

Investing in Valorisation: The Economic Opportunity

26 January 2022

Universiteiten van Nederland



The case for innovation – social and economic recovery

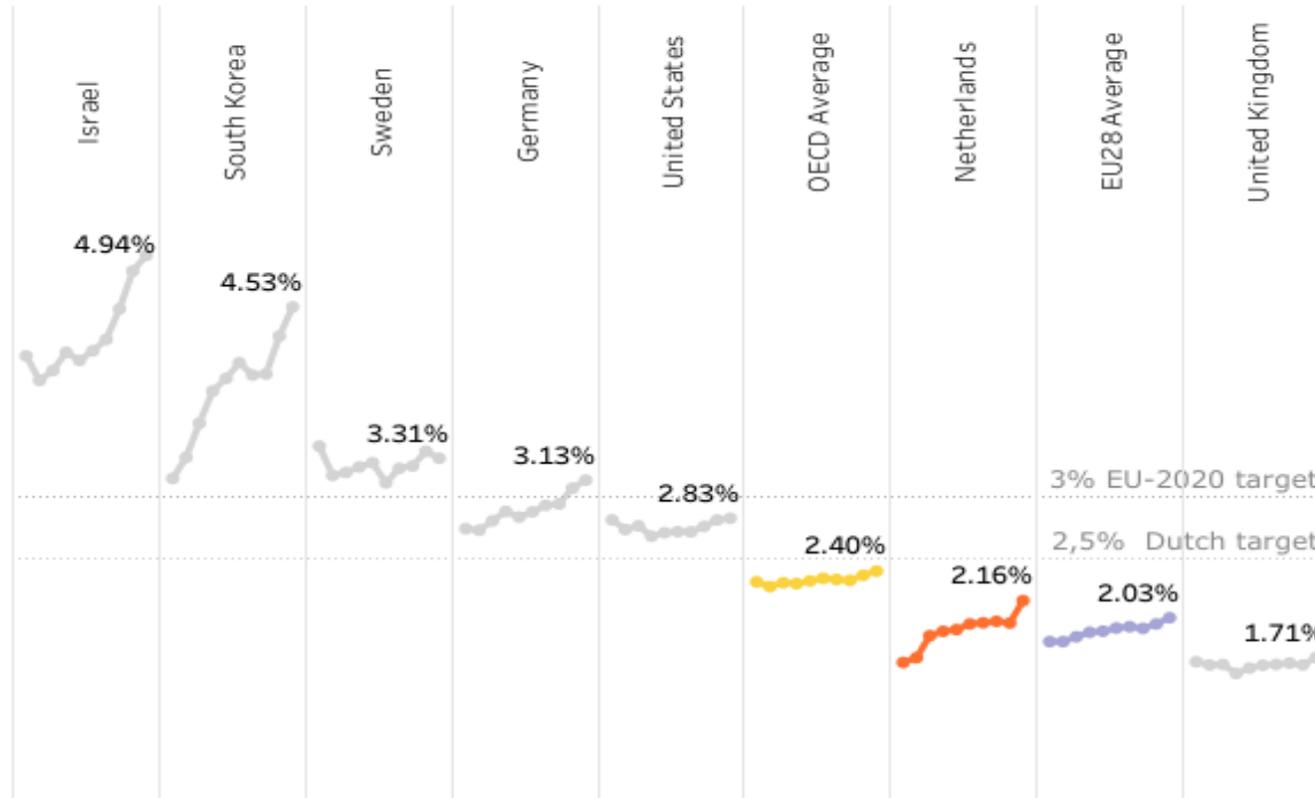
Recovery from the economic impact of Covid-19, meeting climate change targets and the aspiration to deliver a wellbeing economy means that strategic and economic environments are changing very significantly. Doing things as we've always done is not an option - the case for innovation has never been stronger.

Society faces complex and urgent challenges, with a global pandemic adding more urgency: from security, the climate emergency to an ageing population. Innovation is crucial to anticipate and respond to these challenges, to support economic growth and jobs, and support social prosperity and wellbeing.

It is important that government investments in teaching and research from universities, university medical centres (UMCs) and research institutes create benefits for everyone in the Netherlands, that we maximise valorisation opportunities, so the results of research and teaching create value for society and the economy.



Investment in R&D



Government planned investments in research demonstrate there is a renewed commitment to increasing R&D

The long-term sustainable economic growth of the Netherlands demands a renewed commitment to promoting the **impact** of this research.

This is where valorisation plays an important role because it drives the benefits of teaching and academic research into society.

Source: UNL, https://www.universiteitenvannederland.nl/en_GB/nederland-dreigt-toppositie-als-kennisland-te-verliezen-door-achterblijvende-investeringen.html



Innovation Impacts

Teaching:

- The contributions of Universities, UMCs and research institutes to the economy and society start with producing educated graduates adding to the country's stock of skilled human capital, essential to economic growth in today's advanced workplaces.
- Their teaching role is not distinct from their role in supporting innovation impacts, it is an essential component.
- Teaching benefits spill over into local, regional and national economies.

Research:

- Research provides a pipeline of knowledge. Where this is disseminated into society to create value, academic research fuels innovation.
- Success in generating innovation impact reinforces teaching and research activities. This is a virtuous circle.
- The extent to which public investment in research creates benefits in society relies wholly on a successful valorisation strategy within each institution. The approach taken to valorisation matters.



The importance of valorisation strategy

Universities and research organisations in advanced economies focus on six types of activities to valorise benefits of teaching and research:

1. transferring technology and creating value and IP from university research;
2. facilitating business innovation through user-friendly access to university research;
3. conducting contracted research or collaborating with businesses in joint research projects;
4. building long-term strategic partnerships with businesses;
5. supporting business creation (student start-ups and research spin-offs);
6. offering continuing education/professional development courses for external stakeholders.

These activities are resource-intensive, and the operational capacity of the Technology Transfer Office is of critical importance.

Evidence also shows that the TTO staff body not only influences an institution's success in generating patents, technology licenses, and spinout companies, but also its research and teaching impact.

The size of the TTO has a highly significant positive effect on innovation impact.



The Economic Opportunity #1

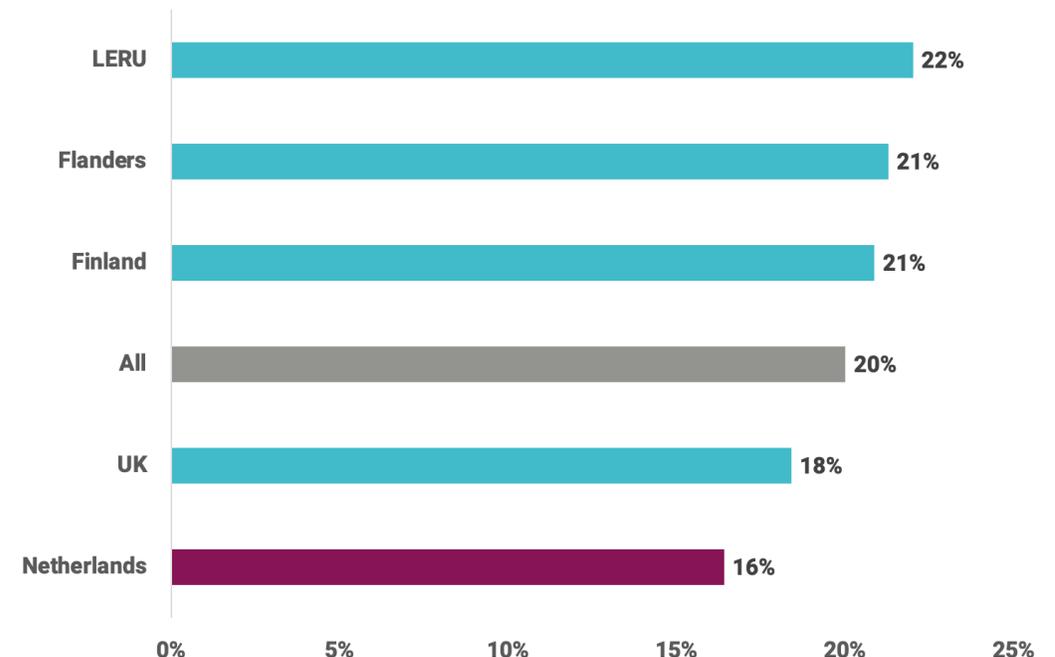
The economic impact associated with universities is well-studied. Economic impacts include those arising from core activities, student activities and tourism, as well as valorisation activities.

BiGGAR Economics has significant experience in assessing the economic impacts associated with universities, having undertaken assessments of over 200 universities and research institutes across Europe. Many have been undertaken recently with similar methodologies, enabling comparison between universities.

Several Dutch universities were considered as part of the analysis, with a combined income of €3.6 billion in the years considered, with an associated impact of €20.3 billion GVA, an income-impact ratio of 5.6.

For Dutch universities, valorisation impacts represent 16% of the total economic impact. This is lower than in other university systems, a difference ranging from 2-6%. This suggests that there is scope to increase impacts from valorisation in the Netherlands.

Valorisation as % of total GVA





The Economic Opportunity #2

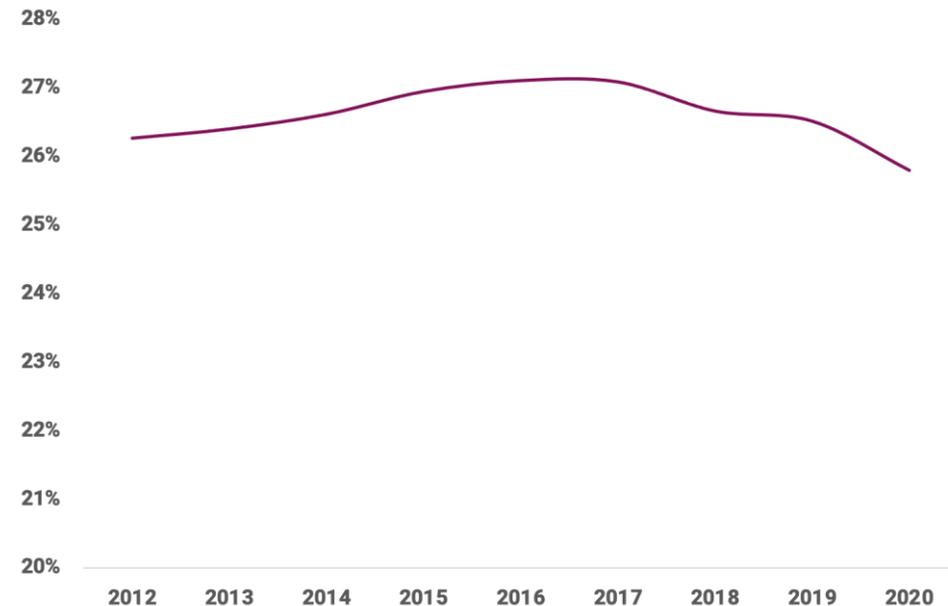
Universities in the Netherlands report income received from contract activities, which includes income from businesses, government organisations and other types of institution. Generally, this income is for types of activity that would be considered valorisation, such as collaborative research, consultancy and other types of expertise sharing.

The share of income from contract activities (calculated as 3-year average beginning in 2010) has declined as a percentage of universities' total income from around 27% in 2015-17, to under 26% in 2018-20.

Given the substantial revenues of the Dutch universities (€7.9 billion in 2020), this difference corresponds to the equivalent of **€100 million less** in revenue compared to the level in 2015-17.

This suggests that knowledge exchange activity, and the benefits arising, haven't kept pace with the general trajectory of Dutch universities.

Income from Contract Activities as % of the Total
(3 year average)





The Economic Opportunity #3

Based on the current income of universities in the Netherlands (€7.9 billion), an income-impact ratio of 5.6 suggests they may be contributing €44 billion annually, of which €7.2 billion would be associated with valorisation.

Closing the gap with other university systems would mean increasing valorisation impact as a share of total GVA by 2-6% points.

This would increase the economic impact by €0.9 billion GVA each year in the lower end of the range, and €2.5 billion GVA each year at the higher end.

This would increase the income-impact multiplier from 5.6 to between 5.7 and 5.9.

	Change in valorisation impact, as % of total GVA	Change in Valorisation impact (€bn)	New income-impact ratio
Low	2%	0.9	5.7
High	6%	2.5	5.9



Scope of Analysis

- The quantitative analysis has been limited in scope to the universities because we hold a strong dataset to show the economic impact of different elements of operations of Dutch universities. The whole population of research organisations includes the universities, university medical centres, applied knowledge institutions, and research institutes.
- The UMCs also have an important contribution to make through valorisation. As with the universities, it is clear that the economic returns from the education and research activities of the UMCs could be increased by investing in valorisation resources.
- The other Netherlands organisations that are included in our argument include TNO, Wageningen Research, Deltares, NLR and Marin. We know that the economic benefits from this wider body of research organisations will carry a similar value to those of the universities, because of economic impact assessments of similar organisations elsewhere. Two examples are an economic impact study of ETH Domain in Switzerland, and VIB in Flanders.
- Both of these organisations deliver similar valorisation activities to universities and are part of a strategic approach to valorisation across their respective country's public research landscape.
- This means the total economic opportunity for the Netherlands from investing in valorisation is larger than shown above.



Rationale for Public Funding

- Valorisation delivers significant public goods.
- Several market failures are linked to public funding decisions in innovation projects and programmes. High risks, sunk costs, market uncertainty, lack of full appropriability of results, and unavailability of funding all drive underinvestment research by business, and underinvestment by individual universities in valorisation.
- Public sector funding is justified to maximise the spillovers that innovation generates.
- Sustained and predictable support for the employment of valorisation staff is a crucial element of any successful system. In fact, the lack of a stable base and financial commitment for valorisation centres was raised an issue of concern in the 2018 evaluation of the Netherlands' Valorization Program.
- A system of sustained financial support might be enhanced by the overlaying of project funding, but short / medium cycle project funding alone is not the optimal approach for creating and enhancing relationships and impacts.
- A common approach across advanced economies is to support valorisation teams at the level of an individual university with additional collaborative action taken where this offers benefit, in meeting geographic or industry sectoral needs.



Conclusion

Universiteiten van Nederland welcomes the coalition government's commitment to increase research spending, which will help the Netherlands on its way towards the EU goal of 3% of GDP. This presents a huge opportunity, providing the outcomes of the research being funded can be valorised to create value to society.

There is a wealth of evidence from across the world's advanced economies to demonstrate the importance of valorisation in the innovation landscape. To be successful, valorisation activity must be supported and sustained. There needs to be capacity within the TTO to undertake the broad range of activities required.

The economic opportunity is significant. Our analysis shows that valorisation impacts are lower as a share of total GVA in the Netherlands than for similar research institution systems, with a gap of 2-6 percentage points. Closing the gap would result in an additional economic impact from valorisation of **€0.9 – €2.5 billion GVA each year**.

The rationale for government investment in valorisation is strong. Public sector funding is justified to maximise the spillovers that innovation generates and to address market failures that prevent investment by businesses and research organisations.

With a considered policy investment in valorisation, the Netherlands can catch up with its competitors and realise significant additional economic and social benefits from its existing investments in academic research and education.



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