INTRODUCTION

Academic research expenditures nationally increased a record 11% in the last year, as reported in the Higher Education Research and Development (HERD) Survey – an annual data collection for U.S. institutions with a minimum of $150,000 research and development expenditures in the fiscal year. Over the last ten years, expenditures grew at an average annual rate of 5%. The greatest boosts were from federal funding which contributed $5.6 billion to the total increase, followed by internal funding at $3.2 billion. Increases in funding from state and local governments, nonprofits, businesses, and other sources also grew, but by a lesser amount.

In fiscal year (FY) 2023, 664 institutions were ranked on the survey. These rankings represented a wide spread of total research expenditures – from $205 thousand at the bottom to $3.8 billion in the top position. The top 30 universities accounted for 42% of total higher education research spending nationally in FY 2023, with a growing number of institutions reporting over $1 billion in research expenditures. Public institutions made up a slim majority (16 out of 30) of the top 30 institutions, contributing significantly to the overall funding increase, and almost all of these institutions had medical schools.[1]

This research brief dives into the changes in research expenditures for the University of Texas (UT) System institutions, with a focus on the most recent five-year trends. Total research expenditures and rankings by institution are explored, and an in-depth look at research expenditures for UT System by source, agency, and field is included. An analysis of the boost in research expenditures needed to spur upward movement in rankings at the system and institution level is also explored. Lastly, a per-faculty full-time equivalent (FTE) metric is calculated for both grants and research expenditures for UT System and compared to other top-ranked university systems.

KEY FINDINGS

Overall

- UT System had over $4.7 billion total research expenditures in FY 2023, representing 4% of the nation's total research expenditures and 56% of research expenditures at Texas institutions.
- From FY 2018 to FY 2023, UT System's research expenditures had a five-year increase of 50%, outpacing the overall growth nationally which was a 38% increase.
- UT System had higher total research expenditures than 44 U.S. states in FY 2023.
- UT System was ranked 2nd amongst university systems nationally in FY 2023 in terms of total research expenditures.
- Within UT System, the highest expenditures were by UT Austin ($1 billion) and UT MD Anderson Cancer Center ($1.3 billion). These two institutions alone represented nearly half (49%) of UT System's total research expenditures in FY 2023.
- All UT System institutions showed five-year increases in total research expenditures, and all but four institutions improved their national ranking from FY 2018 to FY 2023.
- UT System had $661,800 research expenditures for every one tenured/tenure-track faculty FTE, and 133.3 new federal grants per 1,000 tenured/tenure-track faculty FTE in FY 2023.

[1] *Gibbons, MT; National Center for Science and Engineering Statistics (NCSES). 2024. Higher Education R&D Expenditures Increased 11.2%, Exceeded $108 Billion in FY 2023. NSF 25-313. Alexandria, VA: U.S. National Science Foundation. Available at https://ncses.nsf.gov/pubs/nsf25313.*

Sources

- UT System's largest source for research expenditures in FY 2023 was the federal government (43%). However, federal funding made up a smaller share of total expenditures than seen at institutions nationally, where 55% of research expenditures were from the federal government.
- UT System had growth in all research expenditure sources over the last five years. Expenditures from the federal government grew by 58%, a higher rate than the national average (42%). UT System also experienced large increases in business sources (58%) and institution funds (76%).

Agencies

- With five health-related institutions—including a world-renowned cancer center—seven medical schools; and programs in pharmacy, public health, biomedical sciences, and dentistry, UT System received 62% of its total federal research expenditures in FY 2023 from the federal Department of Health and Human Services, a larger proportion compared to the national average (56%).
- UT System had funding growth over the last five years from all six of the major federal agencies reported. Funds from the Department of Health and Human Services increased 59%, and the largest five-year percent changes were from the Department of Energy (79%) and the Department of Defense (77%).

Fields

- Life sciences was the largest field at UT System in FY 2023, representing 62% of federal research expenditures, and the next largest field was engineering at 17%.
- UT System federal research expenditures in life sciences grew by 57%, a $450 million increase. Increases over 50% were observed in the fields of computer and information sciences, engineering, life sciences, mathematics and statistics, non-science and engineering, physical sciences, and social sciences.

TRENDS IN UT SYSTEM RESEARCH EXPENDITURES

UT System had over $4.7 billion total research expenditures in FY 2023, representing 4.3% of research expenditures nationally ($108.7 billion). Research expenditures at UT System grew substantially over the last five years, as shown in **Table 1**. From FY 2018 to FY 2023, UT System's total research expenditures had a total five-year increase of 50%, outpacing the overall growth nationally, which was a 38% increase.

A larger percentage growth was seen at UT System academic institutions overall (58%) than at health-related institutions (45%), but health institutions held a higher dollar amount in total research expenditures, making up nearly 63% of UT System's total research expenditures. However, it's worth noting that the distinction between academic and health institutions is becoming less clear and less relevant. One academic institution has combined with a health institution (UTT and UTHSCT) so far, with another merger planned for the near future; two other academic institutions (UT Austin and UTRGV) have medical schools and a developing clinical enterprise; and many of the various pharmacy, biological/biomedical sciences, and nursing programs are housed at academic institutions.

At the institution level, the most notable changes were seen at UT Permian Basin (315%), UT Rio Grande Valley (204%), and UT San Antonio (118%), while the highest expenditures in FY 2023 were held by UT Austin ($1 billion) and UT MD Anderson Cancer Center ($1.3 billion). These two institutions alone represented nearly half (49%) of all of UT System's total research expenditures in FY 2023.

Table 1. Five-year Change in Total Research Expenditures, FY 2018 – FY 2023

Institution	Total Research Expenditures in FY2018 (in thousands)	Total Research Expenditures in FY2023 (in thousands)	5-year % Change
All Academic Institutions	**$1,113,404**	**$1,758,497**	**58%**
UT Arlington	$105,688	$147,265	39%
UT Austin	$679,781	$1,035,838	52%
UT Dallas	$113,315	$146,779	30%
UT El Paso	$91,032	$145,724	60%
UT Permian Basin	$668	$2,769	315%
UT Rio Grande Valley	$27,125	$82,444	204%
UT San Antonio	$72,682	$158,453	118%
Stephen F. Austin	$3,336	$3,661	10%
UT Tyler*	$19,777	$35,564	80%
All Health Institutions	**$2,023,431**	**$2,943,956**	**45%**
UT Southwestern Medical Center	$474,260	$800,391	69%
UT Medical Branch - Galveston	$181,831	$233,192	28%
UT Health Science Center - Houston	$258,411	$374,105	45%
UT Health Science Center - San Antonio	$179,219	$281,078	57%
UT MD Anderson Cancer Center	$929,710	$1,255,190	35%
UT System	**$3,136,835**	**$4,702,453**	**50%**
All Institutions Nationally	**$79,025,976**	**$108,681,008**	**38%**

Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023
**Note: UT Tyler and UT Health Science Center Tyler were reported separately in the HERD Survey and manually combined in this table view*

The higher-than-average growth in total research expenditures seen at all but four UT System institutions translated to upward movement in their ranking for total research expenditures as shown in **Table 2**. The greatest climbs were seen for UT Permian Basin (+115) and UT Rio Grande Valley (+58), and the largest decline was at Stephen F. Austin (-42). However, movement at the lower end of the rankings is always more volatile, given that adding or completing even one large grant is enough to dramatically swing expenditure amounts. This makes the improvements for institutions such as UT Austin, UTEP, UTSA, UTSWMC, and UTHSCH that are in or near the top 150 institutions more impressive.

Five UT System institutions rose by six positions or less over the five-year period, and three institutions declined by five positions or less, indicating a fair degree of stability in rankings for these eight institutions. Looking nationwide at institutions that were ranked in both FY 2018 and FY 2023, the median 5-year institutional change in rank was -1.0 and the average change was +1.1. Further, 70% of institutions moved within five positions in rank, indicating a similar trend of stability in rankings nationally for total research expenditures.

Table 2. Five-year Change in Institutional Rankings for Total Research Expenditures, FY 2018 – FY 2023

Institution	Rank in FY2018	Rank in FY2023	5-year Change
Academic Institutions			
UT Arlington	155	153	+ 2
UT Austin	36	32	+ 4
UT Dallas	149	154	- 5
UT El Paso	161	155	+ 6
UT Permian Basin	640	525	+ 115
UT Rio Grande Valley	244	186	+ 58
UT San Antonio	170	150	+ 20
Stephen F. Austin	449	491	- 42
UT Tyler	545	495	+ 50

Institution	Rank in FY2018	Rank in FY2023	5-year Change
Health Institutions			
UT Southwestern Medical Center	56	44	+ 12
UT Medical Branch - Galveston	122	125	- 3
UT Health Science Center - Houston	91	85	+ 6
UT Health Science Center - San Antonio	113	111	+ 2
UT MD Anderson Cancer Center	19	23	- 4
UT Health Science Center – Tyler	296	259	+ 37

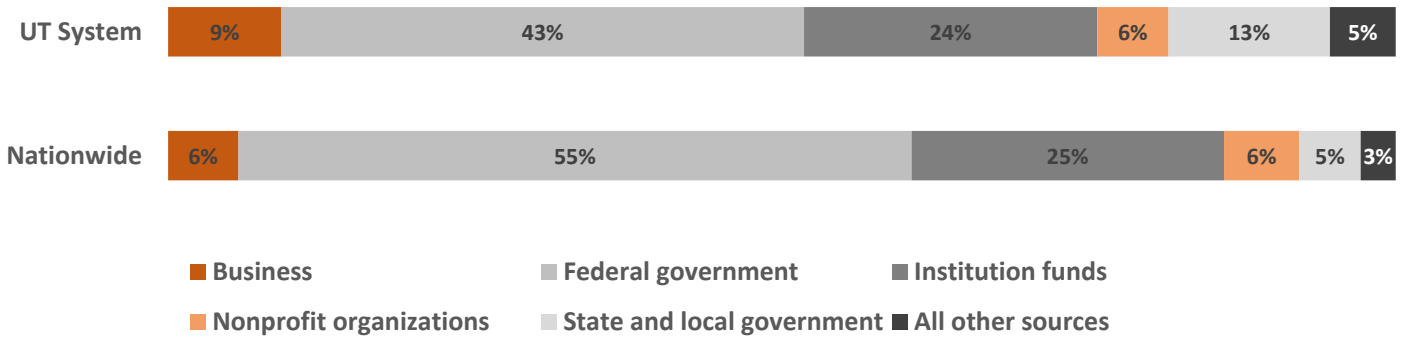
Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

Examining the proportion of total research expenditures coming from each source reveals that UT System's largest sources are the federal government (43%), institution funds (24%), and state and local government (13%), shown in **Figure 1**. Compared to the breakouts by source nationally, the biggest difference is that UT System has a smaller proportion of funds from the federal government – 43% at UT System, compared to 55% nationally in FY 2023. Additionally, UT System's proportion of expenditures from state and local government (13%) were higher than seen nationally (5%).

Compared to other top ranked university systems, UT System had disproportionately high expenditures from state and local government funds. UT MD Anderson Cancer Center contributed the most to this category, representing 49% (over $300 million) of UT System's expenditures from state and local government. This higher proportion of state funding may be due to major state initiatives such as the Cancer Prevention and Research Institute of Texas (CPRIT) which provided more than $767 million in funding for UT institutions in FY 2018 – FY 2023, with UTMDA and UTSWMC receiving $243 million each during that time. CPRIT has provided nearly $2 billion in funding to UT institutions from 2009 through 2024.

UT institutions have also benefited from other state funding intended to advance and enhance research efforts through mechanisms such as the National Research Support Fund, The Texas Research Incentive Program, and the Texas Research University Fund. When considering just UT System academic institutions, the proportion of research expenditures by source more closely mirror the national breakouts, with federal government funds representing 52% compared to the national proportion of 55%. Even when excluding state and local government funds and recalculating the distributions of research expenditures by source, UT System's expenditures from the federal government were nine percentage points lower than seen nationally.

Figure 1. Proportion of Total Research Expenditures by Source, FY 2023



Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

Continuing to examine funds from the federal government, as that is UT System's largest source, we see substantial growth in this area. From FY 2018 to FY 2023, research expenditures from the federal government grew by 58%, a higher rate than the national average (42%) as seen in **Table 3**. UT System also experienced large increases in business sources (58%) and institution funds (76%).

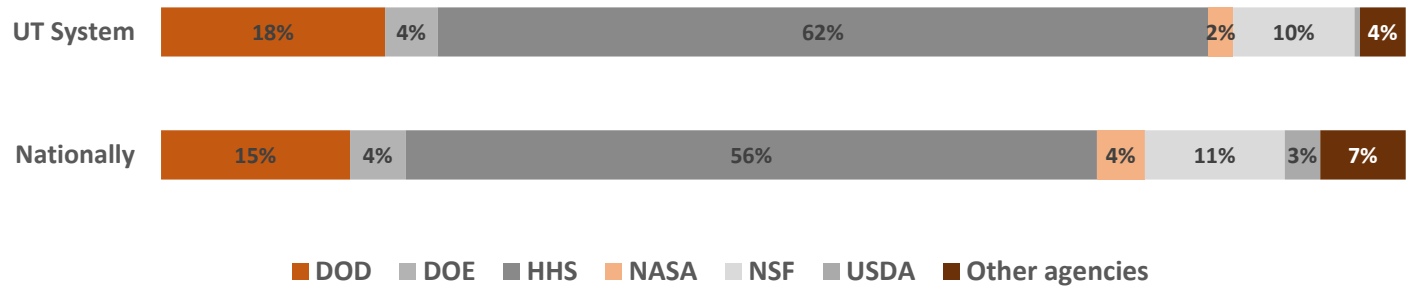
Table 3. Five-year Change in Total Research Expenditures by Source, FY 2018 – FY 2023

Source	UTS Research Expenditures in FY2018 (in thousands)	UTS Research Expenditures in FY2023 (in thousands)	UTS 5-year % Change	Nationwide 5-year % Change
Business	$275,788	$434,567	58%	32%
Federal government	$1,267,819	$2,001,289	58%	42%
Institution funds	$640,184	$1,123,649	76%	37%
Nonprofit organizations	$226,050	$273,106	21%	23%
State and local government	$494,446	$618,379	25%	26%
All other sources	$232,548	$251,463	8%	23%
Total	**$3,136,835**	**$4,702,453**	**50%**	**38%**

Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

Focusing on federal funds in **Figure 2** and disaggregating by agency, we see that UT System received 62% of its total federal research expenditures in FY 2023 from the Department of Health and Human Services, a larger proportion compared to the national average (56%), with UT System having five health-related institutions—including a world-renowned cancer center—seven medical schools; and programs in pharmacy, public health, biomedical sciences, and dentistry. The second largest source for UT System was the Department of Defense (18%), followed by the National Science Foundation (10%).

Figure 2. Proportion of Federal Research Expenditures by Agency, FY 2023



Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

As discussed above, most of UT System's federal research expenditures came from the Department of Health and Human Services. This was one of the highest five-year growth areas by federal agency, increasing 59% from FY 2018 to FY 2023 as shown in **Table 4**. The largest five-year percentage changes for UT System were from the Department of Energy (79%) and the Department of Defense (77%). Additionally, UT System's percentage increases in expenditures from all six major federal agencies reported were equal to or higher than the national average for every agency except the Department of Agriculture.

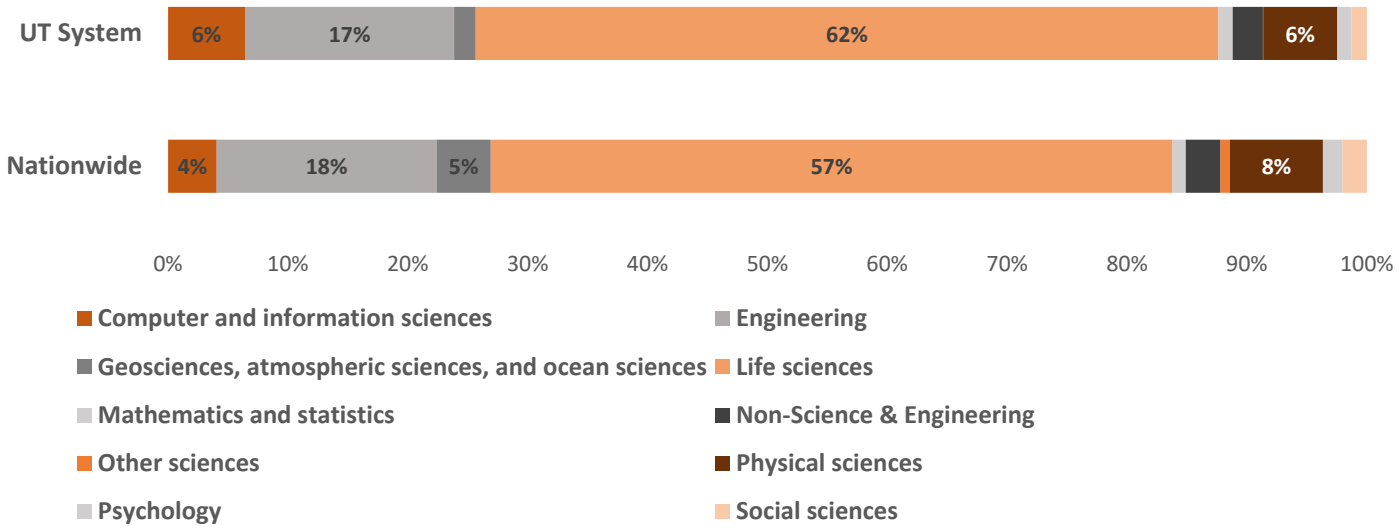
Table 4. Five-year Change in Federal Research Expenditures by Agency, FY 2018 – FY 2023

Agency	UTS Federal Research Expenditures in FY2018 (in thousands)	UTS Federal Research Expenditures in FY2023 (in thousands)	UTS 5-year % Change	Nationwide 5-year % Change
Department of Defense (DOD)	$203,768	$360,296	77%	54%
Department of Energy (DOE)	$47,232	$84,459	79%	47%
Department of Health and Human Services (HHS)	$777,782	$1,239,613	59%	45%
National Aeronautics and Space Administration (NASA)	$26,113	$39,435	51%	51%
National Science Foundation (NSF)	$133,193	$195,278	47%	27%
Department of Agriculture (USDA)	$7,431	$8,799	18%	43%
Other agencies	$72,300	$73,409	2%	23%
Total	**$1,267,819**	**$2,001,289**	**58%**	**42%**

Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

Continuing to disaggregate federal research expenditures, **Figure 3** shows the proportion of federal research expenditures by field for UT System and institutions nationally. Life sciences was the largest field at UT System at 62% in FY 2023, and the next largest field was engineering at 17%. Notably, UT System's proportions of federal research expenditures by field were similar to the breakouts we saw nationally.

Figure 3. Proportion of Federal Research Expenditures by Field, FY 2023



Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

In our largest field of life sciences, UT System research expenditures grew by 57%, a $450 million increase (**Table 5**). In terms of percent growth, over 50% increases were observed in the fields of computer and information sciences, engineering, life sciences, mathematics and statistics, non-science and engineering, physical sciences, and social sciences, with the highest rate of growth being in non-science and engineering at 114%. The only field with a decline over the five-year period was the category of other sciences (-77%). In all fields besides other sciences, UT System had a larger percentage growth by field than was seen nationally.

Table 5. Five-year Change in Federal Research Expenditures by Field, FY 2018 – FY 2023

Field	UTS Federal Research Expenditures in FY2018 (in thousands)	UTS Federal Research Expenditures in FY2023 (in thousands)	UTS 5-year % Change	Nationwide 5-year % Change
Computer and information sciences	$82,725	$128,433	55%	48%
Engineering	$216,600	$348,949	61%	54%
Geosciences, atmospheric sciences, and ocean sciences	$27,212	$36,145	33%	32%
Life sciences	$790,200	$1,239,917	57%	42%
Mathematics and statistics	$15,041	$23,750	58%	45%
Non-Science & Engineering	$23,676	$50,684	114%	38%
Other sciences	$1,364	$314	-77%	36%
Physical sciences	$78,482	$123,682	58%	33%
Psychology	$16,285	$23,876	47%	29%
Social sciences	$16,234	$25,539	57%	28%
Total	**$1,267,819**	**$2,001,289**	**58%**	**42%**

Source: National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

UT SYSTEM'S RELATIVE POSITIONING

Rankings

UT System was ranked 2nd amongst university systems in FY 2023, surpassed only by the University of California System with just under $9 billion in total research expenditures. The University of California includes 10 institutions, with five institutions ranking in the top 35 – three of which ranked in the top 10 for total research expenditures in FY 2023 (note, UT System had no institutions ranked in the top 10, and just two institutions ranked in the top 35). Compared to UT System's $4.7 billion, the University of California System comes close to doubling our research expenditures, and it would take UT System an additional $4.3 billion in expenditures to secure the top rank. Impressively, UT System had higher research expenditures than 44 U.S. states. Within Texas, UT System accounts for 56% of the state's research expenditures.

Within UT System, the highest expenditures in FY 2023 were held by UT Austin ($1 billion) and UT MD Anderson Cancer Center ($1.3 billion). Significant amounts of additional research funding would need to be secured to spur movement in their rankings. UT Austin was ranked 32nd and would require $41 million more to move up one rank, $242 million to move up 10 ranks, and a massive $2.8 billion more to secure the 1st rank. Similarly, UT MD Anderson Cancer Center, ranked 23rd in FY 2023, would need $23 million to move up one rank (to the 22nd position, held by Texas A&M University) and $197 million to move up 10 ranks.

Beyond the upper rankings, a smaller dollar amount is needed to trigger upward mobility. For example, UT San Antonio was ranked 150th in FY 2023, requiring $2.6 million to move up one rank and $30.2 million to move up 10 ranks. However, to enter the top 100 in FY 2023, which would be a major milestone for the Emerging Research Universities (UTA, UTD, UTEP, UTSA), required almost $320 million in total expenditures, or more than twice the total expenditures of UTSA. Stephen F. Austin University, ranked 491st, needed $20 thousand to move up one rank and $288 thousand to move up 10 ranks.

Faculty Productivity

A per faculty normalization of total research expenditure dollars provides a comparison of faculty productivity at UT System with the other university systems with the highest research expenditures nationally. To make this comparison, we leverage IPEDS data to establish a tenured/tenure-track (T/TT) faculty FTE count for instructional, research, and public service faculty. **Table 6** shows a comparison to the other five top university systems in terms of total research

expenditures by calculating research expenditures per T/TT faculty FTE. UT System had $661,800 research expenditures for every one faculty FTE. This was lower than the University of California System ($825,200), but much higher than the systems in the 3rd through 6th position which ranged from $298,300 to $352,000 per faculty FTE.

Table 6. Research Expenditures per T/TT Faculty FTE, University System Comparison, FY 2023

System	System Ranking, Total Research Expenditures	Research Expenditures (in thousands)	T/TT Faculty FTE	Research Expenditures per Faculty FTE (in thousands)
University of California System	1	$8,972,457	10,874	$825.2
University of Texas System	2	$4,702,453	7,106	$661.8
State University System of Florida	3	$2,914,461	8,281	$352.0
University System of Ohio	4	$2,546,641	8,401	$303.1
University of North Carolina System	5	$2,526,854	8,471	$298.3
University System of Georgia	6	$2,448,340	7,312	$334.8

Source: IPEDS, National Center for Science and Engineering Statistics, Higher Education Research and Development (HERD) Survey, FY 2023

For these same five university systems, we examined the count of distinct federal grants awarded per T/TT faculty FTE. To make this comparison, we again leveraged IPEDS data for the faculty FTE count, as well as data for new federal grants awarded using USAspending (only inclusive of project grants, new awards, prime awards). As shown in **Table 7**, UT System received 947 new grants in FY 2023, a ratio of 133.3 awards per 1,000 faculty FTE. The University of California System had a higher count of new awards as well as a higher ratio of new awards per faculty FTE. However, UT System's grant count and ratio of awards per faculty FTE exceeded performance on these two metrics at the State University System of Florida, University System of Ohio, University of North Carolina System, and University System of Georgia.

Table 7. New Federal Grants per T/TT Faculty FTE, University System Comparison, FY 2023

System	Faculty FTE	New Grants	New Grants per Faculty FTE (per 1,000 faculty)
University of California System	10,874	2,033	187.0
University of Texas System	7,106	947	133.3
State University System of Florida	8,281	775	93.6
University System of Ohio	8,401	577	68.7
University of North Carolina System	8,471	714	84.3
University System of Georgia	7,312	195	26.7

Source: IPEDS, USAspending Award Data (only includes project grants, new awards, prime awards), FY 2023

CONCLUSION

Universities are the engine of basic science research in the U.S. This crucial work advances knowledge and innovation and lays the groundwork for breakthrough improvements in technology and health. In addition, research universities are economic drivers in their communities and states, drawing businesses and creating jobs. UT System had over $4.7 billion total research expenditures in FY 2023, representing 4% of research expenditures nationally and 56% of research expenditures from Texas institutions. UT System was ranked 2nd amongst university systems nationally in FY 2023, surpassed only by the University of California System. From FY 2018 to FY 2023, UT System's total research expenditures had a five-year increase of 50%, outpacing the overall growth seen nationally (38%). Total research expenditures grew at every UT System institution, and all but four of UT System's institutions had upward movement in their ranking from FY 2018 to FY 2023. Additionally, UT System had $661,800 in research expenditures for every one T/TT faculty FTE, and 133.3 new federal grants per 1,000 T/TT faculty FTE in FY 2023. UT System's position as one of the top research enterprises in the nation is evidenced by the historical research expenditure data explored in this brief, with significant growth in research expenditures seen over the last five years.