

Meet Rotterdam
**Learn the stories
behind Rotterdam's
public sculptures!**

The life and lessons
of Erasmus
**Interview with
Sandra Langereis**

Research
in a Nutshell
**Do retail investors
put money towards a
better planet?**

Back Bone Magazine



Preface

Dear reader,

Excellence in education and research has led to the reputation of Erasmus School of Economics, nationally and internationally. Above all, the quality of research and the research-driven education are our most valuable assets that we maintain and nurture.

With our research we seek to contribute to the solutions that must be found today. With our education we teach our students to do the same tomorrow, fostering academic leadership potential from the start. As a direct consequence, we also put strong emphasis on additional skills: curiosity (ask questions), flexibility (create by combining the known and the new), open-mindedness, and creativity (step into the unknown).

Erasmus School of Economics has a strong international focus, which is reflected in our academic staff and student population. Students and staff members come from all over the world. We stimulate them to be citizens of the world, in a geographical, intellectual, and social way. This

means stepping beyond the borders of cities and nations, cultural background, gender and religion, altogether with a willingness to act upon the values of a compass that rules out bias and prejudice.

Our brand value is set by tens of thousands of alumni, who are making the difference as leaders of today. The presence of our alumni at our School is set by inviting them to numerous programmes and events, allowing students and alumni to interact, to discuss career development and networking activities.

With a history of almost 110 years, we feel grateful for the effect and relevance of our groundbreaking research and excellence in education! We are confident that our School will secure its place as a worldwide leading academic brand in economics and econometrics in the years to come.

This Backbone provides an insight into Erasmus School of Economics: its students, professors, alumni, activities, research, and education.

Enjoy reading!

Prof. Patrick Groenen
Dean of Erasmus School of Economics

Meet our Alumni
Terry Afram: living the dream



Research in a Nutshell
What is driving educational attainment:
nature, nurture, or both?

Meet our Alumni
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working on our Backbone



Founder of ItsME
Jur Deitmers



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'What sculpture is to a block of marble, education is to a human soul.'

- Joseph Addison

Hey! My name is Richard Pols, a Double Degree student in Economics and Law. As a student, it is important to take time to relax and explore what the beautiful city of Rotterdam has to offer. Aside from its many shops, parks, bars and cafes, Rotterdam is also the place to be for fans of visual art. It is not unusual to have your eye caught by one of the world's most famous sculptures when walking through our beautiful city. **Here are my favourite public sculptures!**



De Roeiers The Rowers

Sculptor: Yair Aschkenasy

Rotterdam is, among other things, known for its fantastic port, the largest in Europe. Enough reason for Aschkenasy to honour our port with a sculpture. This led to 'de Roeiers', located on the 'first head of Katendrecht'. The sculpture represents the rowers who, in all weathers, secured the heavy mooring lines of cargo and passenger ships to the buoys, an ancient profession practised in the port. Notice how Aschkenasy included the 'Rotterdam mentality' in the sculpture; sleeves rolled up and an imperturbable look over the water. This 'don't talk the talk but walk the walk' mentality is typical for Rotterdam. Rotterdammers are generally hard workers who are used to putting their shoulders to the wheel.

Santa Claus

Sculptor: Paul McCarthy

At first sight, it is hard to imagine that this sculpture was responsible for one of the largest art disputes in the last decade. So what was the issue? It is just a big, smiling Santa Claus with a Christmas tree right? Well... no. He is holding a butt plug, a sexual toy. Due to the public dispute that followed, the statue has been moved all over the city in an attempt to find the right place. Now, you can admire Santa Claus on Eendrachtsplein. With Santa Claus, McCarthy ironically criticises our consumption society, while also bringing 'high' and 'low' cultures together.



La Grande Musicienne The Great Musician

Sculptor: Henri Laurens

One of the most popular sculptures decorating Rotterdam's famous statue terrace is La Grande Musicienne, located on the Westersingel near Rotterdam Centraal.

All shapes of this lyre playing lady flow into one another as if there are no clear sides. Only the back has a deep groove that marks the left and right sides. This groove forms a central spine around which the elements of the sculpture rotate; this movement invites the viewer to look at the figure from different perspectives. Rotterdam bought this sculpture in 1966 to celebrate the opening of the Doelen concert hall. A wonderfully lyrical stylised sculpture that represents Rotterdam's passion for culture!



L'Homme Qui Marche The Man Who Walks

Sculptor: Auguste Rodin

Just a stroll away from La Grande Musicienne is L'Homme Qui Marche, also located on Rotterdam's famous statue terrace. 'L'Homme Qui Marche', is one of the finest pieces of modern visual arts. Rodin's pieces were found to be so realistic, that his colleagues accused him of making casts of living people instead of carving or modelling a piece. This piece represents an interesting contradiction between movement and stillness. The statue stresses a vivid and walking person, but the hard bronze material depicts its immobility. The genesis of this statue is somewhat ambiguous, most likely it was put together from different sketches made over a period of 30 years. Ironically, it took approximately the same amount of time after Rotterdam bought this statue before this sculpture was placed in public in Rotterdam.



De Verwoeste Stad The Destroyed City

Sculptor: Ossip Zadkine

With head and arms raised towards the sky, this sculpture shows a distraught figure. The arms, legs and hands point in different directions, which gives the sculpture an even more sinister feeling. Perhaps the most distressing aspect of the sculpture is the absence of its heart. This represents the destruction of the 'heart' of Rotterdam on 14 May 1940. According to the sculptor, the idea of this statue originated when he drove into the war-ravaged Rotterdam in 1946; 'A cry of disgust at the inhuman cruelty of this torture'.



Rigardus Rijnhout De Reus van Rotterdam The Giant of Rotterdam

Sculptor: Herman Lamers

When you walk down the popular West-Kruiskade street, just a 4-minute stroll from Rotterdam Central, you will find it very hard to miss this sculpture. It is a statue of Rigardus Rijnhout, the tallest Dutchman ever to live. He was a Rotterdam citizen and lived from 1922 till 1959. For the keen observer, a pair of Rijnhout's big shoes – size 62 – can be seen as well. He earned his money by renting himself out as a walking billboard. Even though he was often bullied because of his giant stature, Rijnhout always remained friendly.

Sylvette

Sculptor: Carl Nesjar

This sculpture is an enlargement of one of the spatial metal models that Picasso made in 1954. The girl in the sculpture is the twenty-year-old Sylvette, Picasso's muse, whom he met in the spring of 1954. Picasso was then already 73 years old. The technique used for this sculpture was an invention of the sculptor Carl Nesjar, who was a friend of Picasso. Nesjar developed a technique for enlarging the models by building them from cast concrete in which black pebbles were poured. Sandblasting revealed the black colour. This made it possible to draw in the concrete with the sandblast. This post-war manifestation celebrates the reconstruction of Rotterdam and underlines the modern and progressive character of the city. ◀





Is the Netherlands still a tax haven?

By: Dirk Schindler

Is the Netherlands (still) a tax haven? It acted as one over decades. Recently, the government, however, implemented new regulation that is supposed to curb the profit shifting via the Netherlands. The most important piece in this respect is the 2021-'royalty tax' levied on royalty payments to tax havens. Will this tax be effective? How costly is it? Will it reduce investment and employment? Research suggests that the royalty tax (if enforced properly) will eliminate the most harmful income-shifting practice. At the same time, it does not reduce investment and real activity if sufficient leeway to use internal debt remains.



'If enforced properly, the new royalty tax should largely abolish the tax-haven status of the Netherlands'



Over decades, the Netherlands developed a reputation for being a tax haven. It became infamous as a part of the 'Double Irish Dutch Sandwich', Google's construct to shift profits via Ireland and the Netherlands to Bermuda. Effectively, the Netherlands is a *conduit country* that helps to funnel profits from high-tax countries to tax havens. Particularly the Dutch Special Purpose Entities attract income, often as interest and royalty payments, and pass it on, effectively untaxed, to tax havens.

How profit shifting works

The first main strategy that multinational firms use for such profit shifting is debt shifting. Instead of investing non-deductible equity directly in high-tax affiliates, multinationals put the equity in an internal bank in a tax haven. The internal bank passes on the capital as loans to related affiliates. Such a structure creates tax deductions in high-tax countries and causes little tax payments on received interest income in the tax haven. The second, and quantitatively much more important, strategy is to misprice intra-firm trade to shift profits from high- to low-tax affiliates. Such transfer pricing works particularly well for firm-specific intangibles like Google's search algorithm. As their true value is difficult to determine for tax authorities, multinationals can overcharge royalty payments for the use of these intangibles in high-tax countries. That way, profits from high-tax countries eventually are booked in tax havens where the ultimate owners of the intangibles reside – and hardly pay taxes.

The Netherlands' response to international pressure

Due to international pressure and the harm of the Dutch tax-haven status, substantial regulatory changes came into place under Secretary of Finance Menno Snel. Most importantly, since 2021 a withholding tax, equal to the Dutch corporate tax rate, is levied on interest and royalty payments to black-listed countries, mainly tax havens with a tax rate of less than 9%. This 'royalty tax' intends to curb any shifting via the Netherlands.

So, is the Netherlands still a conduit country? Is the new regulation desirable? And will it be effective?

The implications of the 'royalty tax'

Together with Steffen Juraneck and Andrea Schneider, I theoretically explored these questions in a model that hosts multinationals that use both debt shifting and overcharging royalty payments to shift profits to a tax haven. The multinationals choose both their investment and their profit shifting to maximise their global after-tax profits. Their profit shifting is determined by balancing tax savings and costs related to coping with profit-shifting regulation.

Our results suggest that the policy is desirable and that all countries (except for the real tax havens) will benefit. A first important insight is that debt shifting has some beneficial effects. It directly reduces the tax burden on marginal investment and fosters employment. In contrast, transfer pricing in intangibles is damaging because it does allow for shifting economic profits, while it does not boost firm investment (on the intensive margin). Hence, countries only lose from such transfer pricing. Therefore, it is optimal to eliminate it completely via a royalty tax that removes all tax advantages. Finally, the royalty tax also falls on the arm's-length payment, and by that, it still taxes investment. The resulting economic distortion, however, can be compensated for by allowing for some (more) debt shifting.

Smart choice – ending the tax-haven status (?)

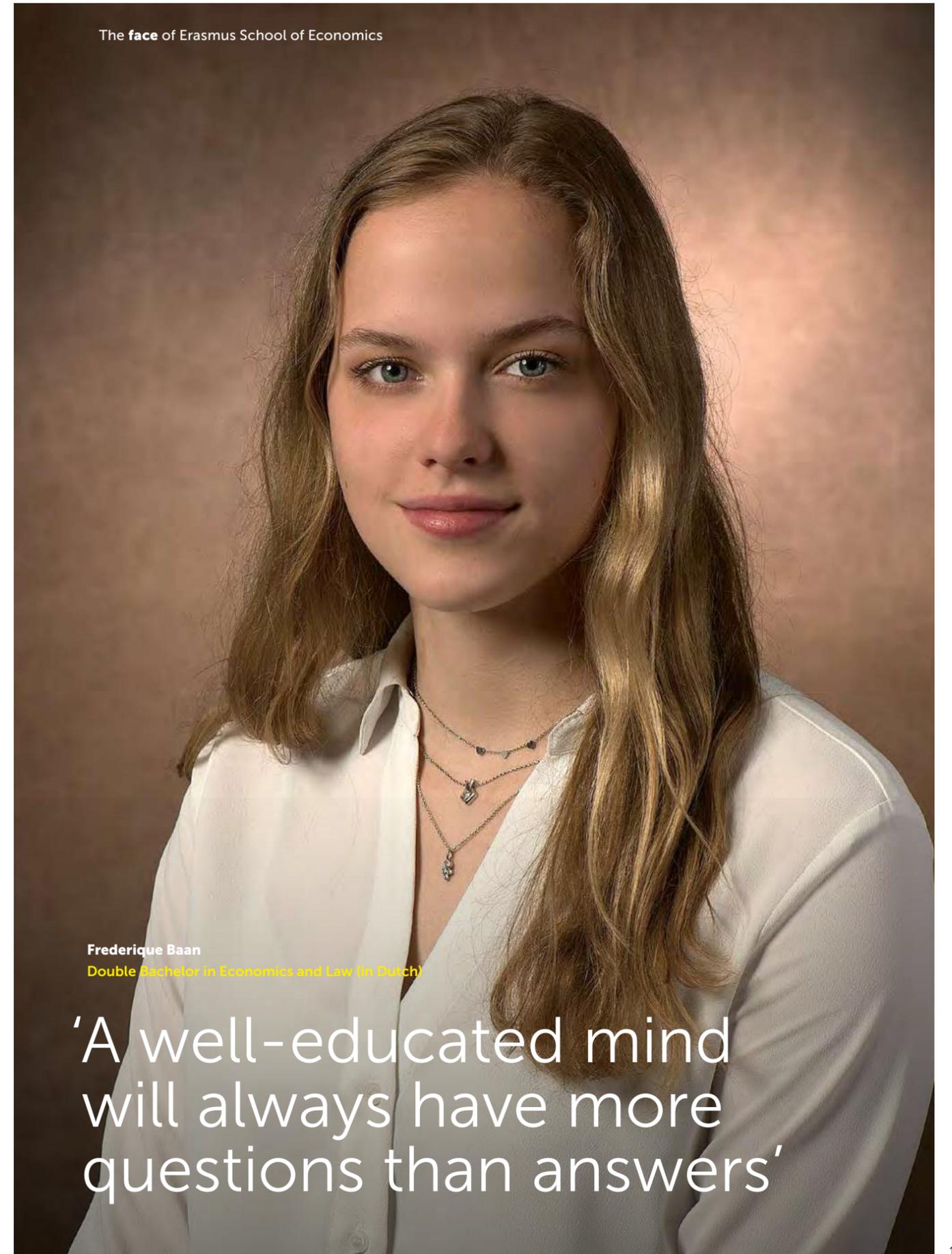
In sum, the new Dutch royalty tax should prevent shifting profits from and via the Netherlands to tax havens, if it gets enforced properly. At the same time, as long as the debt-shifting regulation does not become too strict, the tax does not need to have negative effects on real investment and employment in all non-haven countries, including in the Netherlands.

Time will show whether these predictions are correct. Previously, only the finance and consultancy industry in Amsterdam benefitted from the existing situation, while hardly any income or tax revenue was generated in the Netherlands. A promising sign is that Google has now stopped its 'sandwich' with effect of 2021. ◀

Steffen Juraneck, Dirk Schindler, and Andrea Schneider, *Royalty Taxation under Profit Shifting and Competition for FDI*, NHH Discussion Paper FOR-11/2020.



Dirk Schindler is Professor of International Taxation at Erasmus School of Economics. His main fields of research are taxation under uncertainty and international corporate taxation, in particular profit shifting in multinationals. He tries to embed institutional details of regulation and combine insights from economics and accounting in his research.



Frederique Baan
Double Bachelor in Economics and Law (in Dutch)

'A well-educated mind will always have more questions than answers'



Living the dream

By: Madeleine Kemna

When he studied in Rotterdam **Terry Afram** initiated the first African Business Day, which has become a renowned annual event. Born and raised in the Netherlands to Ghanaian parents, he considers himself Dutch by birth and Ghanaian by heritage. Terry is host of The Ghanaian Dream, an annual conference that aims to encourage the Ghanaian diaspora to contribute to the dream by helping the country to realise its potential. He put his money where his mouth is with his company Bridge Partners, facilitating business between The West and West Africa.

At home the Afram family spoke a mixture of Dutch and Twi, one of the main Ghanaian languages. There was always a strong connection to Ghana through regular family visits and by membership of the Ghanaian community in Amsterdam, which meets on social occasions and when attending church.

How do you look back on your time at Erasmus School of Economics?

'I have always known that I wanted to study Economics and am still convinced that this is the best Dutch university for Economics and Business. The 'nominal is normal' rule, which stipulates that you have to achieve 60 study points in your first year, indicates that the school is looking for ambitious students so I thought 'bring it on!'

I chose the International Bachelor Economics and Business Economics (IBEB) programme. In my classroom there were students of many different nationalities, which made me realise that when people look at the same thing through different lenses, they often see something else.

I was a board member of the Association of Students of African Heritage (ASAH), which meant that on top of my study I had a full time job. Inspired by similar events at Harvard and in Oxford, I started the African Business day. I was always an enthusiastic participant in seminars by EFR and other student associations, but thought it would be good to have an equivalent with a specific focus on Africa. The idea was to hear what it is like to do business in Africa first-hand from local entrepreneurs and captains of industry. Erasmus School of Economics, in particular Ronald de

Groot and Philip Hans Franses, offered invaluable support. They even introduced us to former Prime Minister Balkenende who agreed to be on the advisory board. In order to organise an event like this relationships are key and I learned that your wealth is your network. The African Business Day has grown into an annual event that has helped many people to pursue activities in Africa, even those without African roots. For me it was a chance to discover that I can play a role in the West-West connection (building a bridge between Western Europe and West Africa) and I am grateful to the university for helping me to develop in that direction.

What was your first job like?

After graduating I went to work in investment banking at Goldman Sachs, but instead of opting for the City (London), I jumped at the chance to work in its South African counterpart Sandton (Johannesburg). Despite being on the same continent as Ghana, the environment was rather different. This part of South Africa is very modern and at times I felt like I was in a business district that could have been anywhere. The stories about extremely long hours in this sector are all true so I didn't get the chance to really explore the country, but I did learn a lot professionally.

What is the difference between the African and the European way of doing business?

I believe relationships play a role in every business transaction and this is especially true in Africa. The plans you make today can be started tomorrow because you don't need to go through extensive layers of decision-making. However, the absence of structure may mean that it takes longer to execute those plans.



'I learned that your wealth is your network'

Through connections I made in the context of the African Business Week, I was approached to become the country manager for Jumia Food, the Ghanaian version of Thuisbezorgd. My briefing was to grow the business and prepare it for an IPO, which I managed to do by combining my European experience with my African roots. When I started, I noticed that 70% of the food we delivered consisted of pizzas, hamburgers and other Western food. A large part of the potential clientele had been overlooked by focusing on expats. I decided to showcase local food and when I left the ratio was 50-50. During this time I was already consulting for Dutch companies that wanted to do business in Ghana and this evolved into my current company Bridge Partners that acts as a local partner for international businesses in West Africa and for African companies in Europe.

What are the most promising sectors for foreign investors in Ghana?

In a country that is developing as rapidly as Ghana, real estate is always interesting. Agriculture also offers good opportunities. We are close to the equator with an abundance of sun and plenty of rain. The sad truth is that 60% of the world's arable land is on the African continent, but our countries are plagued by hunger. The contrast with the Netherlands is striking. The small country where I grew up is the second largest food exporter in the world because it uses its opportunities efficiently. In Africa 40% of the harvest goes to waste due to a lack of proper storage facilities and poor infrastructure. If we are able to address this, Africa could become an important net-exporter of food.

In your TED talk you urge people to buy locally and to give feedback if they don't. What feedback have you been giving?

Don't be satisfied too easily. Customers deserve good quality and excellent service. Despite the wide availability of tailors in Africa, I find it hard to buy clothes that match my expectations. That is why I founded Ginga, a luxury-clothing brand that offers people in Africa and Europe the chance to give us their sizes and specifications online in order to buy a tailor-made costume. All clothes are made in Ghana, thus generating employment as well.

What is it like to be young in Ghana?

We have a good education system. Schools are free and there is an excellent (private) university that offers scholarships for talented students who cannot afford to pay for their tuition. However, youth unemployment is high in the whole West African region. It is strange that China, Europe and the US all face the prospect of an economy that might be constrained by demographic issues, while the African continent has a growing amount of young people, but not enough jobs. On the other hand, I am convinced that Ghana is well positioned to continue to take great steps forward. It is a stable country with a government that is taking initiatives such as the *planting for food and jobs campaign*, a regional development initiative that should tackle problems with unemployment as well as food waste.

Of course there are things that go wrong occasionally, but this is no reason to reject investments in Ghana. I would say: if you're raising a child, you don't put it up for adoption when it stumbles. Have faith! ◀



**'Whatever we do,
we should do it full of passion,
love and commitment'**

Meet Esad Smajlbegovic

My name is Esad Smajlbegovic. I completed my PhD in Germany in 2016 but I am originally from Bosnia and Herzegovina. I am an Associate Professor of Finance at Erasmus School of Economics. I do not have a life motto, but one thought that sticks with me is: whatever we do, we should do it with passion, love, and devotion. My advice to students is to attempt to explore rather than focus.

As a child and later as a student, I had no clear career path in mind. Of course, as kids we almost all had our dream jobs, such as pilot, spaceman or professional athlete: I fell in love with football. I have always enjoyed math classes or coding my own small computer applications. In the end, I decided to combine this passion for analytical thinking with more real-life problems and started my studies of economics in Germany.

My first years at university were particularly exciting and intensive. Everything was new when I moved to Germany: new people, new culture, new language; I had to adapt to an entirely new environment. As a result, I was not really proud of my grades in the first years. Probably this was one of the reasons why I had not given much thought to a career in academia at that time. However, later during my master studies and particularly while writing my thesis with the econometrics department, I really enjoyed studying economic questions and applying tools to new data sets.

Research

I conduct research on the impact of short selling on financial markets and transparency regulations for short sellers. What is a short sale? In a covered short sale, investors borrow and sell a security that they do not own in the hope to repurchase it at the end of the borrowing period for a lower price and return it to the lender. If the price of the security falls during that period, short sellers make a profit; otherwise, they suffer a loss. What fascinates me about short selling is how it is perceived differently by different members of our society. When we consider any market downturn, we can read many news articles conjecturing that short sellers are the evil guys, manipulating prices to fall. On the other hand, most research papers find evidence consistent with the notion that short sellers help increase market quality, efficiency, and liquidity. These disparities between society, the media, and literature fascinate me.

In a recent project with two co-authors from the German Central Bank, we study how transparency and disclosure regulations influence short sellers' behavior and whether this has an effect on market efficiency. We ask whether short sellers change their trading behaviour if they have to reveal their short positions to other market participants. We use a recent regulation update in Europe where short sellers must reveal their name, the name of the stock they short, and the size of the short position when the position is large enough. We find that this regulation has a negative effect on short sellers' trading. We also observe that the most knowledgeable market participants are those who do not wish to declare their positions. What is the reason for this? Empirical evidence suggests that one reason why short sellers avoid declaring their short position, is that they want to keep their strategy a secret. Another possibility is that they desire to remain in the dark and avoid being labeled as the evil guys. They wish to keep the connection and link with the company's management. Overall, our findings suggest that there might be unintended negative consequences of the new regulation on market quality.

It is difficult to offer clear policy recommendations solely based on our study. However, one can think of different adjustments of the regulation that could help to alleviate the concerns. One possibility is to raise or lower the threshold at which short sellers must report their short positions. Alternatively, regulators may incorporate a reporting delay. For example, short sellers could publish their positions after a one or two-weeks delay. Another option is that short sellers may continue submitting their short positions only to the regulator. The regulator could gather this information for regulatory purposes and only release the data to the market without revealing the names of the short sellers. All these adjustments could help mitigate the unexpected consequences of position transparency. ◀

The life and lessons of Erasmus

In Historical Perspective, we showcase an interview with **Sandra Langereis**, the author of the biography about Desiderius Erasmus: a great thinker and namesake of our School. The text is based on a Dutch-language interview.



Could you introduce yourself briefly?

I am a historian. I worked as a history lecturer at the University of Amsterdam and at Leiden University until I decided to work full time on my Erasmus biography as an independent researcher and writer.

Why did you decide to write a biography of Erasmus?

Erasmus is one of the greatest European writers and scientists ever. But we did not have a book that revealed the common thread of his gigantic oeuvre. I thought such a book should be written. Erasmus deserves the greatest possible attention, because he wrote very intelligently, sharply and modernly about issues that are causing polarisation once again

nowadays. Do you give priority to your civic identity or to your religious identity? Do you take a firm stand against dogmatism and fundamentalism, even if people call you an apostate or an infidel? I wanted to be able to clarify my own thoughts on these kinds of questions based on a new reading of the works of Erasmus, and to pass on my findings to the readers of my biography.

What is the idea behind the title ERASMUS: cross-thinker (ERASMUS: dwarsdenker)?

The term 'cross-thinker' (dwarsdenker) captures the essence of Erasmus' thinking. He lived in the time of the Reformation, when society became so polarised that everyone thought one had to choose with all one's heart for either the Catholic or the Protestant faction. In the public debate Erasmus manifested himself as a critical thinker who called for vigilance against religious leaders who demanded that 'a true believer' would walk through fire for their so-called ultimate truth. This was a brave thing for Erasmus to do, for he knew that by doing so he would incur the hatred of both Catholic and Protestant fundamentalists. The Inquisition banned all of his books.

But letters from readers to Erasmus also show that many ordinary people took his call for individual reflection and independent research as an example.

What was your most interesting discovery about Erasmus?

It turned out that all sorts of things had never been researched before, so there was a lot to discover. The decisive significance of the ambitious choice of school for little Erasmus by his father Gerard, who had studied in Italy himself; I read nothing about this in the few biographies that existed, for instance. This father role seemed so important to me that I started travelling along Gerard's route in Italy to reconstruct his experiences as a student. What I really enjoyed discovering was that the proverbial globetrotter Erasmus, who travelled all over Europe on horseback, would in reality have preferred to stay forever in England and grow old with his best friends, Thomas More in particular.

Has writing this biography changed your image of Erasmus?

Certainly, because during my research it turned out that the image of Erasmus was very often wrong, even the usual image

of the confrontation between Erasmus and Luther was not correct. Luther is always portrayed as Europe's herald of the Modern Age. But I found out that Luther thought just as dogmatically as Catholic inquisitors. Erasmus thought about faith in a truly modern way. More modern even than many believers today.

What do you consider essential for a good biography?

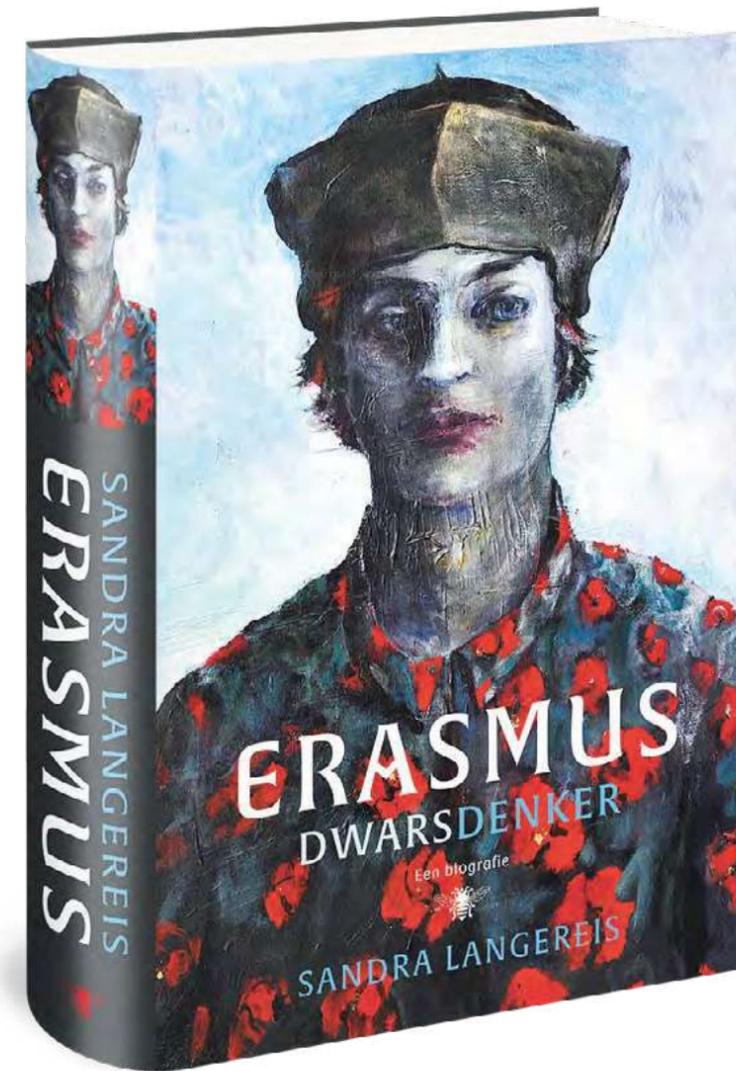
It is of prime importance to me that I would never write a biography out of admiration for a particular person. My drive to spend years on a man like

Erasmus stems from my interest in certain historical themes. I want to understand better how the transition from the Middle Ages to the Modern Age took place. How does history change? Researching the life and work of a cultural creator like Erasmus enables me to answer such a big question in the most concrete way possible.

What can we learn from Erasmus?

It is important to think of Erasmus whenever a politician or a civilian claims that emphasising one's religious identity should naturally take precedence over

emphasising one's civic identity. The fact that churches in our Dutch Bible Belt remained open during a covid epidemic would have baffled Erasmus. His ideas are also instructive for phenomena such as cancel culture or sensitivity reading. Censorship is never the solution. Remain prepared to listen to sounds with which you disagree, broaden your knowledge, train yourself in intellectual reading. Doubt is the only serious answer to people who claim that their particular message presents the absolute truth: that is what Erasmus explained very, very well. ◀





Do retail investors put money towards a better planet?

By: Mary Pieterse-Bloem and Rik Lusterms

Sustainable investing has become all the rage. There has been a rapid rise in sustainable investment funds. There is, by now, also growing academic evidence that *institutional* investors increasingly prefer more sustainable firms in their investment portfolios. Surprisingly little, however, is known about *retail* investors' sustainable preferences and asset allocation decisions. Do they care as much about the environmental and social impact of their investments and, most importantly, are they putting their money where their mouth is?

'Retail investors care about the planet: we document significant cumulative investment flows in financial assets with high sustainability scores'



To study this Rik Lusterms, former master student Quantitative Finance at Erasmus School of Economics, and I obtained access to a proprietary dataset of investors' investment holdings at ABN Amro private bank. This is the third largest private bank in Europe, with more than 100,000 clients and almost €200 billion in assets under management. The data consists of monthly individual asset-level investment holdings from March 2016 to October 2019.

The holdings are grouped by investor type, where we distinguish whether they have access to an advisor or whether they use the bank only for execution purposes, and by country of residence being the Netherlands, Germany, Belgium and France. As such, we know if individuals receive regular information about the sustainability ratings of their investment portfolio or not, which also varies between countries. While investors in the Netherlands and Belgium receive frequent updates of their investment assets' sustainability ratings with their portfolio reports, sustainability reporting in Germany is less frequent, and no sustainability ratings are reported in France.

We otherwise incorporate that the bank changed the sustainability ratings provider during the time period that we assess, resulting in an increase in



Mary Pieterse-Bloem
Mary Pieterse-Bloem is Professor of Financial Markets at Erasmus School of Economics and Head of Investment Office (CIO) at Rabobank since June 2021. Before joining Rabobank she worked for six years at ABN Amro private bank in the position of Global Head Fixed Income. Her main research interests are investor behaviour towards risk factors (liquidity, credit and ESG risks) in financial markets.

the number of client assets for which sustainability ratings are reported. As this increase is unrelated to the asset's fundamentals or underlying sustainability characteristics, it allows us to measure investors' response to the ratings themselves.

Significant investment flows towards more sustainable assets

We document that over the course of our sample period, these retail investors allocated more money to assets with a high sustainability rating and less money to assets with a low sustainability rating, compared to assets with a moderate sustainability rating.

The difference is economically significant, at 10% of the average monthly investment flow. In absolute terms, about €58 million per month in incremental investment flows into assets with high sustainability ratings, compared to those with low sustainability ratings. Over our entire sample period, this results in about €2.5 billion being incrementally allocated to assets with high sustainability ratings by the retail investors at this bank. We further find this difference in flows to be larger for equities than for bonds and to predominantly stem from allocation decisions of investors that receive advice.

When we treat the change in ratings provider as an experiment, we find significantly higher investment

flows into assets with a high sustainability rating after this increase compared to those with a low sustainability rating.

We further examine whether investors reduce their exposure to assets that experience a ratings downgrade and increase their exposure to assets that are upgraded. We find that investors that receive more salient sustainability information (i.e. the advisory client group) react more strongly to these changes, by rebalancing their portfolios towards higher rated assets.

Retail investors care: they also allocate more towards sustainable assets

So do retail investors care about sustainability? According to our research, wealthy European private wealth investors do! We find that they invest significantly more in assets with high sustainability ratings than low sustainability ratings. Moreover, we show that they react to changes in sustainability ratings by rebalancing their portfolios towards higher-rated assets.

Our results suggest that sustainability ratings upgrades elicit significantly positive investment flows particularly by advisory clients and specifically by investors in countries that receive regular reporting of the ratings. That is, the sensitivity of investment flows to positive ratings changes is larger in



Rik Lusterms
Rik Lusterms is Quantitative Analyst at Aegon Asset Management. He obtained his Master's Degree in Quantitative Finance with distinction (summa cum laude) at Erasmus School of Economics and worked on this research as an intern at ABN Amro.

countries in which sustainability ratings are more visible to investors.

Overall, our study provides systematic evidence that private wealth investors consider sustainability information in their investment decisions and make economically meaningful allocations towards assets with higher sustainability ratings.

It has two broader implications. Our findings show that when given more visible information about the sustainability characteristics of their investments, retail investors take those characteristics into account in their asset allocations. This has implications for policy that intends to redirect investments into more sustainable assets.

Our results also point to the influence sustainability ratings have on investment flows. It is therefore important for investors to understand what these ratings measure and how nuances of environmental, social and governance issues are summarised into one ratings number. ◀

The research I discuss is based on joint work: Amir Amel-Zadeh, Rik Lusterms and Mary Pieterse-Bloem, Sustainability and Private Wealth Investment Flows; SSRN Working Paper (Do Sustainability Ratings Matter? Evidence from Private Wealth Investment Flows).





Rotterdam

city of climate-proof architecture

By: Elsbeth Grievink

Rotterdam is known for its pioneering architecture and impressive skyline. As cities around the world struggle with the effects of climate change, eyes are once again focused on Rotterdam and the climate change adaptation projects being developed here.

There are plans for a park to be built on the roof of the longest building in Rotterdam. And not just any park. The railway line, where trains came and went for a hundred years but which has been abandoned for the past ten, will become a lush, green two-kilometre-long

oasis. This route will be home to native plants, flowers, bees buzzing, hedgehogs scurrying about, people walking and children playing. This climate-adaptive park in the middle of the city, Hofbogen Park as it will be called, was designed by DE URBANISTEN, DS landscape architects

and the Dakdokters. Designed to provide maximum cooling and shelter, absorb CO₂ and collect water, the park will work like a sponge. Hofbogen Park is one of the seven urban projects that Rotterdam is implementing to create a greener and more sustainable living environment.

Frontrunner

Rotterdam is drastically improving its outdoor areas in seven different places in the city by investing in seven urban projects. Besides being green and welcoming, they have to become climate-proof. In other words: resistant to heat, drought and heavy rainfall. It is a task that cities worldwide are struggling with now that the consequences of climate change are becoming increasingly tangible. More and more of these cities are looking to Rotterdam and what is happening here. By consistently investing generously in innovation, Rotterdam is among the front runners in the field of climate change adaptation.

This will not only make the city more resilient but also a more pleasant place to live. By making the city greener and more sustainable, with more urban nature and fresh air and less paving and exhaust fumes, Rotterdam will improve the living conditions for its residents. This goes beyond creating places where it is pleasant to relax,

walk, exercise and socialise. It also involves stimulating sustainable mobility, by redesigning boulevards and streets, for example.

Resilient city

It is not surprising that Rotterdam is ahead of the game when it comes to climate change adaptation. After all, Rotterdam is a low-lying delta city and, therefore, very vulnerable. That is why Rotterdam introduced the resilience strategy in 2016, which focuses on the robustness and resilience of the city.

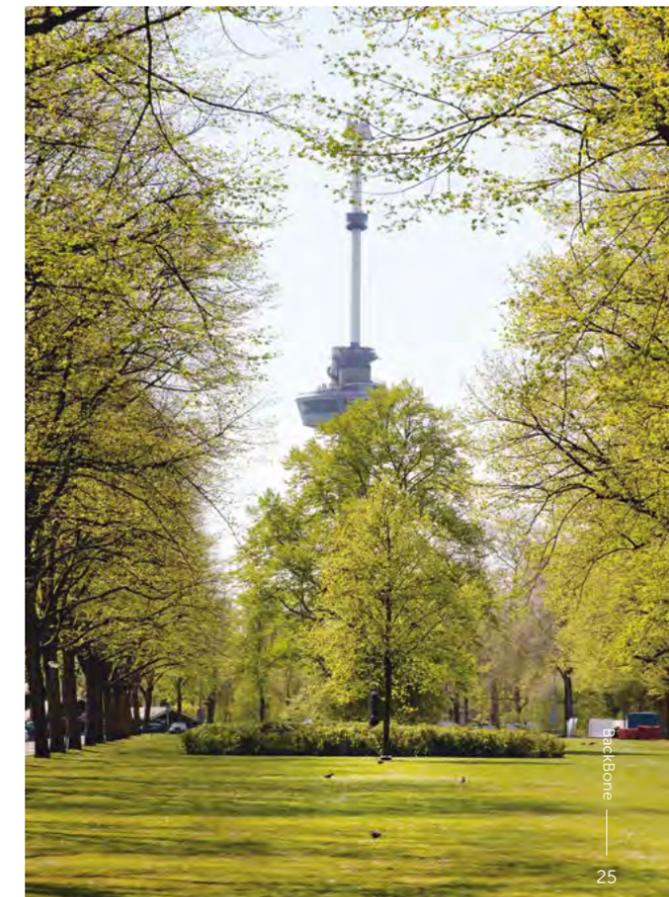
But there is another reason: since the bombing of their city in 1940, the people of Rotterdam are no strangers to hard work and getting things done. At the start of reconstruction, they chose a revolutionary path: not to repair but to completely renew. In the decades that followed, architects were given every opportunity to experiment and innovate. This can-do mentality resulted in innovative architecture that tourists still love to come to Rotterdam to admire:

the Cube Houses, the Gnome Village and the very first gallery flat, and later, the Erasmus Bridge, the Market Hall, Central Station and the Boijmans Van Beuningen Depot.

Progressive ideas

Rotterdam is now tackling the climate challenge with the same fearlessness and experimentation with which it built its modern inner city. Architects, designers and scientists are encouraged to work together to develop and test innovative ideas. For example, a group of idealists was given the key to the former tropical swimming paradise Tropicana in order to transform it into BlueCity, a model city for the circular (blue) economy. It offers workshops and laboratories to start-ups like Waterweg, which develops permeable tiles, and BlueBlocks, which produces bio-based construction materials.

The old docks M4H and RDM, which together form Rotterdam's new Makers' District, are also home to many innovations





on the cutting edge of art, design and technology. One example is Urban Reef, a start-up that, through extensive experimentation with clay, mycelium, coffee, seeds and paper pulp, prints objects that mimic the natural habitat of plants, insects and animals. These can be used to increase biodiversity in the city.

DE URBANISTEN, who also designed the Hofbogen Park, are developing a special green zone in this area as well. They are turning the stony harbour front in the Keilehaven into a tidal park with terraces of varying heights.

Adding value

Climate change adaptation is an important spearhead in the further development of the city, which plans to build an additional 50,000 homes by 2040. The need to make the city greener and bluer seems at odds with the demand for more housing. But the architects in Rotterdam are making a virtue of necessity. Agencies such as MVRDV, Powerhouse, Superuse Studios,

LOLA landscape and Mei architects and planners are responding to the challenge with considerable ambition and a desire for experimentation. Their projects show that they have passed the stage of sustainable building: not only limiting the damage of building to man, animals and the planet, but adding value at all levels.

SAWA is an example of this design attitude; a residential building rising on Rotterdam's Lloyd Pier that is as aesthetic as it is innovative. With this design, Mei architects and planners did not focus on one ambition but stacked several ambitions. SAWA is sustainable because it is made of wood, which means that it stores CO₂ instead of emitting it. It is circular and even demountable; the building can be dismantled and the materials reused. Moreover, in cooperation with ecologists, a well-thought-out green concept was developed with private outdoor spaces and a communal vegetable garden. All that greenery stimulates biodiversity, is healthy for residents

and has an important social component: you can meet others in the vegetable garden. SAWA should be completed in 2024. In the same year, Rotterdammers will be able to take their first walk in the green Hofbogen Park.

Cool off

Rotterdam's green development is already fully visible in the Rijnhaven. The port is a testing ground for floating construction with a new attraction for architecture enthusiasts, the spectacular Floating Office designed by Powerhouse Company. The building is made entirely of wood, is self-sufficient and sustainable, and floats. The UN climate institute Global Centre on Adaptation has its headquarters here, and the architects of Powerhouse Company work on high-profile projects worldwide from this location. Meanwhile, a floating city park is rising around them, with lawns, trees, plants and a city beach. When the temperatures rise, Rotterdam residents can take a dip in the waters of the Maas River. ◀

Disseminating knowledge since 1913

In line with the university's strategy, Erasmus School of Economics has disseminated its scientific knowledge in the field of economics and econometrics by offering open access, online education. Here are three world-renowned Massive Open Online Courses (MOOCs), offered by Erasmus School of Economics.

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Enrolled users: **over 92.000**

This course revolutionises your way of decision making and goes far beyond the use of standard valuation analysis. It introduces the expanded NPV, which brings together DCF, real options, and game theory. Thinking in terms of options, games, and adaptive strategies may help managers address strategic questions such as:

How do you value a leveraged buyout? How can you value a high-tech venture with negative cash flows? When should you invest in new ventures in stages? How can you incorporate rival bidders in the analysis? These tools will improve decisions in business and in daily life.



Econometrics: methods and applications

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When you know econometrics, you can translate data into models to make forecasts and support decision making in a wide variety of fields, ranging from macroeconomics to finance and marketing. This course starts with introductory lectures on simple and multiple regression, followed by topics of special interest to deal with model specification,

endogenous variables, binary choice data, and time-series data. You learn these key topics in econometrics by watching the videos with in-video quizzes and by making post-video training exercises.



Enjoyable Econometrics

Enrolled users: **over 16.000**

The goal of this MOOC is to show that econometric methods and models are often needed to answer questions, also in more unconventional settings. A question comes first, then data are to be collected, and then finally the model or method comes in. Depending on the data, however, it can happen that

methods need to be adapted. For example, where we first look at two variables, later we may need to look at three or more. Or, when data are missing, what then do we do?



Erasmus School of Economics in numbers

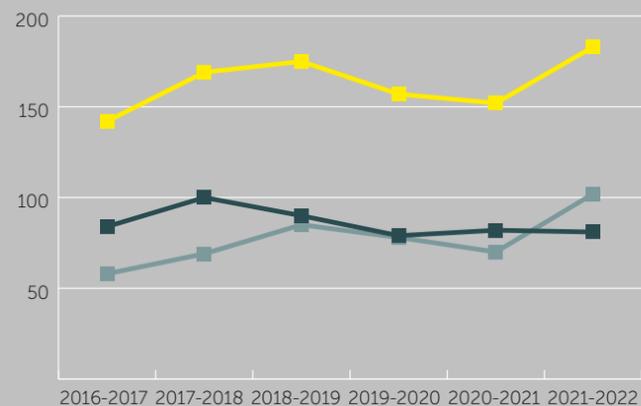
Erasmus School of Economics competes with the best universities in the world. To provide our students with the best opportunities we offer our students a variety of study programmes and lectures by top researchers. **Here are some of the essential facts & figures about Erasmus School of Economics.**

Bachelor

We offer the following Bachelor's Degree programmes

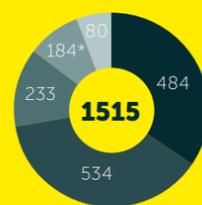
- (International) Bachelor Economics and Business Economics
- (International) Bachelor Econometrics and Operations Research
- Bachelor Fiscale Economie
- Double Bachelor BSc² Econometrics and Economics
- Double Bachelor in Economics and Philosophy of Economics
- Double Bachelor in Econometrics and Philosophy of Econometrics
- Double Bachelor in Economics and Law (in Dutch)

Number of students following a double bachelor programme

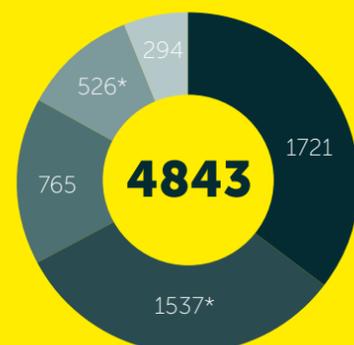


* Double Degree in Economics and Law (in Dutch)

Total number of first year students 2021-2022



Total number of Bachelor students 2021-2022



● Economie ● IBEB* ● Econometrie
● Econometrics* ● Fiscale Economie

* including BSc2

Master

63%



of the students who obtained their Bachelor's Degree at Erasmus School of Economics in 2020-2021 have **started the subsequent academic year with a Master's programme** at Erasmus School of Economics.



Econometrics

is listed as **number 3** on the list of university degrees with the best job prospects in the Netherlands. *Source: UWV*

Erasmus School of Economics offers **5 Master's Degree programmes**, with a variety of specialisations

MSc in Economics and Business

- Behavioural Economics
- Data Science and Marketing Analytics
- Economics of Management and Organisation
- Financial Economics
- Health Economics
- Strategy Economics
- International Economics
- Marketing
- Policy Economics
- Urban, Port and Transport Economics
- Economics of Sustainability

MSc in Econometrics and Management Science

- Business Analytics and Quantitative Marketing
- Econometrics
- Analytics and Operations Research in Logistics
- Quantitative Finance

MSc in Accounting, Auditing and Control

- Accounting and Auditing
- Accounting and Control
- Accounting and Finance

Research Master programmes

- Research Master in Economics
- Research Master in Business Data Science

MSc Fiscale Economie

- *Directe Belastingen*
- *Indirecte Belastingen*

For more information about our study programmes please visit: ese.eur.nl/education



Showing Off or Laying Low? The Economics of Psych-outs

By: Dana Sisak

In many cultures, showing off your talent is not well-regarded - being modest is the norm. This is nicely illustrated by a variety of proverbs: 'Cutting down the tall poppies' (Australia and New Zealand), 'Je kop boven het maaiveld uitsteken' (the Netherlands), or 'The nail that sticks out shall be hammered down' (Japan), just to name a few. Other contexts, such as Silicon Valley business culture, have few such proscriptions. Why do we observe modesty norms in certain settings, but not in others? Is a norm against showing off outdated or can it be beneficial in a modern society?

'The point of showing off is to convince the opponent to compete less intensely'



Utilising game theory

In my recent work with Philipp Denter (University Carlos III of Madrid) and John Morgan (University of California, Berkeley) we attempt to answer these questions by highlighting a trade-off between talent selection and effort motivation. Using a game-theoretical model, we first study what motivates an individual to show off their talent. Showing off typically happens before a competition; think of promotions in a firm, scholarships at school or sports. Not only humans show off – many animals engage in such behaviour before entering a fight, for example for a mate or territory. The point of showing off is to convince the opponent to compete less intensely. Whether revealing talent achieves that, depends on relative ability. When competitors turn out to be similar in ability, competition only becomes fiercer and thus more costly. For a low-ability competitor showing off appeases a stronger opponent. But everyone can pretend to be weak, and thus low ability competitors are not able to credibly reveal their type. It is the exceptional competitors who discourage - or psych out - competition by showing off and for whom showing off is relatively cheap, and thus a winning strategy.

With this in mind, we examine the economics of showing off from a societal perspective. We show that when society cares about aggregate effort expended in the competition,



Dana Sisak

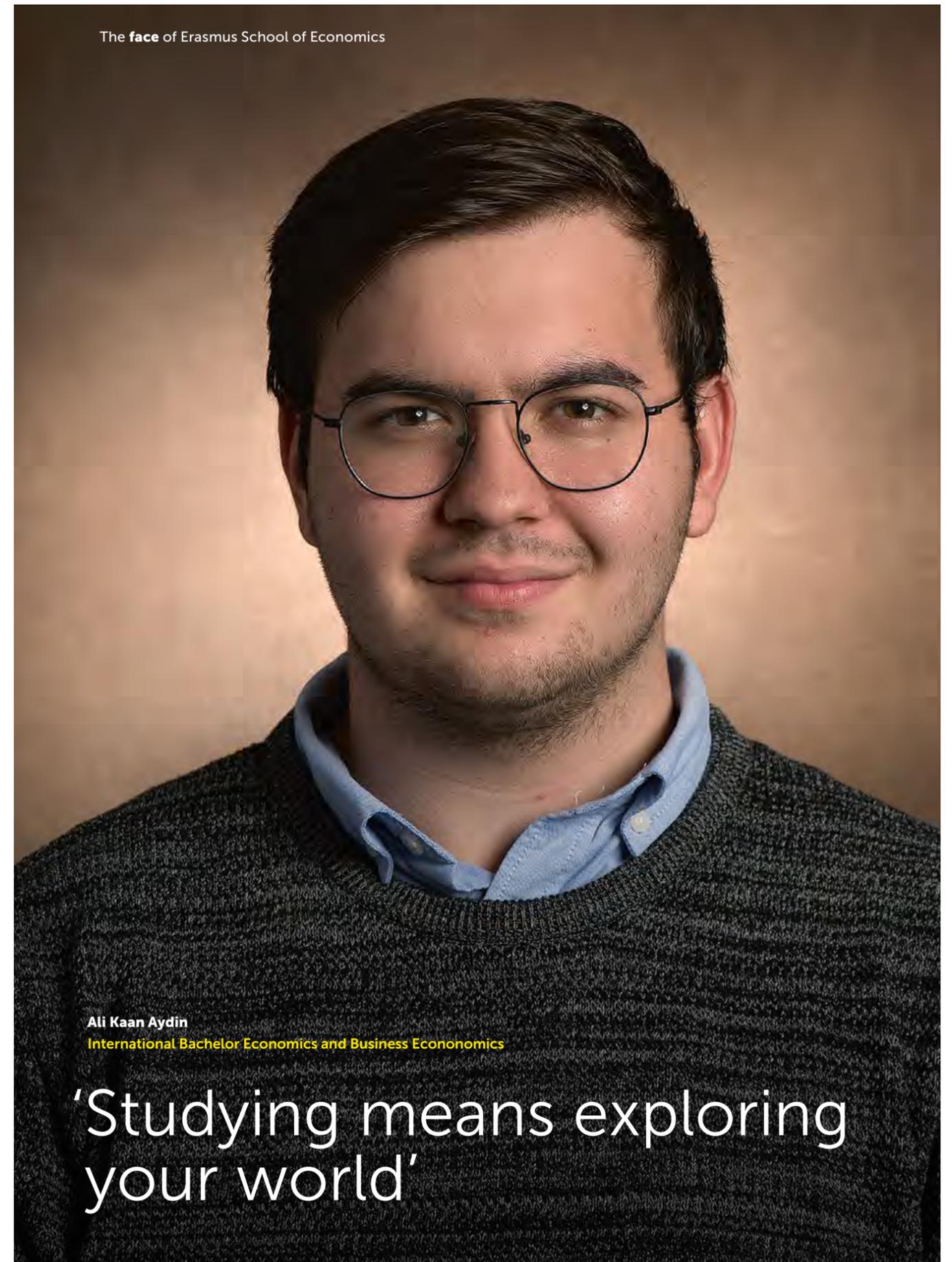
Dana Sisak is Associate Professor at Erasmus School of Economics. She is fascinated by competition and studies different aspects of competition in the world of organisations and politics.

showing off should be strongly discouraged. In other words, workers on average work harder in a firm with a norm against showing off relative to one without. Our analysis thus reveals that such norms can be functional and create social value. By limiting opportunities to show off, society shuts down the channel of discouraging others to economise on effort.

Norms in different environments

But what about the Silicon Valley startups, did they get it wrong? In these settings, talent identification and retention determine success. We show that a norm against showing off is detrimental when selecting talent is the goal. Intuitively, showing off by a talented competitor psychs out a less talented opponent and thus lowers their effort which benefits selection efficiency. Thus, depending on how value is created, through aggregate effort or selection of the best, the same model of showing off can account for different behavioural norms.

A realistic assessment of one's own talent underlies our previous argumentation. A prevalence of overconfident competitors, on the other hand, might dictate against a modesty norm even when aggregate effort is important. When a competitor is overconfident, showing off provides an additional benefit - it gives feedback as to the true ability and thus may help to correct the misperception. ◀



Ali Kaan Aydin

International Bachelor Economics and Business Economics

'Studying means exploring your world'

Ambitious young minds at Philips; educated in Rotterdam

By: Bjorn Roozenbeek

The alumni of Erasmus School of Economics end up in many interesting places. **Fleur Notermans and Wessel van den Broek** are now employed at Philips, a health tech giant with Dutch roots. Our editor Bjorn Roozenbeek talked to them about their experiences.



'The ever changing, vibrant environment is something unique to the city and university'

How did you experience your studies in Rotterdam?

Fleur: Rotterdam and Erasmus School of Economics are amazing places to explore and learn about yourself. I tried to take as much out of this during my time as a student as possible, also focusing on a lot of things outside of my studies. During my bachelor's, I was mostly looking into which part of economics attracted me most, while in my master's, I tried to see how this fitted with the industries I was looking into. I still live here, and the 'don't talk the talk but walk the walk' mentality fits me perfectly. The ever-changing, vibrant environment is something unique to the city and university.

Wessel: Contrarily to Leiden and Delft, Rotterdam at first sight is not your typical 'student city'. However, exactly for that reason Rotterdam provides for a very dynamic student experience. You can enjoy the city-life in the centre and at the same time experience the student-village Kralingen. What I value most in Rotterdam is its mentality – there is no other city where you can find this entrepreneurial, honest and raw attitude in all its inhabitants. After studying in Rotterdam, I have lived in 3 other cities, however, I have never loved any city like I loved Rotterdam.

Both of you undertook quite some extracurricular activities during your studies. What drove you to do this? How did this benefit you later on in life?

Fleur: The opportunities to explore mentioned earlier are really something to make use of. I tried to do those that I thought I could

get the most learning out of, but especially would have the best time, because that is also what studying is about. The ones that stood out were my board year at the Economic School Association (EFR), my exchange in Switzerland and my internship at Philips. In general, all extracurricular activities were useful, as doing a variety of things helps broaden your scope. The board year brought me a lot of experience that I still use during my day-to-day job. Thanks to my exchange, I got out of my comfort zone and made new friends. I still speak to some of the friends I made there, and even met my boyfriend there! I did the internship while I was graduating, and I would recommend it to everyone. It is an excellent way to learn about a company and work life in general, as well as to network. You have no responsibilities yet, so it's a great learning experience!

Wessel: I would argue that any motivation to do something should be driven by the fact that you want to do something, rather than thinking you must do something. In retrospect, most of my choices were not pre-planned, rather these opportunities just materialized out of sudden bursts of enthusiasm. During my student times I enjoyed a great deal of time at EFR and Laurentius. I believe that these experiences helped shape me as a person, in extension of my study at Erasmus. By providing a vast array of situations that you would normally not (directly) experience through your studies, you fuel your holistic development. However, the biggest benefit that it brought is the many close friends I made during this period; friends that I consider to be my best friends, even to this day.

Career choice

What were the determining factors for your career choice?

Fleur: When looking for a company to start my career at, I thought about starting at a corporate as I thought it would be a great way to learn from many different people and to expand my network. Most importantly, I wanted to contribute to a better world and look at my own circle of influence. In addition, gender diversity is important to me, so it is something I took into account when looking around. Philips fits in perfectly with these criteria, as it is a large Dutch corporation that, in its 131 years, has had a tremendous impact on the Netherlands, the Eindhoven area, and the Dutch workforce. It's very international, much more than I anticipated, and although not fully there yet, diversity in all its forms is an important focus point and something we are actually on top of in all kinds of scoring systems. In addition, our purpose is to improve people's lives through meaningful innovation, which again is a perfect fit, both to the more technical side and to the better world part.

Wessel: My first principle into finding a job was to find a company that offers a traineeship. After studying for several years, I did not have enough insights to identify a specific job. A traineeship allows you to pre-experience several jobs before committing. Besides that, after studying in Madrid during my exchange period, I knew that I wanted to live abroad again sometime during my career. Last but not least, the people at the company played a big role in my decision. People are much less transformable

than work scope and activities. When deciding what to do next, I always ask myself, 'Would I like to spend an 8-hour train ride with them?' If the answer is 'Yes,' then a working day should be possible as well!

Philips quite accurately meets these criteria. Philips offers a great training programme where you are able to see many different roles/organisations in a short period of time, something that very much appealed to me. Furthermore, I was able to work in Singapore for a part of my traineeship, something that I look back on with great joy. Most importantly, the people I work with are kind, open-minded, and purpose-driven. I feel that they actively contribute towards Philips' mission on a daily basis.

How important is the distinction between work and private life for you?

Fleur: I've always learned growing up that you should do something you enjoy, which is what I am looking for as well. Not that it has to be a hobby, but that you enjoy filling your days with it. In that sense, I don't mind having to spend some extra hours at work every now and then. When it comes to Philips, work-life balance is very good. I have enough time to see my friends or work out during the week.

Wessel: I do not think that a stronger distinction between work and private life is something we should aimlessly strive for. For me, the key to unlocking a healthy work-life balance is to be able

Wessel studied Economics at Erasmus School of Economics with two Master's Degrees, one in Financial Economics and one in Urban, Port & Transport Economics. After his studies in Rotterdam, Wessel started as Management Trainee at Philips. Currently, He acts as the Market Demand Planner for the complete business of Oral Healthcare in Europe.



Fleur studied Economics at Erasmus School of Economics, with a Master's Degree in Strategy Economics. After an internship at Philips during her Master's Degree, Fleur continued in the medical technology sector at Philips, as Catalogue Manager Philips Lifecycle Solutions.

'Most importantly, I wanted to work for a company with a purpose'

to be your real self at work. In this digital age, we are becoming multiconnected to the people around us. This entails that there is no room to uphold two personalities in different social environments. As such, the choice of people you work with and the social context they create has been very important in my career choice as this enables (or prevents) me from being the same person on a Saturday afternoon.

Which of Philips' values and principles most appeal to you? Why?

Fleur: For me improving people's lives is the reason to work at Philips. It is my way to contribute to a better place to live. Quite some of my family members work in health care, and making their daily lives easier, is something I feel I can do at Philips. Of course Philips is a private company, but I really believe most people in

here work to make life better. It really is the people that make the difference, and I've found those in Philips to be engaged, inspirational and incredibly motivated. In addition, we are a front runner in sustainability and circularity, with the refurbishment of medical systems actually taking place in Best (nearby Eindhoven), right here in the Netherlands.

Wessel: Philips' purpose is to improve people's health and well-being through meaningful innovation. What very much inspires me is the fact that all Philips employees work for this purpose. It is a statement that is materialized in actual strategic focus, ability to operate, and work ethic. Personally, I can relate very much to this purpose as I, and many millennials like me, want to make a positive contribution to the world around me. If you are able to also pursue this in your work, it makes it a lot more time- and impact-efficient!

To what extent do you feel that Philips, as an employer, sufficiently answers the needs of your generation?

Fleur: I believe it is always good to stay connected to all generations in the company. As Philips is such a large company, it is sometimes hard to see beyond your team or department. In spite of that, Philips is big on innovation, and that attracts young people. I think the purpose-driven way of doing business fits my generation really well. One current initiative that has been around for a while is reverse mentoring, where young professionals

mentor senior leaders. Moreover, a friend of mine is setting up a shadow board, 'NEXTCO.' The goal is to have interactions with the executive committee at least once a year on topics chosen by Philips' young professionals' community.

Wessel: To cite my dear grandmother: 'age is just a number', the same also holds for companies. I think Philips directly aligns with the needs of my generation in their willingness and strive to make a positive impact. First and foremost, through Philips' mission, you work to improve the lives and well-being of your consumers. Secondly, and arguably just as important, is the ability to make an impact. From day one, I have felt heard by Philips. The lack of strong hierarchies allows you to take matters into your own hands - as an example, in my second year we, four young employees, hosted a 5-month training in data science for 750 people.

Fleur, you are a board member of Philips NEXT, could you tell us something about this platform?

Starting out in the workforce, building a network, and making your first (senior) career steps can be a challenge. It is essential to have a network to share experiences, cheer for each other, but also to have fun. We try to do that with Philips NEXT, our young-minded professional community. As Wessel and I mentioned earlier, the people make the job. It is important to have a connection with peers, as you can learn as much from them as from seniors. It

creates a great bond with your workplace as well, as many studies have shown that happy employees are more productive and loyal. So it's a win-win for Philips and for us!

What are the development and career opportunities at Philips like? Did you participate in any?

Fleur: Like most companies nowadays, Philips has a traineeship programme where there are a lot of development opportunities. I didn't do such a program, so I went looking for other mentoring and training. I took part in a female mentoring program, which helped me a lot in the first year of my job. In terms of career opportunities, there is a lot happening around changing roles, doing extra assignments, and switching between departments, for example with career fairs.

Wessel: Philips offers many development/career opportunities - personally I am very happy to have been part of the Philips traineeship as this has allowed me to better understand what kind of job/role I would like to fulfil. There are also many starter - and internship opportunities posted in a variety of locations; Amsterdam, Best, Eindhoven and abroad - if you are interested: I would advise to check our career platform at careers.philips.com. ◀

In case any of the before-mentioned comments enthruse you and you would like to have a quick call/coffee to further discuss; do reach out to us!



Your gateway to success

School and study associations

Some of the character traits that define Erasmus School of Economics' students are their high level of activity and their work ethic. The Marketing Association Erasmus University Rotterdam (MAEUR) is one of our many recognised study associations. The primary goals of MAEUR are learning, networking, and socialising.

The students in the photo are part-time board members, representing all students that have an affinity with data and marketing. Erasmus School of Economics is very proud of its study associations and supports their undertakings.

Every railway passenger will recognise the experience that trains do not always run on time. Moreover, sometimes trains can be overcrowded. This is mainly caused by disruptions like malfunctioning infrastructure, broken trains or extreme weather. Every day, there are many small disruptions causing delays of single trains and sometimes larger disruptions occur. In several recent research projects, we have developed mathematical models and algorithms to improve railway operations during such disruptions.

How can algorithms help improve train services during disruptions?

By: Dennis Huisman

'A total standstill can be prevented in case of huge disruptions'

In the PhD projects of Rowan Hoogervorst and Rolf van Lieshout at Erasmus School of Economics, we look at railway disruption management. Disruption management at railway operators usually follows a sequential approach: first the timetable is adjusted, then the rolling stock (the physical train units) is rescheduled and finally, the crew (drivers and guards) is rescheduled. Models and algorithms in the literature often assume that all information, such as the duration of the disruption and whereabouts of rolling stock and crew, is instantly available and correct. Unfortunately, this is often not the case in practice. Moreover, there is interaction between the different steps in disruption management, which is often ignored in the scientific literature. As a result, there is only a limited use of these algorithms in practice, making it still a primarily manual process.

Rolling stock rescheduling

In Rowan's project, we extend mathematical models and algorithms for rolling stock rescheduling. In particular, we incorporate much more relevant, practical details in these models. For example, we also consider train delays caused by the rolling stock schedule. When a train arrives too late at a terminal station and the same rolling stock turns around again, the next train will already start with a delay. Since the railway network in, e.g., the Netherlands is very dense, it is likely that this delay will increase even further. Therefore, we have developed new models that try to reduce these delays, while at the same time incorporating other aspects of the rolling stock schedule. In particular, we also want to offer enough capacity such that (almost) all passengers can have a seat in the train. Models for this problem can be formulated either as a network flow



Dennis Huisman is Professor of Public Transport Optimisation at Erasmus School of Economics. He also works part-time as Expertise Manager Logistic Processes at Netherlands Railways (NS). In his research, he develops Operations Research models and algorithms to improve public transport operations.

problem or as a path-based formulation. The network flow formulation performed the best of the two formulations. In reasonable computation times, we could find optimal solutions. In these optimal solutions, delays could be reduced, while at the same time offering still enough seats to the passengers. For the case that even shorter computation times are required (which is of course very important when you need to decide right now), we have also developed some fast heuristics based on local search techniques. With these heuristics, we can find close to optimal solutions within one minute of computation time.

Very severe disruptions

In Rolf's project, we look at huge disruptions, such as heavy snowfall. In current practice, on those days sometimes (almost) all railway traffic is terminated. This is of course very undesirable and should be prevented. However, infrastructure availability will be limited due to for instance technical problems with switches. Therefore, we have developed a new concept where trains run up and down on certain lines without a timetable. Rolling stock and crew are dynamically assigned to certain trips based on limited local information. In this way, the whole disruption management process is decentralised and much less dependent on reliable, detailed information (which is usually not available in these situations). We show that with limited information and simple decision rules, trains can still be operated in a stable way. That means that the time between certain services on the route does not deviate too much. In this way, a total standstill of the whole system can be prevented, and most passengers can still reach their destination, albeit with some additional travel time and some additional transfers compared to the regular timetable. ◀

Milena Nakashima
Master Policy Economics

'Strive for progress, not perfection'

'There is a perception that economists only think about money, but economists work on almost every social issue that comes up in politics'

Meet Elisa de Weerd

By: Floris Rietveld

Economics is not only about money. 'That is what many people think, but economics is mainly about trade-offs', says Elisa de Weerd, PhD candidate at Erasmus School of Economics. This misconception was her main motivation to make a podcast about the diversity of economics: 'De Nieuwe Economen Podcast'. 'Economists work on almost every social issue. From the wealth tax to how we can design healthcare better. I want to show that.'

Elisa de Weerd is doing her PhD at Erasmus School of Economics on research into 'risky health behaviours'

'Many people think of healthy behaviour as sufficient exercise, eating well and drinking little alcohol. But it is broader than that. For example, having safe sex, taking your prescribed medicine at the right time or wearing a face mask when you need to. In the evenings and weekends, she works for the economic journal ESB. 'We receive articles from policymakers and academics. As an editor, I read the articles, do the editing and prepare the article for publication. This keeps me well informed of new developments.'

How did the podcast start?

'We make the podcast with the three of us: Yrla van de Ven, Sarah van Hugte and me. You often see the same economists in the news. There are often PhD candidates who do research on the same subjects and are even more into the economics literature. There are also many societal challenges that call for fresh perspectives and new ideas: from climate crises to energy crises. With the podcast, we especially want to let this new sound be heard.'

Economics is more than money

'The second reason is a personal motivation for the podcast. I want to show that economics is very broad. There is an image that economists only think about money, but economists work on almost every social issue that comes up in politics. They can respond to that economically. For example, economists can say something about policy on child labour, the taxation of wealth and how a CO2 price can contribute to a better climate. I wanted to include the broad range of economic topics.'

What have you learned from making and presenting a podcast?

'It was very exciting at the beginning, but it also felt natural. In the corridors you also ask colleagues what they are doing. Only now it is being recorded. Sam Hoey explained why sports economics

is not only a fun, but also a useful field of study. At first glance, sport and economics seem like two completely different worlds. But sport turns out to provide economists with a goldmine of data with which they can conduct research. Not only into the sports industry itself but also into the labour market. I had never thought of that before. We also got better at making the podcast. Every episode went smoother. Hopefully, we can make a second season.'

In two episodes, PhD candidates from our university will pass by. Can you tell us more about them?

'In one episode, we talk to PhD candidate Marlies Bär. She researches the quality of the care provided by nursing homes in the Netherlands. How do we measure the quality of care? The costs have risen enormously in recent times. It is expected that in 2060 it will rise to €60 billion for elderly care alone. That is four times as high as in 2015. The big question is: has the quality of care kept up with the costs? To answer that question, we first need to know what quality actually is, and that is what Marlies is working on.'

Ice hockey data on professional visibility

'Another interesting episode is with Sam Hoey, PhD candidate at Erasmus School of Economics and the Tinbergen Institute. He uses data from the North American ice hockey league to find out to what extent professional visibility influences later career opportunities.

In 'normal' jobs, such as an office job, it is difficult to measure how people behave at work and how they function in teams. Often you only have a performance review once a year. In ice hockey, you can see how someone has done every game. In this way, you can see what it means to suddenly be much more visible to your employer. This solves a data problem, as these kinds of issues are often difficult to answer in other fields of work.' ◀

Erasmus School of Economics: proud supplier of Nobel Prize laureates

By: Bjorn Roozenbeek



1969



Jan Tinbergen

Jan Tinbergen was a Professor of Mathematical Economics and Economics of Developing Countries at Erasmus School of Economics. He was a renowned economist and one of the founders of econometrics as an academic discipline. Most of all, he was a man whose dedication to poverty alleviation and fighting economic inequality on a global level showed throughout his impressive career.

Jan Tinbergen, along with Norwegian economist Ragnar Frisch, received the Nobel Prize for Economics in 1969 for their groundbreaking research in the development and application of dynamic quantitative models for analysing economic processes. They were the first to receive the Nobel Memorial Prize in Economic Sciences.

Erasmus School of Economics offers excellent study programmes and lectures by top researchers ever since 1913. And this shows: in 1969 **Jan Tinbergen**, at that time Professor at Erasmus School of Economics, won the first Nobel Memorial Prize in Economic Sciences. Recently, former Erasmus School of Economics student **Guido Imbens** won the 2021 Nobel Memorial Prize in Economic Sciences.



Guido Imbens

Guido Imbens studied Econometrics in Rotterdam from which he graduated in 1983. After that, he continued his research career in the United States. Currently, he is a professor of Economics and professor of Applied Econometrics at the prestigious Stanford Graduate School of Business.

Imbens was awarded the 2021 Nobel Prize along with his colleague Joshua Angrist for their research in the mid-1990s into the possibility of so-called natural experiments to explain causal connections. The title of their award-winning research is 'methodological contribution to analysis of causal relationships.'

2021

Professor Guido Imbens visits his alma mater on a regular base.

Scan the code to watch one of his inspirational lectures!



'What I learned at Erasmus School of Economics turned out to be of great importance for my later career'

Professor Guido Imbens

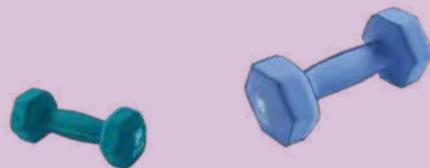


Towards a better understanding of the intention-behaviour gap

By: Kirsten Rohde

Do you also have the intention to start living a healthier life, study more regularly, or increase your savings? Do you act upon these intentions? Do you actually change your behaviour? Probably less than you would like to. And you are not the only one. Many people experience a gap between their intentions and their behaviour, the intention-behaviour gap. In my research I try to get a better understanding of the drivers of this gap, with the ultimate goal to help people close this gap.

'Today we may plan to go for a run in a week's time, but next week we may prefer watching television on the couch instead'



The intention-behaviour gap involves a timing delay between the moment we formulate our intentions and the moment we act upon them. Today we may plan to go for a run in a week's time, but next week we may prefer watching television on the couch instead. Research in psychology and (behavioural) economics has uncovered several drivers underlying this intention-behaviour gap.

Hyperbolic discounting

Economists tend to explain the intention-behaviour gap by hyperbolic discounting. People are assumed to discount the future consequences of their decisions, that is, they find the present more important than the future. Exponential discounting, the traditional economic model of time discounting, assumes that people discount the future in a consistent manner, and thereby will behave in a time-consistent manner and will not exhibit the intention-behaviour gap. Hyperbolic discounting, a behavioural alternative to exponential discounting, assumes that people discount the future in an inconsistent manner. They may plan to make certain types of decisions in the future, but will fail to fully carry out these plans. Once people become more aware of their inconsistencies, economists say they become more sophisticated. Sophisticated people can adopt two types of strategies to close the intention-behaviour gap. They can make plans that are more realistic, taking their predicted future behaviour into account, but they can also commit to their plans by restricting their future opportunities to deviate from their plans.

While hyperbolic discounting plays a prominent role in economics, the empirical evidence for its role in explaining the intention-behaviour gap is not very convincing. Theoretically, it is the inconsistency in discounting that can explain the gap, not the level of discounting. Yet, most studies that show an association between time discounting and behaviour, fail to properly disentangle the inconsistency and the level of discounting. In a recent study in the journal



Kirsten Rohde is professor of Behavioural Economics and deputy director of the department of Applied Economics. Her research interests include Behavioural Economics, Decision Theory, Health Economics, and Psychology.

Management Science, I developed a technique to properly measure the inconsistency in discounting separately from its level. With our team of the 'Prevention' action line of the Erasmus Initiative 'Smarter Choice for Better Health', we will implement this technique to study whether the inconsistency in discounting can explain the intention-behaviour gap in physical activity in a large Dutch general population survey administered through Lifelines (Lifelines.nl).

Closing the intention-behaviour gap in physical activity

The psychology literature has also identified other potential drivers of the intention-behaviour gap, some of which are being adopted by economists. One example is projection bias. When people make plans for the future, they have to project themselves to the future to assess their future wants and needs. Research has shown that this projection is biased by our present wants and needs. In our survey in Lifelines we will include measurements related to such alternative drivers of the intention-behaviour gap in addition to the mentioned measurement of the inconsistency in time discounting. This will give us a better understanding of the relative contributions of each of these drivers.

With the same team of researchers, we are currently also developing an app that aims to enhance physical activity by closing the intention-behaviour gap. This app is based on a combination of economic and psychological methods to close the intention-behaviour gap. By using this combination of methods, we aim to target the various drivers that jointly cause the intention-behaviour gap in physical activity. Analysing the effectiveness of three different versions of the app will provide further insight into how to close the gap. ◀

Kirsten Rohde is Professor of Behavioural Economics and Vice Dean of Research at Erasmus School of Economics. Her research interests include Behavioural Economics, Decision Theory, Health Economics, and Psychology.



The face of Erasmus School of Economics



Sven van Holten
Double Bachelor BSc2 Econometrics and Economics

'Here, I lay the foundation for my career'

Working on our Backbone

By: Madeleine Kemna

Annegeke Jansen completed three studies in Rotterdam, but it was her experience at Economic Faculty association Rotterdam (EFR) that taught her how to apply that knowledge in a way that is both effective and enjoyable. As a civil servant at the Ministry of Finance she combines the best of both worlds: analysing major government investments and staying abreast of exciting developments in the private sector. One of the projects, called Backbone, may help us all to take a major step towards clean energy.

During my high school years it was already clear to me that I wanted to study Economics. I was looking for an international angle so the International Bachelor Economics and Business Economics (IBEB) programme seemed a logical choice. Halfway I started following classes in Philosophy as well because I found IBEB rather theoretical on its own. I was very pleased that the university could accommodate this. My Master was in International Economics and the combination of these three studies has really influenced my outlook on life. I am able to process data to construct a vision that helps us understand the world better and that is a great feeling.

In your experience what distinguishes Erasmus School of Economics?

I found the extent to which Erasmus School of Economics appreciates and facilitates extracurricular activities extraordinary. There are many opportunities to enjoy your study beyond the classroom. Everything is very well organised and you are encouraged to make the most of your time by blending student life with activities that prepare you for your future career. In my case that involved several roles at the Economic Faculty Association Rotterdam (EFR). As a board member of EFR, I was very eager to do a good job, but I learned to put things into perspective and pace myself. The experience taught me not to take on too much in my enthusiasm. This helped me to find the right balance when I started working.

One of the fun things of being an EFR board member is that you meet many well-known opinion leaders. Apart from all the interesting things they have to say, you also get more comfortable in dealing with such important figures. In my current job at the Ministry of Finance, I am no longer nervous when I meet a cabinet minister for example. Hosting an event for Ban Ki-moon, Secretary-General of the United Nations, was a very special experience. My predecessor on the EFR board had invited him because she wanted to award him the EFR World Leader Cycle Award for outstanding accomplishments in international politics, society and economics. As it happened, Mr Ban planned to visit The Hague later that year and was willing to make a detour. We could never have envisaged the excitement this caused. It was a great way to learn how to deal with different stakeholders. Students from all over the Netherlands wanted to attend the event and we had to liaise with many dignitaries including Ahmed Aboutaleb, the mayor of Rotterdam, and former Prime Minister Jan Peter Balkenende. The Secretary-General's main message was that we should be world citizens to tackle the challenges we face together. It was very special to provide this opportunity to so many students. The positive feedback we received from Sigrid Kaag, who worked for the UN at the time, was also very gratifying.

What is it like to be a civil servant?

I knew that I wanted to find a job that involved applying my economic knowledge, preferably with an international outlook, but without moving abroad. When weighing up these components, it turned out

that they all came together in the International Affairs Directorate at the Ministry of Finance, which prepares the Dutch input for the IMF and the Worldbank for instance. I managed to get a traineeship that took me to many different areas within the ministry. While rotating from one assignment to another, I found out that content is not the only thing that determines job satisfaction. Your colleagues and the dynamics at work are equally important. This discovery was an added benefit of the traineeship for me and I ended up in a different part of the ministry than I had expected originally.

Currently, I am overseeing the government's state-ownership in Gasunie (an energy network operator that manages and maintains the infrastructure for large-scale transport and storage of gas) and FMO (the Dutch entrepreneurial development bank). Part of my job is to assess investment cases if the amount surpasses a certain level, so that it has an influence on the strategy of the state-owned enterprise. In the case of Gasunie there is ongoing research to see if the Dutch infrastructure of pipelines for gas transportation can be used for hydrogen. Coincidentally, this potential hydrogen network is called The Backbone. It is very exciting to be a part of this. The Netherlands is in an advantageous position to play a big role in the hydrogen sector because of its extensive pipeline infrastructure and our location close to industrial clusters in the Netherlands, Germany and Belgium. This makes it feasible to transport hydrogen from the port of Rotterdam to its destination. In addition, we can generate green energy from the North Sea. The state does not invest money without extensive research and many double checks, but at the

'I found the extent to which Erasmus School of Economics appreciates and facilitates extracurricular activities extraordinary'

same time we need to make rapid progress and take unprecedented steps in order to battle climate change. As a representative of the Ministry of Finance I am in touch with Gasunie on a weekly basis, sometimes even daily. This combination of the public sector and the business world is one of the things that make my job so interesting.

The call for increasing transparency in Dutch politics means that civil servants will see a change as well. We are anticipating that the briefings we supply to cabinet ministers will have a more public character, including the notes with background information. It will be very important to qualify them as 'preliminary' or 'for discussion' so that they cannot be taken out of context. Of course, transparency is positive, but we should make sure it does not lead to hesitation to put your thoughts on paper. I hope careful consideration will prevail over panic reactions.

Can you tell us about your affinity with research?

It was a wonderful experience to be able to work on a paper that built on my thesis with my supervisor professor Casper de Vries. We looked at the systemic risk in the banking sector, which increased during the financial crisis in 2008, but has not declined substantially afterwards. Since it is caused by problems that spread from one bank to another, it is important to assess the individual contribution of each bank. We did so by using the Marginal Expected Shortfall measure (MES). The results can help regulators to determine the correct level of reserves by differentiating between banks where appropriate.

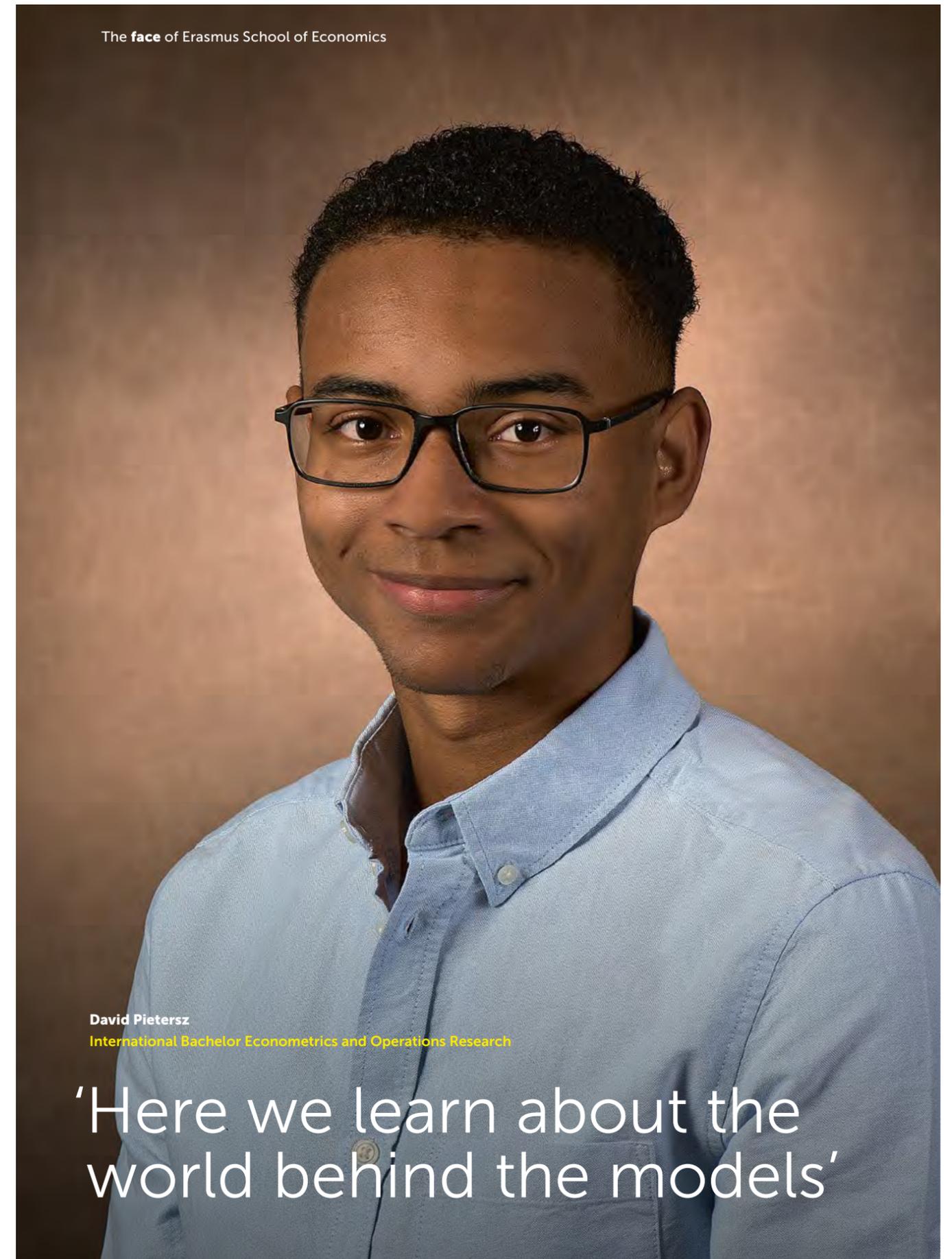
'The state does not invest money without extensive research and many double checks, but at the same time we need to make rapid progress'

Personally, I am very pleased to see that banks have managed to weather the corona storm so far. Still, I do think a creative response will be needed to face additional challenges such as the emergence of crypto currencies and other Fintech products or competition from financial activities deployed by Big Tech companies such as Amazon and Facebook. For banks, it will be important that a certain level playing-field is maintained when it comes to regulation. For example, we should not overlook the fact the financial sector is doing a lot of work to prevent money laundering and other criminal activities. This topic gets attention when banks make headlines because they have not complied with all the rules, but I doubt whether new entrants are willing or able to fulfil this gatekeeper's role to the same extent.

My current job involves some research, but I would also like to start up another project in economics or philosophy again. This would mean diving into a new body of existing literature, which could be a

challenge on top of my full time job, so for the time being it is only something to keep in the back of my mind.

If I were to conduct research again, I would want to better understand the relationship between my work and the environment in which it takes place. My background in philosophy has enabled me to put something in the context of its time. I think it is good to disengage from the here and now to look for broader long-term trends such as described in the books of Yuval Noah Harari for example. A development that has been manifesting itself for a while now is the objectification of everything. Heidegger notes that the world views things and people as a means to an end instead of valuing them for what they are. Even relaxation is seen as something on a to-do-list. It has made me conscious of the fact that this is not how I want to live my life. My studies at Erasmus University are a good example: they were not simply education in order to find a job, but formed an experience I enjoyed intrinsically. ◀



David Pietersz

International Bachelor Econometrics and Operations Research

'Here we learn about the world behind the models'



'I remember when I was still a teenager in high school that the first time I got an economics course I was very, very excited'

Meet Robert Dur

My name is Robert Dur and I am a Professor of Economics at Erasmus School of Economics where I teach and do research. I teach three different courses: I teach Applied Microeconomics for second year bachelor students in Economics and a seminar for the Master Economics of Markets and Organisations.

This seminar is the final seminar, where students work on research. They present research and discuss research, so the students are super active in that class for a full block. I also teach the course Experimental Economics in the research master programme of the Tinbergen Institute.

Most of my research is in the area of organisational and personnel economics. For instance, I study what aspects of a job people find important. Do people work mainly for the money, or do they find it more important to have a meaningful job? In my most recent study, we find that people differ quite a bit in this respect. Part of these differences can be explained by the macroeconomic conditions people faced when they entered the labour market. Those that searched for their first job during a recession, put higher priority on income for the rest of their lives. Those that enter the labour market during a boom, find job meaning more important. These shifts in job preferences are very persistent and remain important after controlling for current income and labor market status.

My teaching is concentrated into blocks, so I teach four months and then the remaining eight months are devoted to research for at least 90% or so. During this period, I also advise Master and Bachelor students on their thesis, but otherwise everything is focused on research. I remember when I was still a teenager in high school that the first time I got an economics course I was very, very excited. By then I actually thought that what I wanted to become was an economics teacher at a high school. My father was a glassblower at Utrecht University, and he told me that it was a really nice ambition to become an economics teacher, but perhaps rather than going to the teacher academy, I could also

try and go to university and study economics there. Then you can always decide to become an economics teacher at a high school, but you also have other opportunities. I'm still very grateful for that advice, so I went on to study Economics here in Rotterdam. It seemed to me the most natural choice.

I wrote a PhD thesis about political decision-making on economic policy and in particular on macro-focused topics, like unemployment labour market institutions, fiscal policy in combination with political decision-making. Later on, I expanded my research focus a bit. I also started studying the preferences and the goals of public sector workers. I moved from politicians to the study of public sector workers and then I became interested in how these differ from people that aspire a career in business. I started studying things like: who aims for a career in the public sector and on what does that depend? And are people in the end happy about it? Are public sectors around the world run in different ways? And what does this mean for the people that want to work in the public sector? Those kinds of issues really interest me.

What I really like is when students come up with their own ideas. Economics can be seen as a toolbox. There are empirical methods, there are theoretical methods, and these methods can be applied to ideas to see whether ideas are actually good in the sense that they are theoretically consistent and good in the sense that they are empirically relevant, meaning that they make sense in the outside world. Students oftentimes surprise me with their ideas. When students work on their own ideas, that is when they are most enthusiastic. They want to know the answers and they have the energy and the spirit to get there. ◀



What is driving educational attainment: nature, nurture, or both?

By: Dilnoza Muslimova, Hans van Kipperstuis, Niels Rietveld, Stephanie von Hinke, Fleur Meddens

We use DNA to create a score that measures the likelihood to succeed in education – which we refer to as the genetic ‘endowment’ – while we focus on birth order as a measure of the environment, because family size puts a natural constraint on parental time investments. We first replicate a well-known fact from the literature: firstborns, on average, achieve more education than their laterborn siblings. Importantly, however, we show that this difference is significantly larger for firstborns with high genetic endowments for education compared to those with lower genetic endowments.

'The additional parental investments associated with being firstborn are more 'effective' among siblings who randomly inherited higher genetic endowments for education'



Identifying the 'nature' and 'nurture' effects

Estimating the influence of genetic endowments and environments is difficult. First, environments typically cluster together; e.g., higher educated parents tend to be more likely to be employed, have higher incomes and greater cultural capital, so it is unclear what may be driving the 'environment-effect'. Second, the genetic variation that is associated with education is correlated with environments that are shaped by your parents. For example, children with higher genetic endowments have parents with higher genetic endowments (children share 50% of their genes with each parent). These higher parental endowments may have driven parents to make different life choices, such as staying in school longer and choose like-minded friends. The environment – therefore partially driven by parental genes – is then passed on to children. This also implies that it is unclear what may be driving the 'genetic-effect' – is it genes or the parental environment?

We know from previous studies that firstborns, on average, complete more education than their laterborn siblings, with the empirical literature highlighting the role of parental investments as the main mechanism for this 'birth order effect'.

Indeed, firstborns have undivided attention until the arrival of the second child, with evidence suggesting they receive 20-30 minutes more daily quality time compared to their younger siblings. This highlights the well-known 'quantity-quality trade-off': with each additional child, it is more expensive (in terms of money and time) to maintain the same investments in children. We therefore use birth order as a measure of parental investments. Another advantage of using birth order is that it is random among siblings, whereas actual parental investments (for example the time spent with each child) is confounded with other characteristics such as socio-economic status.

The importance of the nature-nurture interplay for education

To look at the interplay between parental investments (associated with being firstborn) and genetic endowments, we use data on a sample of over 15,000 siblings from the UK Biobank. The use of siblings is crucial, as it removes confounding due to, for example, family socio-economic status, since this is identical between siblings. More specifically, it allows us to almost mimic a randomized experiment, where both birth order and genetic variation are randomly assigned between siblings.

We find that firstborns achieve 4.5 more months of schooling than their laterborn siblings, but firstborns with a high genetic endowment achieve an additional 2 months more education compared to their laterborn siblings with the same genetic endowment.

In other words, our results are consistent with the idea that additional parental investments are more 'effective' among those siblings who randomly inherited higher genetic endowments for education. This is also referred to as 'dynamic complementarity' in the economics literature: initial skills can raise the productivity of later investments. Our research therefore shows how genetic data

can be leveraged to test economic theories. Furthermore, our results argue against ideas of genetic or environmental determinism (the belief that one's behaviour is solely controlled by genetics or environments, respectively). Instead, genes and environment interact in important ways. Studying this interplay is crucial to better understand how nature and nurture jointly shape life outcomes. ◀

The research discussed here is based on: Muslimova, D. et al. (2021). Dynamic complementarity in skill production: Evidence from genetic endowments and birth order. Tinbergen Institute Working Paper 2020-082/V.

About the authors
Researchers Dilnoza Muslimova, Hans van Kippersluis, Niels Rietveld, Stephanie von Hinke and Fleur Meddens are (were) related to the Health Economics group within the Department of Applied Economics. It is one of the larger research groups of health economists in Europe. Core research topics include Health Inequality, Health Behaviour, Health, Work and Care and Global Health.



Marta Kubacka
International Bachelor Economics and Business Economics

'Knowing is not enough, we must apply'

On my last day

When I finish the way I will die, but who am I?

By: Jur Deitmers, Founder of ItsME



**'With incredible patience
my family, friends and
teachers helped me
to relearn everything
beyond the basics'**

As part of my Double bachelor in Economics and Philosophy of Economics I joined the Visiting Student Undergraduate Programme at Harvard University. On the day my friends and I were getting ready to go to Mexico to celebrate spring break, I wasn't feeling well at all. I considered my options, took a painkiller and hoped I would be good to go.

When we arrived in Mexico, my friend Kevin felt I was acting weird and figured I was dehydrated. He advised me to take a nap and went out to buy some water. When he received a text from me in the store to tell him I was at the Quad, a well-known building at Harvard, Kevin knew something was seriously wrong. He rushed back, only to find that I had left the apartment we had rented. Eventually, he found me on the street, dressed in nothing but jeans and socks. Kevin saved my life by taking decisive action, which resulted in me being admitted to hospital in Mexico.

Memory loss

The only thing I can remember is waking up in a hospital in San Diego where I had been taken while unconscious. When I came round, there were five people in the room. I was asked to identify my mum, but I had no clue; my memory had been wiped completely due to an inflammation of the brain, called Encephalitis. Everything I had learned in the twenty one years since I was born had vanished: I didn't know my name and had no concept of the most basic things everybody seems to take for granted.

What followed was a fight to stay alive. The standard treatment consists of a drug called Acyclovir, which is to be taken for three weeks and only then will it become clear whether the inflammation of the brain has gone or not. In my case it hadn't. The doctors were at a loss. They went out on a limb by trying an experimental treatment that had only been given to rats until then. Thankfully it worked for me as well.

There is still no consensus on best practice with regard to the follow up treatment of Encephalitis. The nightmare that followed upon my return to the Netherlands is a good example. In line with Dutch medical protocols, I was told there was no reason to continue the intravenous immunoglobulin (IVIG), treatment of choice for patients with antibody deficiencies. However, my immune system had apparently run riot and as a result another inflammation of my brain occurred. The US doctors now say they are almost certain this would not have happened if I had remained on IVIG. To overcome this second inflammation, I needed a massive amount of Prednisone. Normally, the maximum daily dose is 80 mg, but I received 1200 mg, which made me gain 50 kilos. The medication also caused severe depression. I have come

very close to taking my own life. This is something I want to share so others who may feel suicidal see that it is possible to reach a better place. Ending my life would have reduced the chance of a positive outcome to zero. It was this realisation that made me decide that whatever small chance I had to overcome my depression was worth fighting for.

Back to primary school

After being an ambassador for the bachelor Economics and Philosophy who was doing two studies at Harvard, I had to return to primary school. With incredible patience my family, friends and teachers helped me to relearn everything beyond the basics. Although I had maintained my languages, all connotations associated with words had disappeared. When my mother would ask me how I had slept, I would answer 'on my back'. Another less innocent example was my return to The States where the immigration officer at the airport enquired if I had packed my own bag. The answer 'no' led to me being escorted by some serious-looking men to a little room where it took a whole lot of explaining to get me on my way.

We may laugh about this now, but I have come a long way. It took about two years to relearn enough to enable me to finish my studies. I still don't have the implicit kind of reasoning that most of us have probably adopted unconsciously during their formative years. This became apparent when I went to an inspection of an exam I had failed. Without knowing my story, the professor concluded that it was clear I knew exactly what the subject was all about; I just didn't know how to communicate it. To my relief, this led to a better grade.

Who am I?

I am now able to consider my memory loss as a gift. In a way, I have had to reinvent myself. It is comparable to the puzzle about the ship of Theseus that philosophers like to discuss. Theseus, a legendary Greek hero, owned a ship that had a rotten plank, which had to be replaced. When more and more new planks were needed, this prompted the question whether this was still the same ship or a new one. According to my friends, the boat is still the same in my case, but the captain has changed direction. The new Jur is the result of deliberate choices. A friend told me: 'You are the old Jur's sympathetic twin, the one without the rough edges who was already there in the background.'

My bachelor thesis deals with one of the most existential questions in philosophy: 'Who am I?' John Locke says that identity is based on consciousness and memory. So what does that mean for me? Is there a real me? If John Locke is right then I am creating the real me by making memories. They range from simple things such as watching films with my siblings to more profound ones. During my recovery my parents have often mentioned the family holidays we used to take on the island of Vlieland. Recently, I was able to surprise them by showing up when my mum had agreed to go horse riding with her friends. I told her that we would go to a place that was even better for riding so we drove to the province of Friesland where we were joined by my father for lunch. When the waitress came with the bill she said: 'Here are your tickets, Jur.' At first my parents were baffled by the fact that she knew my name, but then they realised that the tickets were for the ferry to Vlieland. That was my way of saying thank you for all their support.

ITS
ME

Every year, millions of people are struck down by encephalitis or meningitis and it is a hugely challenging time.

Jur is able to tell the story, because he survived. But he cannot tell his life, for he has lost 21 years of memories. A second infection occurred due to lack of research. Would you like to help? Every little bit helps!

The power of WE is stronger than the power of ME.



It would be great if you support us.

The ItsME foundation

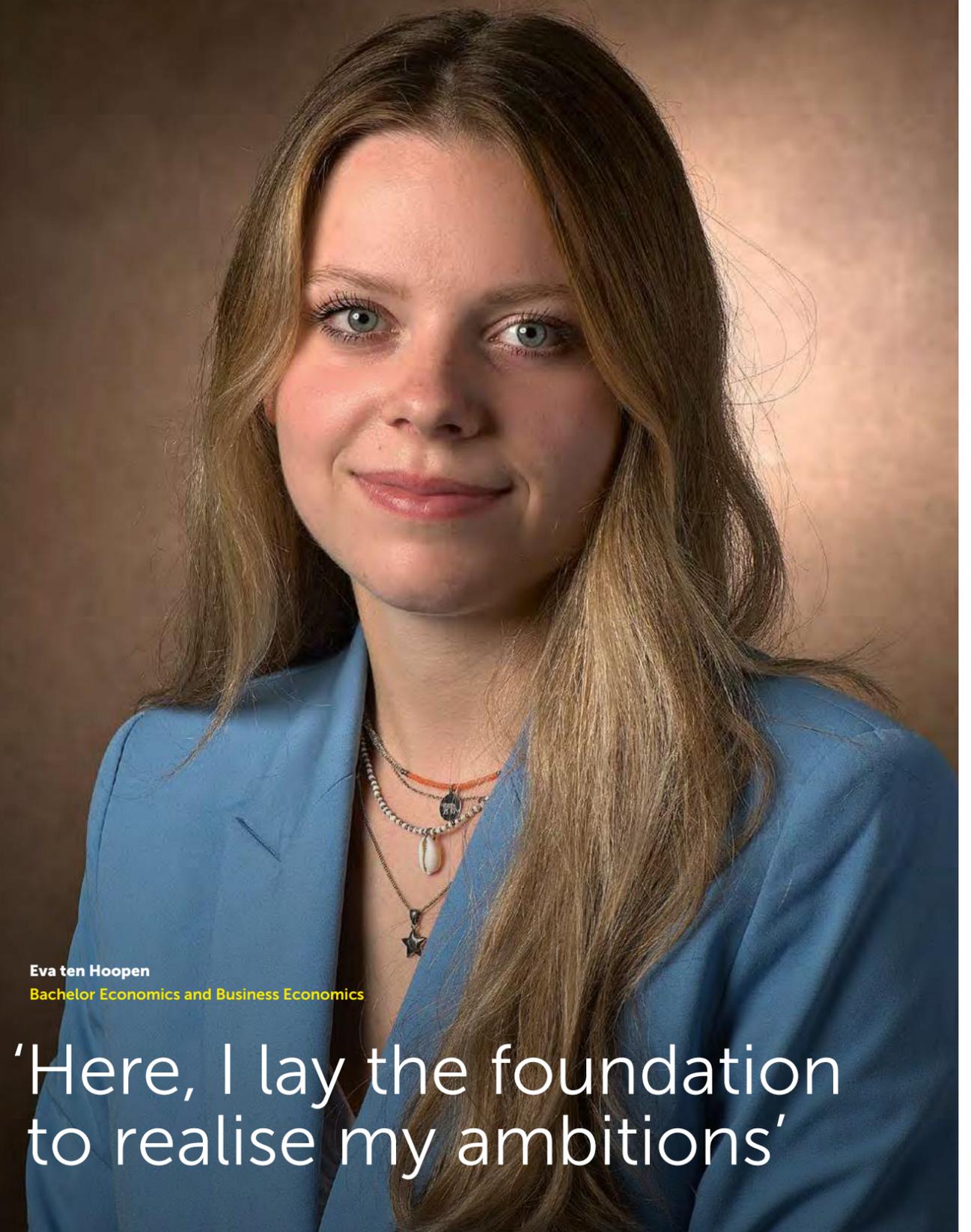
I am also very grateful to the medical teams that treated me. There is still a lot we don't know about this condition, but scientists lack enough funding for further research, which is astounding because every year 2.8 million people contract Meningitis of which 303,000 die. Encephalitis occurs in 6.5 million people every year and for 77,300 of them the disease is fatal. It is unknown what makes people susceptible to infection and best practice varies across the globe. I would like to play my part in raising enough money for groundbreaking research. That's where the ItsME Foundation comes in. We hope companies are willing to become Friends withME and make an annual donation. In addition, we organise events such as Walk withME, a Corona proof half marathon where 36 sponsored runners (including myself) recently raised 2,300 euro. Some of these research projects require budgets of over 100,000 euro so we still have a long way to go. It would be great if others can also organise (international) fundraising events for us because the power of we is stronger than the power of me.

The future

My advice for fellow patients is to focus on the future. There doesn't need to be a way back, there is a road ahead. The old Jur has troubled me by trying to make me go backwards, but the new Jur has taken a different direction. He is living independently, has a girlfriend, runs every day and is about to finish his Double bachelor Economics and Philosophy. He is planning to continue his studies with a Master in Politics, Philosophy and Economics. The old Jur aspired to a career in banking; the new one is going to make the world a better place.

Meningitis and Encephalitis (ME)

Meningitis is an inflammation of the membranes that surround the brain and spinal cord. Meningitis can be caused by a virus or bacteria. It is also called neck spasm. Jur suffered from Encephalitis, which is an inflammation of the brain itself that damages the nerve cells or the white matter of the brain directly. It can be contracted through a virus or bacteria. ◀



Eva ten Hoopen
Bachelor Economics and Business Economics

'Here, I lay the foundation to realise my ambitions'

Driving short sellers out of the market

By: Patrick Verwijmeren

Short sellers benefit when stock prices fall. In early 2021, large traders had substantial short positions in a company called Gamestop, an American video game retailer. Retail investors, who disliked these short sellers, coordinated through an internet forum to drive up the price of Gamestop. This stock price surge led to large losses for short sellers, with several of them being forced out of their positions. In recent research, I examine with Antonio Gargano and Juan Potes-Saladino whether losses to short sellers are common, and study more generally how these losses affect the efficiency of stock markets.

'The practice of short selling has been compared to buying fire insurance on your neighbours' house, because short sellers appear to benefit from other people's misery'



A short position in a stock leads to a profit when the stock price falls and results in a loss when the stock price increases. The practice of short selling has been compared to buying fire insurance on your neighbours' house, because short sellers appear to benefit from other people's misery. However, short sellers can also play a crucial role in financial markets by incorporating negative information into asset prices. When traders are not allowed to short sell, negative information might be underrepresented in stock prices and stock price bubbles may appear (in other words, prices might then be 'wrong' and new investors would pay too high a price for the stock).



Patrick Verwijmeren is Professor of Corporate Finance at Erasmus School of Economics. His research interests include capital raising, mergers and acquisitions, and investing in art.

Short sellers are typically sophisticated hedge funds. However, despite their sophistication, reports about short sellers' losses have appeared in the financial press, also before the Gamestop example. In our paper, we use a novel dataset to examine the U.S. stock-level and aggregate running performance of short sellers, and we test how this performance feeds back into their future activity. As most companies' stock prices increase in a typical year, random short selling is likely to lead to a loss for short sellers. Indeed, we find that

a short seller in a typical stock makes a loss, but we also find that many short sellers are good at selecting the companies they take positions in. Short sellers, for example, make sizable profits on the most heavily shorted stocks. Many of them thus

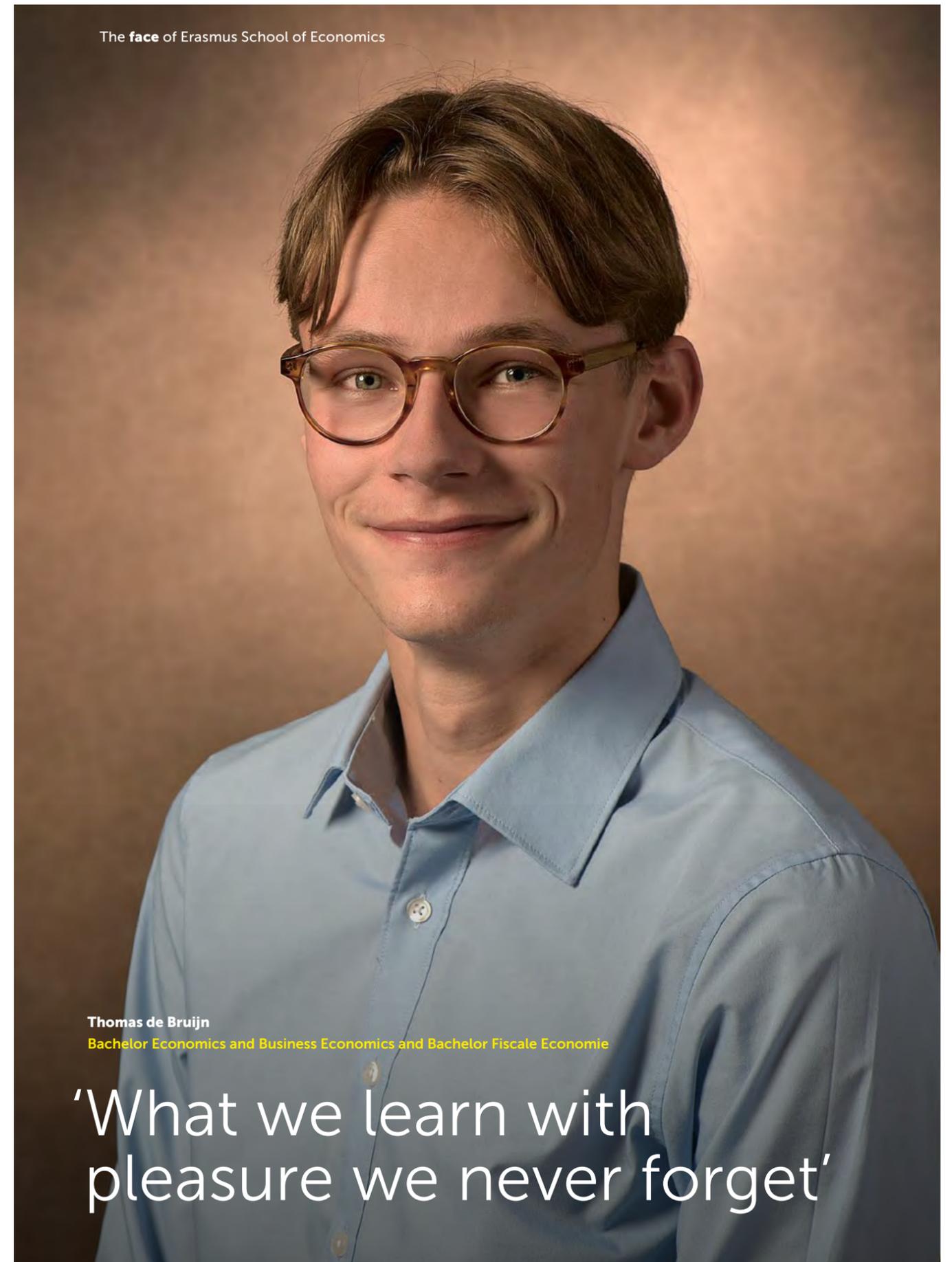
seem capable of predicting future stock prices, whereas other short sellers are confronted by losses.

Restrictions caused by losses

Do the (sometimes temporary) losses of some short sellers restrict them in their trading? We find that they do. We find that many loss-making positions are closed, especially when losses exceed 15%. This is in line with, for example, margin account regulations that require short sellers to deploy additional capital to maintain loss-making positions. The tendency to reduce short positions increases monotonically with the size of the losses. Short-selling constraints thus seem important in the U.S. stock market.

The final question we attempt to answer is whether the limits to short sellers hurt stock market efficiency. When loss-making short sellers are pushed out of the market, does this lead to prices being more 'wrong'? We conclude that prices remain accurate. It turns out that the short sellers who have experienced gains are also the ones that are skilled in predicting future stock price movements, indicating their sophisticated trading ability. The short sellers that experience losses are overall substantially less informed about future returns.

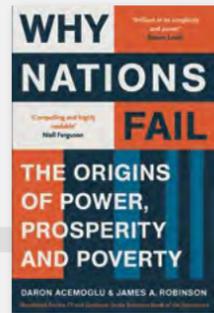
Hence, even though financial frictions can be pervasive, the short sellers they limit are the relatively uninformed investors, and we find that markets generally remain efficient when these short sellers are forced out of their positions. ◀



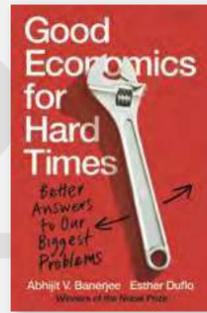
Thomas de Bruijn
Bachelor Economics and Business Economics and Bachelor Fiscale Economie

'What we learn with pleasure we never forget'

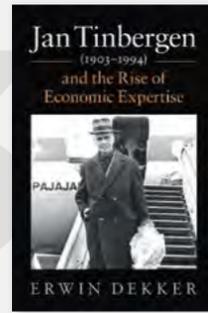
Books for on your nightstand



Why nations fail by Daron Acemoglu and James Robinson



Good economics for hard times by Abhijit Banerjee and Esther Duflo



Jan Tinbergen and the rise of economic expertise by Erwin Dekker

Students with their opinions in Het Financieele Dagblad



Quint Linderman on the student loan system in the Netherlands

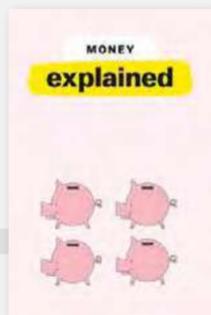
Are you a loan system student? That's too bad! According to Quint Linderman in his published opinion article, a quick back-of-the-envelope calculation shows that the compensation for loan system students amounts to less than a €950 discount on their student loan, which amounts to an overwhelming €19 per month; the same as receiving a free crate of beer a month.



Joep Schoenmakers on the future of the euro

Under the motto 'The euro, how to continue?', Het Financieele Dagblad held an essay competition. Joep, one of our former Master's Degree students in International Economics, wrote one of the top three essays and had his essay published! In his essay, amongst other topics, he addresses the raison d'être of the European Union.

Must-watch movies and series on the big screen



Money, Explained



The Big Short



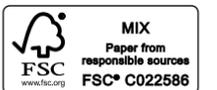
Margin Call



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