

THE YOUNG ACADEMY

SPACE TO THINK

AN ANALYSIS OF STRUCTURAL THREATS TO ACADEMIC FREEDOM AND INTEGRITY





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SPACE TO THINK

AN ANALYSIS OF STRUCTURAL THREATS TO ACADEMIC FREEDOM AND INTEGRITY

EXECUTIVE SUMMARY

Should academic researchers break all ties with fossil fuel companies and refuse any research funding they might offer? Is there a place for research collaborations between Dutch universities and fossil fuel companies? Or a Chinese tech giant that develops mass surveillance technology used to violate the human rights of China's Uighur population? Is it acceptable for Big Tech to fund a research institute focusing on AI ethics and tech policy and law? Or for the Dutch Tax and Customs Administration to covertly sponsor professorships? These recent high-profile cases raise urgent questions about how external funding and collaborations can influence research agendas and outcomes in science.

This report starts by asking what lessons the academic community in the Netherlands and research policymakers can learn from recent controversies about external research funding and public-private research partnerships. Behind this question are the fundamental issues of what goals research at publicly funded universities should serve and who gets to decide this.

Is it the duty of universities to conduct fundamental and critical research that reframes current problems, questions underlying assumptions, and identifies the next generation of problems? Is such research in the public interest? Is such research at risk?

In this report, we

- 1. trace the recent history of shifts in research funding in the Netherlands;
- investigate what we know about how these shifts have affected researchers'
 positive academic freedom, in other words the extent to which they can make
 independent decisions about what research to perform and what research goals
 to pursue; and
- 3. offer recommendations for how to restore, increase, and safeguard positive academic freedom.

1. Shifting funding landscapes

Over the past few decades, changes in research funding policies have influenced research at universities and other publicly funded research institutions. These changes were driven by ideas about the nature, goals, and functions of academic research. The 'entrepreneurial university' became the ideal, with universities being encouraged to take an active role in acquiring external funding and in performing research that helps to solve problems and challenges in society and business. Our literature review reveals that external funders – both private and public – have had a growing influence on Dutch academic research. This has altered the balance between different funding streams, with the government putting a cap on the relative growth of first-stream research funding, which has led to an increasing demand for secondand third- (or fourth-) stream funding. There has been corresponding pressure on universities to conduct research most aligned with policy and business priorities.

2. Lack of transparency

There is currently no mandate for universities to keep comprehensive and systematic records at central level of how particular lines of research are funded, or by whom. Nor are there reporting requirements for the third-stream funding bodies that make clear, at any level of detail, where the money they spend on supporting research is going. Reports generally offer a high-level overview of funding by stream at university level, and we can only gain isolated information on the funding of specific projects or individuals by examining the funding acknowledgements in scientific publications, reports, and conflict-of-interest statements. That is not enough to gain an accurate and representative picture of the whole funding landscape. It is thus difficult to identify the effects of funding on the relative level of support and opportunity available for individuals, departments, faculties, disciplines, and types of research.

In the wake of the replication crisis and concerns about 'sloppy science' and 'research waste', research integrity has rightly received a great deal of attention in recent years. Such efforts have largely focused on raising awareness and promoting responsible and open research practices for individual researchers and research groups. They do not, however, address possible problems involving higher-level systemic effects of funding streams, for example structural dependencies or inequalities between fields in their access to funding. These systemic effects are not always readily observable by researchers and institutions, but may have a longer-term impact. It is also important to ask and address questions about the effects and desirability of policies that have led to increasing dependence on external funding in certain academic fields and to the steady growth of public-private research partnerships.

3. Recommendations

Our findings lead to the following two recommendations, both of which can help to increase positive academic freedom and establish a funding culture that enables universities and other publicly funded research institutions to fulfil their duties towards society.

A. INCREASE TRANSPARENCY AND ACCOUNTABILITY REGARDING EXTERNAL FUNDING FLOWS

Universities and research institutions should be more transparent about the external funding of their research. They should provide clear, detailed overviews of funding flows, specifying how they are distributed between institutions, disciplines, faculties and research groups, and what expectations and conditions are attached to them. They should also shed light on how policy and practice affect researchers' freedom of choice. In the same connection, universities and research institutions should work to develop an infrastructure as well as reporting and auditing standards. These would serve a three-fold objective:

- 1. they would allow a clearer view of the national funding landscape,
- 2. they would allow institutions to account for their policies and practices, and
- 3. they would make funding choices and their effects visible to researchers and policymakers.

These reports and standards would allow leadership to conduct regular *intellectual audits* that query whether funding policies and practices are in line with their public duties, and to check for undesirable inequalities in funding between faculties, disciplines, research areas, or types of research.

B. DEVELOP GUIDELINES FOR RESPONSIBLE RESEARCH FUNDING PRACTICES

Even if individual scientists and their research groups are committed to research integrity, that does not guarantee the integrity of research funding at the university or research institution itself. Institutional policymaking can determine the research agenda or constrain research funding opportunities for certain disciplines and types of research. Most individual scientists and research groups have little or no influence on policy decisions at their institutions. Universities, research institutions and policymakers therefore need to have a conversation about *responsible research funding practices*, analogous to the approach towards developing guidelines for responsible research practices in recent years.

The agenda for this conversation should in any event include the following topics:

- the desired balance between thematic, curiosity-driven, and critical research funding;
- institutional infrastructures and policies that can promote responsible research funding;
- democratisation of funding policies and practices through the broad inclusion of researchers themselves in decision-making about funding;
- prevention of questionable funding practices such as ethics-washing or steering fields towards particular interests.

The aim is to develop a set of guidelines that do justice to the different goals of research and allow universities, research institutions and their researchers to fulfil their public duties towards society as effectively as possible.

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1. INTRODUCTION

Controversies have arisen in recent years about such matters as information being withheld on the source of sponsorship for professorships, for example the Dutch Tax and Customs Administration¹ or fossil fuel firms,² cases where big tech firms have funded research and conferences on technology regulation,³ fossil fuel corporations funding consortium research on climate issues,⁴ the direction of research being influenced by external governmental funders,⁵ and private research funding whose apparent purpose is to serve the interests of a certain industry.⁶ A lively debate has

¹ Yoeri Vugts and Siebe Sietsma. 'Universiteit Leiden verzweeg sponsoring hoogleraar door Belastingdienst.' (NOS Nieuwsuur, 13 May 2022), accessed 28 March 2023.

² Stan van Pelt. 'TU Delft zwijgt over namen Shell-deeltijdhoogleraren "vanwege de AVG".' (*De Volkskrant*, 15 February 2023), accessed 28 March 2023.

³ Felicity Lawrence. 'Uber paid academics six-figure sums for research to feed to the media.' (*The Guardian*, 12 July 2022); IAPP, 'Privacy Advocates Protest Palantir's Sponsorship of the Amsterdam Privacy Conference' (24 September 2018), accessed 14 November 2021; Oscar Williams. 'How Big Tech Funds the Debate on AI Ethics' (*The New Statesman*, 7 June 2021), accessed 14 November 2021.

⁴ Sterre van der Hee and Henk Strikkers. 'Integriteitsinstituut: UvA-hoogleraar Volberda handelde "verwijtbaar onzorgvuldig". (*Folia*, 27 May 2021); Maarten Albers. 'UvA zet rem op nieuwe projecten met Shell en wil gesprek over banden met fossiele industrie.' (*De Volkskrant*, 8 February 2023); Dylan van Bekkum. 'Rotterdamse Erasmus Universiteit roept klimaatnoodtoestand uit en belooft groene beterschap.' (*De Volkskrant*, 6 February 2023), all accessed 28 March 2023.

⁵ For example the relationship between the VU and Chinese government funders on human rights research: 'VU sluit door China gefinancierde instelling die mensenrechten onderzocht' (Nu.nl, 11 July 2022), accessed 28 March 2023.

⁶ Tim Luimes, Remy Käller and Irene van den Berg, 'Hoe FrieslandCampina de onderzoeksagenda van Wageningen University bepaalt' (*Vrij Nederland*, 29 May 2021), accessed 14 November 2021.

also arisen about the connection between research and society, and the role that science can and should play in the public sphere. This is therefore an excellent time to learn from these discussions and to make informed choices about how we shape research funding.

Debates in the Netherlands often examine academic freedom primarily as negative freedom, i.e., the right of scientists to do their research without constraint or pressure. Alongside negative freedom, however, there is the concept of positive freedom, i.e., the right of scientists to determine the direction and aims of their research and to pursue these regardless of their alignment with policy or industry priorities. Positive academic freedom has to do with whether researchers can do the work that makes sense to them, whether or not in collaboration with funding partners. Underpinning this notion is the idea that it is one of the essential functions of universities and public research institutions to create space for different types of research, from curiosity-driven and fundamental to thematic and applied research, including critical approaches.

Our research (see Annex, Methodology) identifies both advantages and disadvantages stemming from the involvement of non-university actors, either private or public sector, in academic research. The positive effects are significant, including the availability and flexibility of resources to support academic research, as well as connections to the organisations providing the funding, which often enrich research and make it possible to explore new and relevant questions and methods. These contacts can lead not only to influence but also to inspiration. As one senior researcher interviewed put it, 'Industry adds reality. It raises questions I had not thought of'.

Our interviews and conversations also suggested problems, however, specifically concerning imbalances in, and dependencies on, external research funding. Negative effects of external funding that are usually mentioned are influence and constraints on individual researchers. The problem is also more structural in nature, however, as

⁷ KNAW. Academische vrijheid in Nederland – een begripsanalyse en richtsnoer, (Amsterdam: KNAW, 2021).

⁸ For definitions, see for e.g. Isiah Berlin: 'The first of these political senses of freedom or liberty...[which] I shall call the "negative" sense, is involved in the answer to the question "What is the area within which the subject– a person or group of persons - is or should be left to do or be what he is able to do or be, without interference by other persons?" The second, which I shall call the "positive" sense, is involved in the answer to the question "What, or who, is the source of control or interference that can determine someone to do, or be, this rather than that?" The two questions are clearly different, even though the answers to them may overlap.' Isiah Berlin. *Two concepts of liberty,* (American University, 1958). 'De daadwerkelijke vormgeving van academisch werk volgens principes die eigen zijn aan de academie.' Judith Vega. *Geschiedenis en actualiteit,* (Boom, 2019).

seen in the longer-term shift from first- and second-stream funding towards third-(or fourth-)stream⁹ funding and to funding through consortiums involving public and private partners. This shift allows policymakers, ministries and private funders to have a say in what kinds of research should be supported, resulting in certain fields being pushed towards policy and industry priorities – while others receive a dwindling amount of funding.

When external funders wish to capture the regulatory or policy agenda, funding research can be an effective strategy for doing so. Universities can be attractive to funders because they bring with them credibility, research integrity, or processes for compliance with rules and regulations pertaining to human rights. The risk is therefore not so much one of research integrity as of 'ethics-washing', where private parties engaged in unethical practices fund research or other academic activities in order to divert attention away from these practices and polish their image.¹⁰

Besides ethics-washing, we also observe issues of transparency in the funding awarded to individual researchers. An example of this is the negative media coverage in 2022 of a special professorship covertly sponsored by the Dutch Tax and Customs Administration on the use of ICT in tax law enforcement. This funded research chair became controversial as a result of the Childcare Benefits Scandal, leading to questions about what kind of transparency is appropriate for research funding by government institutions. What this controversy highlighted is that established practices (namely merely acknowledging funding sources in publications) can be insufficient when funding goes to research on controversial topics. It also made clear that there is no consensus at universities as to what 'good' reporting practices are. The controversial funding by the Tax and Customs Administration sparked further scrutiny of special professorships sponsored by Big Four accounting firms at Dutch universities - something that would not have been seen as controversial a few years earlier. Nevertheless, there are no reporting guidelines, as shown by

⁹ In the medical sciences, the third funding stream is generally divided into European Union, health funds and foundations (third stream) and business and private funding (fourth stream).

¹⁰ See e.g. Ben Wagner. 'Ethics As An Escape From Regulation. From "Ethics-Washing" To Ethics-Shopping?', *Being Profiled: Cogitas Ergo Sum. 10 Years of 'Profiling the European Citizen*, Emre Bayamlioğlu, et al. (Amsterdam: Amsterdam University Press, 2018), 84–88.

¹¹ Yoeri Vugts and Siebe Sietsma, 2022.

¹² In this case, the Education Inspectorate (*Inspectie voor het Onderwijs*) was quoted as saying: 'Er bestaat geen wettelijke bepaling op basis waarvan de Inspectie van het Onderwijs kan handhaven als het gaat over externe financiering van wetenschappelijk onderzoek. De waarborgen van integriteit zijn binnen het Nederlandse systeem allereerst belegd bij de desbetreffende besturen. Die moeten zorgen voor transparantie op allerlei manieren. Uiteraard zullen wij onze zorgen over het gebrek aan transparantie delen met de universiteiten.' (See: Accountancy Vanmorgen. 'Meer hoogleraren gesponsord door Belastingdienst en Big Four.' (2 June 2022), accessed 28 March 2023.

¹³ Accountancy Vanmorgen (2022).

the recent decision of the Minister of Education, Culture and Science to revisit the academic code of conduct. ¹⁴ The universities therefore do not maintain centralised records on the number of sponsored professorship and their funding. ¹⁵ As long as they cite individual or project funding sources, then, research groups and individual scientists do comply with academic reporting and conflict-of-interest rules, but there is no responsibility to clarify the broader influence that funding has on the climate in which the research is conceptualised and made possible. The Financieel Dagblad recently attempted to chart the extent of the financing of professorial positions at universities and research institutes, and also came to the conclusion that the promised transparency regarding the financing of professors is still a long way from being realised. ¹⁶

In the following chapters we trace the recent history of shifts in research funding in the Netherlands and investigate what we know about how these shifts have affected researchers' *positive academic freedom*, in other words the extent to which they can make independent decisions about what research to perform and what research goals to pursue, Finally, we offer recommendations for how to restore, increase, and safeguard positive academic freedom.

¹⁴ ScienceGuide. 'Dijkgraaf laat na incidenten gedragscode wetenschappelijke integriteit evalueren,' (25 May 2022), accessed 28 March 2023.

¹⁵ Rathenau Instituut. Ontwikkeling derde geldstroom en beïnvloeding van wetenschappelijk onderzoek – Een data- en literatuuronderzoek ter beantwoording van de motie-Westerveld, (Den Haag, 2020), 34.

¹⁶ Ardi Vleugels and Jasper Been. 'Voor het eerst in kaart gebracht: wie betalen onze hoogleraren?' (*Financieel Dagblad*, 17 February 2023), accessed 28 March 2023.

2. POSITIVE ACADEMIC FREEDOM IN THE DUTCH CONTEXT

2.1 Historical background

In 1987, Alexander Rinnooy Kan and others published a pamphlet promoting the idea of an entrepreneurial university. ¹⁷ It proposed that universities should operate more like commercial businesses, for instance by becoming more proactive in attracting external funding and using market-based mechanisms and incentives to secure their own financial sustainability.

Starting in 1997, Dutch government pursued a policy of establishing key research domains clustered around ten 'top technology institutes'. These institutes could receive public-private funding and were prioritised in publicity campaigns and in funding. The policy was taken a step further in the 2000s with the 'Top Sectors' programme, which saw the government identify a number of sectors as economic priorities in 2010. These sectors received targeted support both through government-backed matching of private research funding and targeted grant programmes managed by the Dutch Research Council (hereafter, NWO).

The shift advocated by Rinnooy Kan is visible when we look at the scale and nature of external research funding in Dutch academia. In the 2000s, this became especially visible in various NWO programmes, such as the Knowledge and Innovation

¹⁷ Nederlands Gesprek Centrum. *Naar een ondernemende universiteit.* (Utrecht: L.J. Veen, 1987).

¹⁸ Adviesraad voor wetenschap, technologie en innovatie. *Balans van de topsectoren 2014*, (Den Haag, 2014), accessed 20 October 2020.

Covenant (KIC), the Dutch National Research agenda (NWA) and the National Growth Fund, all of which aligned with the earlier Top Sector policy in encouraging consortia of researchers to involve private-sector partners.

In 2011, Rinnooy Kan revisited the topic of the entrepreneurial university in a speech at the University of Twente. He noted that concerns about fundamental curiosity-driven research had been borne out. The then Minister of Economic Affairs, Maxime Verhagen, had stated shortly before that 'fundamental research must be aligned with the economy'. A broader push to align research with national priorities has accompanied this economic vision. The 2010s saw the establishment of other instruments, including the NWA, instituted in 2018 to highlight the role of scientific research in responding to societal needs and problems. The NWA has become the guiding agenda for a significant proportion of available second-stream funding distributed by NWO.

Another backdrop to this increase in external funding has been the gradual decoupling of funding for research and for education over the past two decades. Between 2004 and 2019, the Dutch government's financial contribution to universities fell from 61 percent to 57 percent of universities' overall income, while contract work increased from 22 percent to 26 percent in the same period. This shift can be seen in different sources covering a similar period. An Ernst & Young study from 2014 found that between 2003 and 2012, second- and third-stream research funding at Dutch universities increased by 91 percent, while first-stream funding increased by only 7 percent, not keeping pace with the rise in student numbers.²¹

As far back as 2005, an Academy report observed that 'permanent contracts are no longer a given, research is no longer financed unconditionally, and funding is mainly awarded through competition'.²² This led to a climate of pressure and competition among researchers, with consequences for publication cultures and, in turn, research integrity. Another report, commissioned by the Ministry of Education, Culture and Science (OCW) the same year, found that:

¹⁹ Alexander Rinnooy Kan. 'Naar een ondernemende universiteit: u nadert uw bestemming?', (5 September 2011).

²⁰ See Rathenau Institute, 'Income of Dutch Universities by source', (1 November 2021).

²¹ Ernst & Young. *Uitkomsten feitenonderzoek matchingbehoefte op (Europese) onderzoekssubsidies.* (Den Haag, 13 March 2014).

^{&#}x27;Vaste aanstellingen zijn niet langer vanzelfsprekend, onderzoek wordt niet meer onvoorwaardelijk gefinancierd, en veelal moeten de gelden in competitie worden verworven.' Johan Heilbron. *Wetenschappelijk onderzoek: dilemma's en verleidingen,* (Amsterdam: KNAW, 2005), 9.

Today research is increasingly expected to deliver applicable results that create social and economic benefits. Furthermore, competition is arranged between researchers over scarce research funding, with the idea that this will bring forward the best scientists with the best research proposals.²³

This trend continued in the 2010s. Dutch universities were encouraged by policy to engage with external research funders to make up for the lack of growth in first-stream funding for higher education and research. Since then, a trend has also become visible in the way universities themselves seek research funding, with the value of contract research increasing by 30 percent over the 2010-2020 period.²⁴ Although precise figures on who is funding which types of research in the Netherlands are not easy to find, the statistics that are available indicate a steady increase in the influence of the private sector and other external funders on academic research, driven both by policy and by institutional choices.

2.2 Imbalance

Meanwhile, rising student numbers in Dutch higher education have led to additional funding for teaching, but not for research. The result is that the amount the Dutch government pays universities per graduating student was 25 percent lower in 2021 than it was in 2000, whereas student numbers had risen by 68 percent.²⁵ This has undermined the traditional model in which education revenues are used to fund research, with significant disparities emerging between disciplines. Some faculties simply have more opportunities than others to obtain funding for problem-oriented research because their research can be utilised more rapidly or easily, or because it is better suited to business and policy challenges. According to interviewees for this project, the faculties that struggle to acquire external funding have great difficulty allocating adequate research time for their staff.

This imbalance between disciplines also affects education. As an interviewee working at a science policy institution stated, the government has a role to play in forging a stronger connection between research and teaching. 'The connection between education and research depends on each one's funding. How that plays out depends on the field, owing to student numbers.' The structural underfunding of some fields of research has made it difficult for them to cover the overhead for staff

²³ KNAW. Wetenschap op bestelling - Over de omgang tussen wetenschappelijk onderzoekers en hun opdrachtgevers, (Amsterdam: KNAW, 2005), 14.

²⁴ See Rathenau Institute, 'Income of Dutch Universities by source', (1 November 2021) and also the facts and numbers section of the website of the Universiteiten van Nederland, accessed 28 March 2023.

²⁵ WOinActie, 'De Feiten' https://woinactie.blogspot.com/p/the.html, accessed 14 November 2021.

involved in NWO-funded projects, which NWO itself does not pay (the 'matching' problem). Some faculties therefore actively discourage researchers from applying for NWO grants, and push them to seek only European or private funding that will cover the overhead

The allocation of research time to a field has thus become more contingent on its potential contribution to addressing policy priorities. Whereas researchers a generation ago expected to be funded through teaching income, today it is difficult to imagine a scenario where research is fully funded by education. This trend has led to greater visibility for some institutions and fields than others, and to a situation where the social sciences and humanities are at risk of becoming add-ons that make the contribution of the exact sciences more effective or more socially and morally acceptable. That is often the case for funding programmes such as KIC and NWA, which are geared towards innovation and policy.²⁶

2.3 Positive academic freedom

We identify four themes emerging from scholarly debates and the literature, which come together to inform the notion of positive academic freedom.

The first theme is the *relationship between funding and research*. This concerns the influence of different funding streams, the balance (or lack thereof) between them, and the relationship (or lack thereof) between type or size of funding and research quality.²⁷ It also pertains to how external funding from government, foreign sources, or private actors can affect the choice of research topics, the research questions asked, the methodology used, the results reported and conclusions drawn from them, and decisions about what to publish.²⁸

The second theme relates to the *distribution* of funding across academia, especially how this affects different disciplines. Here we find a lack of transparency when it comes to the distribution of external funding amongst

²⁶ This statement is based on discussions with an NWO advisory group and its NWO contacts. It is also borne out by an internal request in 2022 from the NWO board to its social science advisory roundtable for evidence of the contribution of the social sciences to society.

²⁷ Rathenau Instituut. *Balans van de wetenschap 2020*, (Den Haag, 2020).

²⁸ Rathenau Instituut. *Ontwikkeling derde geldstroom en beïnvloeding van wetenschappelijk onderzoek – Een data- en literatuuronderzoek ter beantwoording van de motie-Westerveld*. (Den Haag, 2020) and Frank van Kolfschooten, Clara van de Wiel and Maarten Huygen. 'De geldschieter wil wel zelf wat aan het onderzoek hebben', (*NRC Handelsblad*, 31 August 2018), accessed 14 November 2021.

universities and disciplinary areas.²⁹ A Rathenau Institute report from 2015³⁰ illuminates the difference between institutions' and their administrators' experiences on the one hand and the experiences of researchers on the other. The deans interviewed felt that funds were distributed fairly across the disciplines and topics and that universities thus had clear guidance on setting priorities without creating blind spots. The researchers' experience was very different. They felt that both the research priorities and the Top Sectors policy narrowed opportunities to choose their own research agenda. A year later, another report found that researchers in the domains of language and culture, the social and behavioural sciences, and law were experiencing negative consequences for their ability to pursue promising new lines of research.³¹ They attributed these consequences primarily to universities' adopting a policy of setting research priorities.

The third theme in the literature is that of *conflicts of interest*. These are analysed both on the international and national scale. One of the highest-profile cases in the Netherlands concerns the close cooperation between the food industry and Wageningen University & Research (WUR).³² All over the world, companies grappling with controversial policy issues are funding academic research groups, their purpose being to push for more favourable regulatory regimes or to reverse unwelcome developments. One example is technology giants providing research funding over the past decade in the areas of law, regulation, and ethics.³³ Such funding has become so widespread that conflicts of interest are now common. They are sometimes compared to the tobacco companies that funded fake science for many years.³⁴ Although academic journals and publishers have put policies in place that are supposed to make conflicts of interest transparent, the literature

²⁹ KNAW. Evenwicht in het wetenschapssysteem. De verhouding tussen ongebonden en strategisch onderzoek. (Amsterdam: KNAW, 2019).

³⁰ Rathenau Instituut. De ontwikkeling van vakgebieden in Nederland – De effecten van beleid op het Nederlandse onderzoeksprofiel, (Den Haag, 2015).

³¹ Rathenau Instituut. Chinese borden – Financiële stromen en prioriteringsbeleid in het Nederlandse universitaire onderzoek. (Den Haag, 2016).

³² Tim Luimes et al (2021).

³³ Laurie Clarke, Oscar Williams and Katharine Swindells. 'How Google quietly funds Europe's leading tech policy institutes'. (*The New Statesman, 30 July 2021*), accessed 14 November 2021.

³⁴ Mohamed Abdalla and Moustafa Abdalla. 'The Grey Hoodie Project: Big tobacco, big tech, and the threat on academic integrity'. *Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society* (2021): 287-297.

on the medical, 35 exact 36 and social sciences shows that these policies have little effect. 37

A fourth theme concerns more all-encompassing studies on how *neoliberalism or capitalism* affects Dutch universities. Bioethicist David Renick puts it succinctly when he says that 'modern science is big business'.³⁸ Another publication offers an overview of the problems associated with doing research in a neoliberal context and argues that a number of values critical to science is affected by a market approach to research:

Academic freedom and autonomy, public control of science, the relationship between scientific pluralism and deliberative democracy, lay-expert relations in a democracy, and protection of scientific inquiry against the threat of populism and autocracy.³⁹

2.4 Collective responsibility

If we wish to modernise the infrastructure that underpins positive academic freedom in the Netherlands, the first step is to update the lens through which we scrutinise academic freedom and integrity. Rather than only asking whether individual scientists can choose what they publish and can preserve the integrity of their conclusions, we should also be asking a larger question: are they free to decide what they want to research and how they go about it? Whose interests does their research serve, and are these interests compatible with or conducive to the public interest? And, underlying these questions, what are the duties of research institutions in shaping the environment in which research takes place, in maintaining a balance in who has opportunities to do research, and in deciding what sort of research can be conducted?

Rafael Dal-Ré, Lex Bouter, David Moher and Ana Marušić. Mandatory disclosure of financial interests of journals and editors. *British Medical Journal* 370 (2020): 1-3.

³⁶ Rafaela Hillerbrand and Claudia Werker. 'Values in university-industry collaborations: the case of academics working at Universities of Technology'. *Science and Engineering Ethics* 25 (2019): 1633-1656.

³⁷ Kevin Elliott. 'Scientific judgment and the limits of conflict-of-interest policies'. *Accountability in research*, 15 (2008): 1-29.

³⁸ David Resnik. *The price of truth: How money affects the norms of science*. (New York: Oxford University Press, 2007).

³⁹ Péter Hartl and Adam Tamas Tuboly (Eds.). *Science, Freedom, Democracy*. (New York: Routledge, 2021).

These are questions about positive academic freedom, rather than about preventing or fighting off challenges to one's individual research integrity.⁴⁰ They are related to the difference between 'doing things right' (research integrity) and 'doing the right thing' (contributing to the common good). Having academic freedom is more than being able to speak freely in the context of one's research. It requires a balance between freedom and responsibility. That is something that cannot be achieved by focusing on the individual level alone in a funding landscape as complex and skewed as it is now. Douglas⁴¹ makes the argument that 'we need to craft better institutional support for the ability of scientists to meet their social responsibilities, particularly those that continue to rest with the individual. She acknowledges that scientists bear individual responsibility for the ethics and credibility of the research they conduct, but argues that there is a collective dimension to these responsibilities that is currently being neglected. Institutional support is necessary for scientists to be free to set their own research agendas and for reflection on the social impact of go/no-go decisions about research.

The Dutch code of research integrity defines the notion of independent research as follows:⁴²

Independence means, among other things, not allowing the choice of method, the assessment of data, the weight attributed to alternative statements or the assessment of others' research or research proposals to be guided by non-scientific or non-scholarly considerations (e.g., those of a commercial or political nature). In this sense, independence also includes impartiality. Independence is required at all times in the design, conduct and reporting of research, although not necessarily in the choice of research topic and research question. (authors' emphasis)

Independence, as this report demonstrates, is often narrowed down to an individual and project-level concern in the Dutch context, at the expense of a broader vision of positive academic freedom. There is little overall guidance from faculties, university bodies, and public funding authorities. Rather than information and incentives for responsible behaviour, the message to most researchers is that they must earn their living and secure money themselves to fund their research.

⁴⁰ Judith Vega. 'Academische vrijheid? Positieve en negatieve vrijheid, en de fuik van het neoliberale werken'. *Academische Vrijheid: Geschiedenis en actualiteit*. Eds. Klaas van Berkel and Carla van Bruggen. (Amsterdam: Boom, 2020), 131-148.

Heather Douglas. 'Scientific Freedom and Social Responsibility'. *Science, freedom, democracy.* Eds. Péter Hartl and Adam Tamas Tuboly (eds), (New York: Routledge, 2021), 68-69.

⁴² KNAW et al. *Nederlandse gedragscode wetenschappelijke integriteit* (Den Haag: Dans, 2018).

It is this broader understanding of positive academic freedom that is currently missing in the debate in the Netherlands, both on the level of public policy and within research institutions themselves. Some leeway for a discussion of this kind has opened up with the debates on open science policies and on recognition and rewards and the evaluation of research, 43 but the problem of ensuring positive freedom in research is larger than this.

2.5 Normative and practical proposals

The literature turns up various responses to the challenges discussed above.

The first is a call to strengthen research integrity, often in the form of codes of conduct. The Rathenau Institute points to the various codes of conduct in play for Dutch researchers, including that of Universities of The Netherlands (formerly VSNU) and Europe's All European Academies (ALLEA), the *Nederlandse Gedragscode Integriteit Rijk*, which covers research information, the Higher Education and Research Act, and 'soft' codes in operation within institutions. ⁴⁴ These were reviewed by the Academy's advisory committee in 2018 ⁴⁵ and found to offer a strong enough framework to ensure responsibility on both the individual and institutional levels. However, Science Minister Robbert Dijkgraaf has since recommended that the Code of Conduct for Research Integrity be reviewed due to concerns about the lack of transparency in the sponsorship of special professorships and research funding. ⁴⁶

The second consists of recommendations for improving the openness and transparency of funding structures, the most notable recent example being those of the Van Rijn committee,⁴⁷ but also recommendations put forward in the literature on conflicts of interest and setting reporting standards for publications about sources of funding.⁴⁸

⁴³ See e.g. the Science in Transition movement.

⁴⁴ Rathenau Instituut. *Ontwikkeling derde geldstroom en beïnvloeding van wetenschappelijk onderzoek – Een data- en literatuuronderzoek ter beantwoording van de motie-Westerveld,* (Den Haag, 2020).

⁴⁵ KNAW. Vrijheid van wetenschapsbeoefening in Nederland. KNAW briefadvies naar aanleiding van de motie Straus-Duisenberg nr. 120 (34550-VIII), (Amsterdam: KNAW, 2018).

⁴⁶ ScienceGuide. 'Dijkgraaf laat na incidenten gedragscode wetenschappelijke integriteit evalueren,' (25 May 2022) accessed 28 March 2023.

⁴⁷ Adviescommissie Bekostiging Hoger Onderwijs en Onderzoek. *Adviesrapport bekostiging hoger onderwijs 'Wissels om'*, (Den Haag, 2019).

⁴⁸ Rafael Dal-Ré et al. (2020).

Third, the Academy's 'Rolling Grants' proposal',⁴⁹ which takes partly the form of start-up and incentive grants,⁵⁰ may also be seen as a response to the problems of external funding. Under this configuration, grants would be channelled through universities to researchers appointed or promoted to assistant, associate, or full professor. This will give them a stable source of research funding through the first funding stream, thus relieving the pressure to apply for external funding. The Sector Plans that were recently approved also contribute to core funding through the first funding stream.⁵¹ While the Sector Plans do drive the research agendas, the priorities are set by the disciplines themselves.

Fourth, the notion of academic freedom has been reintroduced into the discussion by the Academy. In its report *Academische Vrijheid in Nederland*, 52 the Academy analyses the underlying conditions required for positive academic freedom, namely a stable institutional context free from dependencies, where research institutions have autonomy in deciding how research funding should be distributed. The report agrees that curiosity-driven (ongebonden) research is under pressure. The decline in first-stream funding has forced institutions to depend on competitive NWO, ZonMW (healthcare sector) and other external funding, much of which emphasises 'strategic research', often in the form of consortium projects.⁵³ The Academy is concerned that scientists may become too dependent on collaboration with external funders, and that this can lead to these funding providers influencing the research agenda and the educational curriculum. To remedy this, the Academy argues in its report, universities must ensure research independence through contractual provisions with consortium partners; universities, companies and researchers must be transparent about their research partnerships; and researchers should acknowledge their funding sources in publications and education.

⁴⁹ KNAW. Het Rolling-grantfonds. Kloppend hart voor ongebonden onderzoek, (Amsterdam: KNAW, 2020).

⁵⁰ See the Letter to Parliament (*Kamerbrief*) *Beleidsbrief hoger onderwijs en wetenschap* by the Minister of Education and Science, Robbert Dijkgraaf, dated 17 June 2022.

⁵¹ See https://nlsectorplannen.nl.

⁵² KNAW (2021).

See also another Academy report: KNAW. Evenwicht in het wetenschapssysteem. De verhouding tussen ongebonden en strategisch onderzoek, (Amsterdam: KNAW, 2019), https://bertweckhuysen.com/2020/01/the-report-of-the-weckhuysen-committee-of-knaw-is-published/: NWO currently spends twice as much on strategic research as on curiosity-driven research. As these two categories of research are both equally important, the ratio between them needs to be in balance, the Academy writes in its report.

3. PROBLEM ANALYSIS BASED ON THE THREE THEMES

The findings from the literature review and the interviews with experts and practitioners can be grouped into three themes. The first is our shifting funding landscapes; the second is the lack of institutional transparency, and the third is the need to go beyond research integrity and responsible conduct of research. Below we expand on these three themes. Together, the three themes add up to a vision of the value of independent research. They show the challenge of preserving a culture of positive freedom.

3.1 Theme 1: Influence of external funders

Our literature review reveals that external funders, both private and public, have exercised a growing influence on Dutch academic research over the last four decades. In connection with this, the balance between different funding streams has changed, with the government putting a cap on the relative growth of first-stream research funding, leading to an increasing demand for second- and third- (and fourth-)stream funding.

One topic that emerged from our interviews was that certain disciplines run the risk of becoming structurally dependent on particular types of funding. An example brought up by several of the experts we interviewed was that of food and agriculture research (a field also cited in the Academy's report on academic

freedom⁵⁴). Historical factors have interacted with economic policy in this field to create a situation in which it is hard to distinguish between supporting research and influencing it. The Second World War raised awareness on the part of the government that more scientific knowledge was needed regarding food production, but agricultural science was not an academic discipline at that point. This led to funding being redirected to the Landbouw Economisch Instituut (LEI) in Wageningen. The LEI was charged with prioritising this policy, with a close partnership being formed between researchers and food producers. These food producers have since become influential companies in the Netherlands. Policy continued to stimulate the partnership between research institutions and industry, notably through Wageningen University & Research, which came to dominate the field to such an extent that it received the lion's share of funding, thus cementing its relationships with industry.

This dynamic was further validated by the Top Sectors policy, so that it gradually became standard practice for certain research to be conducted by a given set of actors and to prioritise industry-focused results meant to increase economic profitability. The main issue here is the insidious entanglement between the interests of research institutions and those of industry. After all, both the quality and the choice of research projects are constrained by industry preferences and priorities. The point is that such industry-constrained research agendas may make sense for individual projects and researchers, but over time they lead to the entire research agenda in certain fields being shaped in ways that exclude dissenting ideas and research directions. This potentially brings the credibility of science into question, as well as the public role of universities as centres of independent enquiry and curiosity-driven research.

There is scant evidence as to how systemic the constraints of industry are in certain fields of research, how they affect what research is conducted, or whose research is prioritised. It is clear from the Rathenau Institute's figures that while there is now more opportunity for some disciplines (the natural sciences, engineering and technology, health and medicine, and agricultural studies), that is not the case for others.⁵⁵ Beyond the risk of 'chilling effects' (putting pressure on researchers not to raise certain concerns) and undue influence, there are also questions about what industry constraints mean for opportunities for innovation and creativity in research.

There has never been any serious attempt to chart the systematic effect of the new funding ecosystem on different disciplines. This is the duty of universities, at least in

⁵⁴ KNAW (2021), 41.

⁵⁵ See Rathenau Instituut. *Ontwikkeling derde geldstroom en beïnvloeding van wetenschap*pelijk onderzoek – Een data- en literatuuronderzoek ter beantwoording van de motie-Westerveld, (Den Haag, 2020), 14.

part, but it is not clear whether institutions in fact assess the effects of their funding on the research they conduct. What does it mean, for example, to conduct large amounts of research through consortium arrangements that require researchers to continually balance different interests in relation to the research they are conducting? There is no formal process in place for supporting researchers working with consortia, or any standards imposed by universities indicating how such research should be conducted, because such projects are not reported any differently from individual grants. And yet they are very different, in the same way that bilateral consortium projects set up to work on questions important to a particular company are also different.

Our interviewees observed that access to competitive research funding is uneven across disciplines and universities, an observation in line with reporting from the Rathenau Institute. Success rates in applying for funding also differ greatly across fields, with the 'hard' sciences coming out well ahead of the social sciences for the most part. From the most part. From the success for the success for

The Matthew effect – whereby past success in acquiring research funding increases researchers' odds of obtaining more funding in future – is well-documented. There is, however, no analogous research on how this effect might play out amongst entire disciplines or areas of specialist research and how it is influenced by changes in the availability of funding through the various funding streams. The Netherlands' national research policy exacerbates the potential for inequality, in any event. As contract research gains in importance as a source of income, and shortfalls in teaching income are made up by sources of private funding, the humanities and other disciplines less able to answer funders' short-term strategic priorities are coming to rely more on teaching income, which is declining structurally. A heavy dependence on teaching income suggests a shift towards less research time for scholars in these disciplines (and in turn less time to apply for available grants), and thus to a reverse Matthew effect.

One effect of external funding involves universities' ability to conduct due diligence on the collaborations they engage in. One recent case is the collaboration between the Chinese tech firm Huawei and the University of Amsterdam (UvA) and VU

⁵⁶ Ibid.

⁵⁷ Herman van de Werfhorst. 'Bèta wordt voorgetrokken bij verdeling onderzoeksgeld' (NRC Handelsblad, 15 April 2015).

Thijs Bol, Mathijs de Vaan and Arnout van de Rijt, 'The Matthew Effect in Science Funding' *Proceedings of the National Academy of Sciences* 115 (2018): 4887-4890. The researchers find that an important part of this effect is due to unsuccessful applicants applying less often for funding in subsequent years.

University, beginning in 2021.⁵⁹ A joint lab was set up, funded by Huawei, to work on search engine development, with researchers from the two universities working alongside researchers from the firm and the findings being used both in business and in computer science. The context of this research was an international trade ban by the US that prevented Huawei's mobile users from accessing Google search on Android devices, thus spurring the company to work on its own search technology.⁶⁰

The collaboration between UvA, VU and Huawei drew immediate pushback from UvA graduate students and activists from outside the university, ho protested that Huawei was actively collaborating in human rights abuses against China's Uighur population. He lab's founders and the two universities argued that they had checked for both national security risks and research integrity implications. Agreements had been made whereby Huawei could not appropriate the universities' research findings or prevent them from publishing those findings. However, they did not respond to the activists' claim that UvA and VU were giving the company positive publicity and, by helping Huawei build its business, were compounding its ability to do harm in China.

The ensuing debate highlighted the lack of a broader discussion about these universities' responsibility to society and the absence of institutional processes to address such questions. The differences between the narrow concept of research ethics and institutional duties was acknowledged by the UvA's works council (*Centrale Ondernemingsraad*), which issued a public statement citing inadequate due diligence regarding the human costs of the collaboration with Huawei.⁶³ Eventually, UvA leadership responded by reviving its General Ethics Committee (*Algemene Instellingsgebonden Ethische Commissie*, AIEC) and by creating a new body, an Advisory Committee for Third-Party Research Collaborations (*Adviescommissie*)

Amsterdam Data Science. 'VU, UvA and Huawei Launch DREAMS Lab'. (z.d.). In the interest of full disclosure: one author and the supporting researcher of this report were cosignatories to a letter criticising the collaboration: 'Funding Matters – Statements about the Corporate Funding of Academia. Huawei is being accused of collaborating in genocide. So why are UvA and VU's scientists working with the company?', (Funding Matters, 2020), accessed 14 November 2021.

Angela Moon. Exclusive: Google suspends some business with Huawei after Trump blacklist - source. (*Reuters*, 19 May 2019), accessed 14 November 2021.

⁶¹ See: Joshua Cohen. 'Huawei draagt bij aan de genocidale onderdrukking van Oeigoeren', (*Folia*, 31 August 2020) and https://fundingmatters.tech/ (in which one of the authors of this report was involved), accessed 14 November 2021.

⁶² Danielle Cave, Fergus Ryan and Vicky Xiuzhong Xu. 'Mapping more of China's tech giants: AI and surveillance', (ASPI_ICPC, 28 November 2019), accessed 14 November 2021.

⁶³ Centrale Ondernemingsraad UvA. *Statement COR - DReaMSlab: een boze droom over samenwerking tussen Huawei, UvA en VU*, (Amsterdam, 23 September 2020), accessed 14 November 2021.

onderzoek met derden), tasked with scrutinising external collaborations.⁶⁴ The latter was formed in early 2022 when the Ministry of Education, Culture and Science established a national policy on consortium projects with geopolitical implications. In response to another collaboration receiving Chinese funding that had led to concerns around human rights, the minister, Robbert Dijkgraaf, indicated that universities should also look closely at the human rights records of collaborating partners.⁶⁵

The challenge is twofold, then: on the one hand, funding streams must be more evenly distributed across disciplines; on the other, thought must be given to what constitutes responsible engagement with various types of funders. How can universities establish and institutionalise a culture of independence? The philosophers Boltanski and Thevenot propose that public life can be seen as the continual interaction of different 'orders of worth', namely sectoral or domain-specific understandings of the value of productive activities, including knowledge generation. 66 These orders include the domestic, the civic, the market, and the industrial orders, each of which has its own language and conceptualisation of what is valuable and worth producing. Philosopher Tamar Sharon builds on these categories to explain how, for example, in contemporary health research we can see interaction and competition between different orders of worth that include a 'project' order privileging novelty and disruption, a 'market' order privileging efficiency, a 'civic' order, a 'green' order, and so on. 67

Extrapolating from Sharon's work to the broader picture of academic research, we should be wary of assuming the dominance of a 'scientific' or 'scholarly' order of worth, with its own concept of what is just and normatively good. Instead, research is funded by streams that align with different orders of worth, and in a neoliberal policy context there is the risk that research will be skewed towards the industrial, the market, and the project orders.⁶⁸ This observation leads to our second theme: how to make this risk visible and how to address it.

⁶⁴ Dirk Wolthekker. 'UvA krijgt twee commissies voor ethische vraagstukken'. (*Folia*, 28 January 2022), accessed 28 March 2023.

The minister stated on social media that it was 'belangrijk dat kennisinstellingen alert blijven op risico's van ongewenste beïnvloeding, zeker waar het mensenrechten betreft.' (*Twitter*, 20 January 2022), accessed 28 March 2023.

⁶⁶ Luc Boltanski and Laurent Thévenot. *On Justification: Economies of Worth*, (Princeton, NY: Princeton University Press, 2006).

⁶⁷ Tamar Sharon, 'From Hostile Worlds to Multiple Spheres: Towards a Normative Pragmatics of Justice for the Googlization of Health', *Medicine*, *Health Care and Philosophy* 1 (2021).

⁶⁸ Chris Lorenz (ed), *If You're so Smart, Why Aren't You Rich? Universiteit, Markt & Management* (Amsterdam: Boom, 2008).

3.2 Theme 2: Lack of institutional transparency

Without formal and comparable reporting requirements to incentivise universities to make transparent what funding they are receiving, from which parties, and destined for which groups or departments, it is impossible to estimate how much external funding is circulating in Dutch research institutions, or to break it down by university, department, or field. On the supply side, there is no centralised reporting of information from companies, foundations, government ministries, or other bodies providing funding that identifies the beneficiaries of the money they are spending on supporting research.

Universities are not systematically required to keep track at the institutional level of what funding is coming in, where that funding comes from, and how it is being used. Even in medical schools, where researchers are subject to clear-cut requirements about reporting conflicts of interest, there are no clearly defined rules requiring records to be kept on who receives funding at the programme or research group level. Officially, this is a task for universities' oversight councils (*raden van toezicht*), but the absence of reporting conventions prevents them from making serious work of their role.

Transparency is essential, however, if universities are to shape responsible research funding practices. New funding instruments also make it harder to understand who is exerting what kind of influence: for example NWA and KIC programmes will often not only involve scientists and NWO, but also representatives from government agencies, ministries, and private-sector actors. All of them play a role in shaping the call for proposals and help to decide who is eligible for funding in relation to a particular problem or question.

Auditing and reporting do not happen systematically, then, but are undertaken on an ad hoc basis in response to trends and developments within particular disciplines or faculties, for example because journals have started to impose stricter requirements on the disclosure of funding sources. In other words, there are no internal centralised sources of information that can be audited or scrutinised to understand how funders might be influencing what research is conducted or which perspectives are being privileged. One interviewee, a senior researcher who works regularly with public and private funding partners, named whistleblowing – an extreme measure – as the only route through which genuine abuses could currently be brought to light.

One senior researcher at a university medical centre outlined the administrative dimensions of the problem. This interviewee explained that there is no consensus within universities about the classification of research funding sources, and that universities and university medical centres (UMCs) are working with definitions that are not mutually compatible. Universities, for instance, classify funding into

three streams, whereas medical centres use five categories. Moreover, the expert said, the available sources (such as the UNL's 'HOOP' domain data⁶⁹) are 'a notorious Swiss cheese' ('een notoire gatenkaas'). Meanwhile, the UMCs are not part of HOOP data collection, and their own umbrella organisation, the Netherlands Federation of University Medical Centres (NFU), does not collect systematic data either. The interviewee added:

It would be good to gain insight into the funding flows, preferably from an international perspective. But that will not happen just by improving the system and agreeing on definitions. I think what we need is a thorough audit over the course of a year conducted in multiple institutions, with the aim of collecting data on scientific quality and precision.

Neither the institutions themselves nor external parties can know the degree and nature of an institution's engagement with external funders. This in turn makes it impossible for either university leadership or policymakers to understand whether, and how, researchers' choices and opportunities are being shaped by funding streams and policies.

A funder interviewed for this report offered the observation that it was not possible to 'follow the money' in universities, especially at the level of research groups, because university leadership, i.e. the executive boards, themselves did not impose reporting requirements on university faculties regarding what funding was received or who received it. They noted that the absence of reporting requirements was due to poor incentives:

No one currently benefits from clarity about funding flows within universities; instead the incentive is to bring in as much funding as possible, both for institutions and for individuals, given that this is a key way to build careers.

Thus, not only does the dependence on second- and third-stream funding create a strong climate of competition, it also offers no incentive to establish transparency beyond traditional reporting practices. Because these practices centre on individual projects and publications, they do not permit a critical analysis of the depth and influence of universities' commitments to external funders because the reports do not show the scale of external funding in relation to individual faculties or disciplines.

⁶⁹ UNL uses 'HOOP' classifications to distinguish scientific domains, for purposes of analysing funding and activities in those domains. For an example of these in use, see: https://www.ocwincijfers.nl/onderwerpen/toelichting-cijfers/verschillen-ocw-en-cbs-in-cijfers-en-indeling-van-het-hoger-onderwijs

This problem of higher-level, rather than individual, transparency is epitomised by recent reports regarding Big Tech firms' sponsoring of research into legal and ethical questions of immediate relevance to regulation. Although researchers report individual, project-specific funding when they publish, this rule does not apply to research groups or faculties. The full scale of this collective funding therefore remained invisible to outsiders until (in the UK) it was uncovered by extensive investigative reporting⁷⁰ and (in the US) was researched by insiders from the disciplines involved.⁷¹ Revealingly, the director of the relevant institute in the UK responded to the reporting by explaining that 'Receiving support from a diverse range of sources is in line with the government's preferred funding model for higher education institutions.'⁷²

Accounts are kept at faculty level and it is possible to analyse funding flows there, but this knowledge is not translated into reports at a higher level of aggregation that provide a general overview of who is funding what kind of research.

An interviewee from a science policy organisation explained that they saw a real need for transparency and accountability on the part of universities and university medical centres, and additionally from universities of applied sciences (*hogescholen*). 'They can do better,' the interviewee said. 'Even worse, our insight into [funding practices] seems to be diminishing. But they [the institutions] bear a public responsibility.'

This notion of universities' public responsibility was also highlighted by another interviewee, a senior researcher with long experience in private-sector and government research funding and a science policy expert, who said that the current system creates 'an insatiable hunger' for research funding. This pushes universities in the direction of contract research, which in turn usually has to be co-financed by them. 'That has its good side,' the interviewee explained, 'but it does demand that there are effective checks and balances in the system to make sure this doesn't happen at the cost of the university's societal mission.'

Interviewees stressed that partnerships with industry were also often necessary for successful research. To take an obvious example, if you wish to blind test the sugar content of soft drinks, those drinks will be sourced from a commercial maker. Two insights emerge in this connection. First, it is imperative to distinguish more clearly between academic research on the one hand and research and development on the other, so that it is clear what kind of research is taking place and what rules apply. Second, the distinction between government and industry funding is in many

⁷⁰ Laurie Clarke et al. (2021).

⁷¹ Mohamed Abdalla and Moustafa Abdalla (2021).

⁷² Laurie Clarke et al. (2021).

cases an artificial one, and both may exercise an influence when government policy supports industry's priorities and structures funding to match them. Interviewees advocated a broader approach involving structural checks ensuring that sufficient funding is available for curiosity-driven research. Transparency alone is therefore not enough to counteract unwelcome dynamics: "Transparency is nice, but it just treats the symptoms. Transparency about how research is funded doesn't remedy the kind of problems that bring the credibility of science into doubt."

3.3 Theme 3: Integrity of the system

One interviewee for this project, an expert on institutional research integrity, stated that 'independence is not something you can do on your own.' This individual explained that independent research requires a *culture* of independence, *practices* that enact that independence, and *institutions* that prioritise researchers' independence. If we focus exclusively on individual research integrity, we overlook signs of a broader restructuring and shaping of research. While research integrity is often conceptualised as a concern for individual researchers and research teams, it also has an institutional and national dimension. In addition, there are the system-level questions: What is the purpose of research and scholarship? Whose interests are they meant to serve? And how can they best do so?

The establishment of a competition-driven research culture, linked to strategic priorities and to funding through consortia and public-private partnerships, has led to less emphasis on both curiosity-driven and critical research, i.e., research that scrutinises established perspectives and priorities in government policy and business and subjects them to critical analysis. This trend has also led to an imbalance in funding between research targeting shorter versus longer-term impacts. Research designed around strategic priorities is often aimed at a relatively short-term impact. This dynamic was recognised by a leading Dutch computer science researcher, who said in a public discussion:

Much of our AI research is financed by industry. We have scaled back the NWO budget and haven't thought about what happens to research that doesn't have a short-term impact. What about research that won't have an impact until the medium term, or even thirty to forty years in the future?⁷³

It is important, but impossible given the current reporting practices, to tell whether the increase in external funding is changing the way in which research is conducted. Academic institutions in the Netherlands have a responsibility to keep research free

⁷³ Maarten de Rijke. SAILS Seminar on AI & Ethics: Panel Session. (Universiteit Leiden, 22 November 2021).

of influence and to set internal priorities,⁷⁴ but not to engage with the larger picture of who is receiving support, who may be left behind, and what a dependence on particular funding streams might mean for different fields.⁷⁵

External research funders, particularly those in the third funding stream, have the opportunity to gear their contributions exclusively towards particular universities and research groups, creating what is effectively a buyer's market. Meanwhile, the focus in integrity rules and guidelines on individual conduct does not provide guidance or benchmarks for institutions indicating what constitutes an ethical approach to seeking and accepting funding. This can create a mismatch between the individual and systemic levels. Individual researchers and research groups can follow the integrity rules and yet unintentionally be involved in undesirable relationships at the institutional level. To address this mismatch will require substantial effort on the part of institutions, as it involves developing processes for accountability that may turn up undesirable results – described by one interviewee as 'opening up the cesspit'.

Although in the report on academic freedom cited earlier, the Academy called for a debate on how much the overall structuring of research in the Netherlands should reflect private-sector priorities and needs, we must observe that there has been little real discussion of this at the university or policy level. Our interviewees indicated that institutions should play a larger and more formal role in defining the commitments of researchers towards funders. It also appears there are no formal guidelines or standards, on the part of universities, funders, or policymakers, regarding the responsibility of external funders with respect to research quality. We therefore see a gap in the debate and in the tools necessary for institutions and funders to be held to account for the long-term shaping of research fields.

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⁷⁴ KNAW (2021).

⁷⁵ As one interviewee put it: 'There is a difference between dependence on funding streams and influence. The first is about the extent to which the questions you ask are influenced, and the second is about the process [of your research].'

4. THE FUTURE OF POSITIVE ACADEMIC FREEDOM

In response to the backgrounds and problems outlined in previous chapters, we make two broad recommendations in this chapter, both of which will help to increase positive academic freedom and to establish a funding culture that enables universities and other public research institutions to fulfil their public duties towards society.

4.1 Transparency and intellectual audits

Universities, as public bodies, are audited for their overall financial activities. At the moment, however, there is no clear procedure that looks at how fields, departments, and faculties are being incentivised over time – what we might refer to as an *intellectual audit*. Such scrutiny is not facilitated, according to our interviewees, because of the way universities are structured internally. For instance, faculties or research groups are not usually required to account for themselves to the central university management. Nor do scientific journals consistently enforce transparent reporting requirements about where the researchers' or institutions' funding comes from, especially when external funding supports entire groups instead of the article's individual authors. Interviewees indicated that due diligence often comes into play only in the case of integrity violations and any measures arising from them. This means that institutions tackle problems only after they have occurred, instead of preventing them by setting the right conditions beforehand.

An idea of how such an intellectual audit might be designed can be found in UNL's report on how to preserve academic freedom in the face of the involvement of technology firms in education during the pandemic.⁷⁷ UNL suggests a model for

⁷⁷ Werkgroep publieke waarden. *Advies publieke waarden voor het onderwijs*. (Den Haag: VSNU/UNL, 16 April 2021). For a suggested auditing model, see p. 12.

auditing on the part of universities based on shared fundamental values for science. The model is worth examining because it cites higher-level values that are relevant to the funding discussion, such as pluralism, institutional independence, transparency, and equality of opportunity, as well as baseline academic values such as objectivity, independence, impartiality, honesty, and verifiability.

This gradual move towards holding universities to account for the consequences of the collaborative relationships they enter into opens up the possibility of a broader set of considerations being brought to bear on the evaluation of university funding practices and policies. Our research suggests that scrutiny of the broader financial conditions in which research groups work is a missing piece of the puzzle in research integrity. This has consequences for individual research integrity. If there is no broader concern about how projects, research groups, and faculties are shaped by funding (or the lack thereof), then a focus on individuals is likely to overlook important issues.

We therefore recommend that universities and other organisations involved in research conduct *intellectual audits* on a regular basis. Such audits would lead to a better understanding of the following issues.

1. A clearer view of the national funding landscape

Clarity is needed at the national level as to where the three funding streams that support research are coming from, what disciplines and fields they go to, and what expectations are attached to them. An understanding of this kind is also necessary if universities are to have a conversation with policymakers about the kinds of research that are supported and how that shapes academia and society.

2. A clearer view of the funding streams within individual institutions

Leaders and members of academic institutions need to know what research funding is acquired by their institution, how it is distributed internally, and what expectations may be attached to it. That way they can tell which fields, faculties, or groups are receiving support for their research – and from whom – and which (if any) are systematically lacking such support. Without this knowledge, two risks emerge. The first risk is that institutions are not equipped to do due diligence examining the public and scientific values of the sources of funding. The second risk is they will lose track of the balance between the applied and thematic research that aligns with the strategic priorities of government and business on the one hand, and research examining longer-term, fundamental, and critical questions on the other. Without such knowledge, the research community will likely veer steadily towards the former kind of research at the expense of the latter.

3. The involvement of researchers within universities in shaping their institution's funding choices

If researchers themselves – who are, after all, experts on what research can make possible – are not part of the dialogue about the responsibilities and duties of academic institutions towards society, a key element is missing from policy and institutional decision-making. If researchers are reduced to mere applicants and recipients of funding streams curated by others – rather than autonomous and critical experts – a crucial resource goes missing from both universities and the broader academic world. Closer involvement of researchers in funding questions would also lay the groundwork for a more general discussion of researchers' own role and responsibilities in shaping ethical and sustainable configurations of research funding.

4.2 Towards responsible research funding practices

The second challenge we have noted has to do with the finding that researchers can act with individual integrity, yet nevertheless be affected by integrity failures in institutional funding. So far, Dutch universities have not formulated any explicit policies on institutional integrity in funding and shaping research. If faculties and university leadership wish to draw up rules for what constitutes a sustainable research environment that contributes to the common good, it is not clear where they should look for normative guidance. Given that Dutch universities are, for the most part, publicly funded institutions, developing such policies also requires some degree of public debate to build legitimacy. Transparency is only the beginning, then. Supporting universities also necessarily involves embarking on a dialogue about what responsible institutional research funding practices are.

Like the codes of conduct and guidelines for responsible research practices established in recent years, *responsible research funding practices* are needed, i.e., institutional decision-making processes and modes of action that promote integrity in research funding and that prevent or deter questionable funding practices. These practices should not only monitor the balance between different types of research, but also forestall questionable funding practices, such as ethics-washing or steering research fields towards particular interests. Universities and policymakers should therefore engage in a dialogue about what they see as *responsible research funding practices*.

Such consultations should not only involve university leaders and policymakers but should be extended to include the entire academic community of researchers, educators and support staff. Together, they should articulate a vision of what it means for scientists not only to 'do things right' – research integrity – but also to 'do the right things' – put research at the service of broad societal and public values.

The ways in which funding can shape, or influence, research is not the only factor affecting individual and institutional independence and integrity. It is, however, an important one to address if we are interested in striking a balance between institutions, disciplines and different types of research, so that everyone can contribute meaningfully to the research landscape. Any such desired balance must accommodate the different roles that research can play in society: driving innovation and helping solve societal problems (thematic), but also pushing the boundaries of knowledge (curiosity-driven) and holding up a critical mirror to society (critical).

5. TO CONCLUDE

This report started by asking what lessons the academic community in the Netherlands and research policymakers can learn from recent controversies about external research funding and public-private research partnerships. Behind this question are the more fundamental issues of what goals research at public universities should serve and who gets to decide this.

Is it the duty of public universities and research institutes to conduct fundamental and critical research that reframes current problems, questions underlying assumptions, and identifies the next generation of problems? Is such research in the public interest? Is such research at risk?

Traditionally, academic research is not a commercial business or a technocratic problem-solving machine, but an intellectual pursuit of discovery and exploration. Its task is not only to solve existing problems, but also to reframe and rethink them, to challenge underlying assumptions, and to identify new questions and the next generation of problems. This question-generating function of research is the canary in the coalmine for problems of academic freedom. If the lion's share of funding goes to research where problems have already been defined, not only will this crowd out support for other research directions, but it will inevitably steer research in the direction of the best-funded and best-publicised problems – those of industry and current policymaking. This has been a key aim of Dutch research policy over the last four decades, and the extent of its success ought to worry us.

Our current systems of checks and balances for research integrity and for responsible research practices do not touch on the broader issue of the goals and roles of research in society. They do not focus on the interests that shape the context for

research, but instead look at how to ensure the independence and quality of research in this context. Universities are tasked with ensuring that their researchers can conduct research without influence or hindrance, but not with maintaining a balance between problem-solving, curiosity-driven, and critical research, preventing ethics-washing in partnerships with external funders, or protecting disciplines that address longer-term questions from being crowded out by those working on shorter-term ones.

These broader issues touch on the public values of academic research, such as freedom of choice, equal opportunities and pluralism. Academia can only truly serve these public values if universities and research institutions are tasked with *creating and shaping the space to think*. This involves more than managing a research space defined by policy and private interests. This public duty to create, shape, and safeguard positive academic freedom means that universities and research institutions should shoulder (more) responsibility for holding open space for different forms of research. They must prevent problem-solving research from eclipsing curiosity-driven and critical research, and empower researchers to make the most valuable contributions based on their capacities and orientation, rather than the contributions most aligned with policy or business priorities.

Our recommendations regarding an intellectual audit for Dutch academia and developing guidelines for responsible research funding practices are not only aimed at university leadership, then. They require a broader debate amongst universities, society, and researchers about what the goals and roles of research in society are, how research can serve both the present and the future, and how both short-term and longer-term research should be valued and supported.

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ANNEX METHODOLOGY

Literature review

We began with a scan of both Dutch and English literature about research funding in the Netherlands from the 1980s to the present. We focused primarily on science policy literature from Dutch government advisory boards and independent bodies, reports on funding practices, and work by historians, philosophers, and sociologists of science. Throughout this phase, our definition of the kind of external funding that was fuelling change in the Dutch research landscape evolved. We started with concerns about private sector (i.e., commercial) funding of research, but as we progressed we realised that it was reasonable to question external funding more broadly. We therefore extended our enquiry to address how different types of funding are (or are not) balanced, which meant thinking about projects outsourced by government ministries, funding from foundations and other private bodies, and the way in which funding may be channelled programmatically to particular fields or interests through the Dutch Research Council (NWO).

We also extended our enquiry to disciplines across the humanities, science and engineering, and social science clusters, as well as the medical sciences, since there are important differences between them. For instance, research in science and engineering is frequently conducted in teams, so going from a team effort to collaboration with partners at other universities and in other sectors may differ, and be scrutinised differently, than in the humanities and social sciences, where scholars more often work on individual projects. We did not address the issue of 'knowledge security'⁷⁸ in our research, which concerns the problem of research projects and findings being captured by national interests hostile to the Netherlands.

⁷⁸ For more on this term, see: Knowledge security in higher education and research, by the then Minister of Education, Culture and Science, Ingrid van Engelshoven (27 November 2020)

Interviews and workshop

We conducted a preliminary scan of the Dutch universities that we could contact through our team's academic networks to examine the kind of funding reporting practices in place there. We then conducted in-depth interviews with 14 experts from a variety of backgrounds and institutional contexts. These included senior researchers in technical and social science faculties; research ethicists; science policy specialists; and historians specialising in the history of science and research policy. We also spoke to representatives of NWO and university leadership. We asked our interviewees to describe the funding landscape and changes in it over time. We then asked what they saw happening in their fields or (in the case of historians) what they thought the forces that they described meant for the Dutch research landscape overall and how they evaluated these forces. These interviews produced qualitative and anecdotal insights, but most of all they gave us details regarding the way in which funding is acquired, received, and reported by universities.

We then organised a workshop with a group of interviewees, along with both senior and junior scholars from fields in which external funding is most and least common. The 16 participants were active in the fields of philosophy, data science, psychology, history, chemistry, and communications across nine Dutch universities, as well as representatives of NWO, UNL, and the National PhD students Network (PNN). We then combined the interview and workshop notes with our observations from the literature review, following the four themes that we had identified in the literature (see paragraph 2.3 'Positive academic freedom') in order to produce this report. The interviewees were invited to participate based on anonymity to ensure that they could speak freely on topics that were often sensitive in nature. Similarly, the workshop was held under the Chatham House Rule, in accordance with which we have anonymised those quoted in this report.

Limitations

There were many limitations to our research. The research team was small and capacity was therefore limited. Funding for the research came from The Young Academy's own funds, without external support. Statistics on research funding are lacking at a granular level, and more data is needed to fully understand the dynamics we describe here in broad strokes. Our interviews and workshop by no means constitute a representative sample of Dutch academia. Instead, we followed the problems and perspectives emerging from the literature. We used the interview data and the findings from our workshop to illuminate the overall themes that emerged from the research. The spirit of this report is thus exploratory and agenda-setting.