Rewarding Performance: Options for Institutional Research Funding in Universities

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Institutional Funding Structures in General:

Designing effective funding systems requires attention to national contexts, administrative capacity, and potential unintended consequences; progress often relies on experimentation and adjustment. A strong information and monitoring system is essential, as reliable data on performance indicators underpin fair and effective allocation of results-based funding. Without credible data, implementation should be postponed until such systems are in place.

Results-based funding links financial support for higher education institutions to achieved outcomes—such as graduation rates, learning results, and research impact—rather than traditional input measures like expenditures or inflation adjustments.

Autonomy and Financial Constraints Institutional autonomy is essential for good performance, but real freedom is limited by funding systems and financial conditions. Government core funding must balance between equal distribution and incentives for excellence.

The principal-agent model explains the relationship between governments (principals) and universities (agents), where information asymmetry can lead institutions to pursue goals misaligned with government objectives. Results-based funding aims to align incentives**,** encouraging institutions to meet performance goals while granting them flexibility in how they achieve those goals—shifting government's role from control to facilitation.

University funding often in two streams:

- **Education funding:** may come from tuition fees, public grants, or "taximeter" systems (funding per completed exam or credit). Accountability must link funding to educational outcomes and labour market impact.
- **Research funding:** can include core institutional grants, output-based formulas, competitive project funding, or targeted infrastructure investments. Results are measured against research objectives.

Advantages of Large, Research-Intensive Universities
Large universities with broad academic scopes and strong internal management are better positioned for long-term academic development, global competitiveness, and strategic flexibility. Such institutions have critical mass of potential researchers, and their diversity allow them to balance education, research, and innovation.

Diversity of European Funding Models
Funding structures differ across Europe due to historical preconditions, and variations in the roles of universities and research institutions. E.g. in countries like Sweden, Denmark and the Netherlands, universities are central to both education and research, whereas in France, Germany, Poland, Spain, much research occurs outside universities.

Competitive results-based funding indicators:

Indicator selection is central to designing a results-based funding system, as what gets measured and funded becomes highly valued.

Effective indicators should align with the government's strategic goals for change in higher education, guiding the sector toward desired future outcomes.

Indicators fall into four categories:

- *Inputs* (resources such as funding, staff, and enrollment),
- *Processes* (methods and internal practices),
- *Outputs* (quantifiable results like graduates or publications), and
- *Outcomes* (broader impacts such as learning quality or employment).

Each indicator type corresponds to a **performance criterion**: economy (inputs), efficiency (outputs), and effectiveness (outcomes), ensuring balanced evaluation across resources, productivity, and societal impact.

Experience from multiple national programs

Move to substantial **Competitive Research Funding** marks a major shift in a country's research system, aiming to strengthen the scientific community by awarding extra funding to the best performing.

Implementation challenges often persist, including poor scheduling of disbursements and premature fund commitments, reducing flexibility.

Funding management issues: national agencies often failed to reserve sizable funds for new or ongoing projects, and committees rigidly predetermined budgets and project numbers.

Administrative problems: confusing guidelines, delays in announcing results and releasing funds—especially for imported equipment—have hindered efficiency.

Peer review concerns: in countries questions about impartiality arose as many committee members often received funding, and in some cases, proposals were excluded from review for not fitting unclear program guidelines.

Broader challenges: Many research projects remain fragmented, focusing on narrow fields without recognizing the **interconnectedness of academic disciplines and institutions.**

Comprehensive Higher Education Reforms in Denmark 5 waves*:*

Doctoral Education (1986):
Modernized PhD education established international standards and expanded research training, creating a new generation of well-qualified researchers and academic leaders to support later reforms.

Funding and Accountability (1995):
Introduced competitive, performance-based funding mechanisms, development contracts for institutions, and updated legal frameworks for private foundations, linking university financing more closely to results and output.

University Governance (2003):
Implemented professional line management with clear accountability systems, coherent budgeting, private auditing, and institutional autonomy balanced with state oversight.

Globalization and Consolidation (2005–2010):
Following the Globalization Council's strategy, Denmark increased public R&D investment, merged universities and research institutes to form stronger, internationally competitive institutions, and tied funding to performance indicators.

Education and Efficiency (ongoing):
Focusing on responding to societal and labor market demands and strengthening linkages to the innovation system.

Reforms in Polen, PSF recommendation for universities, 2017-18:

Higher Education and Science Landscape Reform

- **Create a binary higher education system** with strong, distinct *research universities* and a *University of Applied Sciences (UAS)* sector, reducing fragmentation by merging top-performing research and Academy units into universities.
- **Establish an "Excellence Program"** to competitively select ~10 research-intensive universities for multi-year funding, later narrowing to ~3 flagship universities with increased support based on international peer review.
- **Develop a robust vocational/UAS sector** focused on labor market needs and modern teaching, aiming to enroll about 20% of higher education students within a decade, backed by major dedicated funding.
- **Promote institutional consolidation** through ministry coordination and financially support voluntary mergers—especially in large cities—to form fewer, more comprehensive, and sustainable universities.
- **Differentiate governance, funding, and evaluation** systems to support diverse institutional missions, with careful allocation of new funding to encourage excellence in research, teaching innovation, and regional engagement.

Sustainable Financing and Investment in Higher Education, Science, and Innovation

- **Set a national investment target** for higher education (HE), science, and innovation, supported by **multi-annual budgets** and a **sustainable financing strategy** aligned with long-term strategic goals, ensuring transparency and compatibility across funding instruments.
- **Introduce predictable, multi-year funding mechanisms**, including **3–4 year rolling budgets**, formula-based block grants, competitive funding schemes, and **performance agreements** tied to measurable institutional goals and outcomes.
- **Improve efficiency and reduce fragmentation** by linking **additional funding to reforms** and institutional performance, while promoting consolidation to optimize resource use and system steering.
- **Reform funding formulas** with a limited set of clear, transparent indicators directly tied to strategic priorities; **decouple research funding** from the SEDN evaluation system and assess its policy value.
- **Enhance competitive research funding** through NCN and NCBiR by ensuring transparency, international evaluation, and adequate overhead cost coverage.
- **Increase institutional autonomy and accountability**, granting larger universities **budget autonomy** while using performance-based funding and independent evaluation committees to monitor progress.
- **Diversify funding sources** via **business collaboration, adult education, philanthropy, and matched funding schemes**, and **review student support systems** to ensure equitable access—potentially exploring tuition fees alongside stronger needs-based aid.

Poland's excellence initiative IDUB, competitive institutional funding

- Poland introduced the *Excellence Initiative – Research University program* (IDUB) to transform selected universities into globally competitive, research-intensive institutions, marking, under the 2018 Law on Higher Education and Science (Law 2.0), a shift in autonomy, funding and management traditions. Under the higher education law rectors have greater decision-making authority, key conditions for participation in IDUB are development of interdisciplinary research research, stimulating young talent, and promoting internationalization.
- **First Competition (2019):** Twenty universities applied by submitting comprehensive development plans, indicators and SWOT analyses; an independent international panel of experts, selected the top 10 universities for extra funding. The 10 chosen universities—five comprehensive, four technical, and one medical—receive 10% additional funding for seven years, with full freedom over its use, while the remaining 10 institutions receive a smaller (2%) boost.
- **Selected Research Universities:** University of Warsaw, Gdańsk University of Technology, AGH University of Science and Technology, Warsaw University of Technology, Adam Mickiewicz University, Jagiellonian University, Medical University of Gdańsk, Silesian University of Technology, Nicolaus Copernicus University, and University of Wroclaw.
- **Evaluation and Funding:** A 2023 midterm evaluation confirmed all 10 IDUB universities' positive progress; final assessment in 2026 will determine which continue funding (2027–2032) and which may be replaced through a new competition.
- **Impact:** The program strengthens research quality, internationalization, and innovation capacity of Polish universities by improving staff conditions, increasing international collaboration, and enhancing links with business and industry.

Experience from IDUB

Poland's ambitions are to engage the best universities and **stimulate a few research universities** to integrate in the European and Global knowledge circulation system.

New Law for Higher Education strengthening autonomy and accountability including loosening line budget regime, more flexible employment contracts etc.

Stable and sustained funding. **Innovative finance model** by issuing Government Bonds specifically for IDUB protecting funding from other competing needs.

Substantial **IDUB funding (10% for the top-10 universities) was additional** and specifically for the purpose of boosting a forward looking research mission in selected universities.

IDUB made **exclusive use of experienced international peers** from all over Europe for evaluation, selection and a non-intrusive monitoring system.

Prioritizing potential over tradition and establishing nuclei of research excellence within universities. **Universities competed on their forward looking plans** founded on their potential, **not on their past performance**.

Sustained Government commitment across political changes and **buy in from leading academics and university leaders**, has resulted in a recognized prestigious program.

General Lessons Learned

Lesson 1: Sustainable research and scientific **reforms take time and patience**, allow for trial and error and make room for adjustments.

Lesson 2: System-wide strengthening of higher education institutions and adequate base funding is required, including funds for the research mission. Consolidation or mergers of research entities are often beneficial.

Lesson 3: Reform must **redefine the state's role**, diversifying funding sources and encouraging collaboration between public and private sectors.

Lesson 4: Effective reform needs a balance between **accountability and institutional autonomy**, freeing universities from rigid civil service constraints.

Lesson 5: Empower the next generations of researchers and leaders to **unleash potential**, sometimes experience block progress and innovation.

Lesson 6: Investment in research only yields benefits when linked to **industry, government, and societal needs**—education and innovation policies must be integrated for economic competitiveness.

Lesson 7: It is beneficial to **invite international experienced peers** in evaluation and selection processes for institutional and other major granting schemes