



WIRTSCHAFT.WEITER.DENKEN.

Hans-Matthöfer-Preis für Wirtschaftspublizistik

Award Ceremony for Prof Mariana Mazzucato

The Entrepreneurial State –
Debunking Public vs.
Private Sector Myths

Berlin, 22 February 2016



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Foreword

Kurt Beck

Former Minister-President of Rhineland-Palatinate, Chairman of the Friedrich-Ebert-Stiftung

At the latest since the onset of the financial and economic crisis of 2007/2008, it has become clear that the established models in economic theory – in particular, the so-called neoclassical mainstream – have reached their limits, along with many economic solutions built upon them. Leading economists failed to see the financial and economic crisis coming, while their policy recommendations have not succeeded in bringing a rapid and lasting end to the crisis, especially in Europe.

In connection with the many problems and challenges of our time – such as financial market stability, high unemployment in Europe, increasing inequality of income and wealth, globalisation and climate change – the neoclassical mainstream, in the eyes of many observers, does not seem to be offering suitable answers

and durable solutions. As we will see, this also applies to the question of the role the state plays in generating innovation and sustained growth.

In the course of 2013, against the backdrop of these developments, the Hans-und-Traute-Matthöfer-Stiftung (as part of the Friedrich-Ebert-Stiftung) decided to support the economic policy debate, which is – especially in Germany – increasingly one-sided in academia, politics and the media by offering a prize for economic writing to encourage greater plurality. A greater diversity of theories, pluralism of methods and interdisciplinarity of approaches is the only way to guarantee academic competition for the best economic ideas, models and policy recommendations for sustainable economic and social development.



The Hans-Matthöfer-Preis für Wirtschaftspublizistik "Wirtschaft.Weiter.Denken." honours economists and social scientists who look beyond the standard economic theory and the macroeconomic mainstream to develop new answers to the enormous economic and socio-political challenges of our time. Last year it was awarded for the first time. The recipient was the Scotsman Mark Blyth, professor of international political economy at Brown University in Providence, Rhode Island, for his book *Austerity: The History of a Dangerous Idea*.

As well as promoting historic and contemporary research, the Hans-und-Traute-Matthöfer-Stiftung concentrates on publishing books and texts on the fundamental problems of economic and social policy, economic and social sciences, technological development and its effects on humanising the world of work, and on society as a whole. The importance of social actors, primarily of the trade unions, communication of aspects of globalisation and contributions toward the development of the theory of social democracy are further priorities for the selection of projects.

The Hans-Matthöfer-Preis, endowed with €10,000, furthers the objectives of the foundation, which was established by Hans Matthöfer (1925–2009) – a popular SPD politician and trade unionist, who served as minister in several federal governments between 1974 and 1982 – and his wife, Traute. I am very pleased that we can again award this prize also this year, thanks to the financial commitment of the Hans-und-Traute-Matthöfer-Stiftung.

In the course of the nomination procedure in autumn last year, we received over fifty recommendations – from complete books to blog posts, columns, comments, reports and articles in newspapers and journals. In the name of both the Hans-und-Traute-Matthöfer-Stiftung and the Friedrich-Ebert-Stiftung, I would also like to express my sincere gratitude for this active participation. The large number of submissions and the strong positive feedback over recent weeks show that we are on the right track with this book award.

The following entries were shortlisted for this year's Hans-Matthöfer-Preis:

- Arno Rolf and Arno Sagawe: *"Des Googles Kern und andere Spinnennetze: Die Architektur der digitalen Gesellschaft"*, published by UVK Verlagsgesellschaft, Konstanz 2015;

Christian Kreiß: *"Gekaufte Forschung: Wissenschaft im Dienst der Konzerne"*, published by Europa Verlag, Berlin 2015;

- Annette Jensen: *"Nie wieder Müll"*, in *Le Monde Diplomatique*, 2015/3, p. 1, 20–21;
- Norbert Häring: *"TINA ist doof – 10 Wege für die EZB, Geld in Umlauf zu bringen ohne die Reichen noch reicher zu machen und die Armen den nächsten Crash ausbaden zu lassen"*, on his blog, <http://norberthaering.de> (3 Nov. 2014); and last but not least
- Mariana Mazzucato: *"The Entrepreneurial State: Debunking Public vs. Private Sector Myths"* (German edition: *"Das Kapital des Staates: Eine andere Geschichte von Innovation und Wachstum"*, published by Antje Kunstmann, Munich 2014).

From the five finalists, the winner was selected in an intense evaluation round by a panel consisting of:

- Dr. Brigitte Preissl, editor-in-chief of the journals *Wirtschaftsdienst* and *Intereconomics*
- Prof. Dr. Peter Bofinger of the University of Würzburg and member of the German Council of Economic Experts for Overall Economic Development, and
- Thomas Fricke, former chief economist of the Financial Times Germany, today chief economist of the internet portal *NeueWirtschaftsWunder* and chief economist of the European Climate Foundation.

I would like to thank them, too, for their commitment and involvement.

It was not easy for the award committee to come to a decision. In the end, however, it was clear: The 2015 Hans-Matthöfer-Preis für Wirtschaftspublizistik "Wirtschaft.Weiter.Denken." of the Hans-und-Traute-Matthöfer-Stiftung within the Friedrich-Ebert-Stiftung goes to Mariana Mazzucato, Professor in the Economics of Innovation at the University of Sussex, for *"The Entrepreneurial State: Debunking Public vs. Private Sector Myths"*, whose German edition was published by Antje Kunstmann in Munich in August 2014.

I think that the award committee has once again made an excellent choice. With its focus on the centrality of

the state in the process of creating innovations and sustainable growth, Professor Mariana Mazzucato's book is highly topical. She convincingly demonstrates that the assertion – heard again and again in academia, politics and the media – that free markets and smart, young, risk-tolerant inventors and venture capitalists are the only driving force for the economy to generate growth and wealth is simply not true. And nor is the claim that the state is just a nuisance that needs to be constrained.

According to the insights she provides, what we need is in fact an active state that assumes the role of an entrepreneur and risk-taker in the economy itself, namely in the development, experimental and learning phases where opportunities of new technologies and markets are still very uncertain and are, therefore, not used by the private sector. In that way, the state can make a significant contribution to the creation of new technologies and markets. It should, therefore, not restrict itself to setting the political conditions for effective competition in free markets – but instead use all of its facilities and instruments to foster the development of new technologies and the creation of new markets.

Mazzucato's book provides valuable ideas and impulses for sustainably shaping financial, economic and technological policy and the pending socio-ecological growth and transformation processes in Germany. Advancing digitalisation of all areas of life and the economy and the turnaround in energy policy ("Energiewende") are two technological areas that currently pose great challenges for politics, as well as for the economy and society.

The book also delivers valuable insights for ensuring a sustainable recovery from an economic crisis that has yet to be overcome in Europe. If Mazzucato's findings are correct, the European crisis states will not become competitive and overcome the crisis by means of austerity or private venture capital, but only if the state itself invests more in research and development, in human capital and innovations, and creates the necessary structures for a functioning innovation system. This is the only way to create the foundation for continued growth in Europe.

I am convinced that Germany's economic strength and success in Europe is not based on past belt-tightening and spending cuts, but came about because the German state in the past spent more on research and development than most of the other EU member states, and set up structures that facilitate "patient", state-sponsored

long-term financing of new technologies and markets and a close exchange between science and industry. To illustrate this kind of commitment, let me just mention the German Reconstruction Loan Corporation (KfW) and the Max Planck Institutes, which are valuable pillars of the German innovation system. Similar approaches and structures should also be developed in other European states to lastingly overcome the crisis.

I hope you gain valuable insights reading the speeches given at the award ceremony on 22 February 2016 at the Friedrich-Ebert-Stiftung in Berlin by Hubertus Heil, Member of the German Bundestag and Vice Chairman of the SPD Parliamentary Group, Dr. Brigitte Preisl, editor-in-chief of the journals *Wirtschaftsdienst* and *Intereconomics* and member of the jury, and the prize-winner Prof. Dr. Mariana Mazzucato.

Award Speech

Hubertus Heil, Member of the German Bundestag

Vice Chairman of the SPD Parliamentary Group

Our topic today is “The Entrepreneurial State”. That is the title of the book that the Friedrich-Ebert-Stiftung has chosen to receive the Hans-Matthöfer-Preis today. In it the author criticises – and rightly so in my opinion – the free-market liberal idea of the state, according to which the state should keep completely out of the economy in order to give market players the space to foster their creativity. Ms Mazzucato sees it entirely differently. She demonstrates that without an active state, there is considerably less creativity in the economy. The sheer dimension of the lack of creativity is shown in this book by her numerous and fascinating examples.

For us, and I mean German social democracy, the idea of an active state is certainly nothing new. The state and the economy – or more precisely the state within the

economy – is actually a permanent topic for us as social democrats. In our view, the state, as the authoritarian opponent of social democracy and the labour movement, was in the beginning an opponent that restricted the freedom of many citizens, at least of those without property or title. In its founding phase, social democracy saw the state mainly as an ally of those who economically exploited workers and others. Democracy primarily means for us to stop exploitation by political means. And, therefore, democratisation of state and government had become the primary objective of the workers’ movement. For us, democracy means giving power to those who would on their own be economically and politically weak. From our point of view, democracy – now as before – paves the way for economic emancipation of the working population. This was and remains the hope



Hubertus Heil, MdB, Vice Chairman of the SPD Parliamentary Group

of the social democracy. If you look at the present situation, then this is something that we have never fully achieved – something that sometimes has to be defended and sometimes regresses. It confirms the old saying that social democracy is a never-ending task.

Throughout the decades of political struggle for democracy, social democracy's understanding of what the role of the state should be within the economy, has, however, clearly changed. Democratisation also means that the state has increasingly become an instrument of social democracy's reform efforts – including economic reforms, of course. And when in 1969 Willy Brandt said the famous sentence "Dare more democracy", the focus was not only on the consistent application of democratic procedures to the state. There was more at stake. It was about democracy in all spheres of life, also within companies. They should definitely not be a democracy-free zone. The result was reforms that gave Germany strengthened co-determination legislation from which our country continues to benefit. That is what really matters. And for Brandt it was a matter of the precondition for true democracy, not just about securing civil rights and liberties. Ensuring social rights through social reforms is and has always been one of our main concerns.

One could, however, say that the social democrats' attitude towards the state is still quite ambivalent. We do not – I want to emphasise this strongly – seek an exaggerated role for the state, especially when it comes to individual freedoms and repression. We do, however, use it as an instrument to secure freedom from financial need. This was, by the way, also the lifelong concern of Hans Matthöfer, who died seven years ago and is still sorely missed. Matthöfer gathered practical experience of all aspects of the role of the state within the economy. As an internationalist social democrat, as a trade unionist, as a federal finance minister and also as a banker, he pursued the question as to the relationship of the state to the economy, and the economy to the state through a range of different approaches. And sometimes – it must be said here – the ways he explored were third ways.

I am sure that Hans Matthöfer would certainly have enjoyed Mariana Mazzucato's book. Hans Matthöfer, who was not only Finance Minister but also Federal Research Minister and later Post Minister in the first cabinet of Helmut Schmidt, would probably have nodded in agreement with many of her examples for a basic public role in research, technological development and infrastructure. I am sure that he could have added to the numerous examples from his own experience. Ms. Mazzucato's

recommendation that the state, as the biggest entrepreneur, should eventually claim its share of the profits from the ventures it initiates and supports would also have received the applause of Finance Minister Hans Matthöfer. For it offers a chance to provide answers to the question of how the state and society – rather than just a few individuals – may become richer and better-equipped for the future. And that during a period when many companies spend their scarce innovation resources primarily on tax avoidance innovations. Obviously, that remains a central motivation especially for large corporations these days.

Ladies and gentlemen,

As I have just mentioned, in her book, Mariana Mazzucato has looked for answers to old questions, namely for the opportunities of the state in the field of economy. But she does not content herself with familiar old answers (nor the simple answers of the left). Mariana Mazzucato knows very well that thirty years of economic radicalism – others might say neo-liberalism – have changed the structures under which the state is operating today. And precisely for that reason, as Kurt Beck mentioned, her book fits perfectly into our time. It discusses objectively, realistically and clearly the problems of the economic model that has been dominant for so long now. It is not so long since the zeitgeist, and its public perception, was completely different (and vestiges remain). The slogan "The interests of all are served when each thinks of himself" was the neo-liberal motto of the former chairmen of the FDP. In any case, mainstream opinion in public journalism – from the financial sections to the cultural pages – was that business was basically something from which the state should steer clear. In the glittering world of neo-liberalism, it actually went a step further. We learned that the state should only interfere – with the taxpayers' money, by the way – after the bursting of the bubble created by uncontrolled speculation. And I believe that the watershed of the crisis after Lehman Brothers in 2008 and the following years has once again confirmed that the state is not able to regulate itself, that markets cannot regulate themselves and that they cannot – in any case – rescue themselves in the event of a crisis.

What we are experiencing in the twenty-first century is an economic system that is very crisis-prone. And with that, I now come directly to Mariana Mazzucato's book, for we are experiencing – not for the first time – that the economy does not function as a perfect market in the real world. The market has always needed a strong state in order to consistently produce good results. In Germany, this has actually turned into something that we call the social market economy. It is the practical im-

plementation of a successful balance between state, market and society. But we have subsequently deviated from this model – sometimes more, sometimes less. This must be admitted in a spirit of self-criticism. Our historical experience is that strong growth and healthy companies have always needed a competent and sometimes even path-breaking and stimulating state. This insight, too, has not always been uppermost in the thoughts of the country's economic movers.

As social democrats, when in government, we have always made efforts to ensure a competent and effective state, also at the present time. Today, we know that a dangerous imbalance occurs if the state withdraws from its entrepreneurial role, and if what we have is actually no longer a lean state but a starved state. And that is exactly what we are experiencing in Germany today, on a very practical level. For years, too little has been invested in our country; in the public sector as well as in the private sector. And a lack of investment also means a lack of innovation. Especially at this moment, our economy and our society urgently needed greater innovation. In brief, it could also be said that we are in a position where we still have robust economic growth with 1.7 percent for the current year in spite of all the political and economic upheavals that we have been experiencing. And thank God, domestic demand in Germany has risen throughout the years due to the high level of employment. On the other hand, however, we have special factors that actually ought to lead to strong investment in Germany: low oil price, low interest rates, weak euro.

But we do continue to see, and this has been going on for more than ten years, investment rates in both the public and private sectors that suggest that our economic success is consuming its base. And therefore, the debate you have sparked – on the role of the state in private-sector investment and in innovation – is of the utmost topical relevance. In this context, sustainable energy generation and clean mobility can be mentioned here as examples. Our state must both activate the markets and independently provide fresh impulses. The state certainly cannot become – and now I am also warning against exaggerations – the biggest investor in the economy, while private companies cherry-pick innovations, raking in huge profits.

For such misallocation of functions, you, Professor Mazzucato, offer a whole series of examples, too. In this context, I would like to quote an especially interesting example. For all of those here who use an iPhone and believe it to originate from the genius of Steve Jobs, Professor

Mazzucato reveals the true story in a chapter charmingly entitled “The state behind the iPhone”. When developing the iPhone, Steve Jobs and Apple were able to profit from numerous state-sponsored investments in new technologies. The iPhone has become conceivable and implementable after the internet was developed through governmental funding. And by the way, allow me to remark in this context, substantial parts of that were military research in the United States of America. And furthermore, GPS for instance or touchscreen displays and other technologies would never have emerged without public intervention. And if we wish to highlight the German contribution to the development of the iPhone, then it is the constantly increasing memory capacity – such that applications which previously required a PC can now be run on a phone. And this development originates not from Silicon Valley but from the research centre in Jülich in North Rhine-Westphalia. If Steve Jobs truly made a revolutionary contribution, it is that he recognised the power of these technologies, combined all these technological advances and research findings with a team of designers and technical pioneers to make an iPhone together. Or as he put it himself at the presentation in 2007, he had actually only pieced together “one more thing” from it.

A very good German example for the interaction of state and market as innovation provider is the subject of the turnaround in energy policy (“Energiewende”). It is much more than shutting down nuclear energy. The turnaround in energy policy is based above all on the rise of renewables to become the most important energy source. And let us be honest: without a ground-breaking government decision concerning the promotion of renewable energy solutions and without energy research (which received, by the way, a big push from Hans Matthöfer), energy generation would not be revolutionisable. It must, however, be urgently revolutionised. We are in fact faced with a double energy revolution. On the one hand, doing without nuclear energy and, on the other hand, the realisation of very ambitious climate protection goals in a highly industrialised country. Without the state – in this sector – taking initiatives through targeted stimulation, we never would have progressed so far. And, as I mentioned earlier, we are far reaching the end of the road. But, of course, this is a field where the state, acting not alone but in cooperation with old and new energy providers, appears as an innovator. The fact that an industrialised nation of the size and strength of Germany has chosen this route is not only a positive development for us, it can also encourage other industrialised nations all over the world to actually follow our example. If we are successful; if not, by the way, the opposite will be the case.

These examples show that the state can push and promote major innovations. And ladies and gentlemen, the capital of the state is – and this is exactly what the book stresses – not simply the creative potential of homo oeconomicus. No, the capital of a country consists of a strong and capable state. A state which is able to implement democratic decisions. A state which has the resources to prepare the ground for investments and may even make its own. A state which can operate profitably on a solid foundation. An indebted state is generally a weak state. And – as Kurt Beck has also pointed out – a social democrat like me can find many tasks and goals for a capable state.

I would like to emphasise one task in particular. And here, it is not just a question of technical innovations. Our country is facing tremendous political and social challenges, the biggest challenges since German reunification. Last year, approximately one million people came to us. Most of them fled their homes because of political violence, war and persecution. And I am convinced that our country and our state need to be capable of acting strongly and competently to cope with this challenge and, furthermore, to master it with innovative solutions. Yes, we can even emerge stronger from the current situation if we are able to resolve it, and if it is possible to manage the double integration that is now necessary. I say double integration, in the sense that the task is to ensure that those refugees who stay in the long run actually become citizens while at the same time holding our society together in this process. This is double integration and, in fact, requires – in many ways – a pro-active state.

We can do a lot to ensure that the refugees who stay here permanently become skilled workers rather than simply welfare recipients. This will not come about in the free market alone but can be created by a capable state that – together with a strong economy and strong society – ensures social cohesion. It is, however, the state that must now become active beyond the housing question and the next steps towards integration. If it is true that the central locales and issues of integration have something to do with the teaching of language and opportunities for education and vocational training, access to employment and communication of values, then this is not something that occurs automatically on the free market but rather where we need a capable and powerful state. Let me give you some facts and figures which illustrate this impressively: Due to the movement of refugees in the past year alone, 320,000 additional school-age children came to us last year. Our education planning in the federal states anticipates so-called demographic returns, as decreasing students numbers release the means to improve the quality

of the education system. Now, we know that these plans must – in many respects – be discarded. In view of these 320,000 additional pupils, we need an additional 24,000 teachers just to maintain the quality of education in the coming year. In fact, it must become much better. And those teachers must – first of all – be trained. At the same time, the “debt brake” will hit the states hard in 2019. I do not want to reopen the ideological questions about which tier of government should be responsible. The states should remain responsible but I firmly believe that without a concerted nationwide effort by federal government, states and local authorities, we will not only experience difficulties in the integration of the refugee children but there will be competition for resources between them and the children who are already in the school system.

This is a profound demonstration of why we need not only a strong but probably a stronger state in these times. This is a question of social cohesion and, furthermore, a question of economic common sense, if we – as I already said – want these children to become productive members of society rather than – for lack of opportunities for further education – welfare recipients. So, we need a strong and capable state. And I think that there are two important conditions for success. The first requirement is that our economy continues to be successful. I said before that we have a robust economy. Imagine if we had to cope with this great challenge during a period of economic weakness and social instability. At the moment, budget surpluses mean we can still afford a great deal. But this also has to do with the fact that we still have, despite the many risks, an economically successful situation with growth of 1.7 percent and a very, very high employment rate. We must, however, do everything to ensure that we continue to be economically successful in this process. And, therefore, it is necessary for example to ask what we have to do to encourage investment in the central areas of our economy.

I would like to choose just one example, not only because I am from Lower Saxony where one significant company is hitting the headlines with some troubling news. The burning question is: Will we still be the leading supplier in the field of mobility and automobiles in ten years? Or will digitisation mean that the value added will be at Google rather than Volkswagen? And will we still be a leading supplier of these technologies if we miss the opportunity to promote new systems, particularly with regard to electromobility? We therefore need an active economic and structural policy to ensure that investments take place in the crucial areas that we simply must not miss. I firmly believe that we are currently still resting

too much on our laurels. Yes, it is true: Germany is the strongest economy in Europe, with value chains, mainly industrial value chains that others have not even heard of, with an industrial share of as much as 22 percent. But this is, as already mentioned, no reason for complacency. Because the fact is that the development is continuing. And, taking the car industry as an example, measures are needed now to ensure that we will still have value added and jobs in Germany in this sector ten years from now.

This is the first prerequisite: we need to stay economically successful. The second is to ensure that we are financially viable, that we build on a sound finance policy that opens up opportunities, to invest all the more in social causes, in particular to integrate immigrants. And therefore, ladies and gentlemen, for us, a modern, a capable state is far from being a bureaucratic know-it-all. It is first and foremost a mover and enabler. We, that means politicians and the state, do our part; businesses do theirs. This is my idea of a good and efficient division of labour. That said, the citizen of an entrepreneurial state may also expect something along the lines of a return on investment – and also this is emphasised in the book. The minimum return is that the businesses that benefit from state investments also pay their fair share of taxes for the outlays made by the state and the society. This funds good kindergartens, schools, apprenticeships and training, universities, good infrastructure and also a decent social community. And the state and its society can also expect that profits realised in Germany will lead to new investments, and that the desired consequence of smart state investment policy is not the hoarding of profits and the dominance of dubious financial products.

The social democratic aspirations regarding a successful interaction of state and economy are based on the creation of clean technologies for resource-conserving growth with many good jobs and a high quality of life. And Mariana Mazzucato is right in pointing out that today's innovations do build on yesterday's. As a rule, it is all about incremental progress and not disruptive development. It is also right – this is her insight – that it is only logical that, as the flipside, profits should be distributed on a larger scale. By the way, this is what last year's laureate and this year's laureate have in common. This entails that we also must consider the distribution of profits in the sense of social welfare. That is our social democratic idea, to turn technological and technical innovation into social innovation as well. Not profit for the few, but prosperity for all, is our motto. So in short: the state must not be drained financially either, as we experienced in the past, but has to remain financially viable. And I believe that this is

something, a concept that interestingly enough is slowly gaining acceptance even with conservative finance ministers, even if it sometimes takes a little longer. Anyway, in the meantime, we are making progress in the EU on at least getting a common assessment basis for business taxation. I know Kurt, we have fought for this for years. Slowly but surely this is gaining momentum, and this is maybe a sign of hope that even in Europe people realise that we need a capable community where they cannot be played off against each other by international corporations. But looking at the current news coverage, there is still some work to be done.

Ladies and gentlemen,

To make a long story short: we are facing many challenges in the area of economic policy. New forms of mobility, renewable energy, genetic research, nanotechnology, smart factories, industry 4.0 – all these developments already have repercussions on our economic activity and on our way of living together. They influence our way of life. As I have already said, in our history, for 150 years now, we have always wanted economic and technological progress to turn into social progress too. That has been the goal since the beginning of social democracy. At a time when others still believed they could halt technological progress and attacked the mechanical weaving loom in Silesia with axes and hammers, it was the social democrats and trade unionists who adopted a different approach, who wanted to change the conditions through political struggle so that progress for a few would become progress for many or even all.

In the twenty-first century, we are facing this task again in many different respects. We are, in the interest of social progress, of the opinion that we should also harness the capital of the state, as laid out by Mariana Mazzucato. And I believe that the award committee has made the right choice in giving this forthright and intelligent woman the prize for this forthright and intelligent book that we can boil down to an old motto that we have to adjust just a little bit, namely to Karl Schiller's famous contribution to the Godesberg Programme: as much market as possible, as much state as necessary. But the emphasis lies on: as much state as necessary. And not: as little as possible. Ms. Mazzucato, please accept my warmest congratulations. We wish you every success with your book. I have read a great deal about the book and I read it myself. It is inspiring and I can recommend everyone to read it. We wish you great success in your research work, which we are convinced is of political relevance. Congratulations on the Hans-Matthöfer-Preis 2015, thank you very much for your attention.

Laudation

Brigitte Preissl

Editor-in-chief of *Wirtschaftsdienst* and *Intereconomics*, Member of the jury

The introduction to the book chosen for the Hans-Matthöfer-Preis für Wirtschaftspublizistik 2015 is titled “Doing it differently”. With an enthusiastic “yes” on my lips – for new ideas in innovation policy are rare – I read on and was not disappointed.

As I weighed up the different submissions, I always found myself returning to *The Entrepreneurial State*. Not least because this book teaches lessons – illustrated by many examples – that, all of a sudden, seem so obvious but also bear a certain whiff of outrageousness. This is clearly reflected in the English title “*The Entrepreneurial State*”: someone wants to turn the state into an entrepreneur. Did we not all – first and foremost the economists but also politicians, the media and even the essayists – unconditionally accept that being an

entrepreneur is not one of the state’s many tasks? That innovation is the preserve of the market?

The topic is innovation, and just as innovation is generated by “thinking differently”, Mariana Mazzucato develops her findings from a thorough analysis of innovation processes from which she derives her conclusions in an utterly unbiased fashion – quite contrary to common practice.

A glance at her biography shows that the institutions she selected for her research work are known for excellence, unconventional thinking and critical approaches. At the same time, they are points of attraction for researchers, guaranteeing intense intellectual analysis of accepted doctrines. They include: the New School



for Social Research in New York and the Science Policy Research Unit (SPRU) at the University of Sussex, where Mariana Mazzucato has held the Chair in the Economics of Innovation since 2011. SPRU has been one of Europe's leading centres for technology and innovation policy for decades. Ms. Mazzucato's membership in a whole range of advisory bodies fostering the innovation policy in Europe also underscores that her book was written for political decision-makers as well as the academic community.

But how does Mariana Mazzucato's work fit into the context of innovation research?

It has been known for a long time that innovations are generated and realised systemically. Cases in point are Nelson and Winter on innovation systems in the 1980s or Spielkamp and Vopel on innovation clusters in the late 1990s. These works, marking an important section of innovation research, identified the actors who participate in successful innovations. However, the division of work among them, the tasks of the individual groups in the course of the different phases of the innovation process, were never truly examined. This gap is closed by the works of Mariana Mazzucato. In the book under review, *"The Entrepreneurial State"*, the role of one actor, namely that of the state, is put in focus. With her research and with this book, Mariana Mazzucato fits seamlessly into the ranks of important innovation researchers such as Richard Nelson and Sidney Winter, Bengt-Åke Lundval, Giovanni Dosi and Christopher Freeman, and Franco Malerba.

What is the essence of this different story of innovation and growth? By means of many new examples, as well as examination of the history of previous technological innovations, Mazzucato shows how the ground-breaking scientific progress leading to many fundamental innovations initially came from state-funded laboratories and research centres. This is true for the internet and search engines, the iPhone, wind energy, the development of widespread pharmaceuticals, and nuclear power. The list of examples is long, with each element making the central argument even more convincing: The state has to play a role that goes far beyond repairing market failure.

If the idea of a fast growing and innovative Europe is to be credible, a lot needs to be "done differently". It is true that public-sector research funding is generally in place and an essential element of European innovation and technology policy. Nevertheless, and that is what

the book shows so strikingly, the way the state promotes research is as important as that it does so at all.

In traditional models, the state interferes if – and only if – a market failure occurs. And economists have internalised this, along with politicians and the general public. But they overlook the great development potential that could be tapped if ideological paralysis was overcome and the state assigned the tasks it can deal with best. In the case of radical new technologies that undergo a long development process with uncertain outcomes, the state has to become a visionary. It can and should take large risks when it believes in a decisive new idea and wants to foster it. As Mariana Mazzucato would say, it is not about repairing markets but rather creating markets and jumping in where neither companies nor venture capitalists are willing to assume the risks. This requires, however, the state to believe in its own creative function – a leading position in the growth process rather than an accompanying one.

This fundamental misunderstanding blocks the emergence of a policy adequate for the innovation process – also in Germany. Basic research is being scaled back, as support concentrates on prospects of market-ready products. It often seems to be forgotten that research requires patience and time, must be conducted without preconceived outcomes, involves the risk of failure and, for this reason, needs the state as an actor. This is what Mariana Mazzucato's book reminds us. Her examples give a clear rebuff to an industrial policy that focuses on the demand for innovative products.

However, here vision of an entrepreneurial state does not stop at the call for spending a little bit more money here and little bit less there. Instead, an entirely different European innovation promotion is outlined. This implies, among other things, a partnership between companies and the state: if the state assumes the risks of basic research, then it should also receive a share of profits – if the relationship is not to be parasitic. A partnership in which the state is responsible for certain phases of the innovation process, namely the creation of a viable technological basis that the companies develop into marketable products and services, includes appropriate participation of the state in the benefits. This could then be invested in new research projects, as Mariana Mazzucato suggests.

Two brief examples illustrate how current this entire concept is and how necessary this book is for a forward-looking policy: Today in Germany, support measures

for electric cars are being discussed, whether to subsidise their sale with several thousand euros per vehicle. How have we landed in such a situation? Apparently, the companies have not been able to develop the technology in such a way that the production costs allow a competitive market price. In the 1970s and 1980s, a lot of money was invested in battery research. However, as breakthroughs tailed off, the oil price fell and drivers got used to higher petrol prices, the enthusiasm ended. Research institutes were closed and electromobility was postponed. How would these processes have continued if the insights from *“The Entrepreneurial State”* had already been available? I would be very interested to know how Ms. Mazzucato evaluates the innovation process that was supposed to foster electromobility.

If the lessons presented were taken seriously, we might see a different policy in another field, too – and this example is mentioned by Ms. Mazzucato herself. She asks: Does it make sense to impose austerity on the southern European crisis countries, placing austerity policy above everything, exactly at the moment when attempts are

made to give the economy a further boost, for example, by setting up an innovative industry? But this would probably require too much “thinking differently” by economists and a “acting differently” by politicians in addition to an entrepreneurial state that is ready to expose itself to the risk of “policy learning”.

Ms. Mazzucato, we thank you very sincerely for this book.



Acceptance Speech

Mariana Mazzucato

Professor in the Economics of Innovation at the University of Sussex

Thank you to the two foundations: the Friedrich-Ebert-Foundation and the Hans-Matthöfer-Foundation for awarding me this prize. Matthias Kollatz-Ahnen, Finance Senator of Berlin, told me how important the work of Hans Matthöfer was to bringing the trade union movement together with the scientific community – connecting the world of work with the world of new knowledge creation. This is a rare feat, and a central one if we are to renew the economies of Europe, creating the kind of jobs that can enrich the soul and, as the Commission's strategy puts it, deliver smart, inclusive and sustainable growth.

Today in Europe, our problems are very serious. We faced a financial crisis which turned into an economic crisis. And the solutions we are coming up with show

that we also face a crisis of the imagination. This latter crisis lies in the limited way we think about policy making and the range of options that are available.

Let's start with the role of the State. Traditionally, economists talk about the state's role in the economy in terms of "facilitating" and "derisking" the private sector, or "creating the conditions" for growth, and "fixing" different types of "market failures". Or – and this is the term I don't like – "leveling the playing field" – so that all the interesting, dynamic and creative things can actually happen. ... Where? In business, obviously.

So imagine you are a really smart young graduate thinking about the kind of job you'd like to do. You have a choice: you could choose this facilitative, de-



Mariana Mazzucato, Prize winner

risking role, creating the conditions for others to do great things; or you could join the edgy, creative dynamic business and be part of the action in doing those things yourself. ... It's not much of a choice and it leads to a self-fulfilling prophecy, and a very dangerous one: the less able we are to talk about public institutions as exciting, visionary, active, courageous or mission-oriented, the less people want to work in them. Of course there are many talented people working in government. But the state's grey image is not a great recruitment tool. Instead of always blaming government for being too bureaucratic we should think more creatively about how to nurture dynamism in organizations within government enabling them to become learning organizations that welcome exploration, trial and error and thinking out of the box.

Contrast this with how we think about large, potentially bureaucratic, companies. We don't say they should get out of the game; we tell them that they must rejuvenate, become nimble again. There are textbooks, for example, called *"Rejuvenating the Mature Corporations"* because we know that, sometimes, big companies get too inertial, narrow minded, and slow. But this does not then result in us thinking that large companies should be gotten rid of or "cut". Rather they translate into new prescriptions for reform, for capacity improvement and regeneration.

Of course we know that public organizations can also get bureaucratic and slow. But instead of deciding that this means they should be "cut" and made to look more like the private sector (through new public management), we should apply new insights about public value and capacity building in public organizations. On the other side, when we do have public organizations that are strategic, bold and courageous – whether this be the BBC or a public bank like the KfW – we often hear they are "crowding out" the private sector, daring to enter into areas that are supposedly for the "market". We also hear they should not be so bold to make strategic decisions and choices around particular paths – they should not "pick winners" but just set the scene for possible winners. And if choices are made, anxiously wait for those choices to fail for getting that failure is part of the learning process.

When "active" public organizations are told they are "crowding out" the private sector – the underlying assumption is that the market is a fixed size, and only a part of it can be interfered in by a public organization. In particular, the state should only intervene when there are specific "market failures", for example in cases of "public goods", like basic research. This sounds positive – due to the word "good" – but it is a limited perception. It is only when certain conditions exist, different types of positive and negative externalities, that the state is allowed to step in and apply its bandages. If it gets too ambitious and courageous, there are calls for it to step back.

But what is the market? The market itself should be understood as an outcome of the interactions between different types of private agents, different types of public agents, and of course those forces in civil society that have always been important for shaping markets. Public organizations are therefore co-creators of the market, not just interveners. The sociologist-economic historian Karl Polanyi, in his book *"The Great Transformation"*, written in 1944, provides us with an understanding of how policy was key in creating what we consider to be the national capitalist market. Indeed, he writes "Administrators had to be constantly on the watch to ensure the free working of the system". Yet economists ignore this lesson and like to see the market as something out there that works perfectly and just needs to be fixed now and then.

This limited way of considering the role of the state means that we are not equipped to properly evaluate the role of public organizations when they do create and shape markets. It also means that we don't train civil servants to think of their role as market creators.

In my book *"The Entrepreneurial State: Debunking Public vs. Private Sector Myths"*¹ or in its German translation, *"Das Kapital des Staates"*², I set out to debunk the myths of public and private actors. I concentrated on the many instances in which it was public institutions that were critical for the high risk investments that later led to revolutionary technological changes – indeed all the technologies that make our iPhones smart and not stupid were publicly funded: the internet, GPS,

1 <http://marianamazzucato.com/the-entrepreneurial-state>

2 <http://marianamazzucato.com/projects/the-entrepreneurial-state/das-kapital-des-staates/>

touchscreen and SIRI. While these are technological examples, there were also bold policies on the demand side. The mass production revolution would not have had the effect it did without policies around suburbanization. Yet not one word in that great book about Steve Jobs tells you that. A very biased story telling indeed. And Plato was right: storytellers rule the world. We must begin to tell, and learn from, different types of stories.

Developing a theory – and being able to tell the “stories” – of the public side of market creation is vital to enable us to build the kind of dynamic public and private partnerships we really need today to face societal and technological challenges from climate change to the ageing/demographic crisis. My goal is not to downplay the role of the private sector, because getting that part of the story right is vital too. But we already know a lot about the private part of such partnerships; we are told about the importance of business everyday. But the theory about the public side is missing and is a key reason that these kinds of public-private partnerships are often quite lame, without much direction and dynamism. To reframe the conversation between business and government, I believe we must begin to see the state as an active risk taker, a co-investor, together with the private sector, and if we ask it to socialize the risks, we must also find new ways to share in the rewards.

In Europe, we often look to Silicon Valley for lessons we can apply to our own countries. Take Matteo Renzi, a Social Democrat. Renzi went to learn from Silicon Valley. But what did he bring home? He brought back ideas only about how to reform labor markets, making them more flexible through the Jobs Act. But actually Silicon Valley had little to do with labor market reforms – it had to do with new ways for public and private actors to work together along the entire innovation chain, to create wealth.

So what did happen in Silicon Valley? And what are the lessons for understanding what is happening today in countries that are putting innovation at the center of their economic plans, as in China, Germany, Israel, Finland and Denmark?

First, there was a decentralized network of public actors who were committed and active across the whole innovation chain – not just in basic science and basic research. While basic research is vital – and indeed is a classic “public good” (due to the high spillovers which make it hard for the private sector to appropriate the

returns) – the state’s role went beyond this early stage. Public agencies were actively investing in applied research, facilitating the feedback loops between basic and applied research, and even investing in the early seed stage of individual companies.

Downstream investments are key because innovative companies – those really taking risks and often failing in their quest to break new ground – don’t need just any kind of finance. They need long-term, patient, committed finance. There is a myth that there is not enough finance around. There is plenty of finance – the problem is not the amount, but the type of finance available, which is too often short-termist and speculative. Even venture capital with its exit-driven model has caused many firms to issue stock too early, leading to problems in industries like biotechnology. So the patient commitment shown by public agencies in the US across that whole innovation chain is very important.

Second, the public agencies that were involved – from NASA and DARPA to the CIA, which has one of the biggest public venture capital funds – were critical: the CIA in fact funded research that developed the touchscreen display; the Natural Science Foundation (NSF) was behind Google’s algorithm; the National Institutes of Health (NIH) have funded something like 75 per cent of the most radical new drugs – new molecular entities with priority rating; the Small Business Innovation Research (SBIR) program which directly funded businesses including Compaq and Intel.

If we look at the websites of some of the organizations I have just mentioned, they don’t describe themselves as fixing a little problem here and there – they “think big” along different types of missions. Missions are concrete problems that require new thinking by different types of sectors. Going to the moon was a very large problem that required a dozen sectors to interact in new ways. It was indeed an exercise of the imagination, opening new worlds of possibilities. We need an equally willing imagination today to tackle new types of technological and societal problems. This is not about supporting specific sectors, but getting sectors to think differently and inspiring the most innovative companies in those sectors to work together in new ways. It is, however, not just about the public sector “enabling” those companies, but also making the early stage capital-intensive investments that risk-averse companies are not willing to make. This indeed is what happened with biotech, nanotech, and is happening today with the greentech revolution.



Prize winner Mariana Mazzucato and Kurt Beck



While it is true that many of the investments I discuss in my book were results of the military industrial complex, key lessons were learned in health and energy. The National Institutes of Health aim to transform the opportunities for life sciences by solving very important problems in health. And ARPA-E, DARPA's sister organization in the Department of Energy, is central to the US' government agenda around climate change – and very recently beat the private sector in making a very important breakthrough in battery storage.

This insight into the mission-oriented nature of successful public sector organizations is key to understanding another important lesson: how they managed to attract top talent. ARPA-E was set up by a Nobel Prize winning physicist, Steven Chu, who was directing the Department of Energy in 2009. Indeed, the stimulus program of the US government at the time was very much “green” directed. And while such large stimulus – which yes could have been larger – might cost public money in the short run, it is the key to long-run growth. Such investments in human capital, technology and research increase productivity, stimulate new sectors, and eventually increase GDP, so that even if the deficit rises, the debt/GDP ratio is kept in check. Focus on the denominator not the numerator!

It is not a coincidence that the Department of Energy was run by a high level scientist. When you have these mission-oriented programs, it is an honor to go work in government. There are other lessons in how these organizations are set up – DARPA, for example, is well known for paying attention to organizational dynamics, using secondment to bring people in for four to five years, telling them to welcome failure as an intrinsic part of the innovation process. In a recent book I wrote on mission oriented programs, there is a great quote by the ex-Director of ARPA-E, Cheryl Martin, on how the organization measures its success. She said they measure it by the amount of risk they were willing to take (with failures being inevitable in this process), and whether the successes actually “mattered”.

Unfortunately, such strategic public organizations, willing to take risks, today are under attack. ARPA-E is told to step back and do more basic not applied research – focus only on the public good problem. In the UK, the BBC is under attack. Why? Because it dares to make soap operas and talk shows, and doesn't only make documentaries or quality news. Yes it is precisely because it dared to widen its web and to invest in different types of formats, and in the process invest in its

own capacities and capabilities, including IT and scientific knowledge, that it has been so successful. Indeed, it was one of the first producers of the personal computer (the BBC Micro), and today is the producer of the most innovative online platform for broadcasting: the BBC iPlayer. It invested in its capacity, rather than outsourcing it, as so many government institutions do today. Outsourcing may be fine for catering services, but when it hits the brain of an organization it reduces its ability to operate with vision, as it makes it harder for it to even understand future social and technological opportunities. It loses what we call in the innovation literature (but only applying it to private companies) “absorptive capacity”.

Indeed, the danger of austerity is not so much in the short-run budget cuts, but in the implications for the de-skilling of the public sector, and its ability to recruit when the missions have been stripped away, and all we hear is how civil servants are too slow and bureaucratic, or what David Cameron shockingly said in 2010: they are the enemies of enterprise.

There are key lessons here for the Eurozone. The US preached the free market and the invisible hand while using a very visible hand of the state in its quest for smart, innovation-led growth. Within Europe, Germany also says one thing and did another. Germany claims to operate a policy of austerity and liberalization. But what does Germany actually do? It has patient, long-term, committed finance – which many European nations don't have – through a public bank, the KfW. It has a web of different institutions, fundamental to its national system of innovation, through the Fraunhofers and the Max Plancks. It has, not only, higher than average R&D spending, but a mission-oriented Energiewende policy. This means not just picking one green technology, off-shore wind or solar; but having a vision on how “green” can become a new direction for the whole economy – transforming production, distribution, and consumption. This offers a new direction for the country. Can this be replicated today in the rest of Europe with the limits that are being imposed through the Maastricht Criteria and indeed the political and social pressures coming from Germany itself? Of course not.

We should also remember that if the state is directly investing in new technologies, sectors and missions, it will also fail. For every Internet there are many Concorde. Any venture capitalist will tell you this is not only normal but must be allowed. But while the ven-

ture capitalists make a big buck from their successes (after many failures), this has often not been allowed in the public sector. We let governments bail out the banks – socializing the losses –, but when those banks start making money, the profits are privatized. The same is true in the world of innovation. Tesla is given a guaranteed loan of \$465 million. It went well, Tesla kept the profits. Solyndra is given a \$500 million guaranteed loan. It went bad. The tax payer picked up the bill. And complained. Did the tax payer know he/she also financed a success? No. Should they? Yes! This is important both for the “marketing” campaign of government (to be shown to be able to make good choices, while also inevitably failing now and then) but also to find new creative ways to fund future innovation – through a revolving fund.

In other words, the public sector should be able to directly benefit from the upside, not only to de-risk the downside. We pretend this can happen through tax, but we all know the tax system is not only not working very well (Google and Apple which benefitted immensely from public funds, pay very little tax) but also tax was not set up for government as investor – only government as spender.

So yes we need to rethink the taxation system – and Thomas Piketty I think has some good ideas on that – but also consider some other tools, to allow the public to benefit from its investments. Whether this be via equity, income contingent loans, or retention of a golden share of the patents that are generated – one can decide on a case by case basis. But I find it a scandal that the public school system in Silicon Valley has not benefited from the public investments that made Google, Facebook, and Apple very, very rich. Indeed, the welfare state and the innovation state should be working more closely together.

There is another issue that has dominated and distorted economic debate in Europe in recent years: austerity in the name of deficit reduction. This is the wrong goal and is incredibly damaging. Italy has had a relatively low deficit for twenty years – surely often lower than Germany's. At the same time Italy has suffered the lack of public and private investments that increase productivity and GDP. As a consequence the GDP part of the debt to GDP ratio has failed to grow for almost two decades. Why? It has lacked the kind of dynamic mission oriented public investments I have been talking about. Yet the recipes we are hearing about from the Troika, for Italy, Greece and Spain do not contain this

advice. We don't hear: dynamize your public sector. We only hear: cut the number of workers and salaries in that sector. We don't hear: increase your mission-oriented investments. We only hear: cut spending. And so on. Of course the battles in countries like Italy and Greece are big, and we should not underestimate the kind of public sector reform needed, but what kind of reform are we actually talking about? Is it being driven by a view that this sector is key to growth – in terms of future investments and learning capacity? Or only part of the problem and hence must simply be reduced?

So let's change this obsession with debt numbers to instead focus on the opportunities that shape the long-run growth of a country. How public and private sectors can work together to finance directly – not just indirectly through tax incentives – those opportunities that really push the market frontiers. Let's understand what we are talking about when we talk about the market. The market is an outcome; an outcome of the interactions between different public and private actors. Today we have a crisis with the actors involved – a crisis in the increasingly financialized private sector (focusing only on stock price, and also hoarding at record levels) and a crisis in the public sector, which is being asked to step back and block its vision and imagination. Secular stagnation – much talked about – is in no way inevitable, it is an endogenous outcome of this fall in public and private investments, and the increasingly narrow character of those investments. This is a huge problem, which we should be facing together. But we must start by debunking this cartoon image of what the government is by challenging the idea that the state is – at best – just a bureaucratic referee, facilitating a game for others to play.

I am delighted to accept the Hans-Matthöfer-Preis. I hope it might help kickstart a more honest conversation in Germany and in the rest of Europe about the policies that have led to its economic success, so that the periphery countries can learn the right lessons. Thank you.

Award Ceremony Programme - 22 February 2016

Presentation of the Hans-Matthöfer-Preis für Wirtschaftspublizistik „Wirtschaft.Weiter.Denken.“ 2015 to Prof Mariana Mazzucato

The Entrepreneurial State: Debunking Public vs. Private Sector Myths

3:00 pm	Musical Prelude: High 5 Brass Quintett
3:05 pm	Welcome Address Kurt Beck , former Minister-President, Chairman of the Friedrich-Ebert-Stiftung
3:15 pm	Award Speech Hubertus Heil , Member of the German Bundestag, Vice Chairman of the SPD Parliamentary Group
3:45 pm	Laudation Brigitte Preissl , Editor-in-chief of "Wirtschaftsdienst" and "Intereconomics", Member of the jury of the Hans-Matthöfer-Preis für Wirtschaftspublizistik "Wirtschaft.Weiter.Denken."
	Presentation of the Hans-Matthöfer-Preis für Wirtschaftspublizistik „Wirtschaft.Weiter.Denken.“ 2015 to Prof Mariana Mazzucato
4:00 pm	Speech of the prize winner Prof Mariana Mazzucato , Professor in the Economics of Innovation at the University of Sussex
4:10 pm	Musical Postlude: High 5 Brass Quintett
4:15 pm	Closing