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## Panel I

# Puerto Rico's Competitiveness: The Education Factor

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# Puerto Rico's Competitiveness: The Education Factor



## • Ana G. Méndez University System (SUAGM)

- ✓ Not-for-Profit, co-educational, founded in 1949
- ✓ Second largest, fastest growing private university system in PR
- ✓ **45,000** students
- ✓ **4** universities, including PR's first virtual campus (distance education)
- ✓ **2** CPB-sponsored television stations
- ✓ **20** locations, including 4 branch campuses in US mainland (Florida, Maryland)
- ✓ Academic offerings: certificate, associate, bachelor, master, doctoral
- ✓ **Strong niches:** adult education, engineering, environmental sciences, hospitality, design, business, education, other
- ✓ Strong thrust in **STEM+H** fields (over \$18mm investment in health facilities; projected investment of \$30mm for science facilities)
- ✓ **2012:** First USPTO patent (Cellular Markers; Dr. Beatriz Zayas, Dr. Osvaldo Cox)



# Puerto Rico's Competitiveness: The Education Factor



- In the case of PR it is clear which factors contribute the most to pull down competitiveness:
  - ✓ Institutional factors
  - ✓ Governmental inefficiency
  - ✓ Excess of regulations
  - ✓ Corruption
- It is also clear which factors contribute the most to foster competitiveness:
  - ✓ Innovation
  - ✓ Education (terciary or higher education)

# Puerto Rico's Competitiveness: The Education Factor



- Some remarks on **innovation**:
  - ✓ Capacity to develop or adapt new knowledge, processes, products or services
  - ✓ **GCR 2012-13 ranks PR:**
    - **#38** in "**capacity**" for innovation (6 ranks **over** Spain)
    - **#36** in "**quality of scientific research institutions**" (just 2 positions and 0.1 points below Spain, which have the third research conglomerate in Europe, with **3,000** FT researchers, and **47** established science and technology parks)
    - **#35** in "**R&D spending**" (13 positions over Spain)
    - **#32** in "**university/industry collaboration**" (above France, China, Indonesia, Chile and Spain)
    - **#3** in the world in "**availability of scientists and engineers**" (just below Finland and Japan, and above everybody else) [ **2009**: we graduated 1,342 engineers; 36 engineers per 100,000 total population ]

# Puerto Rico's Competitiveness: The Education Factor



- On the other hand:
  - ✓ **2011 Report – US Patent and Trademark Office (USPTO)**
  - ✓ Between 2007 and 2011 PR jurisdiction obtained **123** new patents
  - ✓ For the same period:
    - **Singapur:** 2,723 patents (same population, less than a third of territory)
    - **Iceland:** 119 patents (population 300,000, 4 patents less than PR)

**LESSON:** metrics and ranks are CRITICALLY important; but should be used **carefully** and always **complemented** by other quantitative and qualitative information. "Rankings" not necessarily mean that we are "**better**" or "**worse**" than any other given economy. They are a "**snapshot**" in time (usually with a delayed effect), that simplifies the **dynamics** of many subsets of variables.

**"What's most important is not the actual figure, but the direction"**

# Puerto Rico's Competitiveness: The Education Factor



- As mentioned, **education** is one of the most important contributors to PR's competitiveness performance. But specifically, **tertiary (higher)** education.
- **GCR 2012-13 ranks PR:**
  - ✓ **#6** in the world in "**tertiary education enrollment rate**" (nearly 250,000 students, or 7% of total population and about 40% of college age population)
  - ✓ **#11** in "**availability of specialized training services**"
  - ✓ **#19** in "**company staff training**"

**BUT, at the same time:**

**#87** in "**secondary education enrollment rate**" (nearly 50% student attrition K-12)

**#84** in "**quality of math and science education**"

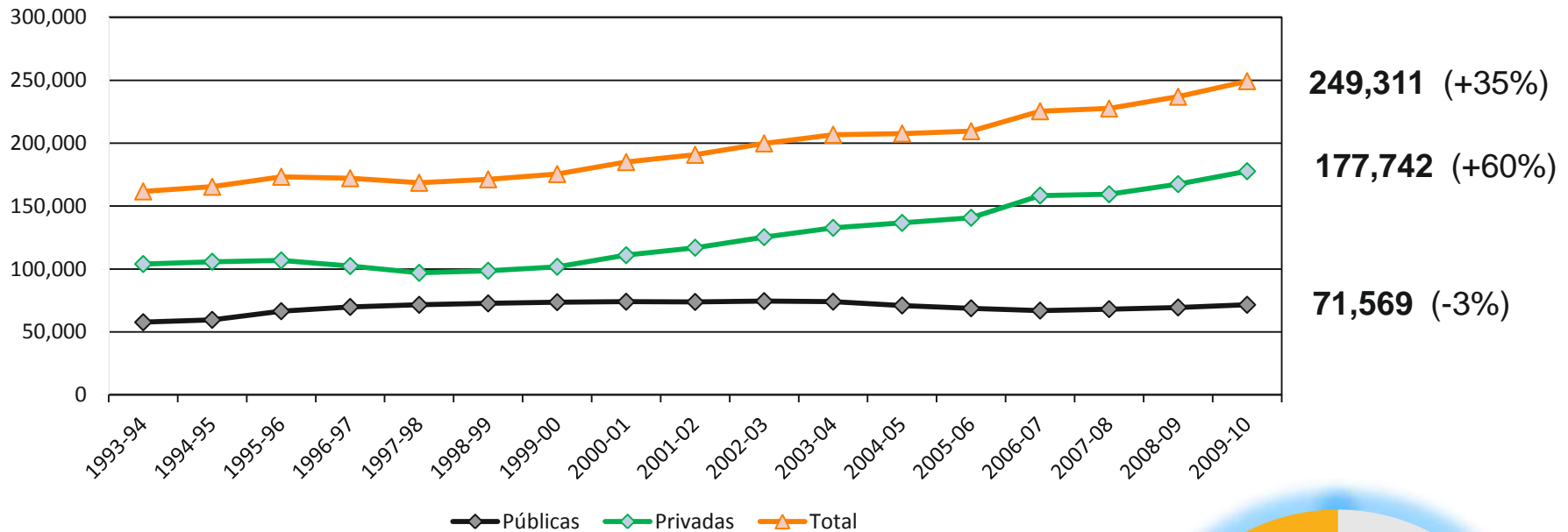
**#57** in "**internet access in schools**"

**#51** in "**quality of educational system**"

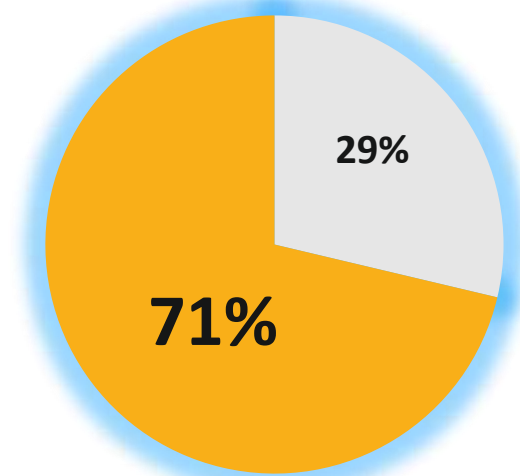
# Puerto Rico's Competitiveness: The Education Factor



## Higher Education in PR: Some Basic Facts



Private universities serve nearly 3 out of every 4 university students in PR



■ Public  
■ Private

# Puerto Rico's Competitiveness: The Education Factor

- **35,700** total graduates (2009)
- Business, Education, Engineering, Law, Medicine, Health Allied Professions, Sales & Marketing, Information technologies, telecommunications, Psychology, Social Work, Hospitality, Culinary Arts, Life Sciences, Biotechnology, ...

*"Are universities failing in that they produce over-prepared graduates in fields with poor employment opportunities?"*

OR

*"Are universities producing professionals in fields that SHOULD be of constant demand in a GROWING developing economy?"*



Although universities must constantly revise their programs, the real problem is that our private sector is not producing the job positions needed to sustain a thriving economy.

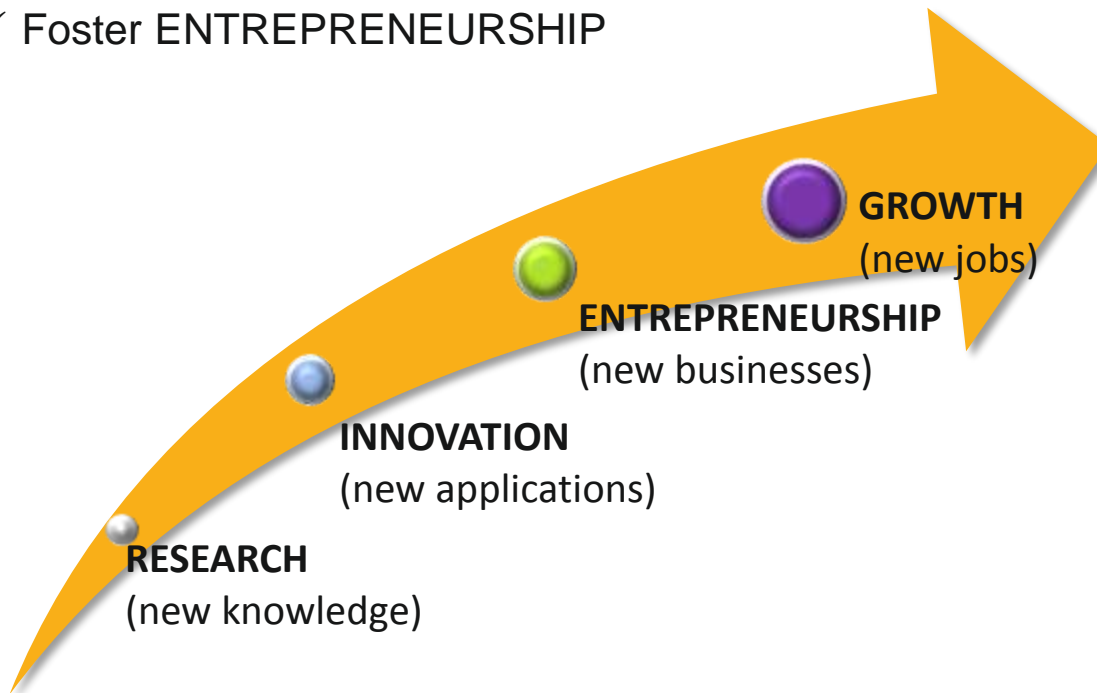




# Puerto Rico's Competitiveness: The Education Factor



- Major **NEEDS** in higher education:
  - ✓ Strengthen **RESEARCH** (in addition to teaching)
  - ✓ Stimulate **INNOVATION**
  - ✓ Foster **ENTREPRENEURSHIP**



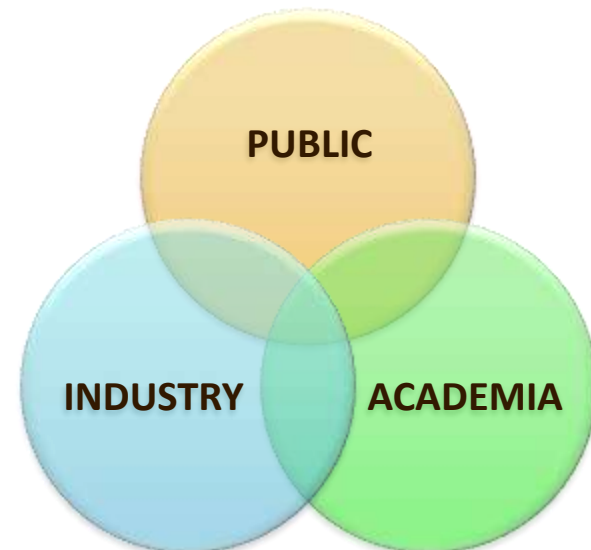
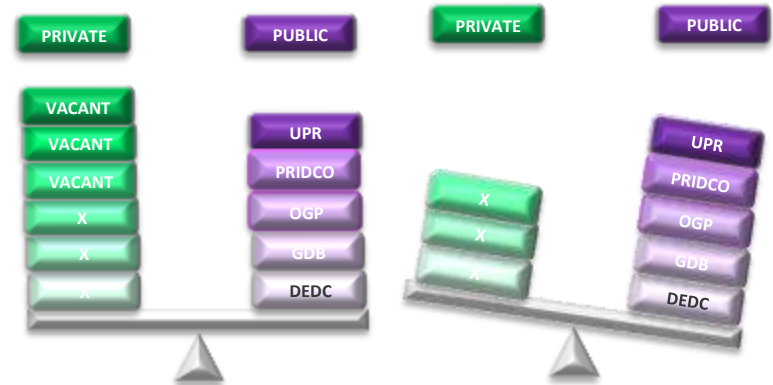
**COMPETITIVENESS**

# Puerto Rico's Competitiveness: The Education Factor



## Puerto Rico Science & Technology Trust ("Fideicomiso")

- **Established:** 2004
- **Mission:** Promote the financing of research, development, and infrastructure projects in the fields of science and technology.
- **Composition:** 11 members (5 public sector; 6 private sector). UPR is permanent member of the public sector. No representation of private universities (which represent 71% of the market). Vacancies create in-balance.
- **RECOMMENDATION:** Restructure the Trust into three (3) sectors: **Public** (DEDC, GDB, PRIDCO), **Industry** (4 members) and **Academia** (4 members, UPR + 3 private).
- Focus in building research capabilities and in supporting collaborative innovation projects, entrepreneurial infrastructure (business incubation, science & research parks), seed capital to invest in startups and technology spinoffs, etc.



# Puerto Rico's Competitiveness: The Education Factor



## GENERAL RECOMMENDATIONS:

- Develop an SHARED VISION for economic development (not excluding social goals).
- Aggressively address critical factors (institutional environment, government inefficiency, operating costs), among others.
- Emphasize in:
  - ✓ building research capabilities
  - ✓ focus on specific research clusters
  - ✓ develop clear-cut linkages between research-innovation-commercialization
  - ✓ recognize/enhance/support role of academia, **BOTH** public and private in these processes