When celebrating the 50th anniversary of the Nobel Prize for Jan Tinbergen, a natural question that comes to mind is: to what extent are the ideas of Jan Tinbergen still relevant for Erasmus University Rotterdam today, half a century after he was awarded the first Nobel Prize in Economics?

As time does not allow me to reflect upon the entire breadth of his work, I have selected a few key themes in his work to focus on today.

(PART 1)

Let me start with his early work on business cycles, which was what brought him the first Nobel Prize in Economics. As we have seen in the video, Tinbergen received the prize together with Frisch for their pioneering work on econometric model building, and in particular for “having developed and applied dynamic models for the analysis of economic processes”. Holding a doctorate in mathematical physics, Tinbergen was among the first to apply mathematical and statistical
techniques from physics and other disciplines to economic data and models. Econometrics was born. And Tinbergen further extended this basic framework for econometrics to a system of equations. By including all relations and phenomena combined with actual data, he tried to unveil the dynamic properties of the Dutch economy and to understand the mechanisms that caused business cycles. An exceptional achievement: for the very first time, the economy as a whole was modelled.

One could say that Tinbergen changed economics from a rather discursive discipline into a model-building discipline. And it is this innovation on which many scholars, both here in Rotterdam, as well as worldwide – have built their work. In fact, over the last decades, the economics discipline has witnessed an increasing share of scholars working on applied econometrics research topics, showing that Tinbergen’s approach of quantifying economics is more alive than ever before.
His quantification of economics, and the empirical estimation of economic relationships, was highly innovative at the time. After Tinbergen won his NP, an editorial in the *New York Times* praised their scientific contribution, but with the explicit warning that (and I quote) the “pressure of mathematical precision can sometimes separate economists from real problems that cannot easily be quantified.” Those journalists could not have imagined how current research has continued the tradition of Tinbergen, and how economists nowadays quantify pretty much everything. **KLIK SLIDE ➔ news headers**

A quick look at the website of Erasmus School of Economics tells you that in our school we do not only study topics like crises, unemployment, poverty and inequality, but we even study questions related to the performance of soccer teams, cannabis and other drugs, and household garbage disposal.

These are only a few examples of the progress that has been made in the economics discipline: in addition to improved and extended model-building, and more sophisticated econometric methods, the range of topics that is being modelled has extended since Tinbergen, in part
because of new research lines like behavioral economics and experimental economics that have become important fields in our discipline – and in our university – over the last half century. ** KLIK

SLIDE ➔ black screen **

Also, another important development in the economics discipline since Tinbergen is that more and better data have become available. Although his work marks the conception of the quantification of economics, Tinbergen had to work with very little data available in the 1930. In fact, his data were usually limited to annual figures going only 10 years back. But he was very much aware of all the existing interrelationships in an economy. And he argued that, because of the complexity of these relationships, researchers should always continue studying and broaden their perspective. For example, he argued that poverty, war, environmental change and pollution are the main problems facing the world. Alleviating poverty requires economic growth, but growth puts pressure on the environment. This interrelationship, which he put forward half a century ago, is still a struggle nowadays, think about the current nitrogen crisis in the Netherlands. Investigating such
interrelationships is exactly what I do, and many other colleagues with me, in my research. Thanks to the increased availability of data and computing facilities, in particular having access to ‘big data’ on all Dutch inhabitants, we can learn much more about a wide variety of relationships in society. We can study the consequences of certain policies or interventions on a wide array of economic outcomes; and moreover, we can even study spillover effects on other life outcomes (such as health, or crime) or effects on future generations that may indirectly be affected by the policy or intervention. All in the spirit of Tinbergen’s view on economic interrelationships, but with new dimensions added to it.

It goes without saying that his impact on the research that is being done here in Rotterdam is not limited to econometrics, but also spans to many other fields. Think for example about his ideas on the income distribution (i.e. enriching models with heterogeneous or different types of labor, and the race between education and technology), or on international trade (i.e. gravity model, 1962), which are at the core of many research lines as well as part of the Economics curriculum here at EUR.
Although it was his work on business cycle models that brought him the Nobel Prize, there is another feature of his work that deserves some special attention here. And that is: his vision which was the main driving force for his research. His scientific work was always inspired by the desire to solve social problems he observed. **KLIK SLIDE ➔ ENGAGED WITH SOCIETY**

Witnessing the problems of severe poverty and high unemployment in the post WWI-Netherlands, had a huge impact on Jan Tinbergen. During his time in Leiden he was invited to join a local mailman on his round, which brought him to the poorest neighborhoods in Leiden. He was horrified by the utmost poverty in which the population lived. Much later he said: “I felt the existing inequalities among people as an injustice but was told it to be something that could not be removed without a better knowledge of the structure of society” (Tinbergen, 1970). It was his sense
of responsibility for society that was one of the most important motives to change subjects to economics.

The socio-economic problems resulting from the Great Depression reinforced his belief that economic research might be more useful than physics research, and made him to start his work on business cycles. In fact, “statistics and mathematics in the service of business cycle research” was the topic of his inaugural address he held here in Rotterdam in 1933. Although there had been some work on business cycle research, Tinbergen felt that the descriptive studies were too vague to be useful for defining policies, and this was the reason he initiated a more quantitative oriented research line to explore potential economic causes for cyclicality in economic activity.

A bit later, when Tinbergen was appointed the director of the CPB, the Netherlands Bureau for Economic Policy Analysis, in 1945 we again see his strive to solve social problems, when he concentrated on some pressing macro-economic problems (like low levels of employment and
severe inflationary pressure) that the Netherlands experienced in the aftermath of WWII.

Some years later, in 1951, made a trip to India Tinbergen realize that problems elsewhere in the world were much more pressing than in industrialized countries, and he moved to the field of development economics. It is safe to say that his urge to improve societal problems was not limited to his own direct environment, but stretched even to global challenges in society. **KLIK SLIDE ➔ WORLD CITIZEN**

For Tinbergen, the quantification of economics was not just a profession; it was his mission to make the world a better place. In this respect, Tinbergen surely would have been so excited to see Prof. Esther Duflo and co-authors win the NP in Economics for her work that addresses day-to-day problems of poverty of those people in the most disadvantaged position in the world.

This strong social engagement is something which is also currently highly valued at EUR, as mentioned in the new Strategy. However, the
extent to which ‘impact’ directs our academic research is somewhat different. Tinbergen’s research agenda was driven by (and I quote his own words) “Solving the most urgent problems first”. Although he did acknowledge that research has to go through the basic fundamental stage, for him the end product (i.e. impact) mattered most and this determined the type of fundamental research that needed to be done. In this respect, the research that is being done here at EUR is somewhat different from Tinbergen’s approach. Although, in this university we have many examples of studies that address pressing problems in society and we subscribe the importance of positive societal impact, the first and foremost driver behind our academic research is the aim to answer the big questions in economics, at the frontier of research using state-of-the-art techniques. And it is this approach that makes science move forward in little steps. But luckily, and perhaps not surprisingly, many of our research projects have clear social impact, as each small step forward often comes with new insights on “what works” (or what might work) in dealing with various societal challenges.
Apart from his socially relevant research, Tinbergen adopted various other strategies to make the world a better place. For example, he was involved with the establishment of various new institutions, such as the Netherlands Bureau for Economic Policy Analysis (CPB) and the Social and Economic Council of the Netherlands (SER) that can assist in providing input for defining economic policy to address problems related to poverty and inequality. This rather entrepreneurial approach can also be found at Erasmus University Rotterdam, where the ‘Make it happen’-concept is embraced in various aspects of our core business. Think, for example, about innovative teaching practices like our MOOCs, but also the recent focus on diversity and sustainability issues. Without doubt, Tinbergen would have loved this ‘make it happen’-mentality.

About a decade after having received the Nobel Prize, Tinbergen outlined four guidelines for scientific work (Tinbergen, 1979):

- minimize dogmatism and subjectivity: which we would call being open-minded
- work in interdisciplinary teams; ** KLIK SLIDE \rightarrow CONNECTING**
  Tinbergen connected mathematics, physics, statistics and economics.
- remain as close to empirical data as possible
- and, address the most pressing problems (as I mentioned earlier)

Combined with the other main features of his work I mentioned before, I think you are about to see which picture emerges here. ** KLIK SLIDE \rightarrow \textit{woorden verdwijnen, andere ballen verschijnen} **

These are the university-wide values that are listed in the new EUR Strategy \textit{“Creating positive societal impact”}. ** KLIK SLIDE \rightarrow \textit{“Creating positive societal” impact verschijnt} **

This list of values illustrates that the mission that motivated Jan Tinbergen in his work is still reflected in the current mission of our University. Having said that, it made me wonder whether the title of our Strategy shouldn’t have been ** KLIK SLIDE \rightarrow \textit{TINBERGEN WAY} ** ‘The Tinbergen way’. I’ll leave this this as an open question for you to discuss during the drinks that follow after this ceremony.
Thank you.

References

