



Ragnar Frisch and the Postwar Norwegian Economy

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In Norwegian academic life the memorial Nobel Prize winner Ragnar Frisch (1895–1973) is still a major figure, and he is universally recognized as a great economist. Here the story will be told how he built up the Oslo School of economic teaching and research, and how the Oslo School influenced economic policy in the small, homogeneous, and relatively culturally insular country of Norway. That influence moved the Norwegian economy toward economic planning. During the postwar decades the Norwegian economy achieved economic growth rates similar to other OECD countries, but with significantly higher investment ratios. The Norwegian economy was getting less ‘bang for its buck,’ with the result being lower rates of consumption. At the end of the 1970s the lagging economic performance impelled a change.

Much of the present article is a reworking of materials that we have published previously, some with our late colleague Tore Jørgen Hanisch, particularly articles in the *Nordic Journal of Political Economy* (Eriksen, Hanisch, and Sæther 2007; Eriksen and Sæther 2010a). This article hopes to bring the story and its lessons to a wider audience.³ Translations from Norwegian sources are our own, unless otherwise noted.

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3. The present article incorporates some material also used in our ideological profile of Frisch (Sæther and Eriksen 2013) that appeared in the previous issue of *Econ Journal Watch*.

Ragnar Frisch, Nobel Prize winner

Born in 1895, Ragnar Frisch graduated with distinction in 1919 from the Royal Fredericks University of Oslo, with the degree Cand.oecon in political economy. On completion of his studies he was awarded a fellowship from the university to study mathematics, statistics, and economics, and to do so abroad. He spent nearly three years in France, but also visited Germany, Great Britain, and Italy. On his return to the university he continued his scientific activity, believing that research was his calling. In 1925 he became an assistant on a research program in production theory led by professor Petter Thorvald Aarum (1867–1926).

For Frisch the year 1926 was an eventful one (Edvardsen 2001, 9). He defended his doctoral thesis, *Sur les semi-invariants et moments employés dans l'étude des Distributions statistiques*, a work on time series and statistics at the Faculty of Mathematical and Natural Sciences (Frisch 1926a), and he published several academic articles. One was “Sur un problem d'economie pure,” which was his first work in economics, and the first in his own quantification program of economic science (Frisch 1926b). It was an attempt to develop an axiomatic foundation of utility, as a quantitative notion to measure statistical variation in the marginal utility of money. Another article claimed that economics should follow the same path towards theoretical and empirical quantification as the natural sciences, especially physics (Frisch 1926c). The same year, Frisch was appointed Assistant Professor in economics and statistics at the University of Oslo.

In 1927 Frisch received a fellowship from the Rockefeller Foundation and went to the United States, where he met the leading mathematical economists of the day. Among them were Irving Fisher (1867–1947), Wesley Clair Mitchell (1879–1948), Henry Schultz (1893–1938), and Allyn Young (1876–1929). Frisch, Fisher, and Charles Roos (1901–1958) began planning the formation of an association that came to be the Econometric Society.

In 1929 Frisch published an article, “Statics and Dynamics in Economic Theory” (“Statikk og dynamikk i den økonomiske teori”), in which he develops dynamics as a new way of analyzing economic phenomena. That year he was promoted to Associate Professor and started to lecture on the theory of production, in which mathematics was used extensively.

On invitation from Irving Fisher he went again to the United States in 1930. He spent several productive months at Yale University and the University of Minnesota. During his stay he produced several papers and gave many lectures, enhancing his reputation as a coming star in economics. He returned to Oslo when the university, with extra funding from the Parliament, created a Chair for him.

During the 1930s Frisch became an ardent protagonist of what he called rational and scientific economics, and he played an active role internationally through his scholarly contributions. His joint efforts to establish the Econometric Society came to fruition in 1931. In 1933 he became the first editor of its journal *Econometrica*, a position he held for more than twenty years. Frisch then published “one of [his] most striking contributions” (Chipman 1998, 95) in *Econometrica*, “Circulation Planning: Proposal for a National Organization of a Commodity and Service Exchange” (Frisch 1934).

During his life Frisch published continuously and was an invited member of a great number of learned societies in different countries and he received several *honoris causa* doctorates. In 1961 he was awarded the Antioio Feltrinelli prize by the Italian society Accademia Nazionale dei Lincei. When the Swedish central bank established its Prize in Economic Sciences in Memory of Alfred Nobel in 1969, the inaugural prize was awarded jointly to Frisch and the Dutch economist Jan Tinbergen (1903–1994) for their development and application of dynamic models for the analysis of economic processes.

Frisch’s life work is impressive (Arrow 1960; Johansen 1969; Samuelson 1974; Edvardsen 1970; 2001; Thonstad 2005). He was one of the founders of economics as a purportedly modern rational science, and he made a number of significant advances in the field of statistics and economics. He coined such terms as *econometrics* and *macroeconomics*. In Norwegian academic life he is still a major figure and he is universally recognized as a great economist. He is famous for having written a substantial number of ground-breaking articles on econometrics, time series, linear regression analysis, production theory and business cycles, and for having played an important role in ensuring that mathematical techniques figure prominently in modern economic analysis. During WWII he worked with new methods of constructing national accounts and national budget. He also contributed much to the development of large decision models for government planning.

But, as often is the case for famous people, there is also another story to be told.

The Oslo School of economics

Frisch returned to the University of Oslo and took up his chair in economics and statistics in 1931. The next year he became Director of Research at the newly established Institute of Economics at the university.

As professor Frisch started his grand project of bringing economics as a science “out of the fog.”⁴ He fought against what he called “fictitious thinking”

4. Frisch used this phrase in a lecture, attended by one of the authors, at the University of Oslo in the early 1960s.

(Bjerve 1995, 24) and claimed that his adversaries, who were many, belonged to what he called “the unenlightened plutocracy”⁵ (Frisch 1961b). Frisch held that economics should be a rational and objective science. Economic theory had to be based on mathematical models and quantitative analysis. The new economics should be shaped in a precise mathematical language. Mathematics ensured greater precision and control over assumptions. Only with mathematical models would it be possible to carry out complicated analysis and reasoning. He promoted the agenda with enthusiasm, genius, and force. Preben Munthe (1997; 1999) claims that when Frisch returned from the U.S. in 1931 he had fresh impressions from the economic crises there and his thoughts had a strong American imprint. The market economy with private investors and private initiative was very important, but in a crisis the government should intervene, stabilize the economy, and then withdraw.

Since it was Parliament that provided the funds for his professorship, Frisch felt he was obliged to contribute something in return. In the autumn of 1932 he initiated a private meeting with the prime minister of the center-oriented government, with prominent parliamentarians of the non-socialist parties and also with the leaders of banking, trade and industry. In the meetings he circulated a memorandum (Frisch 1951/1932), not meant for publication; it presented his views on the crisis and remedies to introduce. Monetary policies were the most important tools. When resources were not fully utilized the reason was “lack of circulation money in consumption” (see Munthe 1999, 145). His solution was to increase credit and reduce the income tax. Reduced income taxes would stimulate demand but also create a deficit in the state budget. A key in his program was how this deficit should be financed.

His proposals fell on stony ground and his ideas were considered to be unpractical and far-fetched. Frisch later said that “it was like hitting his head against a wall” and that “their delusions were many” (in Bjerve and Frisch 1971, 5). But their rejection moved him to put his ideas into writings.

Frisch and the economic crisis

In 1933 Frisch wrote three articles in the daily newspaper *Dagbladet* which outlined his economic thinking about the causes of the present economic crisis. The articles were also published in a booklet entitled *Savings and Circulation Regulation* (*Sparing og sirkulasjonsregulering*, Frisch 1933). Frisch claimed that the economic problems in the 1930s could not be solved with traditional economic policies, such as changing the interest rate. He argued strongly for an active state. “We have to understand that many of the habitual symbols in our monetary and financial system

5. The Norwegian term is “uopplyst pengevelde.”

are optical illusions that will lead us on the wrong track. We must emancipate ourselves from these symbols and look in an unprejudiced and sober manner on the underlying factors of the real economy. We must leave behind the old floating sail marks and instead take a bearing on land itself” (Frisch 1933, 35).

His main point was that the crisis stemmed not from a production or poverty problem, but a turnover and organization problem. It was not necessary to make fundamental changes in the economic system. His ideas built on the present system of private ownership. What was needed was a public system that did not directly involve itself with production but instead influenced production indirectly by resolving problems in turnover and organization.

It was the development of what he called the real economy that was of importance and it was superior to the monetary economy. Frisch saw the monetary system as the source of the artificial economic downturn, and believed the monetary system needed reforms (Eriksen, Hanisch, and Sæther 2007). The monetary policies had, in his opinion, been governed by what he described as “monetary fictions.” He identified three different “monetary fictions”: 1) a skewed distribution of purchasing power between branches and sectors, 2) a skewed distribution of purchasing power between economic classes, and 3) the so-called “encapsulating phenomena” (Frisch 1951/1932). Frisch put greatest emphasis on the last. By “encapsulating phenomena” he meant the fear mentality that developed during a depression. The fear caused businesses, industries, and even nations to behave like the trolls in Ibsen’s *Peer Gynt*—“be thyself enough”—meaning that economic actors kept within themselves and passively reacted to the vicissitudes, reluctant to place new orders before their own sales had increased.

The government should adopt the objective of ensuring that all available resources, both labor and capital, are utilized. The state should redistribute purchasing power and stimulate supply through tax relief. It was essential that any deficit was financed through enhancement in aggregate credit, as opposed to government borrowing that displaced private borrowing and investment. Public works were not part of his plan. His aim was to increase activity in society by stimulating consumption through reduced taxes. When the economy had reached its equilibrium with full employment, the government should “withdraw from the play” (Frisch 1933, 35).

Cooperation between Frisch and Ole Colbjørnsen

His analysis and recommendations in the articles (and booklet) were harshly reviewed by Ole Colbjørnsen (1897–1973), a financial expert, in the daily newspaper *Arbeiderbladet*. This newspaper was the main media outlet for the socialist Labour Party. Colbjørnsen had worked in Soviet service, but had defec-

ted.⁶ He lived in London at the end of the 1920s and was fascinated by the ideas of John Maynard Keynes (Munthe 1995; Eriksen and Sæther 2010a, 4ff). Colbjørnsen was crucial in bringing Keynes's ideas to Norway. He attacked Frisch's proposals because they benefited people who were able to pay their taxes.⁷ Why not give the support to the unemployed? Or even better: Why not use the money to put people to work? He claimed that Frisch was just scratching the surface of the crisis and that he should instead be debating the basic weaknesses of private capitalism. Colbjørnsen asserted that Frisch was far behind his more progressive Nordic colleagues such as the Swedish professor Bertil Ohlin (1899–1979).⁸ Colbjørnsen contended that Frisch's proposals were just another example of a reflation initiated by the government. He was surprised that Frisch did not embrace the program of the Labour Party or realize that private capitalism had failed and that the road forward was a socialist planned economy. Frisch counterpunched, claiming that Colbjørnsen did not put enough emphasis on private initiative. According to Frisch economic intervention had to be organized in a rational way “that one can utilize the tremendous energy source which is implied in the will and initiative of each individual.”⁹

Although it started in fury the relationship between Frisch and Colbjørnsen quickly turned cooperative. How this came about is, according to Munthe (1995, 281), not very clear. Perhaps the motivation came in part from the rejection of his ideas by the political leaders he had met with during 1932. A crude theory would be that a yearning to see himself in with a governing set led Frisch to bend his thinking to make himself viable with the one power faction that seemed open to him.¹⁰

Frisch and Colbjørnsen started a fruitful collaboration and together they participated in the development and making of the Labour Party's crisis plan of 1934. Frisch accepted the proposal for a strong increase in public spending and that it should be partly financed by an increase in taxes, and he no longer praised private initiative and tax relief. Colbjørnsen on the other hand accepted that increased public spending should be partly financed by loans. His major concern was the effect on the real economy. Also in 1933 Colbjørnsen wrote together with Axel Sømme (1899–1991) *A Norwegian 3-Year Plan (En norsk 3-årsplan)*, in which they

6. Colbjørnsen was a brilliant student and research assistant in the natural sciences during World War I. A scientific career lay open to him. However, he became a Marxist and went into Soviet service, first in Oslo, and later in Moscow, Leningrad and Arkhangelsk. He worked on plans to organize Russian foreign trade. In 1929 he was appointed CEO of a Russian shipping company in London. He defected in 1932 and returned to Norway (Hirsti 2000). During the years 1940–1948 he was financial attaché at the Norwegian Embassy in Washington. He became a free market liberal and a strong supporter of NATO.

7. *Arbeiderbladet*, March 15, 1933.

8. On Ohlin's ideological character, see Berggren (2013).

9. *Arbeiderbladet*, May 15, 1933.

10. See our discussion of Frisch's ideological outlook and its evolution (Sæther and Eriksen 2013).

proposed that the state invest heavily in the economy as a first step to a true socialist economy.¹¹ Colbjørnsen strongly believed that private investment was not capable of curing unemployment. Only the state could do that, and the state would be more rational than private business people.

After the 1935 parliamentary election, the Labour Party formed a minority government and could have put its crisis plan into effect. To the disappointment of Colbjørnsen, Frisch, and many others, that did not happen (Vogt 1961, 29). The budget was kept in balance and the grants for public works were rather small. The government carried out a contractive fiscal policy. These years could therefore “be seen as the years of neglected possibilities” (ibid., 148). In Norway the business cycle turned in late 1932 (Klovland 1998, 329), and a real upturn started in the second half of the 1930s, partly because of exports to a rearming Germany.

The Labour Party politicians saw both Colbjørnsen and Frisch as theorists and unsuitable as politicians. As a consequence Colbjørnsen moved away from Keynesian policies and advocated, as a Parliament back bencher, industrial socialism, i.e. a system where major industries are owned and controlled by the government. He later became a supporter of a market economy. Frisch withdrew from direct participation in politics and turned his attention to his research and to the content of a new study program in economics at the university.

Eriksen, Hanisch, and Sæther (2007, 6) argued that there had in the 1920s and early 1930s been a general agreement among university economists that a fundamental revision of University of Oslo’s two-year program in Political Economy was overdue. Preparations for the new five-year study program in economics were in 1934 led by Professor Ingvar Wedervang. Wedervang wanted to build on the old two-year program, and at the same time introduce new subjects such as business economics, sociology, and economic and social history, and include more use of mathematics. Trond Bergh and Tore Jørgen Hanisch (1984, 146) claim that the new study program approved in 1936 was very much influenced by Frisch. The new program had 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 among the university economists about the content and structure continued. As a result, a new committee to revise the study program was appointed the year after it had been launched. However the opposition to Frisch’s dominance was divided, and he managed to a large degree to isolate his opponents. In 1937 Wedervang accepted an offer to become the first rector of the newly founded Norwegian School of Economics

11. Sømme had earned a Dr. philos. degree in 1931 and would be professor in economic geography at the Norwegian School of Economics from 1948 to 1969.

in Bergen (NHH). On his departure the dominance of Frisch and his supporters among the university economists was absolute (Bergh and Hanisch 1984, 148).

Frisch concentrated all his efforts on building what came to be called the Oslo School of economic research and teaching.¹² Through the research that was carried out and the new study program he was soon surrounded by many students and disciples that helped him promote his ideas. In the Institute of Economics building, behind the old University buildings, in the centre of Oslo, Frisch created a genuine environment with himself as a kind of ‘house-master.’ Here the students studied and lived their social life, discussing the important issues of the time as well as playing table tennis and chess. Frisch was often seen playing chess or talking with his students.

Characteristics of the Oslo School

The Oslo School can, in our opinion (Eriksen and Sæther 2010a; 2010b), be characterized by the introduction of quantitative methods into economic teaching and research, underpinned by extensive use of mathematics and statistics. Such tools were used to build and test economic theories and models. The School concentrated on the development of national accounts, national budgets, and macroeconomic planning models. It was marked by a separation of the monetary and the real economy. It rejected the idea of an interest rate as a price on capital, as well as the relationship between interest and liquidity.

During the second half of the 1930s, Frisch and his disciples became increasingly skeptical of the use of market forces to obtain an efficient allocation of resources and distribution of goods.¹³ A free market economy was in their opinion unstable. In such an economy the adaptation would in any case be *ex post*. Therefore it would entail resource waste. A planned economy would, in sharp contrast, give an *ex ante* adaptation and therefore a better utilization of resources. The solution was a state macroeconomic planning system and state governance with detailed regulations and selective policies for all branches of industries. The

12. According to Bergh and Hanisch (1984), the term “Oslo School” was probably coined by the economist Ole David Koht-Nordby in his review of the book *Hva krigen kostet Norge (What the War Cost Norway)*, Aukrust and Bjerve (1945) in the newspaper *Verdens Gang*, September 22, 1945. We do not think that Frisch at any time used the term “Oslo School.” According to Søylen (1998, 43) the Oslo School is a term used for the main economic thinking at the Institute of Economics and which set its imprint on the students that studied there.

13. Ariane Dupont-Kieffer (2012) claims that Frisch’s decisive shift from modelling for market purposes to modelling for planning purposes occurred with the general equilibrium model he developed in the very long and controversial paper on circulation planning (Frisch 1934).

extent of such controls would depend on the economic situation. There was no place for private investors or entrepreneurs in the system. Economists should make the important investment decisions. Frisch's move away from liberalism is, as reported by Hanisch and Sæther (2003) and Sæther and Eriksen (2013), reflected in correspondence between Frisch and Trygve J. B. Hoff (1895–1982), who was the editor of the Norwegian liberal economic journal *Farmand* (an old Norse word for tradesman). At the end of the thirties and beginning of the 1940s Frisch appears convinced that the market economic system had failed. He explained his position in a letter to Hoff at the end of 1941:

Personally, I believe that we are entering a period where more developed forms for industrial regulations will come to prominence. They are both unavoidable and, in my opinion, correct as counter-measures 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.¹⁴

Hoff, for his part, rebutted this statement quite coarsely.¹⁵

Frisch and his colleagues showed very little interest in the international debate about the feasibility and efficiency of centrally planned economies and they did not see any reason to make their students aware of this debate (Hanisch and Sæther 2005, 83).¹⁶ Through his strong, domineering personality and his habit of disseminating by privileged mimeos his own ideas and judgments, Frisch provided graduates of the Oslo School with an exceptional confidence in the science of economics. Jens Christopher Andvig (1993, 29) writes: "Their confidence was easy to understand because they knew about the complex, but simple world of the 'real' economy. It was knowledge which was exclusive to them and it had been introduced to them by an intellectual genius."

Frisch became increasingly insistent that economic life be strictly regulated. In a 1947 article in the Norwegian journal *Samtiden* he wrote: "Studies of the

14. National Library of Norway, Manuscripts Collection, Brevsamling 761B, letter dated November 10, 1941.

15. National Library of Norway, Manuscripts Collection, Brevsamling 761A, letter dated November 22, 1941. Hoff's journal, *Farmand*, was closed during the Nazi occupation but reopened after the liberation. Hoff, a liberal of the Hayek stripe and participant in the 1947 founding meeting of the Mont Pelerin Society, fought fiercely but in vain against the Oslo School and the centrally planned economic system that was established in Norway after the war.

16. A survey (Hanisch and Sæther 2005) indicates that no reference to Hoff's dissertation had been given to students in the period 1945–1985.

modern economic machinery have made me completely convinced that if this machinery is left to itself, it will according to its nature have to go through convulsive spasms and periodically spread sorrow and misery to large groups of the population.” Furthermore, he wrote that there are people who contend that if we start to regulate economic life we will end up with a society where intellectual life is in chains. He admitted openly that intellectual repression was a terrible danger but he did not believe that it would be the case. “Our only hope is that this will not happen. Therefore we will have to burn our ships behind us and put all our effort into this solution: Regulation of the economic life with intellectual freedom.” According to Frisch we did not really have a choice. The modern capitalistic system will go through the most terrible economic convulsions if it is permitted to develop under extreme freedom. And he, without predicting the exact time, claimed that an economic catastrophe would surely come in the United States. Frisch claimed that we want to have “full democratic control” of this system of a regulated economy. But to achieve full democratic control we need to educate people so they can understand the main features of the economic relations. And as a consequence we need to increase the number of students in economics.¹⁷

Frisch not only promoted his views through his teaching and discussions with his students and staff but also through the organization of the research that was carried out at the Institute. He involved many students, including economists, actuaries, and mathematicians. He had a large staff of colleagues and students around him. The traditional independent research method, with smaller individual projects, was to a large extent replaced by large collective research projects. It was the creation of the Institute of Economics that made this possible.¹⁸

Trygve Haavelmo and Leif Johansen

In addition to Frisch, two professors played an important role in the development of the Oslo School (Søilen 1998, 43). Trygve Haavelmo (1911–1999) had joined Frisch as a research assistant in 1933. From 1933 he and Frisch worked closely together, interrupted only by the war. In 1938 Haavelmo was visiting professor at the University of Aarhus and in 1939 a research fellow at Harvard University. After the war he spent one year at the Cowles Commission in Chicago, where he interacted with Tjalling Koopmans (1910–1975), Gérard Debreu (1921–2004), Herbert A. Simon (1916–2001), Theodore W. Anderson (1918–) and Lawrence

17. *Samtiden* no. 2, 1947, pp. 27, 28, 38.

18. The Institute was originally established with a grant from the Rockefeller Foundation. Later it was financed by private Norwegian sources until 1945 and had an ambitious program.

Klein (1920–2013), among others. During Haavelmo’s time in the U.S., according to Joseph Schumpeter (1954, 1163), he “exerted an influence that would do credit to the lifetime work of a professor.”¹⁹ His doctoral thesis *The Probability Approach in Econometrics* (Haavelmo 1944) showed that the results of many of the methods used to that time had been misleading. Returning to Oslo he was appointed professor of economics in 1948, 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. He was awarded the Nobel Prize in 1989 for his fundamental contributions to econometrics.

Based on his practical econometric studies going back to the 1930s, Haavelmo became, like Frisch, very skeptical of the free enterprise system. As Bergh and Hanisch (1984, 211) have pointed out, Haavelmo did not believe in neoclassical equilibrium theory. He denied that markets were a self-regulating mechanism that could be left alone. His skepticism and analytical mind also led him, however, to question the efficiency of some elements of the planned economy. He inclined toward planning, but with diffidence. This diffidence and skepticism characterized his teaching as late as the 1970s.

The other major figure was Leif Johansen (1930–1982), who at age 18 entered the University of Oslo and later became an assistant to Frisch. From 1951 Frisch and Johansen worked closely together. Unlike Haavelmo, Johansen shared with Frisch not just the planning spirit but an aggressive, forward-looking ambition. When Frisch retired in 1965, Johansen took over his chair. Johansen’s doctoral dissertation, *A Multi-Sectoral Study of Economic Growth* (1960) became the foundation for long-term economic planning by the Ministry of Finance. (Hanisch, Søylen, and Ecklund 1999, 167) With Johansen, economic planning became a very strong discipline at the Institute. His lectures (collected in Johansen 1977) became the standard work to be used by students as well as economic planners in Norway. Johansen was a member of the Norwegian Communist Party and defended the Party in radio discussions in parliament elections, but he promoted his ideas within the context of a democratic society. Still, he strongly favored a Soviet-type planned economic system and in writing he fought vigorously against free trade (Johansen 1983, 21-27).

19. Clifford Hildreth (1917–1995) at the University of Minnesota was advisor for Arild Sæther from 1966 to 1968. He was at the Cowles Commission at the same time as Haavelmo. He claimed that Haavelmo had a tremendous influence on the research environment. At lunch and coffee breaks Haavelmo distributed new ideas and research proposals freely to his colleagues.

Frisch was the leading light in Norwegian economics in the period 1935 to 1950 (Bergh and Hanisch 1984, 206). Once Haavelmo and later Johansen had established themselves, they gradually assumed the guiding positions.

Towards a centrally planned economy

When France and Great Britain declared war on Nazi Germany in September 1939, the Norwegian socialist Labour government passed a provisional decree that introduced strong regulation of the Norwegian economy. The Trust Control with its director Wilhelm Thagaard (1890–1970) was given the authority to introduce all regulations necessary to control prices and profits. The decree empowered the government to regulate directly or indirectly production and trade. An administrative system was established across the country to carry out these regulations.

During the five years of Nazi occupation these regulations were further developed by the Quisling government of occupied Norway. Meanwhile, the ousted Norwegian government, in exile in London, planned for a reconstruction of the Norwegian economy after the liberation. Thagaard and Erik Brofoss (1908–1979), who had left occupied Norway and joined the administration of the government in exile, played an important role in this planning. They were both strongly influenced or even indoctrinated by Frisch. On 8 May 1945, the day Nazi Germany capitulated, the London-based exiled Norwegian government issued a provisional Royal decree, called “Lex Thagaard” after the originator, which set out a series of important regulations. The decree not only formalized the state control of production and trade that had existed during the war years, it even extended them. Thus, on the day of liberation from one regime, the returning regime tightened restrictions on economic affairs. 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 “rationalization.” 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 [control] 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, prior to the Nazi occupation, been left to each individual player in the market would now be decided centrally by the government and its bureaucrats.

How could the Government push through such a far-reaching edict, in the form of a Royal decree, which was in defiance of fundamental principles of the rule of law? Many authors (e.g. Bergh 1987, 244ff; Lange 1998, 126ff) have tried to explain *Lex Thagaard* 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. The Norwegian socialist and historian Berge Furre explained it in the following way:

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. (Furre 1999, 211)

Furre’s explanation does not fully address 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. That system had functioned reasonably well during the five years of occupation. 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, and even extended, long after this type of regulation was abolished in other Western countries. Here especially the Oslo School deserves credit as a key factor in how economic policy and performance unfolded in Norway.

20. Paragraph 2 in the “Provisional decree of May 8th 1945 concerned with price regulation and other regulations of industry and trade.”

The new freedom and the planned economy

In 1945 the socialist Labour Party won a majority in Parliament. Many of its members and supporters wanted to turn Norway into a socialist society with a centrally planned economy. Norway should develop a national plan; competition is a nuisance and would not lead to a social optimum. New inventions and technical improvements within one firm should, for example, immediately be shared with all the other firms within its industrial branch. But such sharing could only be implemented in a planned economy. Such attitudes led to an expansion of the Norwegian wartime regulations. The Lex Thagaard and several other decisions made by the government and the parliament in 1945 and 1946 can, according to Espen Søylen (2002, 29), be seen as “a step on the way to a permanent form of a planned economy.”

Thagaard as director of the Price Commission and Brofoss as Minister of Finance were central to creating the new policy. They shared the opinion that there was a need to govern the economy. It was Brofoss who played the main role in convincing the Labour Prime Minister Einar Gerhardsen (1897–1987) about the possibilities that followed from the scientific knowledge developed and delivered by Frisch and his disciples. Brofoss implemented Frisch’s economic thinking in government. Petter Jacob Bjerve (1913–2004), another strong supporter of Frisch and his ideas, and, as head of the Central Bureau of Statistics, important in the construction of the Norwegian planned economy after the war, wrote in his last years: “The economists march—Brofoss governs” (Bjerve 1989, 182).

When Brofoss presented the national budget for 1947 to Parliament he explained the reason for the new system:

Man has through scientific and technological progress managed to free himself from the violent forces of nature. They have managed to break the strings that nature has laid over human lives. It would be a step towards increased freedom to be able to free ourselves from the blind submission to the chances in economic life, which for each individual looks like the work of the forces of nature. We have to make ourselves master of the economic forces instead of being ruled by them.²¹

The government should therefore free the nation from the blind economic forces. To do so, he said, “a regulated economy is necessary in a modern society.”

21. *The Parliament Gazette* 1947, p. 17897.

The Oslo School becomes dominant

When the war ended in 1945, Brofoss worked actively to hire the new Oslo graduates not only in his own ministry. Moreover, he also worked vigorously to get them into central positions in other ministries and directorates. In such positions they became very influential and gained substantial power in carrying out the policies of a planned economy. Bjerve (1989, 190) claimed that Frisch strongly believed that his students could play an important role against “a fictional economy” and that they could prevent the economic disasters like the 1930s. But not everyone looked on with positive eyes. The President of the Parliament C. J. Hambro (1885–1964) felt, according to Rune Slagstad (1998, 278), “anxious about this crowd of young highly intelligent economists that are let loose on a defenseless society.”

A nexus of three institutions came to be called “the Iron Triangle.” It consisted of the Institute of Economics (at the University of Oslo) with Frisch as its chair, the Bureau of Statistics’ research department with Odd Aukrust (1915–2008) as its director, and the planning department in the Ministry of Finance with Eivind Erichsen (1917–2005) as its head. Throughout the Iron Triangle, most of the high-level personnel were researchers trained at the Oslo School. The Iron Triangle played a decisive role in work on national accounts, national budgets, and economic planning during the postwar period. In addition Thagaard’s Price Directorate and the Ministry of Industry played an important role.

Tore Thonstad (2005, 239) contends that Frisch, after the liberation in 1945, did not have any great influence on Norwegian postwar economic planning, although Frisch in many articles gave his advice freely. This view can be contested. Indirectly through his Oslo School, the Iron Triangle, and the hundreds of new graduates in the first post war years, Frisch clearly had a considerable influence on the development of economic planning in the first decade after the war. From the beginning of the 1960s he became very critical of the Labour Party government for being unsystematic, so Frisch himself eventually fell out of favor with the socialist politicians, to some extent, but nonetheless the Oslo School movement continued into the end of the 1970s and some would say beyond.

Foiled by free trade, the Oslo School economists need new measures

In 1947 Norway reluctantly accepted Marshall aid with its conditions to join GATT²² and OEEC. The two organizations worked for free international trade.

22. General Agreement on Tariffs and Trade, later changed into WTO, World Trade Organization.

It is our opinion that membership in GATT and OEEC²³ saved the country from the worst excesses of a regime bent on economic planning, since the regime had to give up some of its detailed regulations on imports and exports. When the gradual free listing of imports started in 1949, Norwegian industries faced increasing competition. The industries had previously been protected by the regulation of imports. Some politicians and planners felt at this point that the foundations of the detailed regulated economy were starting to crumble. Professor Johan Vogt (1900–1991) wrote on this occasion that one of the pillars of the domestic planned economy had been pulled away (see Hanisch, Søylen, and Ecklund 1999, 197).

But the economic planners invented new measures and the detailed regulation of the economy continued into the 1950s. The low-interest policy, which Frisch had strongly recommended, was formally introduced in the spring of 1952 with the white paper “Directives for the Monetary and Credit Policy,” followed by the Law on Interest Rates from 1953. Also in 1953, after heated debate, the Parliament made the aforementioned 1945 provisional decree, the Law of Prices and Competition Regulation, permanent law. On this occasion the well known British journal *The Economist* wrote that Norway could not any longer be counted among the countries that had a liberal economic system.²⁴

When Norway joined the European Free Trade Association (EFTA) in 1960 it had to give up more of its detailed quantity regulations of international trade. Turning to other levers to bring their wisdom to bear on the commonweal, the economists and regulators now focused on monetary and credit policy. An elaborate system of credit controls were developed to ensure that the government’s planned investments were carried out. In June 1965 the Parliament adopted a new credit law, the Law Authorizing the Regulations of Money and Credit.²⁵ The law was drafted by a committee within which Johansen played a central role. Under the law it became possible for the Ministry of Finance to force private banks to limit their loans to specific industrial sectors. The private banks could be required to hold reserves in the Central Bank and they could also be required to buy government bonds. Private savings could be channelled to state banks. Such powers came under the law’s authorization of the Ministry of Finance to determine investment activity levels and resource allocation in the short and long term. Furthermore, investments were regulated through the issuing of building permits, import permits on building materials, and rationing of building materials. The government passed a provisional decree that provided the ministries with a wide set

23. Organization for European Economic Cooperation, later changed to OECD, Organization for Economic Cooperation and Development.

24. *The Economist*, October 3, 1953, p. 37.

25. Ot.prp.no. 28 1964–65, Lov om adgang til regulering av penge- og kredittforholdene.

of measures to control credit markets. The governance system went from rationing of commodities to the rationing of credit. In a culturally homogenous nation of 3.7 million people in 1965, such policy levers were sufficient to sustain a sense of economic planning.

During the 1960s several countries in Western Europe tried to develop models for long-term planning. Søylen (2002, 12) says that Norway was a special case in that both the level of activity subjected to control and the resource allocation were governed at an extremely disaggregated level. Also in Norway the central administration built and utilized models to an exceptional extent.

The role of the planning department in the Ministry of Finance was substantially extended. Reforms to create more efficient economic policies were carried out during the 1950s and '60s. The main purpose was to prepare a long-term state budget. Furthermore, the government's corporate income policy was strengthened. A central macroeconomic planning system, with detailed and selective policies for specific industries, was introduced.

New government in 1965—but the Oslo School still holds sway

In the parliamentary election in the autumn of 1965, the Labour Party lost the majority and a center coalition government took over.²⁶ Although this government did not use the most extreme tools allowed in the new law on credits, the power of the Oslo School economists in the ministries was so strong that there was no change in the main features of the economic planning of the previous socialist governments.

An OECD study from 1967 was very critical of the monetary and credit policies carried out in some of its member states. It pointed out that “The defects in the long-run [of such policies] lead to waste of economic resources.” It suggested that the defects were sufficiently serious to justify re-examination of the methods used for intervening in the financial markets. The study warns in particular against direct fixing of interest rates: “When carried out to the extreme, direct fixing of rates is obviously incompatible with the concept of the market.” It reported that cases where the financial authorities dictate the entire structure of monetary and credit policy are rare: “The systems existing in Spain, Greece and Norway probably come closest to this” (OECD 1967). Norway found itself in the company of two countries that were, at the time, dictatorships.

26. The Labour Party lost its absolute majority in the 1961 Parliament election but ruled with the support of a left-wing socialist party. A centre-right government was in power for one month during 1963.

Frisch and free trade

Occasionally during the later years of Frisch's career some Norwegian would argue in favor of a free market economy with free trade, and several times Frisch responded with a rebuke in a newspaper article. One such article, published in the socialist newspaper *Arbeiderbladet* in 1956, was titled "Dangerous Tendencies of Simplification in Economic Policy" ("Farlige forenklingstendenser i den økonomiske politikken"); in it Frisch strongly advocated planning instead of a free market economy.²⁷ A year later the conservative newspaper *Aftenposten* published a Frisch essay titled "Heretical Opinions on Free Trade" ("Kjetterske meninger om frihandel"):

If the western democracies persist in basing their economy on the free market they will soon be ousted by the eastern countries who now prepare themselves for an expansion under full utilization using rational and flexible economic planning.²⁸

Although Frisch still talked about the necessity of intellectual freedom, he became a great admirer of the Soviet economic planning system. He expressed this view in a letter to Hoff in 1958:

The depression that the USA (and partly 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 business cycle-free growth of seven or eight percent each year.²⁹

In a later letter he revised the numbers to claim that the economic growth in the Soviet Union was about ten percent each year. In 1961 Frisch contended that the majority of western economists did not acknowledge this fact, but in a few years they would be forced to see it.

The blinkers will fall once and for all at the end of the 1960s (perhaps before). At this time the Soviets will have surpassed the US in industrial production. But then it will be too late for the West to see the truth. (Frisch 1961a)

27. *Arbeiderbladet*, December 10, 1956.

28. *Aftenposten*, March 11, 1959.

29. National Library of Norway, Manuscripts Collection, Brevsamling 761B, letter dated August 11, 1958.

Frisch and his supporters rejected the ability of a free enterprise economy to allocate resources effectively. Frisch compared an economist to a social engineer who has a toolkit consisting of new mathematical planning models, a system of detailed national accounts and detailed regulations and controls. With this toolkit he could beneficially govern the economy. An economist with the right training could assist the politicians in government and parliament to develop the welfare state. Until his death Frisch defended what he called rational economic planning and claimed that it was superior to a market economy (see, e.g., Bjerve and Frisch 1971).

Postwar economic performance

Although the destruction caused by warfare and five years of Nazi occupation was formidable, the effect on production capacity was not as bad as first estimated. Under Nazi rule, Norway's infrastructure (railways, roads, airports, harbors, etc.) was maintained through the use of both the Norwegian labor force and slave labor (prisoners of war from Russia and the former Yugoslavia), and some production facilities were developed. Comparison with other industrialized countries directly involved in the war shows that Norway's loss in production capacity was average.

Already in 1947 Norway reached pre-war levels of production (Aukrust 1965, 62). Initially, Norway's output was oriented towards raw materials and metals. Fish and other unrefined products became the most important export products. Norway was in many ways a half-industrialized country and had, as argued by Anders Skonhøft (1994), an industrial structure characterized by enclaves. The melting furnace works and the shipping located in these enclaves had little interaction with the rest of the economy, and the capital-intensive and energy-intensive industries were as a main rule located in the periphery. Engineering industry, notably shipyards, machinery workshops, and processed products, became an important activity in the 1960s. Engineering-based industries, and in particular shipyards, met serious problems in the 1970s. In the spring of 1966, Brofoss told students of economics at the University Oslo, that "the Norwegian harvesting season was at its end." Norway could no longer depend on agriculture, fisheries, and mining. "We have to start using our heads!"³⁰

But then, in the early 1970s, oil and gas was discovered in the North Sea. As a consequence the deindustrialization that took place in the Norwegian economy from the middle of the 1970s was joined by a crowding-out effect caused by the

30. Said in a lecture to economics students at the University of Oslo, spring 1965.

oil and gas sector. Relative to other similarly wealthy countries, Norway remained economically reliant on raw materials.

Initially members of the Oslo School expressed, as earlier mentioned, great skepticism toward the Marshall aid because of the conditions that Norway become a member of OEEC and of GATT, two organizations that promoted free trade and consequently advocated tariff reductions and the abolition of quantitative restrictions on trade. But the economic situation forced Norway to overcome such skepticism of free trade, and in the 1950s and 1960s Norway's participation in international exchange of commodities grew. Norway was a founding member of EFTA, and then in 1972 supported the free trade agreement between EFTA and the European Economic Community, which created the Western European free trade area for industrial products. Although Norway did not join the European Union it is a member of the European Economic Area, and with the exception of agriculture and fishery its economy is totally integrated into the European markets.

The surface: GDP growth rates

How did the planned Norwegian economy actually perform in comparison with its Nordic neighbors and the OECD countries in the 1950s and 1960s?

The yearly economic growth in average GDP per capita, in fixed 1985 international prices, was in Norway from 1950 to 1960 2.6 percent. This is lower than the average of 3.3 percent for all OECD countries. It is on par with Sweden, Denmark and Iceland, but lower than Finland, which had an annual growth of 4.0 percent.

From 1960 to 1973 average yearly economic GDP growth per capita for all OECD countries was 4.0 percent. The growth in Norway during this period was at 3.7 percent. This is again lower than Finland's at 4.3 percent, and on par with Iceland at 3.7 percent, but higher than Denmark at 3.5 percent and Sweden at 3.1 percent.

In the period 1973 through 1988 the average yearly economic GDP growth per capita in Norway was 3.3 percent, which was substantially higher than the OECD average of 1.8 percent. The higher average yearly GDP growth rate from 1973 to 1988 is in our opinion a reflection of Norway's development as an oil and gas nation.

The economic growth in Norway in the 1950s and 1960s cannot therefore, as Skonhoft (1994) and a few others have pointed out, be interpreted as the result of a particularly successful economic policy. Nevertheless, a 'success' interpretation has often been maintained by economic historians such as Einar Lie (2012, 119) and Fritz Hodne (1981, 563), and it has also been reflected in socialist and social democratic memoirs, for example that of Gerhardsen (1972, 155).

Beneath the surface: Investment ratios and consumption

But there is another important factor for any assessment of economic development in Norway during the years preceding the discovery of North Sea oil and gas. From 1950 to 1975, investment ratios in Norway were exceptionally high compared to other OECD countries.³¹ The investment ratio is the ratio of total gross investment, private and public, to GDP. This important factor has been overlooked in much of the later literature covering the period—notwithstanding that it was discussed intensively by economists in the 1960s.

The significance of integrating the investment ratio into the assessment can be illustrated by some examples. During the period 1950 through 1959 the yearly average investment ratio was in Norway almost 32 percent. During this time Norway had approximately the same average yearly GDP growth rate as Denmark and Sweden. Denmark and Sweden on the other hand had yearly investment ratios of 17 and 21 percent respectively.

Norway had also in the following decade, 1960 through 1969, an exceptionally high investment ratio of approximately 29 percent, compared to Denmark's at 21 per cent and Sweden's at 23 per cent. During these years the yearly average GDP growth rate was only slightly higher than these countries.

Left-leaning politicians and economists of the Oslo School believed that the policies during the 1950s and 1960s, which were based on the principles of central economic planning and state governance of economic life, would give and had given the best results. High investment ratios in the short run would give high growth rates and increased welfare in the long run. This turned out not to be the case.

The high investment ratios coupled with only average economic growth rates were a source of worry for some economists. Odd Aukrust (1957), then head of research in the Bureau of Census, asked a series of interesting and highly relevant questions: What relation is there between Norway's relatively high level of investment and the growth in GDP? What is the reason we have had weaker growth in GDP in the last five or six years compared to the years just after the war, despite similar investment levels? His most important question was: Is the reason that we do not choose the right investments? Should not Norway, with one of Europe's highest investment rates, be able to show substantially stronger GDP growth rates than is the case? He continues to explain that Norwegian economists and Government officials who took part in international meetings and conferences during the 1950s frequently were asked the following question: Why does Norway

31. Data obtained from Aukrust (1965, ch. 2.3) and Soilen (2010, 103-121).

get so little in return from its very high rate of investment, compared to other European OEEC countries?

Another economist at the Institute of Economics, Johan Vogt (1961, 122-124), also asked why, in light of Norway's high investment ratio, economic growth was so low. He even made a computation showing that if we had the same relation between investment ratios and economic growth as the other countries in Western Europe we should have had 6.2 percent yearly growth in GDP.³² The actual growth rate was only 2.6 percent! Year after year Norwegians sacrificed better living (consumption) to pay extra for only average growth rates. As possible reasons for the remarkably low "bang" for the investment buck, Vogt points to the high capital-labor ratios in major Norwegian industries such as electro-technical and electro-chemical and shipping. Even Frisch, who at the beginning of the 1960s had been very skeptical of the economic planning carried out by the Labour Party, claimed, in the last available letter from him to Hoff in 1964, that Norway had not gained as much as it should from the country's large investments. He blamed "the incompetence of the government" and its support of "a thoroughly naive and unimaginative form of economic planning."³³ A more rational form of planning was needed.

In 1965 the Central Bureau of Statistics published an investigation of more than 400 pages, with Odd Aukrust as the editor, entitled *The Norwegian Postwar Economy*. In the study the fact that Norway had very high investment ratios in comparison with other OECD countries is registered. No satisfactory explanation is given, but the study points to particular features of the industrial-economic structure in Norway that require extremely high investment, those being the importance of shipping and hydroelectric power, a high level of government saving, and high total saving. In a footnote, however, it is admitted that other countries with which Norway compares itself may also have had industrial structures requiring high investment (Aukrust 1965, 141). The Bureau arrived at the conclusion that "the main explanation for the high level of investment in postwar Norway must be sought for in the strong preference that investment was given in economic policy" (ibid., 142). It was understood, of course, that investment decisions, both public and private, were mainly shaped by the government. Leif Johansen (1966, 14) noted that the high investment ratio was a result of government policy, but said he was not sure whether that was an interesting answer. Neither he nor the Bureau asked if the low return on investment could have something to do with the way investment projects were chosen.

32. Vogt's computation is based on data from Kristensen et al. (1960).

33. National Library of Norway, Manuscripts Collection, Brevsamling 761B, letter dated August 24, 1964.

The cost of high investment ratios

Many historians and economic historians who have given an account of the Norwegian postwar history (e.g., Bull 1979; Lange 1998; Furre 1999; Alnes 2000; Nielsen 2011; Lie 2012) have not compared economic growth in Norway with other countries and have overlooked the fact that high investment ratios and relatively low growth rates come with a cost. One exception is Hodne (1981, 585), who said: “Norway has accordingly sacrificed more than its neighbours to achieve only an average growth rate.” But he did not do a further investigation. The price for the high investment ratios in Norway in the 1950s and 1960s was a lower rate of growth in private and public consumption. To our knowledge, no one has used Vogt’s counterfactual method—“suppose we had a normal bang for the investment buck”—to calculate in analogous fashion the depression in consumption, in percentage terms. Still, OECD statistics show that Norway was far behind in education (high school and college/university level), health services, and infrastructure. During these years thousands of students from Norway studied at universities in Denmark, Sweden, Germany, Switzerland, the United Kingdom, and the United States because they would be denied entrance at home. The great expansion of the Norwegian system of higher education took place from 1969 and onwards.

We can personally testify that for Norwegians who traveled to Denmark, Sweden, and other Western European countries between 1950 and 1970 the differences in standard of living and private consumption were striking. In the years prior to the North Sea discoveries and development, Norwegian living standards were simply markedly inferior.

In our opinion, neither the prominent Norwegian economists belonging to the Oslo School nor other economic historians have provided a satisfactory answer to the rather disturbing questions that Aukrust raised in his article from 1957. Perhaps the answer lies in the inefficiency of the detailed, regulated, planned economy, and the system’s lack of ability to choose the right investments and to correct its errors. The performance of the Norwegian economy by the end of the 1960s and in the beginning of the 1970s was such that even ardent supporters of the Oslo School started to have doubts about the system.

The need for change

At the end of the 1970s an increasing number of economists and politicians agreed that 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 alarmed responsible politicians and bureaucrats.

During the 1970s special interest groups had lobbied with remarkable success. The ministries in general, and in particular the ministries for manufacturing industries, agriculture, fishery, and trade, listened to the lobbyists. The result was that industrial productivity and international terms of trade had drastically weakened. As a result, and for the first time since the war, governing failure was discussed (Søilen 2002, 181).

In the second half of the 1970s there was a consensus favoring the revitalization of the stock market and the ending of the selective support policies and credit rationing. Instead of detailed governing of industries the state should limit its use of instruments to framework conditions. Industrial policy should as far as possible be neutral, and any direct industrial engagement by the state should be adjusted to market demand.

In 1977 the Ministry of Finance signalled that the situation was serious, that there was an urgent need for a radical change in economic policy. The trade deficit was expected to be more than 10 percent of GDP and external debt would probably reach 50 percent of GDP. No other OECD country had until then been in a similar situation. A very tight labor 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 growth in the country’s real income and that in domestic consumption from 1974 to 1977. Changing the economic policy turned out to be very difficult, however. Søilen (2002, 183-184) discusses the reasons for the difficulties in turning the economic policy around. The Labour Party did well in the parliamentary election of 1977. The Labour Party wished to reduce selective support policies, but it was unable to gain the support needed to do so. The Minister of Finance, Per Kleppe (1923–), had limited support from his own government, and several government proposals were turned down by the Parliament. Strong vested interests favored the different support measures. Branches of industry, which received support, wished to keep these measures. Branches that did not receive any support lobbied members of Parliament and government officials, claiming that they also deserved such support and therefore should be included in such programs. Politically, it was a difficult situation. Manufacturing companies were encountering low profitability, and the abolition of the selective support policies left them exposed to competition. The system of subsidies, cheap government loans, and other selective support measures for particular branches of industry had been developed and implemented by bureaucrats; by changing or abolishing the policies, the bureaucrats would lose their power base. This may explain their resistance to change. 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 decisions, are the same persons who are going to propose remission. This can be interpreted as the means to cover up what I will call wrong decisions. (Brofoss, quoted in Søylen 2002, 183 n. 326)

Some bureaucrats in the Ministry of Finance, who were responsible for the practical work with the state budget, had warned about such effects of the support measures, but their arguments did not carry weight with the top management of the Ministry, who for years had indulged a system in defiance of economic reality.

In spite of the serious economic situation the government was not able to turn the economic policy around. Søylen (2002, 186) argues that economists at the Ministry of Finance were unable to level self-criticism. Just as Frisch had blasted the government for not prosecuting economic planning competently, the blame was pinned on irresponsible politicians and organizations. According to Søylen, the civil servants at the ministry should have taken their part of the blame:

The ambitious economic policy that was carried out was built on ideal assumptions about the possibilities of governance, not only in relation to organizations 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. Only once this was apprehended would it be possible to carry out reforms to the Norwegian economic policy. (Søylen 2002, 186)

Bergen: A new selfhood for economists develops

In 1959, Karl H. Borch (1919–1986) was recruited as a University fellow to the Norwegian School of Economics in Bergen (on Borch, see Aase 2004). In 1963 he was appointed to a new chair in insurance. He stood out as an eminent researcher and became a spirited leader for the younger researchers. He had built a strong international network and he urged his students to pursue doctoral studies abroad and particularly in North America.

Borch built new competencies and achieved international recognition. The developments at Bergen occurred as the influence of the Oslo School slowly waned. By the beginning of the 1980s, economic planning according to Frisch, Haavelmo, and Johansen was no longer the alpha and omega of Norwegian economics. Instead, more emphasis was placed on market economics and the functioning of competitive markets under uncertainty. Jan Mossin (1936–1987) and Agnar Sandmo (1938–) were two of Borch’s students who became influential economists in the 1980s. Mossin was part of a group of international researchers who 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. Sandmo states that markets and social institutions do not function in an ideal way and 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 (1943–), who, in 2004, together with Edward C. Prescott (1940–) was awarded the Nobel Prize for their contribution to dynamic macroeconomics, notably the time consistency of economic policy and the driving forces behind business cycles.

The Norwegian School of Economics in Bergen did not fire direct criticism at the Oslo School, but rather it showed Norwegian economists a somewhat different way of being an economist, a second option for professional selfhood. During decades following 1960, the Bergen-style economist was, relative to the Oslo School economist, more oriented to the business community and problems of the business world, more favorable to market forces, less enthralled to power in the center of government, and more oriented to international research, particularly in English-language discourse. By a process of rivalrous competition, the Bergen-style economists checked the prestige and cultural power of the Oslo School economists.

The dissolution of Frisch’s grand vision

In 1978 and 1979 the government set up two committees to answer important questions about how to turn the Norwegian economy around. In 1979 the Committee for Industrial Growth, also called the Lied Committee after its chair Finn Lied (1916–), which had been appointed by the Ministry of Finance, produced its white paper on the structural problems and growth problems in Norwegian manufacturing industries (NOU 1979). The historian Harald Espeli (1992, 191)

claims that the proposals from this committee represent “the official Norwegian version of the ideological reorientation to the market which characterized the OECD area.”

The Committee concluded that political governance failures were just as serious as market failures and that a decentralized market economic system would be better able to tackle the challenges than a centralized economic planning system. The role of the state should be limited to an economic policy that created favorable framework conditions, and declared that the selective industrial policies should be wound up. Also, the committee stated that the government should work to strengthen international free trade; Norwegian industry should be exposed to competition and should participate in new markets.

A decentralized market economy

The proposals were controversial and it was more than a year before the white paper led to any government response. Finally, in a government report (St.meld. nr. 54, 1980–81), 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 decentralized market economy. At the same time the market economy should be regulated through a framework of general laws, taxes and levies. There should be no selective support measures. The report suggested that within such a system each corporation, by attending to its profit, would also advance social welfare.

The 1980–81 report, which was written by the Ministry of Industry, broke with the strategies that for more than 30 years had formed the basis for the work in the ministry (Søilen 2002, 189). It also broke with the fundamental principles of the Oslo School.

The credit rationing system in Norway had changed gradually throughout the 1970s. In other Western countries efficient financial markets were considered important to obtain economic efficiency. Leading economists at the Oslo School denied that financial markets were proper markets and that the interest rate was a price on capital. But the effects of credit market control and low interest rates on resource allocation had raised problems.

Liberalized credit markets

In 1980 the Committee on Interest Rates, which also had been appointed by the Ministry of Finance, presented its white paper (NOU 1980). At this time the committee, maybe not so surprisingly, had no representatives from the Institute of Economics.

The unanimous recommendation from the Committee was to abolish the policy of low interest rates and to allow freer interest-rate formation and consequently more competitive credit markets. The reasons were to allow for a better resource allocation and to resolve problems in administering interest rates.

Thus the Committee implicitly asserted the same arguments against the control system that critics of the system had used when the system was introduced in the 1950s—critics such as Trygve J. B. Hoff and Johannes Andenæs (1912–2003), who warned against the widespread use of enabling acts.³⁴ The white paper did not formulate criticism of the credit market control system explicitly, however. The revision of economic policy was said to be necessary as a consequence of structural changes in the economy.

The white paper stated that the main objective of financial markets was to implement profitable corporate investments. The best way to achieve that 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 control of issuing bearer bonds. The interest rates 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 rates in the remaining markets. The government followed up in the spring of 1980 by changing the control of the bond markets.

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

Consequently, during the 1990s the elaborate system of detailed economic planning and control came to an end.

The legacy of Ragnar Frisch

The implementation of the recommendations from these two committees ensured that the central economic planning system from the mid-1940s to the mid-1970s was totally abolished. Now in Norway, as in most other OECD countries, economic activities are based in large measure on a decentralized market economy with largely free international trade. In Norway, private investors and

34. Hoff, as editor of the liberal journal *Farmand*, fought vigorously against the 1953 Law of Prices and Competition Regulation. The views of Andenæs, a professor of law, are documented in Tafjord (1994, ch. 3.2.1).

entrepreneurs are now chiefly responsible for major investment decisions, and interest rates are governed chiefly by market forces.

Olav Bjerkholt (2005, 25-26 n. 51), in a memorandum from the Oslo Institute of Economics, points out that Frisch, Haavelmo, and Johansen, who all had socialist convictions, reigned supreme at the Institute during the 1960s. They were strong proponents of economic planning. Furthermore he claims that the Institute had a different environment than most departments in Western Europe at the time. Somewhat bitterly he argues that nothing is left of the old tradition. Their books have not been on the reading lists for decades. Even the name of the Institute has been changed from Sosialøkonmisk Institutt to Økonomisk Institutt.

Perhaps a legacy of Ragnar Frisch is the extensive use of mathematics, statistics, quantitative methods, and econometrics in economic teaching and research. The use of national accounts and national budgets remain relevant today. Macroeconomic models continue to be used to forecast and to analyze alternative policy options. But the mathematical trend is not something distinctive to Frisch and the Oslo School; economics training worldwide has grown more mathematical.

The Danish economist Niels Kærgård (2000) discusses whether the teachings of the Oslo School were unique to Norway or common to Scandinavia as a whole. He claims that many of the ideas of the School were generally accepted by Scandinavian economists of that period, but that there were clear differences between Danish and Norwegian economic policies. This difference was due to political reasons. The Labour Party in Norway held for many years a majority while their Danish sister party did not. Kærgård concludes: "If one should draw a policy conclusion from the study of the Oslo School, it has to be, that no truth lasts forever, and that one should be careful to put one's trust in the moods of one's time. ... The previous generation of economists saw only the breakdown of the liberal society in the 1930s and during WW2, maybe we today see only the collapse of the planned economies in 1989" (Kærgård 2000, 347).

But our attitude is not that Norway suffered under irresponsible economists and has now come right. Elsewhere we have shown that, prior to Frisch's Oslo School, economic theory and teaching in Norway gave an essential place to entrepreneurs, but to this day the entrepreneur remains absent from economics education in Norway (Eriksen and Sæther 2010b). This unfortunate situation is by no means unique to Norway (see Johansson 2004), and it is representative of more general problems in much of mainstream professional economics. The story of Frisch and Norway is not entirely particular to Norway. One wonders, for example, whether a parallel story could be told about Jan Tinbergen and the Netherlands.

Norway has overcome the worst excesses of the tide that rose and partially receded in the twentieth century, but there still remains much scope for improvement.

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