

Executive Summary

Thoughts on Creating More Tier One Universities in Texas

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Texas is home three outstanding Tier One universities: Rice, Texas A&M, and UT Austin. Strengthening the position of these institutions relative to the best universities in the nation is vital. But in addition, Texas lacks a critical element in the ever-increasing competition for talent, ideas, home-grown advances, and economic development: more top-tier universities, particularly in the major population centers of the state. Not only are we lagging behind, but we are way behind states such as California and New York in number of Tier One universities.

Lack of more Tier One universities is hurting Texas in several important ways:

- Texas is shipping off more than 10,000 high school graduates per year who attend doctoral-granting universities in other states, while recruiting only about 4,000 per year from other states to Texas, leaving a net loss of nearly 6,000 students per year exiting Texas – and this brain drain from Texas is increasing about 10% per year;
- Texas has 8% of the U.S. population but only receives 5% of Federal research and development (R&D) funding and 5% of the nation's venture capital investment – if Texas received just its population share (8%), it would be receiving \$3.7 B more each year;
- Lack of more top-tier universities is hurting Texas' largest cities – Dallas-Fort Worth, for example, is the fourth most populous and fifth most economically productive city in the U.S., but has no Tier One academic university, ranks 22nd in research expenditures (\$700 M per year below the average of the 10 largest cities) and 11th in number of college degrees awarded (awarding less than half the average of the 10 largest cities).

One strategy for creating more Tier One universities in Texas is to select universities for advancement and infuse them with the resources needed to become Tier One. The challenge of selecting which universities to advance is divisive and politically difficult.

The Texas Higher Education Coordinating Board has designated seven universities as “emerging research universities,” which are Texas Tech, Univ. of Houston, Univ. of North Texas, UT Arlington, UT Dallas, UT El Paso, and UT San Antonio. The next Tier One university in Texas, if there is to be one, would almost certainly emerge from this group.

An approach suggested here is to provide incentive funding that rewards attributes that are critical to Tier One success. The suggested approach recognizes that:

1. State funding alone cannot make a university Tier One – support from local communities and private donations is essential to building a Tier One university, and

2. Choices by university leaders in faculty recruiting and program emphasis are critical to creating the research-intensive culture required to be Tier One.

Comparison of Texas' emerging research universities to Tier One universities nationwide shows a \$3,000 per student per year minimum funding deficit. The deficit cripples the emerging research universities in competition for top talent and research funding.

The recommended funding of \$3,000 per student per year would be sufficient to enable an emerging research university to compete successfully, provided additional private support is realized. At \$3,000 per student per year, the additional state funding required to advance one university (the average emerging research university with 22,000+ students) to Tier One status is \$70 million per year. The minimum state funding needed to advance two universities is \$140 million, and to advance three universities would require annual funding of \$210 million.

With the suggested approach, all seven emerging research universities would be eligible to receive the funding and all seven would benefit. However, it is assumed that two to three institutions, in partnership with their supporters and communities, would be the most motivated and the most successful in meeting the incentive criteria. Thus, it is expected a majority of the funds would aggregate in a few institutions. Annual funding at a level of \$140 M or \$210 M is recommended to provide sufficient total funding in the program to enable the 2 to 3 institutions to reach Tier One status. There is no way to know in advance which institutions and communities would be the most motivated to earn the state funding and achieve Tier One status.

The suggested state-funded incentive program has two elements, described below:

1. Provide matching state funds for gifts and community funds that support the critical elements of a Tier One university:
 - Merit-based undergraduate student scholarships. Rationale: Institutions must have academically distinguished undergraduate students if they are to be Tier One. Scholarships also address financial aid and student accessibility issues, and help to keep Texas' top talent in Texas.
 - Graduate student fellowships. Rationale: Fellowships are essential to recruit the top-quality graduate students that are required for a Tier One university.
 - Faculty professorships or chairs. Rationale: Tier One universities attract the very best faculty talent – professorships and chairs are vital elements if universities are to succeed in recruiting and retaining top-tier faculty talent.
 - Research equipment, research programs, and research infrastructure, including buildings. Rationale: Top-tier research universities attract substantial private and industrial support for research, which would be encouraged through this program.
 - Pipeline programs for at-risk students and critical fields. Rationale: Top-tier universities, through summer programs and other outreach mechanisms, aggressively recruit at-risk students and the students needed for critical fields.

2. Provide incentives for universities that create a top-tier university culture, namely:

- Incentive funding tied to annual research funding per faculty member. Rationale: Texas already rewards externally funded research through the Research Development Fund and the Texas Competitive Knowledge Fund. These are very valuable programs. However, a particularly useful measure of top-tier status is research productivity per faculty member, which separates the “pretty good” institutions from truly top tier. The research incentive would distribute additional funds based on annual external research expenditures per FTE faculty member to motivate both research and emergence of a Tier One institutional profile.
- Incentive funding tied to faculty members who have been elected to the National Academies. Rationale: The National Academies consists of the Institute of Medicine, National Academy of Engineering, and National Academy of Sciences. Election to an Academy is widely regarded as the highest honor for a scientist, engineer, or doctor. Membership is a critical measure of faculty quality at leading universities, and there is a large difference in the number of National Academy members at the seven emerging research universities and the typical Tier One university nationwide. This incentive would attract some of the very best talent in the nation to Texas and the emerging research universities.
- Incentive funding to support a demonstrable commitment to undergraduate research education. Rationale: The world’s top research universities engage undergraduate students in research. It is recommended that institutions receive extra funding for undergraduates who have registered for a course with a documented faculty-supervised research experience for participating students.

It is suggested that 50% of the pool of state funds be allocated to the matching gifts program (#1 above) and that 50% be linked to incentives for achieving a Tier One institutional profile and culture (#2 above) with 30% allocated to research funding per faculty member, 10% to faculty who have been elected to the National Academies, and 10% to support commitment to research education. It is recommended that averages for the previous biennium, or previous 3 years for research, be used to provide reasonably steady funding.

The universities would use the additional state funding to hire more top-quality faculty, to enhance educational and research support for students, to build research facilities and infrastructure, and to fund programs that are essential to becoming a true Tier One institution.

In summary, these recommendations are made on the premise that state funding alone cannot make a university Tier One – private and community support are essential. The proposal avoids the need to choose among universities. The proposal motivates and empowers communities and private supporters to back their university if they see the benefit of a Tier One university. The suggested funding level is sufficient to support a serious program that will gain attention nationwide. All seven emerging research universities would benefit from this program, but the incentive funding would focus on those institutions that are most successful in attracting the outside funding that is essential for achieving Tier One status and implementing choices consistent with a Tier One university profile.