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The Rise and Fall of the Oslo School²

Abstract

In 1931 Ragnar Frisch became professor at the University of Oslo. By way of his research, a new study programme and new staff he created the "Oslo School", characterised by mathematical modelling, econometrics, economic planning and scepticism towards the market economy. Consequently, detailed state economic planning and governance dominated Norwegian economic policy for three decades after WWII.

In the 1970s the School's dominance came to an end when the belief in competitive markets gained a foothold and the economy had poor performance. As a result a decentralized market economy was reintroduced. However, mathematical modelling and econometrics remain in the core of most economic programmes.

JEL classification: B23, B29, B31, B59, O21, P41, P51

1. Introduction

The main purpose of this presentation is to tell the story of how Ragnar Frisch founded the so-called Oslo School in economics, and secondly, to outline the main features of this School and investigate its major influence on the Norwegian post-war economy. Also, the presentation aims to tell the story of how the School was challenged, the following downfall, and what is left of the Oslo School today.

2. Background

At the end of the 1920s and the beginning of the 1930s the world economy broke down. Prices were falling, production declined and unemployment increased to a formerly unknown level. The monetary system failed and the gold standard was abandoned by

¹ Unfortunately our good friend and colleague Tore Jørgen Hanisch passed away on January 15, 2006.

² Previous editions of this paper have been presented at the 9th Nordic Meeting in the History of Economic Thought at Stockholm University, 25-27 August 2006, and at the 29th National Research Meeting for Economists at University of Tromsø, 4-5 January 2007. Two anonymous referees are acknowledged for their careful reading of the paper and constructive criticism improving the presentation.

most countries. According to many, although not all, the market economy and capitalist system had gone bankrupt. As a consequence there was a transition from a relatively passive and organised state to a more active state with more explicit responsibility not only for economic development but to a large degree also for social and cultural development. The breakdown of international trade in the 1930s saw a return to widespread protectionism. But an important feature of the development was also the increased use of direct market regulations and increased acceptance of cartels to secure profitable prices. The great depression changed the attitudes of politicians, academics and ordinary people. Market regulations were commonly accepted, to an increasing degree encouraged by the authorities and partly accomplished by law. In the last-mentioned case the regulations implied an important curtailment of contractual freedom. Direct market regulations played an increasingly important role in the Norwegian economy from about 1930, first in agriculture, then in fisheries and as time went by in other industries.

The crisis put the trust of the economic profession to a serious test. In the economic situation at that time the economists could not claim that everything would turn out well in the end if development was left to the market forces - in line with classical and neo-classical theory. They were faced with the question of how the activity level of the economy could be influenced to conquer unemployment. The most extreme alternatives were communist, socialist or fascist planned economies. However, John M. Keynes (1883-1946) had presented another solution, which was later called "the mixed economic system". This was a system where production still was in a private market regime but where the state played a much more important role than under economic liberalism. It included an active state within the framework of a democratic and liberal constitutional state. Keynes did not want to do away with the market forces or private initiative, he just wanted to secure that the market economy again could function satisfactorily. Freedom of trade and commerce based on private ownership of the means of production should continue to be the institutional foundation. Other economists and politicians in Western Europe wished to go further in the direction of planning and state governance. They envisaged a relatively high degree of state control over the means of production to secure efficient production and at the same time obtain what they saw as a just distribution of goods among social groups.

The world economic crisis hit Norway more severely than most other European countries. Production decreased and unemployment reached levels that had not been seen before. As an example GDP per capita fell by more 8 % in 1931 and during the winter of 1932-33 unemployment across the entire labour force was more than 15 %. Prices were according to the consumer price index reduced by about 50 % during the period 1920-34.³

In the beginning of the 1930s not only the Norwegian economy was at low ebb. This was also the case for the status of economics as a science. The economic profession had not come up with any realistic solutions to how the country could manage to come

³ Grytten (2002) pp. 5-6.

out of the crisis. Economics as a science was looked down upon by both politicians and business people.

Traditional economic policies did not give the expected results, in fact policies of increased saving and tightening of state budgets made the situation worse. The use of the price, trust and cartel regulations that were passed by the parliaments in the 1920s, and which aimed to secure free competition and market prices, did not have the intended effects.⁴ According to the liberal economic journal *Farmand*, the use or abuse of these laws interfered with the markets to such an extent that they contributed to worsen the crisis.

Politicians especially on the centre-left side of the political spectrum began to work on the development of an alternative policy to alleviate the crisis based on the new ideas about economic planning and a strong state. In particular, the circles in the Labour movement and the Labour party were central in the efforts to work out a new policy to combat the crises. Inspired by what they believed were the good results from the 5-year plans in the Soviet Union, they claimed that it was only possible to bring the Norwegian economy out of the crisis through planned economic governance, with a strong state that played an active and decisive role in society. One of the central documents in the crisis programme prepared by the Labour party was Colbjørnsen & Sømme (1933) '*A Norwegian Three Year Plan*', which sketched a framework for economic growth where the sweeping themes were economic planning and a governance system with considerable corporate features.

The Labour party came into power in 1935 on a programme which went far in the direction of central planning and government control. However, the party did not have the majority in the Parliament, and as a result the possibility of carrying out its programme was limited.

Under WWII the elements of state administered resource allocations increased in most countries, including Norway, and they were far more extensive than under WWI. Norway introduced quite strong price and quantity regulations in the autumn of 1939 and these regulations were further developed during and after the Nazi occupation. During the war numerous plans for post-war reconstruction had been proposed. The Labour party and the trade unions wanted to maintain the war regulations and on this basis develop a democratic socialist planned economy. However, here it should be emphasised that there were circles within the trade unions that went far in the curtailment of democratic institutions. In particular, this was the case of the trade unions in exile in Great Britain and Sweden.⁵

The 50th year celebration of the Norwegian Economic Association in 1933 released a debate among economists as to what extent the low esteem of the profession stemmed from a crisis in the science itself or could be found in an abuse of the science among economists. The reputation of economics had according to many economists, been hurt

⁴ The new '*Price Act*' passed by Parliament in 1920, the '*Unfair Competition Act*' in 1922, and the '*Act Controlling Trade Practices in Restrain of Trade* (The Anti Trust Law) in 1926.

⁵ Stenersen (1973) pp. 81-91.

by economists who had participated in the political debate and misused the science in areas where it should not have been used. Among outsiders there was, however, a tendency to claim that there was a crisis in the science as such. They pointed out that the science could not be used to find solutions to present-day problems.

According to Bergh and Hanisch (1984)⁶, this debate took place at a time when both the economy and economics as a science showed signs of improvements, and in the next 10-20 years the status of economics and its position in the public policy-making would gain a reputation it never had before. The great breakthrough came in the years just after WWII, when not only the economic theory and models but also the economists gained a central position in economic policy. This 'revolution' was brought about by the new great economist Ragnar Anton Kittil Frisch (1895-1973). With him Norwegian economists got a new leader.

3. The Rise of the Oslo School

Ragnar Frisch was the only child and was predestined to take over the family's jeweller business. He chose to study Political Economy at the University of Oslo because at that time it was the shortest study programme. In 1919 he graduated with distinction. The year after he also completed his apprenticeship, passed his examination and became a certified jeweller. His study of economics must, however, have caught his interest. In the course of the next years he used most of his time to study economics, mathematics and statistics abroad. He stayed nearly three years in France, and visited Great Britain, Germany, Italy and the United States. In 1925 he became the research assistant of Professor Peder Thorvald Aarum (1867-1926), who at this time was in charge of a research programme in production theory. Consequently, Frisch gained a firm foothold in the school of empirical science oriented Norwegian economists in the tradition of Anton Martin Schweigaard (1808-1870), Torkel H. Achehoug (1822-1909), Oskar Jäger (1863-1933) and Aarum. In 1926 Frisch defended his doctoral thesis at the Faculty of Mathematical and Natural Sciences. His dissertation '*Sur un problème d'économie pure*' was an attempt to develop an axiomatic foundation of utility as a quantitative notion to measure statistically variation in the marginal utility of money. The year after, Frisch received a three-year Rockefeller Scholarship and went to the US. He became an associate professor at the University of Oslo in 1929 and professor in 1931 when the University, after receiving extra funding from the Parliament, created a chair for him in economics and statistics. In 1932 he became one of the two directors of the new Institute of Economics at the University of Oslo.

During the 1930s Frisch participated actively in international economic activities and conferences and he published continuously. He was among the small group of initiators, who, in 1931, established The Econometric Society. In 1933 he became the first

⁶ Bergh and Hanisch (1984) p. 145.

editor of *Econometrica*, a position he held for more than twenty years. When the Nobel Memorial Prize in economics was created in 1969, Frisch was awarded the prize, which he shared with Jan Tinbergen for their development and application of dynamic models in the analysis of economic problems.

According to Bjerkholt (2000) a confluence of circumstances led to the foundation of the University Institute of Economics in Oslo in 1932. As mentioned, Frisch had been appointed professor of economics and statistics in 1931 by an unusual act by the Parliament. This was a result of the decisive efforts by the two professors of economics Ingvar Brynhjulf Wedervang (1891-1961) and Oskar Jæger. They lobbied both inside the University and vis-à-vis the politicians in the Parliament.

Wedervang and Frisch had in 1930 written an application to the Rockefeller Foundation for financial support for the establishment of an Institute of Economic Research. This application was granted, on the condition that Frisch would be one of the directors. Frisch then made the decision to decline an attractive offer of a tenure professorship from Yale University. Thus, the outcome of the events had, according to Bjerkholt⁷ ‘a major influence on the career of Ragnar Frisch as well as on the development of empirical social science in Norway’. He might have added that it had a major influence on state economic planning and the economic development of post-war Norway as well.

As professor of economics and statistics, and as one of the directors of the Institute of Economics, Frisch started his grand project of bringing economics as a science out of ‘the fog’. He fought against what he called ‘fictional economics’ and his enemies, who were many at the time, belonged to what he called ‘the unenlightened plutocracy’⁸. He believed that economic theory had to be based on mathematical models and quantitative analysis. The new economics should be shaped in a precise mathematical language. Mathematics gave a greater precision and a much better control over the assumptions. It was only with mathematical models that it could be possible to carry out complicated analysis and reasoning. Increasingly he advocated that the market economic system should be replaced by a new administrative system for a scientific utilization of the country’s resources. He promoted these ideas with enthusiasm, genius and force.

Based on the strength of the new study programme and his new staff at the Institute of Economics, Frisch soon managed to brush all resistance aside and create a new economic direction or school, the so-called Oslo School within economic research and teaching.⁹

The Oslo School can in our opinion be characterized by the following elements:

First, and before anything else, it introduced quantitative methods into economic teaching and research by extensive use of mathematics and statistics.

⁷ Bjerkholt (2000) p. 6.

⁸ In the Norwegian language ‘uopplyst pengevelde’.

⁹ According to Berg & Hanisch (1984) the term ‘Oslo School’ was probably first used by the economist Ole David Koht-Nordby in his review of the book *Hva krigen kostet Norge* (What did the war cost Norway) in the Oslo newspaper *Verdens Gang* 22.09 1945.

Second, the tools of mathematics and statistics were used to test economic theory and economic models. This contributed to the establishment and further development of the important discipline called econometrics.

Third, within a few years the concentration on the development of national accounts and national budgets and macroeconomic planning models took over and dominated economic research in Norway.

Fourth, it was marked by an increasing scepticism to the use of market forces to obtain an efficient allocation of resources and distribution of goods. The importance of the interest rate as a price on capital and the relationship between interest and liquidity was rejected. For this reason, macroeconomic planning systems with detailed and selective policies vis-à-vis branches of industries became a major characteristic of this school.

Last but not least, Frisch and his colleagues showed very little interest in the international debate about the feasibility and efficiency of centrally planned economies that took place in the Western world and they did not see any reason to make their students aware of this debate.

There can be no doubt that these features of the Oslo School made it different from other contemporary directions in economics e.g. the Stockholm school or Keynesian economics.

Through his foundation of the Oslo School, Frisch created a revolution in Norwegian economics. However, change did not come without serious conflicts. Frisch was applauded, but he was also met with opposition both from outside the university and from his own colleagues within. It was in particular his view on mathematical economics that was harshly attacked. A great deal of the fight was concentrated on the new study programme in economics.

There was a general agreement that a fundamental revision of the old two-year programme in Political Economy was overdue. The new five-year study programme in Economics was primarily the work of professor Wedervang. Wedervang is considered one of the great profession builders in Norwegian economics. He was, as already mentioned, behind both the Parliament's decision to create a new chair in economics and statistics at the University of Oslo in 1931 and the foundation of the new Institute of Economics in 1932. Furthermore, he was behind the University's decision to appoint Ragnar Frisch to this new chair and the decision to appoint him as his co-director at the Institute of Economics. Finally, he was in the forefront when the preparations for the new five-year study programme in economics was started in 1934, and also when the Parliament decided to establish the Norwegian School of Economics and Business Administration in Bergen in 1936.

Wedervang wanted to build on the old two-year study programme in Political economy, and at the same time introduce new subjects such as business economics, sociology and economic and social history. It should also, in his opinion, include more use of mathematics. However, the outline of the proposed programme created heated discussions among the university economists. When the new study programme was

approved in 1936, it was, according to Berg & Hanisch (1984) just as much influenced by Frisch.¹⁰ The new study programme in economics had been changed into a programme with strong emphasis on the use of mathematics, statistics and mathematical models and analysis.

The reactions against the dominance of Frisch were sharp and the discussion about the content and structure continued. As a result, a new committee was appointed to revise the study programme the year after it had been launched.

There was, however, no organized opposition against Frisch. The reason was that the important and influential people had opposite views. Professor Wilhelm Keilhau had wanted a combined study programme in law and economics. Wedervang had opened for more mathematics but warned against going further than necessary in this direction. The hardest attack came from Associate Professor Thomas Sinding. At the end of 1938, in a meeting at the Association of Norwegian Economists, he raised the question about the Frisch dominance. He questioned how far the use of mathematics in economics would carry, and claimed that economists should be very careful in the use of mathematical logic. He talked respectfully about the research Frisch and his associates carried out, but, in his opinion, it was to go too far to accept that Frisch should decide the content of the studies for all Norwegian economics students. He proposed that there should be different specialisations within the study programme. Here, Frisch could have his direction and the other parts of the studies could be constructed on the basis of the needs expressed by business, and what the students could manage.

Sinding's view was partly supported by Wedervang and Keilhau, but again, according to Bergh and Hanisch (1984)¹¹, this had no practical consequences. Frisch continued to dominate. Sinding, thereafter concentrated his efforts on the teaching of economics for law students. But more important than his isolation, was the fact that Wedervang in 1937 accepted an offer to become the first rector of the Norwegian School of Economics and Business Administration in Bergen. After he moved the dominance of Frisch was absolute.

Wedervangs absence was supposed to be temporary, but became permanent. Frisch managed to fill this and other positions with his own students as research assistants, on a temporary basis. Wedervang's chair was not filled until after the war. In 1947 Johan Einarsen (1903-1980), a strong supporter of Frisch, was appointed and when another Frisch disciple and supporter, Trygve Haavelmo (1911-1999), returned to the university after the war, this became a turning point. From this point onwards Frisch and his disciples completely dominated both teaching and research in Norwegian economics.

The last representative of the old school, who had been and still was in opposition to Frisch, was Professor Keilhau. He was a well-known public figure in Norway in the 1930s and 40s. As a member of many economic commissions established either by the Parliament or the government he had substantial influence on economic policy. He was

¹⁰ Berg & Hanisch (1984) p. 146.

¹¹ Ibid p. 148.

the chair of the *Monetary Committee* established by the Parliament before the war and he was a member of the *Norwegian Bretton Woods delegation* after the war. Keilhau showed both as an economist and as an author of books in economic history, and through his contact with important business people that he was on the sideline of the Oslo School and the new economic environment at the University.

Through the research that was carried out, and the new study programme Frisch was soon surrounded by many students and disciples. The first batch of students from the new programme graduated in 1938-39. In the Institute of Economics building, behind the old University building in the centre of Oslo, Frisch managed to create a genuine environment with himself as a kind of a 'house-master'. The new graduates created their own association and the gulf between the old and the new generation could also be seen in the Nordic collaboration in this field. The traditional Nordic meetings continued, but from 1936 they were supplemented with meetings for younger economists. The new economics got an image of its own both professionally and politically. The newspaper *Arbeiderbladet*, which was the organ for the Labour party, reported from the Helsinki meeting in 1937, where economic planning and social policy was the topic: "Nordic economists are radicals."

Frisch promoted his influence through his lectures but also through his own research. He involved many students, not only economists but also actuaries and mathematicians, in his research. He had a large staff of students and colleagues around him. The traditional independent research method was also to a large extent exchanged for large collective research projects. It was the creation of the Institute of Economics that made this possible. The Institute was financed from private sources until 1945 and had an ambitious programme.

Two professors, in addition to Ragnar Frisch, played an important role in the developments of the Oslo School: Trygve Haavelmo (1911-99) and Leif Johansen (1930-82).

Trygve Haavelmo had joined Frisch as a research assistant already in 1933. From then on he and Frisch worked closely together only interrupted by the war. In 1938 he was a visiting professor at University of Aarhus and in 1939 a research fellow at Harvard University. Caught in the US by the war he worked for Nortraship, an organisation set up by the Norwegian government in exile, to administer the war effort of the Norwegian merchant marine. After the war he stayed for a year with Cowles Commission in Chicago, where he, according to Schumpeter (1954), 'exerted an influence that would credit to the lifetime work of a professor'.¹² In his doctoral thesis entitled *The Probability Approach in Econometrics* from 1944, Haavelmo made the path breaking observation of the statistical implications of simultaneous equations in econometrics. On his return to Norway in 1948 he was appointed professor of economics, a position he held until his retirement in 1979. With his many important research contributions, his teaching, and his generosity and gentle personality, he had a decisive influence on the development of economics in

¹² Schumpeter (1954) p. 1163.

general, and on the Oslo School in particular. He was awarded the Nobel Memorial Prize in 1989 for his fundamental contribution to econometrics.

Based on his practical econometric studies going back to the 1930s, Haavelmo became, as Frisch, very sceptical to the market economy as a system for efficient resource allocation. This scepticism characterised his teaching of economic theory as late as the 1960s and 1970s.

Leif Johansen entered the University of Oslo in 1948 and became the assistant of Frisch in 1951. From that year onwards they worked closely together. When Frisch retired in 1965 Johansen took over his chair. Among Johansen's most important contribution was his doctoral dissertation, *A Multi-Sectoral Study of Economic Growth* from 1961, which became the basis for the long-term economic planning by the Ministry of Finance. Macroeconomic planning, research and policy became the Alpha and Omega in the Norwegian post-war economy. With Johansen, economic planning became a very strong discipline in the study programme in economics at the University of Oslo. His *Lectures on macroeconomic planning* became the standard work to be used by students as well as economic planners.

During the world economic depression of the inter-war period Frisch developed a deep mistrust in the market economy and the working of the price mechanism. National economic planning administered and managed by well-trained economists was, in his opinion, clearly superior to the shifting bustles of the market. As a consequence, Frisch as well as Johansen, who was a member of the Moscow-oriented Norwegian Communist Party, were great admirers of the Soviet economic planning system, and claimed that it was superior to the market economies of the Western world. They were therefore not easily attuned to other ideas.

Frisch and his disciples dominated the Institute of Economics to such a degree that there was very little room for other opinions and very few questioned (or dared to question) the efficiency of economic planning and detailed state control and governance of the economy. The students were not informed about the policies carried out elsewhere in Western Europe or the debate that took place concerning the efficiency of such deliberate and detailed planning systems.

After his appointment to the new chair in economics and becoming the director of the Institute of Economics in 1932, Frisch felt he had an obligation to transfer his new theoretical insight to politicians and bureaucrats in the government ministries. At this time Frisch still believed in private ownership, the role of private entrepreneurs and the market economy and that it would be possible to bring the economy of Norway and other countries out of the world depression if the 'old' economists and politicians would understand their fundamental misconceptions about how an economy functioned.

However, Frisch's views changed over the years as the crisis did not seem to loose its grip on the Western societies. John Maynard Keynes' analysis and proposals to solve the crisis were motivated from both a belief and desire to assist the market economy back to full employment equilibrium. Frisch sought a more dramatic solution. He wanted to

replace the market with scientific planning and administrative resource allocation in most areas. Keynes' emphasis on the market economy and the liberal state made him, according to Søylen (1994), very little ambitious in the eyes of Frisch and his followers. It was in their opinion a clear partition between their economic thinking and Keynes'.¹³ There was also a partition to the left. In certain areas Oskar Lange's pseudo market system with state property ownership was close to the Oslo School. However, in the Oslo School private property was formally retained, but individual rights to use their private property was seriously restricted.¹⁴

How Frisch's views changed is clear from a thirty-year correspondence between Frisch and Trygve J. B. Hoff (1895-1982), the editor of the Norwegian liberal economic journal *Farmand*. Their exchange of letters began in 1935 and continued, with some interruptions, until at least 1964. Although we do not have copies of all these letters, it is clear that Frisch and Hoff both enjoyed their exchange of arguments and opinions. From this correspondence it is clear that Frisch became sceptical towards a liberal, free market economy and that his scepticism grew as the years went by. At the end of the thirties, beginning of the forties, he was convinced that the market economic system had utterly failed. Frisch explained his point of view in a letter to Hoff at the end of 1941:

*"Personally, I believe that we enter a period where more developed forms for industrial regulations will come to prominence. They are both unavoidable and, in my opinion, correct as countermeasures against the disproportional conditions that have developed. The grotesque outcomes we had in the depression of the 1930s - conscious destruction of commodities, permanent unemployment and stationary machinery - was, I would argue, mainly caused by certain 'individualistic' features in our economic system."*¹⁵

Hoff answered this statement quite coarsely:

*"Here is where I get my shock. I have, of course, heard and seen this allegation hundreds of times from planning economists and quasi-economists. I have, of course, registered long ago that critiques of the efficiency of the free competitive market economy come, first and foremost, from people who do whatever possible to place obstacles in the way and thus render a free market economy unfeasible (with the result that it has not had an honest chance in Europe in the last 20 years). I had not expected to hear such a statement from you. I regret that I must state that the truth is exactly the opposite of what you indicate. The grotesque outcomes are precisely caused by a situation in which individualistic adjustment and perfect competition were not given the opportunity to work. It has been determined - mostly by force by the public authorities - that minimum prices have influenced both supply and demand, so that a surplus of commodities - and thereby the destruction of commodities - have been unavoidable."*¹⁶

The kind of economic planning that Frisch now advocated was built upon macroeconomic planning and detailed economic regulation of the economic life. Although he still talked about the necessity of intellectual freedom, he became, interestingly enough, a great admirer of the Soviet economic planning system. He

¹³ When John Maynard Keynes in 1938 was awarded the distinction of honorary doctor at the University of Oslo Frisch remained in the background.

¹⁴ Søylen, Espen (1998)

¹⁵ National Library: Letter collection No 761B 10.11 1941

¹⁶ National Library: Letter collection No 761A 22.11 1941.

expressed this view in his letter to Hoff from 1941 and repeated it in a letter as late as the summer of 1958:

*“The depression that the USA (and partly the other Western countries) suffers from at present is, in my opinion, further proof of the technical inferiority of a free market economy. It is grotesque that the USA is happy if the national product does not sink when one considers that the Soviet Union has a secure and free business cycle growth of seven or eight per cent each year.”*¹⁷

In a later letter he revised these figures in order to claim that the economic growth in the Soviet Union was about ten per cent each year!

The discussions between Frisch and Hoff on which economic system was the most efficient continued into the 1960s. The last available letter from Frisch to Hoff is from 1964. Here, Frisch admits that Norway had not gained as much as it should from the country's large investments. However, this was not the failure of the planned economy.¹⁸ He concluded:

“My conclusion from this is not that a rational form of economic planning is inferior to a perfect competitive economy. A system of perfect competition cannot solve all problems; these must be addressed through a rational form of economic planning.”

He blames what he calls *'the incompetence of the government'* and its support of *'a thoroughly naïve and unimaginative form of economic planning'*. However, he exonerated all the economic candidates to whose education he had contributed.

“My critique against the form of economic planning practised by the Labour Party does not apply to the level of competence among the state-employed economists but the unimaginative and narrow-gauged frame the Labour Party politicians have drawn up for the economic planning.”

Frisch's belief in economic planning carried out by well-educated economists can also be seen in his strong political commitment in the 1972 debate about a possible Norwegian membership in the EEC. He firmly expressed the view that it would not be possible for Norway to carry on with its system of rational economic planning and state governance by joining the EEC and he used very harsh words against economists and politicians that had a different opinion. A member of the EEC would have very few policy instruments and it would therefore not be possible to steer the economy towards fast economic growth, and it would furthermore force Norway as a member to import social injustice.¹⁹

4. The Iron Triangle

On May 8th 1945, the day Nazi Germany capitulated, the London-based exiled Norwegian government issued a provisional decree that set out a series of important regulations. This decree formalised and extended the state control of production and trade that had existed during the war years. Thus, on the day of liberation, freedom of action in economic affairs

¹⁷ National Library. Letter collection No 761B 11.08 1958.

¹⁸ National Library. Letter collection No 761B 24.08 1964.

¹⁹ Frisch (1995) p. 211.

was further limited. According to the decree, the Price Commission would acquire a vital position in the Norwegian economy:

“All activities that fall under the Price Commission are of the greatest importance for the reconstruction and development of trade and industry following the liberation. [...] By setting favourable prices for a trade, [the price regulation] can effectively stimulate an increase in production. By reducing prices below cost for firms that are performing badly, it will force a reduction in production, or “rationalisation”. In addition, the Price Commission has the authority to control the establishment of new enterprises and to execute direct regulation of production and trade and other commercial affairs [...] This happened on a large scale during the occupation, and the activities within these areas will surely be greater in the first period after the liberation, when industry and trade have to adjust to new conditions.”²⁰

Note the remarkable belief in the ability to govern, regulate and control markets, and an equally strong will to use the necessary planning instruments. Decisions that had previously been left to each individual actor in the market would now be decided centrally by the government and its bureaucrats also in times of peace.

How could we get such a far-reaching edict, in the form of a Royal decree, without the knowledge of most people, which after normal perception is in defiance of fundamental principles of the rule of law?²¹ Many authors have explained this by pointing to the extraordinary conditions that existed at that time along with a large liquidity surplus, a shortage of commodities, and the need for reconstruction.²² The Norwegian socialist and historian Berge Furre (1993) modified this picture with the following interpretation:

“In the special situation after the war, it was necessary to ration goods and regulate prices in order to prevent widespread starvation. But other solutions are imaginable, such as a monetary reform, which eliminated the accumulated purchasing surplus. Both money redemption and a one-time tax were used, but the government chose to focus upon administrative regulation of production and trade. With its strong control mechanisms, the war economy had been effective in getting the most from scarce resources, and the ‘play of the free market forces’ did not tempt the post-war government. It smacked of the thirties and unemployment.”²³

Furre’s formulation paints a striking picture of the prevailing view within the ruling Labour party and among influential economists, but it does not fully explain the necessity of such extended legislation after the war. Norway already had a system for rationing and price regulation, which had been introduced before the occupation. It functioned reasonably well. According to Furre, there were also alternatives to the policy of detailed regulations. Belgium, for example, unrolled most of its war regulations by the autumn of 1944. Other countries, such as Sweden and Denmark, undertook a more gradual deregulation. Thus, the extraordinary conditions immediately following the war could not fully explain why the provisional decree was retained almost without modification long after this type of regulation was abolished in other Western countries. Actually it was

²⁰ Paragraph 2 in «Provisional decree of May 8th 1945 concerned with price regulation and other regulation of industry and trade».

²¹ Laws made by provisional decree imply that governing by common and known rules, i.e. “rules of law”, has been set aside and substituted by directives and direct regulations.

²² Bergh 1986, p. 244 -, Lange 1998, p. 126 -.

²³ Furre (1993) p. 211.

made permanent law in 1953 after a heated debate in the Parliament. This "*Law of Prices and Competition Regulation etc.*" was called 'Lex Thagaard' after the originator Wilhelm Thagaard (1890-1970) who was Director of the Price Commission.

During the war, the Nazi German occupational forces had invested considerable resources in roads, railroads, hydroelectric power plants, factories and, above all, fortifications. Hitler's 'Festung Norwegen' had been achieved. At the same time, armed forces totalling around 300 000 men were supported. The occupying power paid for most of the goods and services they acquired with money 'borrowed' from the Bank of Norway. As a result, banknotes in circulation increased by 500% during the war and the volume of credit by 1000%. At the same time, the production levels of goods and services in 1945 were lower than those before the war. As a consequence, a chasm of disparity had developed between the supply of goods and services and the quantity of money. To re-establish a balance, either the prices should have been allowed to increase or the quantity of money substantially reduced. However, nothing of this kind happened. The authorities tried to fix prices using radical means. The money redemption, which took place in September 1945, only had a modest effect.

In addition, the government declared that it would follow a policy of low interest rate. The Bank of Norway's interest rate was reduced from 3% to 2.5% in January 1946. In this way, it became clear that the government had no intention of reducing the pressure of demand in the economy so that it would be possible to roll-back the war-time price and quantity regulations. A policy of low interest rate requires a considerable amount of money in circulation. The Central Bureau of Statistics reported:

*"It is acknowledged that a higher liquidity may imply a greater demand with an upward pressure on prices as a consequence. However, it is maintained that this pressure on prices can be neutralised with price and quantity regulations."*²⁴

In this regulatory climate, the strong imbalance in Norway's economy continued, the war's rationing system was not only retained but expanded. The distribution of economic goods through the market system was limited. Instead, the state authority managed allocation of resources and distribution of goods with quotas and permits. It was almost impossible to buy anything without a permit. The quotas were shaped partly by the principles of social justice and partly by the need for economic reconstruction.

As we have already seen, Frisch maintained that the collapse of the market system was the cause of the interwar depression. This opinion was relatively widespread among economists, as well as historians and politicians. This was not only the case in Norway. It was shared by most Western countries. It was generally concluded that the time was ripe for central planning and state governance to rein in the chaos of the market. The planned economies of the war had been judged a success both in the east and the west. However, no other country in Western Europe went as far as Norway.

Immediately following World War II, there were many members and supporters of the Norwegian Labour party who wanted to turn Norway into a socialist society with a

²⁴ Central Bureau of Statistics, *Statistical Survey for the Year 1946*, No 17.

centrally planned economy. Among other things, this led to an expansion of the Norwegian wartime regulations. In most other Western countries, they were wound up. The 'Lex Thagaard' and several other decisions made by the government and the parliament in 1945 and 1946 can, according to Søylen be seen as "a step on the way to a permanent form of a planned economy".²⁵

The first years after WWII became a breakthrough for the new economists from the Oslo School. The contacts with the Labour movement that Frisch had established before the war led to a post-war symbiosis between the new economic profession and a labour movement on the offensive.

In 1945 Erik Brofoss (1908-1979) was appointed as the Minister of Finance. He was a 1938 graduate from the new programme in economics. During the 1930s he had engaged himself in politics supporting the Labour party. During the Nazi-German occupation he fled to England, where he from 1942 made a remarkable career in the administration of the Norwegian government in exile. As Minister of Finance he started the process of recruiting economists of the Oslo School into key positions in the state bureaucracy. In 1947, Brofoss became Minister of trade in the new, and from a planning point of view very important, Ministry of Trade and Shipping. On his initiative he had proposed the creation of this ministry with the objective to regulate foreign trade. From 1954 until 1970 he was director of the Central Bank of Norway and from 1970 to 1973 director of the International Monetary Fund. Brofoss was a strong representative favouring economic planning and the thinking of the Oslo School, and he was responsible for the introduction of national accounts and national budget into Norwegian economic planning, with a strong state regulation of the economic life.

Among the economists Brofoss recruited the three most important names were probably Petter Jakob Bjerve (1913-2004), Odd Aukrust (1915-2008) and Eivind Erichsen (1917-2005).

Petter Jakob Bjerve can, according to Tjernsberg (2001), be considered a legend in the history of Norwegian economics. He graduated from the new programme in Economics in 1941. After graduation he continued as a research assistant trying to construct national accounts under the supervision of Frisch. When the university was closed by Nazi-German occupants, at the end of 1943, he continued, together with other Frisch students, the work on national accounts for Norway. This led to the publication: *Nasjonalinntekten i Norge 1935-43* (National income in Norway 1935-43). During the war he also worked together with Odd Aukrust on the book *Hva krigen kostet Norge* (What did the war cost Norway?). The book had the subtitle *Utviklingen under krigen, problemene i dag, og politikken i framtiden* (Developments during the war, today's problems and future politics). Here he claims that economic planning in the context of the Oslo School is necessary if Norway is going to develop into a prosperous society. The use of market forces is hardly mentioned. Bjerve defended his dissertation *Planning in Norway 1947-56* for the degree Dr. philos in 1962. He was the director of the Statistical Bureau of Census

²⁵ Søylen (2002), p. 29.

for 30 years from 1950 until he resigned in 1980. However, he kept an office and continued to work for another 20 years.

Bjerve made a condition, when he was called upon as director of the Statistical Bureau by Erik Brofoss, that the Bureau should develop a strong research department. *“Numbers tell us very little, they have to be analysed and they should be an aid for the politicians and others who have to make decisions.”* Bjerve has also been considered one of the architects behind the Norwegian national accounts and he developed the Bureau from a rather small unstructured statistical institution to the strong and society-oriented institution it is today. It should be emphasised that Bjerve was Minister of Finance from 1960-63 and also a strong exponent for the Oslo School.

In 1953 Bjerve recruited Odd Aukrust as head of the research department. He kept his position as director until he retired in 1984. Aukrust graduated from the new programme in Economics in 1941. After graduation he worked for the Ministry of Supplies until the end of the war. Thereafter he moved to the Bureau. He was a Reader at the Norwegian School of Agriculture from 1951 until 1953 when he was called back to the Bureau as Director of research. His vision and objective for the research department was to construct a detailed quantitative model for the Norwegian economy. This was carried out in cooperation with Frisch’s Institute of Economics. When the Institute was concerned with the architecture of the models, the objective of the Bureau was to create step-by-step, on an empirical foundation, the building materials, which were necessary to make the models operative. Aukrust defended his dissertation *‘Sosiale og økonomiske studier’* (Social and economic studies) for the Dr. philos degree in 1956. His thesis was concerned with the theoretical and practical construction of national accounts. Aukrust contributed with his extensive knowledge of economics, his theoretical insight and analytical abilities to the planning of the reconstruction of Norway after the war. The previously mentioned book, *‘Hva krigen kostet Norge?’*, (What did the war cost Norway?) has become a classic (Tjernsberg 2001). However, he was also a market sceptic, who strongly supported central economic planning and detailed state governance of the economy.

Brofoss recruited Eivind Erichsen to the important post responsible for national accounts, national budgets and economic planning in the ministry. Erichsen, who graduated from the Oslo School in 1943, just before the university was closed, became the grey eminence in the history of Norwegian economic planning. He started in the department which was concerned with economic planning in the Ministry of Trade. When this department was moved to the Ministry of Finance Erichsen moved with it, and here he made a remarkable career. As early as 1957 he became cabinet minister, a post he held until he retired in 1986. He was a key representative of the Oslo School.

‘The Iron Triangle’ as it was called, consisted of the planning department in the Ministry of Finance, the research department in the Statistical Bureau of Census, and the Institute of Economics at the University. This very influential ‘triumvirate’ played a decisive role in the work with national accounts, national budgets, and economic planning that was carried out in the post-war period. In addition Thagaard’s Price Directorate and

the Ministry of Industry played an important role in handling the detailed practical political governance.

The role of the planning department in the Ministry of Finance was substantially extended. Reforms with the objective of making the economic policies more efficient were carried out during the 1950s and 60s. Their main purpose was to prepare a long-term state budget. Furthermore, the government's corporate income policy was strengthened and the government passed a provisional decree that provided the ministries with full control over credit markets.

Planning tools were developed and put to practical use: A detailed input-output model in 1954 and the national budget model MODIS in 1960. A few years later Leif Johansen's Multi-Sectoral Growth model was implemented in the long-term planning process.

During the 1960s several countries in Western Europe tried to develop models for long-term planning. According to Søylen (2002)²⁶ Norway was, however, a special case in that both the level of activity and the resource allocation were to be governed at an extremely disaggregated level. Also, both the building and the use of models became to a large extent an integrated part of the central administration.

In the first post-war years, Norway's economic growth was, as in the other Western European countries, strong. Therefore, it was difficult to claim that the growth would have been greater with a free market economy. However, it was also difficult to create a debate about the efficiency of the Norwegian planned economy in the 1950s and 1960s, when it became clear that Norwegian annual growth, particularly in private consumption, was relatively modest, despite an unusually high rate of investment.

Although post-war Norwegian economic planning did not build on the same principles as economic planning in the communist regimes of Central and Eastern Europe, it is clear today that we can rightfully question the seemingly unsuccessful results of this planning. Inefficiency, unforeseen consequences, and failure to achieve targets were often the results of the Labour government's policies of detailed central economic planning, which dominated the Norwegian industrial policies after World War II.²⁷

During the 1940s and 1950s the Norwegian government adopted a control system in industrial policy that was unique in comparison with other OECD countries.²⁸ The majority of economists and politicians did not, in these years, believe that a decentralised market economy would efficiently allocate resources and distribute goods. However, at the end of the 1950s the post-war restrictions on private consumption were to a considerable extent abolished, the restrictions on corporate trade and imports and exports were also withdrawn or sharply reduced. This was due to the fact that Norway in 1949, with hesitation, accepted Marshall Aid and as a consequence had to join, and adapt to the

²⁶ Søylen (2002) p. 12.

²⁷ See Søylen 2002. In his book he undertakes a thorough analysis of the Norwegian planned economy and the ideology it was built upon. His conclusion is, as can be seen from the title, rather critical.

²⁸ The following draws also on the white paper NOU 1980:4 pp. 17-159, Hanisch et al. (1999) pp. 171-246, and Søylen (2002) pp. 92-108.

principles of, the Organisation for European Economic Cooperation (OEEC) and the General Agreement on Tariffs and Trade (GATT). Both organisations advocated free trade, abolishment of quantitative restrictions and sharp reductions in tariffs. These were restrictions and tariffs which Norway had wanted to keep in the long term.²⁹ The detailed rationing system therefore had to be abolished. As a result, the government control system from this time onwards aimed at the capital flows in the economy, partly through public investments, development of credit rationing and controls, administered low interest rates, and partly indirectly through influencing private investments and consequently industry structure. This implied on the one hand that the market mechanism had been partly allowed to function in relation to most transactions, but on the other hand, the possibility seen in relation to the important innovation structure was confined. The Ministry of Finance expressed it in these terms: The development of the country's industrial structure was too important to be left to "everyday rules" as used by business managers in investment decisions.³⁰ The Norwegian policies were again unique. Denmark, for example, introduced at that time a more market-oriented interest rate policy. Sweden introduced credit rationing but started to soften it in the mid 1950's.

The strategy for export induced growth was the fundamental basis for the use of policy instruments, and the energy intensive industries were given priority. Service industries, distribution, and trade were not considered as giving added value to society as a whole, and were only regarded a necessary part in distributing goods. A central part of the control system was, as mentioned, credit market regulations, the tax system and the subsequent series of public financial facilities. Provisions on construction control gave local authorities control over establishment and expansion of enterprises; whereas provisions on licence for purchase of electric power, real estate and stock shares, gave control to central authorities. Of particular importance were licence provisions on petroleum activities on the Norwegian continental shelf later on.

In the post WW2 period the cooperation between industry organizations and the government was established and gradually expanded to include collaboration on income policy. The government and the two sides of industry (trade unions and employer's organisations) discussed the present labour market situation and possible wage increases in forthcoming negotiations. The income for farmers and fishermen was made dependent on price regulation and subsidies, which were formulated in cooperation with the industry organizations as well. The *Act on regulation of prices* gave the government an opportunity to introduce control of prices and mark up increases in case "special resource shortage" should arise. Price control was regularly used as a concession to employees in the income policy area. Political priorities were also evident in the formulation of tax policy, where capital intensive industry gained tax advantages.

²⁹ Bjerve (1989) p. 102.

³⁰ The term was used by Director General Per Schreiner in the memo 'Investeringskriterier' (Investment Criteria), September 17, 1963.

As a whole the special Norwegian control system implied that there was an extraordinarily close contact between industry organizations, the business community; both individual enterprises and large organizations, and the political and administrative system. By moving decision-making authority from industry and commerce to a political/administrative level, this corporative system would give the government a normative control over negotiations and political signals on preferred solutions on present issues. During the 1960s the control system was supplemented with several new forms of financial support mechanisms.

The corporative elements probably contributed to calm down the conflicts between the government and private industry. The contacts between business leaders and government authorities also gave business leaders an opportunity to influence political decision processes. Over time both households and business communities gradually got accustomed to the prominent elements of government regulations. Here it should be added that most economists working in industry organisation were graduates from the Oslo School where they had been educated and indoctrinated in the blessings of economic planning and state governance.

Another explanation to this change in attitude could be that during the period there was a favourable development in several areas. The economic progress was considerable for most people, and they saw the contrast between the crises in the interwar period and the economic growth in the 1950s. This point was repeatedly stated by politicians and economists, and without hesitation they gave credit to government policy. Furthermore, they stressed that the ability to reach the goals depended on a continued high level of public savings and state control over private capital.

The control system that was established in the 1950s aimed to ensure that resources were efficiently used, and at the same time contributed to a more equal distribution of income. A low interest rate and rationing of credit was supposed to contribute to reach these goals. In 1953 the “*Cooperation committee*” was established, where the Ministry of Finance and Bank of Norway had talks with representatives from private banks to ensure that the issuance of credit was in compliance with the goals set in the National Budget. Later on emissions of bonds were also subject to control, and a separate body was established to consider applications. The resource allocation of the market was to a considerable extent substituted with a political and administrative system. According to the Norwegian Minister of Finance from 1960 to 1963, Petter Jakob Bjerve, there was a widely accepted belief that: “public servants managed resource allocation better than the interest rate mechanism”.³¹

The possibility of combining a low level of interest rate with equilibrium in the balance of payments was discussed in the *Committee on Price and Finance* (Penge- og prisrådet) in 1951. Ragnar Frisch and Petter Jakob Bjerve belonged to the majority in the committee and were of the opinion that it was both reasonable and possible to implement

³¹ Bjerve, Petter Jakob, 'Kva hende i Norge i 1970-åra – konjunkturpolitikk?' (What happened in Norway in the 1970s – Business cycle politics?) *Sosialøkonomen* No.5 1981.

an administrative regulation on the demand for investments and credit supply. Without further explanation, it was stated that “high interest rates” were advantageous for capitalists and restricted real investments. At the same time the majority was of the opinion that regulations of interest rates as an instrument in stabilization policy were primitive and had a low impact. Among Keynesian economists there was also a broad consensus that interest rate regulation was not an effective policy instrument. However, Frisch and Bjerve’s view clearly differed from the Keynesian view and the view of the Stockholm School. The interest rate was not acknowledged as a price for capital, and there was no price mechanism in the capital market. As a consequence there was no hesitation to regulate the interest rate.

The minority in the *Committee on Price and Finance* argued consistently that the interest rate mechanism was the best provider of efficient resource allocation. In spite of these and other warnings the government implemented a system of credit control.

The regulation of credit markets resulted in a system, with bureaucratic and political decision processes, open to lobbying and political influence. The combination of administrative low interest rate with a stable price level and equilibrium in the balance of payments was difficult to combine. There was a continual upward pressure on the price level. Several times the policy resulted in severe problems in the foreign exchange market. The unfavourable consequences of this stabilization policy therefore started to be visible. In addition it should be stressed that possible unfavourable consequences for the resource allocation would only be noticed after several years.

The chosen policy involved a strategy of high tax levels to ensure high public savings. Like the credit policy, the tax system was also used to develop the priorities in the area of industrial policy. Corporate taxes favoured businesses in certain industries. Firstly, tax rules implied that the cost of debt was lower than equity capital and thus supported the credit policy. Secondly, the tax system generally favoured capital intensive industry and in particular export oriented industry. Thirdly, retained earnings were mildly taxed compared to tax on dividends, which along with the restrictions on dividend payments contributed to make the stock market less attractive both as a source of finance and as an alternative for saving.

The design of the tax system was an area in which differences between the new economic policy and the traditional liberal state, governed by law, was clearly manifested. Foremost, there was a difference of opinion between economists and tax lawyers in the Ministry of Finance. According to taxation norms in a liberal state, the tax rules should be formulated in such a way that individual behaviour in the private sector is influenced as little as possible.

The point of departure for the export-generated growth strategy was the need to restrict consumption to make room for a high level of investments. Furthermore, the investments should be channelled to capital intensive industries; to maximise the increase in output per employee. This was supposed to be the most efficient way to increase the standard of living. At the same time the aim was to support export industries to secure

sufficient foreign exchange in order to finance import of investment and consumption goods which could not be produced efficiently in Norway.

The tax rate for corporate income was gradually increased from 45% in 1946 to 51.5% in 1949, and it was to be held constant at this level for many years. In addition, a tax on retained earnings was introduced, amounting to 10 per cent. At the same time an export tax was collected to withdraw profit in manufacturing and shipping as a result of the increased international demand.

On one hand corporate tax level was generally high in Norway, but at the same time there were new openings for tax rebates for specific purposes: tax exempted provisions for investments, tax exempted funds for investments in the Northern Norway, depreciation on inflated values (in Norwegian: *overprisavsetning*), and expanded ordinary depreciation. In 1957 new depreciation regulations were introduced, establishing “*opening*” depreciation for selected industries. These provisions were only applicable for investments above a certain amount. The idea behind was to meet the need in export industries, because these industries were “more risky”.

Public loans and grants were also important elements in the control of industrial structure. Such instruments implied a redistribution of resources, where public revenues were distributed to chosen companies or industries. The costs of such measures were distributed on many players in the market, each one carrying a small fraction of the cost. Consequently, there were insufficient grounds to oppose the use of such instruments.

The Bank for Manufacturing Industry (*Industribanken*) established in 1936 and the Northern Norway Fund from 1952 demonstrated the breakthrough for the idea of providing state funding of seed money for establishing new enterprises. During the 1960s and 1970s these schemes were further developed and were partly financed in the state budget, partly by issuance and sale of government bonds to private banks. This contributed to redirect credit in private banks to the state banks. By the end of 1957 public credit institution accounted for about 18 per cent of issued loans to manufacturing.

There is, in our opinion, no doubt that the Norwegian control and regulatory system can be placed in a category of its own among the OECD countries. No other country was as far in the direction of a centrally planned economy.

The Challenges

In the course of the first two decades after the war there was no real challenge to the Oslo School and the strong emphasis on economic planning and detailed state governance of economic life carried out by its supporters. However, this changed in the 1970s when the basic characteristics of the Oslo School were questioned by both the academic side and others as a result of the poor performance of the economy.

Since the 1890s Political Economy had been taught at the Norwegian School of Agriculture, at Ås, and from the beginning of the 1920s also at the Norwegian School of Technology, in Trondheim. However, the professors and lecturers at these institutions

were few and they did not question the Oslo School; they rather supported the philosophy behind this school.

The academic challenge, and it took many years before it broke through, came from the Norwegian School of Economics and Business Administration, which was, as previously mentioned, established in 1936. Professor Ingvar B. Wedervang played a decisive role in the development of this institution. He graduated with a degree in Political Economy from the University of Oslo in 1913. During the next nine years, he worked as a government statistician with the Central Bureau of Statistics. In 1922 he moved to Germany and continued his studies in economics and statistics. He returned to the Bureau in 1923 and defended his doctoral dissertation *'Concerning the Ratio of Sexes at Birth'* at the University of Oslo in 1925. He was immediately hired as lecturer and Professor of economics and statistics in 1926. In 1930 he was, along with Frisch, among the sixteen founding members of the Econometric Society. As a professor he lectured on applied economics, social and economic statistics, and demography. Thus Wedervang, as Frisch, belonged to the school of empirically oriented Norwegian economists, which we have mentioned earlier. His works in the 1920s included an estimate of national income in Norway and some articles on trade problems. He was, as mentioned, a profession builder in Norway and he worked actively for the establishment of the Norwegian School of Economics and Business Administration in Bergen. It came true by a Parliament decision in 1936 and Wedervang was appointed its first rector in 1937. He served in this position until 1956, only interrupted by the Nazi German occupation when he was removed from his position due to his patriotic attitude.

In 1959 Wedervang recruited Karl H. Borch (1919-1986) to Bergen. Borch worked first as a University fellow, but from 1963 he was appointed to a new chair in insurance. The School was at the time not strongly focused on research. However, Borch stood out as an eminent researcher and a spiritual leader for the younger researchers. With his international network he strongly urged his students to pursue doctoral studies abroad and particularly in North America.

The new competence-building and international recognition achieved by Borch and his colleagues slowly broke the monopoly and the influence of the Oslo School in Norwegian economics and politics. Economic planning in the Frisch, Haavelmo, and Johansen tradition was from the end of the 1970s and the beginning of the 1980s no longer Alpha and Omega. More emphasis was placed on market economies and the functioning of competitive markets under uncertainty. Two of Borch's students should in particular be mentioned Jan Mossin (1936-1987) and Agnar Sandmo (1938-). Mossin was part of a group of international researchers who independently contributed to the development of the modern theory for financial markets, the Capital Asset Pricing Model. Sandmo's research, which to a large extent focused on the theory of taxation, is based on the assumption that we live in a world where we must deal with uncertainty, and where there are limited opportunities for action. Markets and social institutions do not function in an ideal way. We must accept compromises and second best solutions. This work had a

marked influence on Norwegian monetary and fiscal policies and also laid the basis for increased independence of the Central Bank. This line of research was also pursued by Finn E. Kydland (b. 1943), who, in 2004, together with Edward C. Prescott (b. 1940) was awarded the Nobel Memorial Prize for their contribution to dynamic macroeconomics, notably the time consistency of economic policy and the driving forces behind business cycles.

The second challenge came in the 1970s when it became clear that the results from the elaborate system of detailed state planning and governance were rather poor.

Most economists and politicians from the centre-left political spectrum had high expectations and strongly believed that the policies they proposed and carried out during the 1950s and 60s, based on the principles of central economic planning and state governance of economic life, had given the best results. However, this turned out not being the case. The performance of the Norwegian economy by the end of the 1960s and in the 1970s was such that even stiff-necked members of the Oslo School started to have doubts about the system and admitted that something was wrong. In addition, new thoughts coming from the Norwegian School of Business Administration gradually gained an audience.

At the end of the 1970s an increasing number of economists and politicians agreed that the economic policy in general and the industrial policies in particular had to be changed. The result of the selective industrial support policies that had been carried out in the 1970s had scared responsible politicians and bureaucrats. During the last decade special interest organisations and business groups had lobbied with remarkable success. The ministries in general and in particular the ministries for manufacturing industries, agriculture, fishery and trade had become parts of this game. It now became evident that the result was that industrial productivity and international terms of trade had drastically weakened. For the first time economists started to talk about governing failure.³²

There arose therefore a consensus that the selective support policies had to be abandoned, credit rationing should be lifted and the stock market should be revitalised. Instead of a detailed governing of industries the state should to a large degree limit its use of instruments to framework conditions. The industrial policy should be neutral as much as possible across industries and the state's direct industrial engagement should be adjusted to the demand from the markets.

The Fall of the Oslo School

In 1977 the Ministry of Finance pointed out that the situation was serious and that there was an urgent need for a radical change in the economic policy. The trade deficit was expected to be more than 10% of GDP and the external debt would probably reach 50% of GDP. No other OECD country had until then been in a similar situation. A very tight

³² Soilen (2002) p. 181.

labour market and strong demand had led to a substantial growth in both prices and wages with the consequence that the competitiveness of the manufacturing industries had been drastically weakened. The Bureau of Statistics stated in its *Economic Survey* from 1981 that there was a ‘dramatic gap’ between the growth in the country’s real income and the domestic consumption in the years 1974-77. It turned out to be very difficult to change the economic policy.

Søilen (2002)³³ discusses the reasons for the difficulties in turning the economic policy around. Although the Labour party did well in the election to the Parliament in 1977, it was not possible to get support for necessary cuts in the selective support policies. The Minister of Finance, Per Kleppe, was only to a limited extent supported by his own government and several government proposals were turned down by the Parliament. There were strong vested interests that favoured the different support measures. Branches which received support, wished to keep it, while the branches that did not receive any support lobbied that they also should be included in such schemes. Furthermore, with low profitability in the manufacturing industries, the abolishment of the selective support policies would lead to the liquidation of companies exposed to competition, a situation no politician wanted to take the responsibility for. The system of subsidies, cheap government loans and other selective support measures for particular branches of industries gave power to the bureaucrats that made the proposals and the decisions. For this reason they would perhaps resist changes. Erik Brofoss, one of the fathers of the selective industrial policy, raised the issue in a letter in 1979, shortly before his death:

*“The same officials, who have had as their duty to issue loans, and, I must add, have made wrong dispositions, are the same persons who are going to propose remission. This can be interpreted as a means to cover up what I will call wrong dispositions”.*³⁴

The department in the Ministry of Finance, which was responsible for the practical work with the state budget, had seriously warned about such effects of the support measures, but its arguments did not carry weight with the top management of the Ministry.

In spite of the serious economic situation the government was not able to turn the economic policy around. Søilen (2002) claims that self criticism was not present among people in the economic profession at the Ministry of Finance. The blame was pinned on irresponsible politicians and organisations. However, in retrospect the professional management at the ministry must take their part of the blame:

*“The ambitious economic policy that was carried out built on the ideal assumption about the possibilities to govern, not only in relation to organisations and the private industries, but also within the state administration. ... The governance failure was built into the control system that was built up in the 1950s and 1960s. It was first when this was apprehended, that it would be possible to carry out reforms in the Norwegian economic policy”.*³⁵

³³ Ibid pp. 183-184.

³⁴ Søilen (2002) p. 183 footnote 326.

³⁵ Ibid. p. 186.

There are two white papers that are crucial in this connection: the white paper on *Industrial Growth* and the white paper on *Interest Policies* from 1979 and 1980 respectively.

In 1979 the *Committee for Industrial Growth*, also called the *Lied Committee* after its chair Finn Lied, which had been appointed by the Ministry of Finance, produced its white paper about structural problems and growth problems in Norwegian manufacturing industries.³⁶

The historian Harald Espeli (1992)³⁷ claims that the proposals from this committee represent “*the official Norwegian version of the ideological reorientation back to the market which characterised the OECD area*”. Political governance failures were just as serious as market failures.

The Lied Committee concluded that a decentralised market economic system would be better able to tackle the challenges than a centralised economic planning system. The role of the state should be limited to an economic policy which created favourable framework conditions for the industries and declared that the selective industrial policies should be wound up. Furthermore, the committee stated that the government should work to strengthen international free trade, Norwegian industries should not be protected from competition, and on the contrary they should be prepared for participation in new markets.

These proposals were controversial and it took more than a year before this white paper led to any government proposal. According to the government proposal, which was based on the white paper and its responses, there was a general agreement that the economic system in Norway should build on a decentralised market economy. At the same time there was an agreement that the market economy should be regulated through a framework of general laws, taxes and levies. There should be no selective support measures. Within such a system each firm, which maximised profit, would also secure maximum social welfare.

This report, which was written by the Ministry of Industry, broke with a strategy which for more than 30 years had been the basis for the work in the ministry.³⁸ Furthermore, it also broke with the fundamental principles of the Oslo School. Here we should also add that it still took some years before the real change in politics occurred.

The credit rationing system in Norway was gradually changed throughout the 1970s. However, in other Western countries efficient financial markets were considered important to obtain economic efficiency. In Norway, leading economists of the Oslo School denied that financial markets were proper markets, and that the interest rate was a price on capital. The effect of credit market control and low interest rates on resource allocation raised new problems in the control of industry policy as discussed. In 1980 the *Committee on Interest Rates*, which also had been appointed by the Ministry of Finance,

³⁶ NOU 1979: 35 Structural Problems and Growth Potential in Norwegian Manufacturing Industries.

³⁷ Espeli (1992) p. 191.

³⁸ Soilen (2002) p. 189.

presented their report.³⁹ The committee, surprisingly, had no representatives from the Institute of Economics.

The unanimous recommendation from the Committee was to abolish the policy of low interest rates to allow a freer interest rate formation and consequently more competitive credit markets. The reason was to allow for a better resource allocation, and to solve the problems in administering interest rates that were below the equilibrium level.

Thus, the Committee used the same arguments as the critics of the control system for interest rates used when they were introduced in the 1950s. However, the report did not explicitly formulate criticism on the credit market control system. A revision of economic policy was considered necessary as a consequence of structural changes in the economy. The report was therefore an implicit recognition of the chosen economic policy in the post WW2 period.

However, the white paper stated that the main objective of financial markets was to implement profitable corporate investments. The best way to achieve this was to allow for competitive financial markets. The commission's first recommendation was to end the control of the bond markets, and in particular to end the emission control of bearer bonds. The interest rate in the bond markets would accordingly be an indicator of the market situation in the credit markets, and would serve as basis for the control of the interest rate in the remaining market. The government followed up in the spring 1980 by changing the control of the bond market.

During the following years the control system of financial markets was partly formally terminated, partly undermined by market forces. Leading Norwegian banks envisaged a growing market, and became nationwide by mergers and acquisitions. Norwegian banks also anticipated a future with Norway as a capital exporter due to the rising petroleum production and established branches at international financial centres.

The results were that during the 1990s the elaborate system of detailed economic planning and control had come to an end. Norway's special position as a centrally planned economy had ended as well. It had finally joined the other OECD countries and the member states in the European Economic Area, in their pursuit of a liberal decentralised market economy.

The monopoly status held by the Oslo School at Norwegian universities was losing ground in the 1960s. More emphasis was placed on competitive markets and the influence of limited information and uncertainty. A shift in economic paradigm was brought forward by a new breed of economist at the Norwegian School of Economics and Business Administration, and these ideas slowly crowded out the Oslo School at the Institute of Economics. Gradually through the 1970s and 1980s both industrial and fiscal and monetary policy were adjusted accordingly.

³⁹ White Paper: NOU 1980:4. Interest Rate Policy (*Norm.:Rentepolitikk*).

Conclusion

In spite of strong opposition from his colleagues at the University of Oslo Ragnar Frisch managed in the 1930s to establish what has been called the Oslo School within Economics. Graduates and supporters of this School gained considerable influence on Norwegian politics under, and in particular, after WWII. In 1945 Erik Brofoss, as Minister of Finance, started to recruit economists from this School into the government ministries and agencies. The 'Iron Triangle', which was the Ministry of Finance, the Statistical Bureau of Census and the Institute of Economics, became very important for the build-up of economic planning in Norway. In the first two decades after the war there was a strong belief among most economists and many politicians that the elaborate Norwegian system of national accounts, national budgets, economic planning, industrial development and detailed state governance of economic life were superior to any other system in Western Europe.

However, the performance of the Norwegian economy in the 1960s and 1970s was such that an increasing number of economists and politicians had a gnawing unease about the efficiency of the system. At the end of the 1970s this elaborate system of economic planning and detailed state governance of the economy was challenged by representatives from both inside and outside academia. During the 1970s and 1980s the Norwegian School of Economics and Business Administration developed into a strong research-based, internationally oriented institution critical of the economic planning philosophy of the Oslo School. At the same time there was a growing understanding, not only in the business community but also among bureaucrats of the ministries, and last but not least, among politicians and the general public that detailed state governance of economic life did not create the highest economic growth and social welfare. This led to a total change in economic policy during the 1980s.

What is left today of the so-called Oslo School?

First, the School's introduction of quantitative methods into economic teaching and research by the extensive use of mathematics and statistics is today accepted at most institutions that teach economics all over the world. Second, the use of econometrics as an important tool is not only the basis for most economic research; it has also expanded into business administration and social sciences alike. Third, national accounts and national budgets have been accepted as an important tool for governments across the world. However, economic planning models are no longer considered as a tool for detailed governance of economic life. Fourth, the scepticism towards the market has in Norway, as in most other countries, been replaced with the view that the forces of the markets are important for an efficient allocation of resources and distribution of goods. Detailed selective state governance has been replaced with framework policies to increase competitiveness and economic growth. Last but not least, professors and teachers at Norwegian universities and colleges are today much more involved in the international

debate about the feasibility and efficiency of economic systems, and only a few still believe in the idea of centrally planned economies.

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