bangladesh	530	Japan	5,269,699
2	Madagascar	127	United States	2,666,580
3	Yemen, Rep.	109	Korea, Rep.	1,351,031
4	Uganda	37	Germany	708,335
5	Sudan	33	United Kingdom	284,516

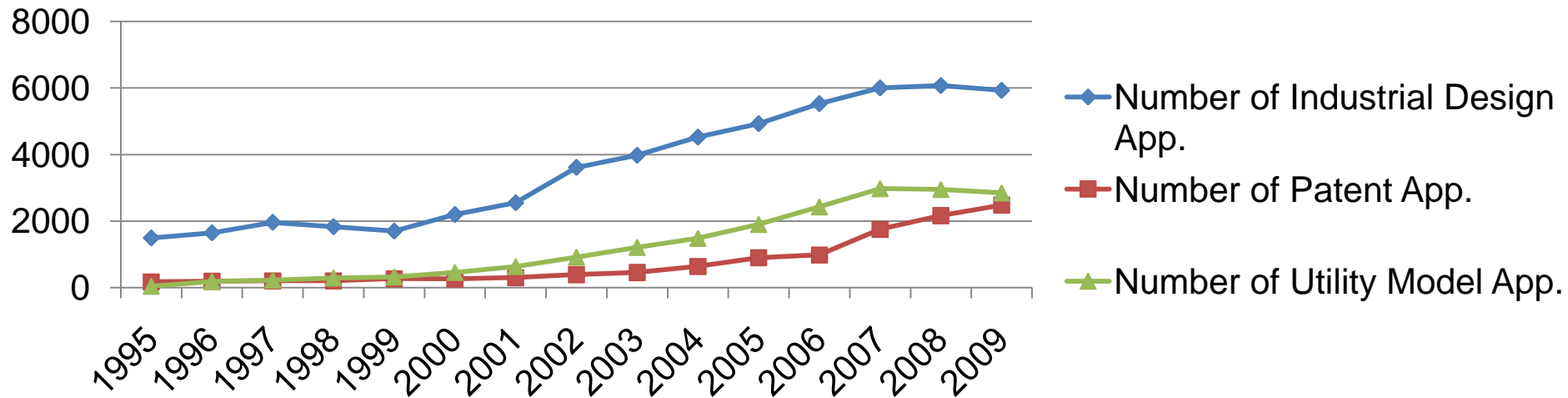
Source: WDI

Turkey has increased its ranking among the OECD countries from the 30th to the 13th row over the period between 1995 and 2009.

Ranking of Turkey in OECD Countries by Number of Patent Applications

Year	Rank
1995	30
2000	29
2005	20
2009	13

Source: WDI



Source: Turkish Patent Institute

Total number of trademark applications in the United States from 1995 to 2009 is 70 times as high as that in Bangladesh.

Total Number of Trademark Applications by Residents, Top 5 Countries, 1995-2009

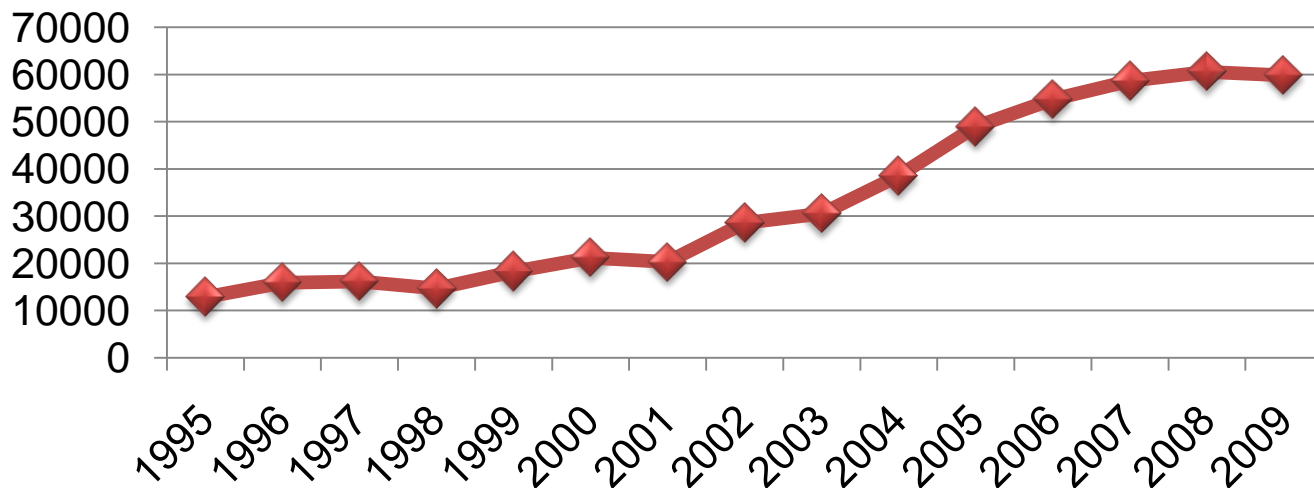
	LDC	Total Number	OECD	Total Number
1	Bangladesh	54,927	United States	3,741,255
2	Sudan	35,194	Japan	2,019,854
3	Yemen, Rep.	28,762	Korea, Rep.	1,604,484
4	Mozambique	24,203	France	1,201,040
5	Cambodia	24,011	Germany	1,138,764

Source: WDI

Turkey has moved up to the top 10 by the number of trademark applications in the OECD area.

**Ranking of Turkey in OECD Countries
by Number of Trademark Applications**

Year	Rank
1995	17
2000	15
2005	10
2009	8

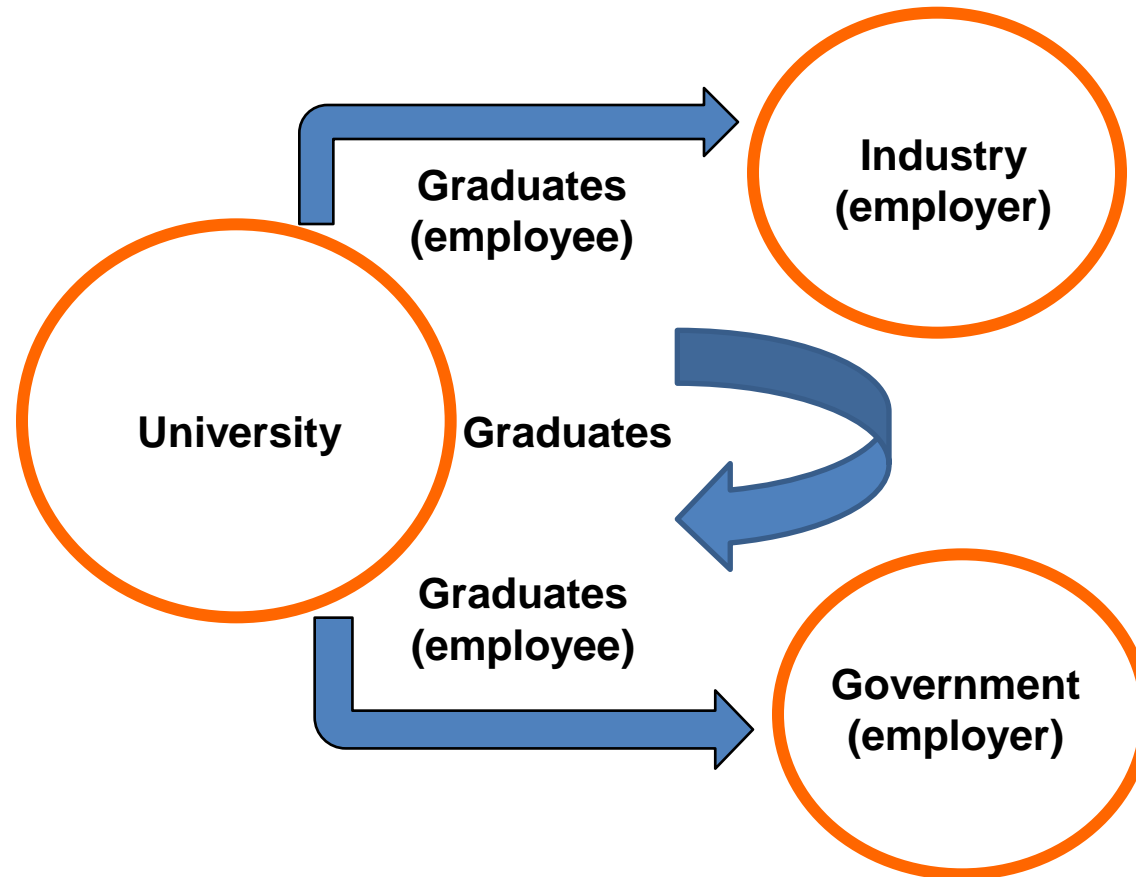


◆ Number of
Trademark App.

Source: Turkish Patent Institute

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Traditional roles of the universities, industry (private sector) and the government before the gradual shift of focus to entrepreneurship within the last decade.

Turkish University System

Students normally spend:

4 years for a Bachelor's degree

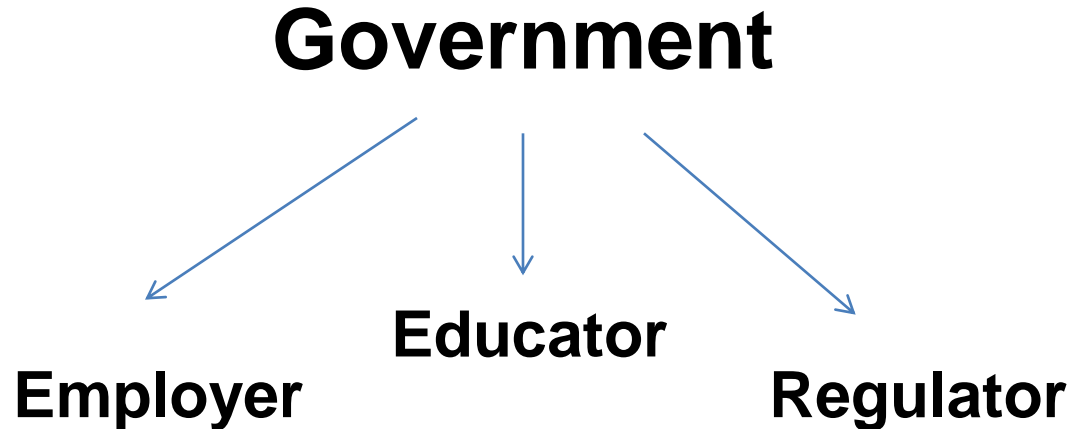
2 years for a Master's degree

2-5 years for a PhD degree



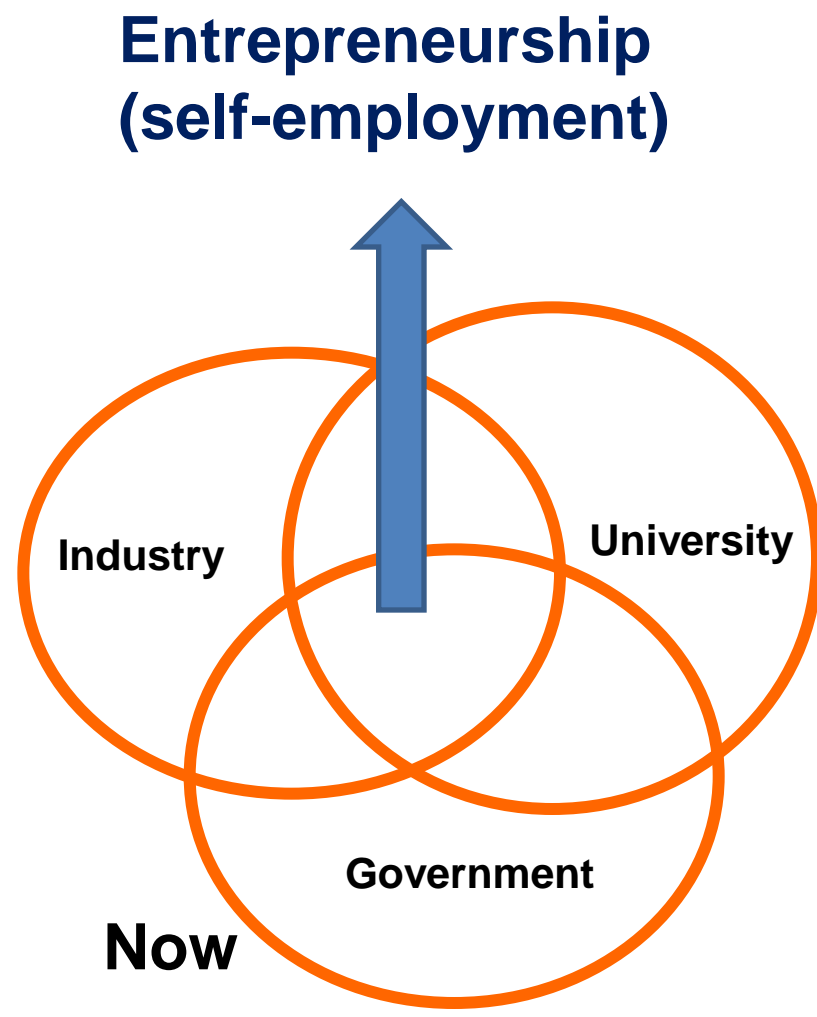
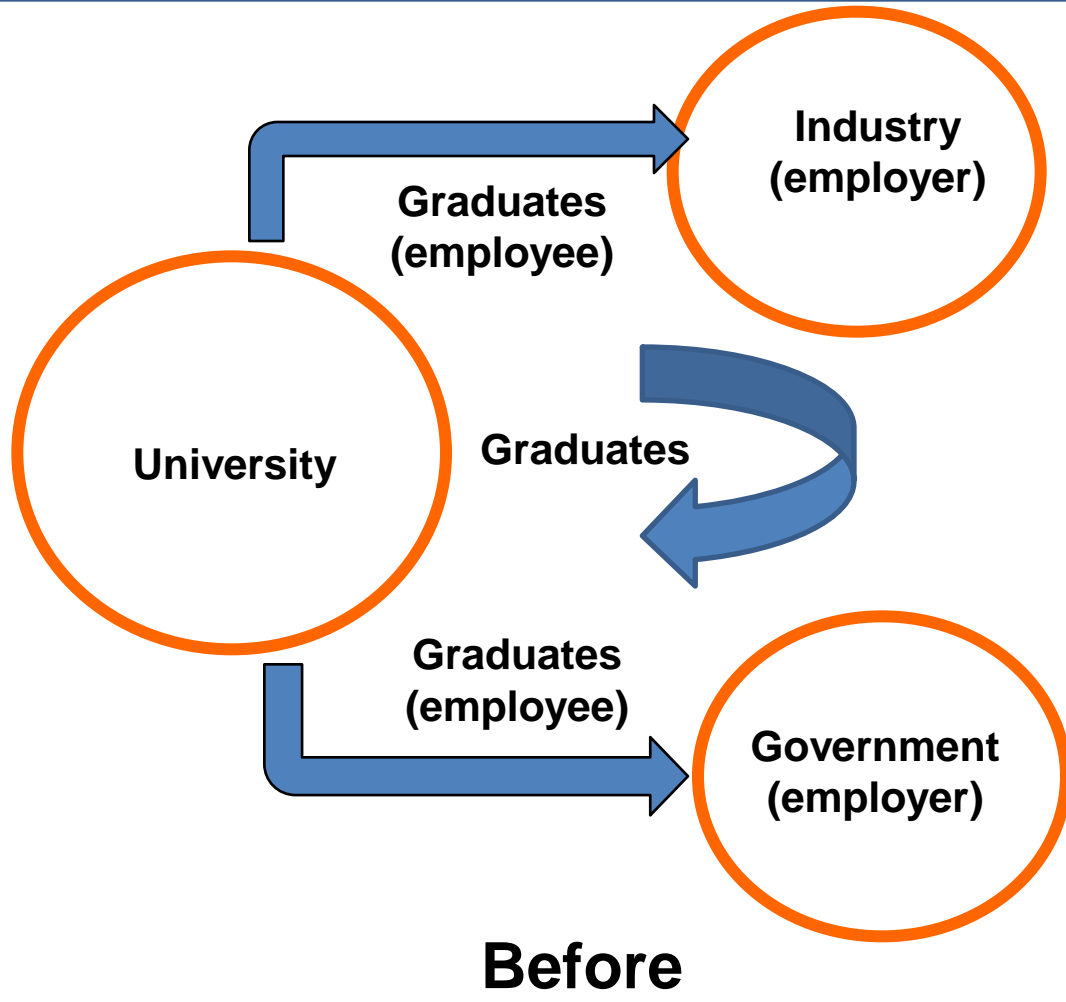
SMEs

- Typically family owned businesses
- Tend to adopt traditional processes and production techniques to produce low- to medium-tech products
- Rarely seek consultance from (/interact with) universities (by accepting students as interns or letting them collect data etc. for their theses)
- Very limited or no spending on R&D
- Some but not extensive usage of ICT



Traditional role of the government

- founds and runs public universities
- employs graduates from universities
- regulates various markets
- supports “scientific” research

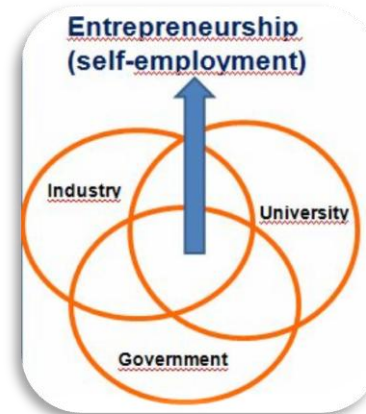


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Today's approach: "Collaboration"

- **Universities:**
 - Entrepreneurship courses
 - Theses and dissertations seeking new more efficient production techniques or solutions to the problems facing businesses
 - Technoparks (R&D hubs)
 - University-Industry Collaboration Group (2008)



- **The Role of Private Sector**
 - Founding private (non-profit) universities:
Koç, Sabancı, Özyeğin, TOBB-ETÜ
 - Providing questions and research support to theses or dissertations (SANTEZ program)
 - Transferring R&D departments to technoparks
 - Funding entrepreneurship competitions
 - TOBB → “Bir fikrin mi var?”
 - TÜSİAD → “Bu gençlikte iş var!”

- **Government**

- Start-up funding and seed money to entrepreneurs (KOSGEB)
- Entrepreneurship courses offered to general public free of charge

Year	Number of Courses	Number of Male Students	Number of Female Students	Total Number of Students
2009	1	0	18	18
2010	319	4707	3599	8306
Total	320	4707	3617	8324

Source: KOSGEB

- **Government**

- Start-up funding to university students (The Ministry of Industry and Trade → “Teknogirişim”)

Years	Total Number of Applications	Number of Supported Applications
2009	159	78
2010	724	102
2011	859	288
Total	1742	468

Source: The Ministry of Industry and Trade

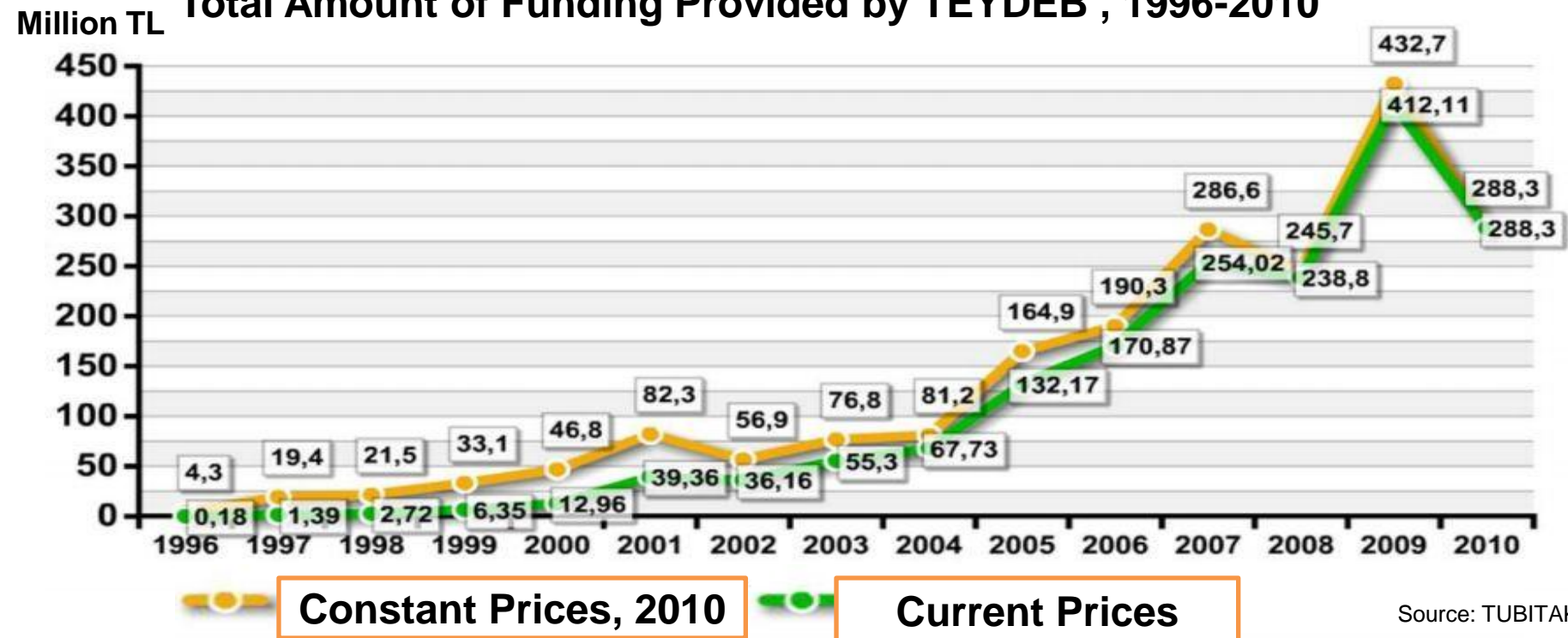
- **Government**

- Organizing business plan competitions (The Ministry of Industry and Trade & The Council of Higher Education)
- Technology Development Centers – TEKMER (KOSGEB & Universities)

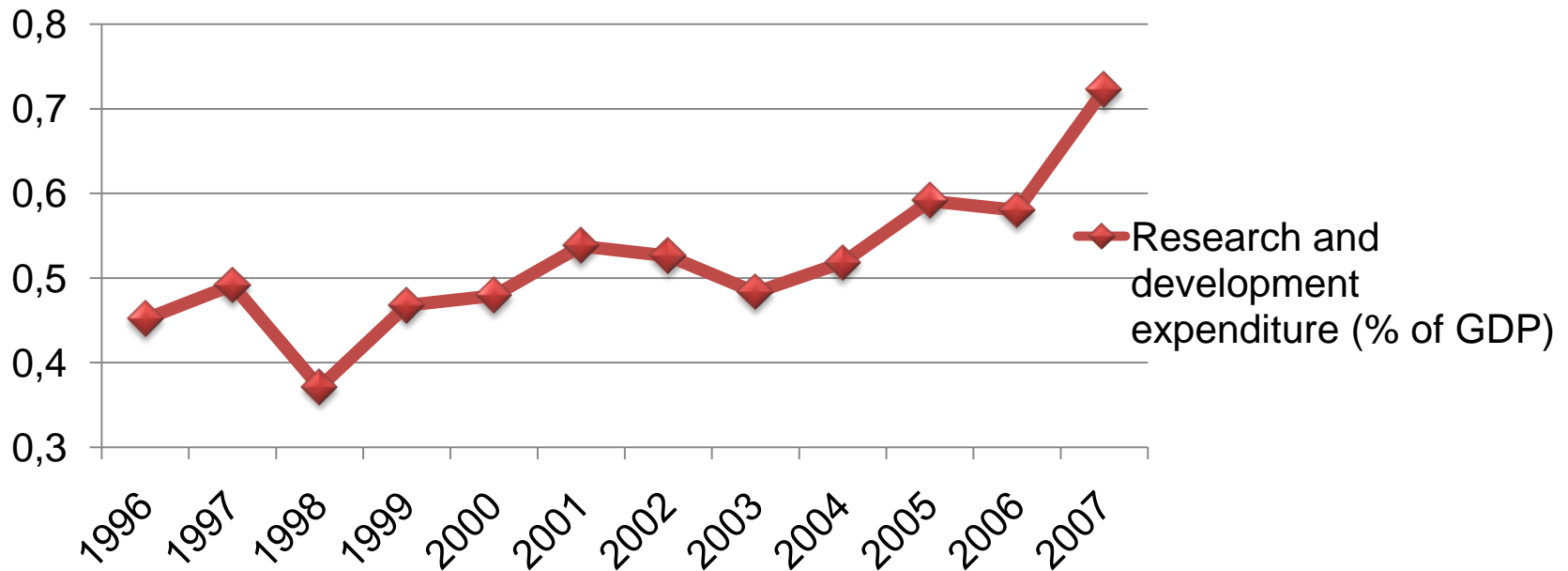
- Government

- TUBİTAK → Industry Projects (TEYDEB: Technology and Innovation Funding Programs)

Total Amount of Funding Provided by TEYDEB , 1996-2010



- **Government**
 - Increasing R&D expenditures



Source: WDI

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Success Story: TOBB ETU

- Founded by TOBB through a generous endowment
- Entrepreneurship courses → 1st year
- Students have three internships → Co-op Education: 3.5 months paid internships every year during junior, sophomore and senior years)
- Focus on entrepreneurial skills
 - Students are encouraged to establish their own firms while they are still studying (**by April 2011 10% of the graduates established their own firms or work at their family business**)
- Academics are encouraged to establish businesses to commercialize their research results

Founded by
The Union of Chambers and
Commodity Exchanges of Turkey
(TOBB)

TOBB ETU

1st year

2nd year

3rd year

4th year

Entrepreneurship
course

Internship

Internship

Internship

A Turkish Example: TOBB – ETU

– Students run their own businesses:

- **Batın Şimşek**, business administration student (single-use toothbrush vending machine)



- **Sedat Kılıç**, mechanical engineering student (gas-saving machine for welding processes)



Conclusions

- TOBB ETU is moving towards becoming a showcase of how university and industry should collaborate to foster entrepreneurship.
- Turkey still needs more universities with a similar collaborative approach.
- Government should also provide better legislation to facilitate university-industry collaboration.



Thank you...

Questions?