

RAGNAR FRISCH AND ECONOMETRICA

By Olav Bjerkholt

Ragnar Frisch (1895-1973) was the Editor of *Econometrica* for a period of 22 years from its first issue in January 1933 and continued to serve as Chairman of the Editorial Board for another decade. The first Nobel Prize in Economics was awarded Ragnar Frisch (jointly with Jan Tinbergen) in 1969.

When the Econometric Society was founded by a gathering of 16 persons in Statler Hotel, Cleveland, Ohio on the 29th of December 1930 nothing was mentioned in the minutes from the meeting (*Econometrica* 1, p. 71) about a journal. The idea of a journal had been mentioned, however, on numerous occasions in the international intercommunication that led to the foundation of a new international association devoted to the use of mathematics in economic reasoning in conjunction with statistical methods.

The first invitation to form a new association was a circular letter of 17th June 1930 addressed to 31 persons including the signees (I. Fisher, R. Frisch and C.F. Roos). In the letter the new association had not been given a name, it was referred to as '... an international association for the advancement of economic theory.'¹ A new association was not promised, however, only that if 'sufficient encouragement' was received from the group of addressees, a similar letter would be sent to a larger group. The encouragement sufficed, and invitations for a constitutional meeting at the gathering of the American Association for the Advancement of Science were signed by the same three persons and sent out 29th November the same year. With regard to the name of the society to be formed the invitation argued that '... it seems advisable to coin a word, since no current single word will connote exactly the correct idea. So far, we have been unable to find any better word than "econometrics." '(Divisia, op.cit., p.29). Hence, the name of the Econometric Society had not been put in writing until it appeared in the draft constitution prepared by Frisch for the constitutional meeting. Proposals for a name for the Society's journal had been discussed earlier, however, by correspondence and in oral communication in the years that went prior to the foundation of the Society. In the abovementioned circular letter of 17th June 1930 the journal issue had been raised and "Oekonometrika" put forward as a possible name (with "Economic Theory" and "Economic Science" as more bland alternatives).

There can be little doubt that Frisch deserves more credit than anyone else for the idea of founding *Econometrica* as well as for the name the journal was given. In Frisch's very first

¹ The letter is annexed (p.26f) to F. Divisia: La Societé d'Econométrie a Atteint sa Majorité, *Econometrica* 21 (January, 1953) pp.1-30.

paper in economics in 1926 the term "econometrics" (in French) was introduced for the first time.² In the same passage he formulated the first epigraph for econometrics as a science:

Intermediate between mathematics, statistics, and economics, we find a new discipline which for lack of a better name, may be called *econometrics*. Econometrics has as its aim to subject abstract laws of theoretical political economy or 'pure' economics to experimental and numerical verification, and thus to turn pure economics, as far as possible, into a science in the strict sense of the word' (Chipman & al., op.cit. p.386).

The idea of a journal was first put forward by Frisch in a letter to F. Divisia in 1926, in which he tried to entice his support for a new organization and a journal.³ In the letter Frisch noted that journals like *Economic Journal* and *Revue d'Economie politique* accepted occasionally mathematical papers, but the author was obligated to refrain as much as possible from mathematical language and reasoning. But Frisch did not only suggest a journal, he also named it, suggesting parenthetically to Divisia: 'que dites-vous d'une *Econometrica*?, la sœur du *Biometrika*' (ibid.).

L. von Bortkiewicz, whom Frisch also tried to rally for an econometric association in 1926, observed that it would be more correct to write 'Oekonometrika'. Divisia, who was most enthusiastic about Frisch's name for a journal, pointed to the Greek roots "οικος", "νομος", and "μετρον" and offered on etymological grounds "Oeconomometrika" or "Oeconommetrika" as alternatives, but adding 'vous avez la paternité du term; a vous donc de façonner votre enfant à votre guise' (F. Divisia to R. Frisch 16th December 1926). Frisch pondered on this, tried out several spellings before he settled for von Bortkiewicz's suggestion of "Oekonometrika", a name which, he argued, hinted at parallelism with *Biometrika* and avoided confusion with *Economica*. Frisch stuck to this spelling also when until the name issue came up again in 1932 (see below).

After the foundation of the Society, the question of a journal became a pressing issue, but there was, alas, no financial basis. Doubts had, naturally, been expressed about the financial viability of a journal of an association which to begin with had no financial backing and very few members, due to lack of attraction as well as restrictive membership requirements. Various schemes were imagined to secure financing. C.F. Roos and I. Fisher nurtured e.g. an idea of inviting one thousand American millionaires to donate \$500 each to the Society with an expected return of one half of one per cent (C.F. Roos to R. Frisch, 30th September 1931).

There were also differing views about the aims and ambitions of a new journal. In early 1931, the first year of the Econometric Society, Frisch held the opinion that the journal of the Econometric Society should not aim at being in competition with other economic and statistical journals, but primarily report the proceedings and the progress of the work of the Society and publish 'an annotated current bibliography of econometric literature'. The Society ought rather to encourage mathematical-economic articles in other regular journals rather than

² Sur un problème d'économie pure, *Norsk Matematisk Forenings Skrifter*, Series 1, No. 16, pp. 1-40, 1926. Translated (by John Chipman) as "On a Problem in Pure Economics" in *Preferences, Utility, and Demand. A Minnesota Symposium*, John S. Chipman, Leonid Hurwicz, Marcel K. Richter, and Hugo F. Sonnenschein (eds.), New York: Harcourt Brace Jovanovich, Inc., 1971, pp. 386-423. To the prehistory of econometrics belongs also the discovery in 1934 that the term "econometrics" had been invented in German ("Oekonometrie") by Pawel Ciompa already in 1910 in the sense of book-keeping, see *Econometrica* 4, p.95.

³ Letter from R. Frisch to F. Divisia 4th September 1926. The letter is quoted (p.22) in F. Divisia, op.cit., and also (p.223) in R. Frisch: From Utopian Theory to Practical Applications: The Case of Econometrics (*Reimpression de Les Prix Nobel en 1969*, 1970, pp. 213-243).

in its own. (R. Frisch to I. Fisher, 20th May 1931). Irving Fisher, the first President, much as he would like to see a flourishing econometric movement, did not want a journal to be started only to see it collapse from lack of financial resources with nothing but membership fees to finance it. The Society was still small, the 163 Charter Members at the end of 1931 (paying a membership fee of \$2 in the US and \$1 elsewhere) hardly warranted the establishment of a journal.

Much to Fisher's delight, the unexpected happened! Alfred Cowles, 3rd, having heard about the Econometric Society, wrote to Fisher 27th August 1931 and offered to finance a journal for the Society. Fisher responded positively and Cowles came to see Fisher on 18th October 1931 with C.F. Roos also present. In Fisher's home in New Haven he put his offer in writing: 'I am ready to make up any deficit in the proposed journal, "Econometrica", including all the expenses of editing, printing etc.' (!) (A. Cowles to I. Fisher, 18th October 1931). Cowles also offered to create "The Econometric Foundation" for research in econometrics. Fisher wrote the same day enthusiastically to Frisch: 'It is exceedingly wonderful to have an "angel" suddenly fall down from the sky to supply us with the one thing needful to make our Society a huge success. Without financing we can never amount to a great deal but with financing we can leap years ahead of what we otherwise would. ... I would not like to take the responsibility, even if I were sure that as President I had the power, to decide this without consulting you as the original founder of the Society' (I. Fisher to R. Frisch, 18th October 1931). On the same day Fisher also wrote the only two other persons he felt obliged to consult about the matter, F. Divisia, who was Vice President, and J. Schumpeter, the most influential Council member, but he distinguished between the three with regard to the extent that their approvals were needed: '.. if I do not hear from them, I shall assume that they at least have no objection. In your case, however, I should like to be sure that you approve...' (Fisher to Frisch, *ibid.*).

The question of Editor of the journal must have been discussed at the meeting with Cowles on the 18th October. C.F. Roos, who was Secretary of the Society, had already expressed willingness to serve as the editor of the Society, but Frisch was clearly Fisher's preferred candidate. Cowles had oddly named Frisch as editor in his written offer to finance the journal, but as the two never had met Cowles' choice must have been induced through Fisher. Frisch withstood Fisher's efforts at persuasion, instead suggesting others, like Hotelling. Fisher, who may not have known Hotelling well at this time, found him '... not (...) suitable for the position' and classified Hotelling among people '... who are not really economists at all.' (I. Fisher to R. Frisch, 8th November 1931). Fisher seemed to have found none but Frisch acceptable. To Fisher it counted to have someone firmly rooted in economics, rather than primarily in statistics or mathematics, and who shared his belief that the essence of econometrics was economic theory. Fisher's close contact with Frisch over the preceding nine months while Frisch visited Yale, is perhaps the most direct background for Fisher's choice, in addition to his recognition of Frisch as 'the original founder'. Fisher tried at this time to persuade Frisch to accept a permanent position at Yale.

Fisher was prepared for a quick deal with Cowles and hoped for Frisch's approval by telegram, but Cowles' offer could not pass just on Fisher's enthusiasm. The European Council members were hesitant and sceptical about the offer from an unknown American business man, Divisia was e.g. worried that 'l'affaire Cowles' could lead to lack of control over the journal and give Cowles a monopoly on the publication of econometric works (F. Divisia to R. Frisch, 26th November 1931). The European part of Council authorized Frisch to decide on their behalf after a meeting with Cowles who invited Frisch to Colorado Springs. It turned

out to be inconvenient for Frisch to attend the Econometric Society Meetings in Washington D.C./New Orleans in Dec.-31/Jan.-32, and hence lost the chance to meet with Cowles before a decision was made.⁴ Schumpeter, as well as other leading European members of the Society, regretted that Frisch was not able to go to represent the European side in the negotiations with Cowles and also that Frisch had declined the editorship: '[You] would have started the car on the right track. Reconsider if possible!' (J. Schumpeter to R. Frisch, 11th December 1931).

At the New Orleans meeting with Frisch absent the name issue had come up and "Econometrika" won through as a name avoiding confusion with *Economica*. Cowles' who may have had the businessman's sense for a good name, seems to have stuck consistently to "Econometrika" and found the change of only one c to k as 'inconsistent and ... the spelling "Ekonometrika" ... bizarre' (A. Cowles to C.F. Roos, 9th February 1932).

In the end the President and the American members of the Council were authorized to accept Cowles' offer, which they did early 1932 (vid. 1, p.109). The European reaction made Cowles refrain from naming his research foundation "The Econometric Foundation". In the meantime Frisch had yielded under Fisher's pressure and accepted to become Editor. Fisher thanked by reading Frisch's fortune: 'I believe that the journal is going to do for you what the British journal did for Edgeworth without as much trouble on your part' (I. Fisher to R. Frisch, 15th December 1931). Fisher offered at about the same time his editorial advice: '... the first issue should be short ... better to grow larger than to grow smaller ... enough non-technical and non-mathematical connective tissue to sustain the interest of our non-mathematical members, many will gradually begin to read more technical material and, once interested, they can be led to put in more and more time upon technical articles ' (I. Fisher to R. Frisch, 24th January 1932). The Council elected Frisch in February 1932 as Editor-in-Chief of the journal of the Econometric Society and decided that its name would be "Econometrika".

Frisch did not regard the name issue as settled by the Council decision, however, and brought it up again under his plenipotentiary mandate as Editor-in- Chief. Frisch made it clear that his favoured choice was still "Oekonometrika". Cowles at this stage got exasperated and confided to Fisher that "Oekonometrika" to him seemed 'more Yiddish than Greek' (A. Cowles to I. Fisher, 18th March 1932). Cowles remark may have been tongue-in-cheek, but Frisch was impressed by it. He decided to put the spelling of the name to a vote with other editorial matters in a questionnaire to the Council members. Fisher parted with Frisch on the name issue and would rather have "Econometrika" than 'anything which might seem a little outlandish' (I. Fisher to R. Frisch, 25th April 1932). Divisia, who first had put Frisch on the track of the Greek roots, had switched to "Econometrika". In the end only Schumpeter remained a staunch supporter of Frisch's "Oekonometrika", he even expressed to Frisch 'philological scruples' about accepting "Oekonometrika" rather than either "Oekometrika" or "Okonomometrika" (Letter from J. Schumpeter to R. Frisch, 29th March 1932). After having got the returns, while the first issue was already being prepared, Frisch quickly drew the final conclusion. It had to be - *Econometrika*. In spite of the support from Schumpeter Frisch seemed to have got cold feet by the reactions of Cowles and others that "Oek-" would give a

⁴ The version of these events given in C.F. Christ: "The Founding of the Econometric Society and Econometrika" (*Econometrika* 51, pp. 3-6) in 1983 is inaccurate in reporting a meeting between Frisch and Cowles at this time. The Christ article was an excerpt from an account of the history of the first twenty years of the Cowles Commission written in 1952.

curious impression on all but Germans and Scandinavians.

The name issue was, thus, finally settled. The confused way it was discussed and decided upon was representative of other - potentially more important - issues that were dealt with in the early years of the Society, in particular the question of who should be elected as charter members, as ordinary members, and as fellows. In all these issues could be discerned a European vs. American attitude, but that was not the only source of schism. More fundamental was the question of how econometrics ought to be scientifically delimited and what strategy to pursue in promoting it. The personal views of the most influential members in the new Society, naturally, played a major role in this development, in particular, in the approval of members and fellows, the process of which allowed both prejudice, nationality and personal friendship to play a role. The content of the journal became another battleground for the true meaning of econometrics, but the contest was here fought in a more one-sided way due to the strong position of the Editor-in-Chief.

From the beginning there were the Editor-in-Chief and three Associate Editors, representing economics (Alvin H. Hansen), statistics (Frederick C. Mills), and mathematics (Harold T. Davis). J. Schumpeter replaced Hansen from 1938 and was succeeded by John Hicks from 1950. An Advisory Editorial Board was also appointed, surviving almost unchanged until Frisch abolished it in 1947. By then very few of the board members were actually used very actively in editorial matters. A younger generation of economists, including some future Nobel Laureates, had taken over the main burden of refereeing. From 1951 seven additional Associate Editors were appointed and a Book Review Editor as well. The journal had by then entered a new and expansive era.

With Frisch in Oslo and the editorial office in Colorado Springs the Assistant (later Managing) Editor had an important and difficult function to fill. Frisch was to begin with not inclined to use outside referees. He took much upon himself (often too much!), and expected the Associate Editors, the Advisory Board and, occasionally, other members when called upon, to do the rest. Frisch's workload was overwhelming, especially as he not too seldom went into considerable editing and even rewriting of the submitted manuscript, such as changing the system of notation etc. A result of the burden on the Editor-in-Chief was inevitable delays! The Managing Editor could be driven to despair waiting to get Frisch's decision on manuscripts he was reviewing. Both the first Managing Editor, William F.C. Nelson, and the second, Dickson H. Leavens, would occasionally put it to Frisch in straight words, and Frisch would respond by a series of quick decisions and some good-natured and appreciative comments.

Econometrica was meant to be a different kind of journal. As Editor Frisch generated innovative ideas about what the journal ought to contain. He took a number of initiatives to make the journal known and fill its pages. In the first 10 years or so there was seldom a significant backlog of submitted articles in *Econometrica*, except in the first couple of years. It happened that issues were published smaller in size than planned due to lack of approved manuscripts. The volumes started out large with four issues of 112 pp. each in the first two years and grew to close to 500 pp. in 1935, a size not superseded until 1952! Hence, Frisch had not heeded Fisher's advice.

Even with Cowles' generosity *Econometrica* worked on meagre resources for many years, and Cowles extended his financial contribution much beyond his initial commitment of three years financing. The membership fee had naturally been changed to include subscription and was kept for many years at \$6 for U.S. residents and \$3 for the rest of the world. Frisch was handsomely paid for his editorial services (\$500 a year), but he also made repeated

efforts already in 1933 and 1934 to find means to offer honoraria for accepted papers, at least the for solicited surveys, as he was convinced that would improve the quantity and quality of submitted papers. Frisch could not convince Cowles either to advance or extend his financial contribution for that purpose, or allow a 50 percent increase in subscription rates.

Frisch's ideas about what *Econometrica* ought to contain went in many directions, and were also influenced by ideas put forward by others. The prime concern, papers representing what Frisch called 'real econometric work', continued to be in short supply in the first ten years or so of the journal's existence, but Frisch also wanted articles that would appeal to the uninitiated. One idea was to solicit four survey articles each year on (General) Economic Theory, Business Cycle Theory, Statistical Techniques, and Statistical Information, respectively. In the first volume A. Hansen & H. Tout wrote the first survey on Business Cycle Theory, while W.A. Shewhart covered Statistical Technique and J. Marschak Statistical Information. The first survey on General Economic Theory was written by J. Tinbergen in the second volume. In the third volume followed J. Hicks' survey of Economic Theory (on the theory of monopoly), and J. Tinbergen's survey of Business Cycle Theory, while Frisch contributed his famous index number article as the survey of Economic Theory in the fourth volume. It turned out to be beyond reach to solicit four surveys each year. Frisch would even cheat a little bit and redefine submitted articles as surveys to uphold the idea, but after some years the surveys dwindled.

Another feature initiated by the editor was articles, both commemorative and theoretical, about the great predecessors in the econometric field. In the first volume Frisch's good friend Johan Åkerman wrote on Wicksell and René Roy on Cournot, the second volume comprised Bowley on Edgeworth, Schneider on von Thünen, Hicks on Walras, and the Jevons children (H. Winefrid and H. Stanley) on their father. More followed in the ensuing volumes, but Amoroso on Pareto (6, pp. 1-21) became a slight scandal because of the homage to the Italian fascist state that came with it.⁵ Frisch included in *Econometrica* also other documents of historical interest, related to the forerunners of modern econometrics, e.g. the correspondence of L. Walras with A. Cournot and S. Jevons (3, pp.119-127) and a letter from A. Marshall to C. Colson in 1907 (*Econometrica* 1, pp.221-222). The underlying rationale of soliciting such articles was the firm belief, shared by Frisch, Schumpeter and Fisher that theory ought to build on the foundations created by the forerunners. The three triumvirs may largely have agreed on who were the forerunners of econometrics, but while Frisch's hero was Wicksell, Schumpeter revered Walras more than anyone else, and Fisher Cournot. Schumpeter got furious when Roos found it a 'healthy attitude' in new members to consider the 'old theory to be practically worthless' (J. Schumpeter to R. Frisch, 28th October 1931).

Frisch was much concerned about the role of *Econometrica* as a medium for communication between members. For this purpose the programs for coming meetings of the

⁵ Jerzy Neyman, then at University College, London, reported to Frisch that several members of the Econometric Society regretted that Amoroso's article contained so much political propaganda (J. Neyman to R. Frisch 4th March 1938). Frisch stood by his acceptance of the manuscript, arguing that much as he would like to change the presentation it was fair 'as a description of Pareto's work' (R. Frisch to J. Neyman 7th March 1938). The politics of the outer world did not often cause editorial controversies, but the Amoroso issue was followed soon after by P.H. Douglas' obituary of Henry Schultz (*Econometrica* 7, pp. 104-106) which included sharp political formulations. Frisch accepted the wording on similar grounds as in the Amoroso case, but the Managing Editor mobilized sufficient pressure on Douglas to make him replace 'Hitler, Mussolini and Japan' with 'dictators and militarists', 'fascism' with 'totalitarianism' and make other amendments.

Econometric Society and reports from past meetings served an important function. A complete list of all members with addresses would accompany the *Econometrica* subscription. All new Fellows were presented with bibliographies of their econometric works (except in 1933 when the Council elected itself and a number of other prominent initial members to make up the first lot of 29 Fellows). The first regular election took place in 1935 when four additional Fellows (R.G.D. Allen, C. Bresciani-Turroni, M. Ezekiel, J. Marschak) were elected (*Econometrica* 3, pp.477-479). Frisch was explicit about keeping the number of Fellows low, and had played a part in devising more intricate voting rules than most secret societies would dare to practice! Among nominees passed over at this election were two future Nobel Laureates!

From the beginning *Econometrica* allowed articles in French and English and occasionally in German. Language was not much of a problem for the early econometricians, at least not on the European side of the Atlantic. Not everyone could - like Frisch - communicate by writing in three foreign languages and read a few more, but an ability to read the major Western European languages was taken for granted. Russian was, of course, another matter, in the early years of the journal Frisch arranged to have translated and reissued in the journal articles earlier published in Russian. These included E. Slutsky's famous article on random causes of cyclic processes from 1927 (*Econometrica* 5, pp.105-146), which Frisch had embraced in his celebrated Cassel *Festschrift* contribution, and A.A. Konüs on the true index of the cost of living (*Econometrica* 7, pp.10-29), both translated by H. Schultz).

Frisch was an Editor in the old style. He took a great interest in all matters relating to the journal, such as layout, typeface etc. and suggested innovations and improvements to promote a modern and updated journal. Frisch suggested e.g. already in 1934 that the submission date should be given when an article was printed, but met with opposition from the Assistant Editor. (It was not introduced until 1970.) Another idea which originated with Frisch was to establish the Monograph Series of Econometric Society. Frisch published 17 articles in *Econometrica* (not counting entries marked 'Editor'), varying in length from 1 to 93 pages! Many of these were comments to articles he had accepted for publication. Frisch's articles varied in length. A more peculiar editorial habit was to insert editorial notes in articles by other authors, often to comment or relate the content or assertions in the article to his own work.⁶

Frisch could be a sharp polemic, not everyone was happy about his editorial comments. When Frisch told Harold Hotelling he was prepared to append a tail to Hotelling's classic "General Welfare" article, the author retorted that he had worked on the topic for 6-7 years and brushed the Editor off rather brusquely: 'Under these circumstances, I do not think it likely that any criticism conceived within a few days and published immediately is likely to have much force' (H. Hotelling to R. Frisch, 26th May 1938). Frisch was undisturbed, however, completed his comment, but acquiesced by not publishing it in the same issue.

⁶ There are numerous instances, e.g. an endnote to A.L. Bowley: Note on Professor Frisch's "The Problem of Index Numbers" (*Econometrica* 6, pp.83-84), a similar endnote to H. Mendershausen: The Definition of "Equal Well-Being" in Frisch's Double Expenditure Method (*Econometrica* 6, 1938, pp.285-286), a note between footnote 8 and 9 in J. Tinbergen: On the Theory of Business-Cycle Control (*Econometrica* 6, pp.29-33), and note 10 in A. Wald: A New Formula for the Index of the Cost of Living (*Econometrica* 7, 1939, pp. 319-331). The footnotes could even appear in a later volume, see *Econometrica* 9, pp.94-95). Another editorial oddity is Frisch's famous criticism of Kalecki's dynamic business cycle model which appeared in the issue prior to the one which contained Kalecki's article (*Econometrica* 3, pp.225-226 and pp.327-344, respectively).

The war years made an impact on the Society and *Econometrica*. The annual meetings were largely cancelled and the volumes became considerably slimmer. The outbreak of the war in Europe isolated one country after another. Communication with the Editor-in-Chief became more difficult after the German attack on Norway in April 1940, but was not completely broken off until United States entered the war in December 1941. The 1944 volume came to only 262 pp. '... because of the small number of papers available', but the subscribers were compensated by receipt of the famous Haavelmo *Supplement*, which had been intended as a Cowles Commission Monograph. The contributors to the volumes for the years 1941-45 comprised only very few non-U.S. residents, mostly from neutral countries such as Australia and Sweden. The lack of manuscripts was a natural consequence of there being no Econometric Society meetings in Europe throughout the war years, and cancelled meetings in the United States in 1942 and 1943. The U.S. meetings were resumed in 1944 with a meeting in Cleveland, Ohio '... to stress the indispensability of science for the future of civilization in war and peace' (*Econometrica* 12, p.93). Participation was encouraged, however, only from members in Ohio and neighbouring states.

Oscar Lange was appointed Acting Editor in 1942 and edited the journal until Frisch resumed his duties from 1946. Frisch was arrested in October 1943, when the Nazi authorities closed the University of Oslo, and sat imprisoned for about one year (*Econometrica* 12, p.93,258). Frisch had been reelected in 1940 for this third four-year term as Editor and was also reelected to the Council in 1943. His return to the Editor's chair was marked by his programmatic article "The Responsibility of the Econometrician" (*Econometrica* 14, January 1946, pp.1-4), which, incidentally, included the first ever mention of the term 'macroeconomics' in the pages of the journal.

Frisch's style as editor was very personal, and editorial affairs could sometimes be considerably disturbed by other business, in particular in the postwar years when a considerable backlog of manuscripts started to accumulate. Frisch's editorial policy and decisions came up for criticism on repeated occasions. Frisch either fought it off, or when he found it well placed, did his best to change his ways. Frisch's 93 page long article in the second volume - "Circulation Planning" - caused severe reactions from some of the members, for its length, as well as for the (mis)use of editorial prerogative, perhaps also for its content. Frisch accepted the criticism and promised to refrain from publishing his own works in the journal. (R. Frisch to C.F. Roos, 21st March 1935). Anecdotal evidence related to Frisch's handling of submitted manuscripts seems to have survived his twentytwo years as Editor, but is hardly a reliable source. Evidence from snubbed authors is, almost by definition, onesided. In controversies that arose in the journal, such as the Lotka-Preinreich confrontation, the Knight-Mayer polemics and others, Frisch seems to have steered a middle and fairly liberal course. In matters of what constituted good econometrics - and good notation! - he held strong views and felt called upon to defend the econometric cause. His style of editing the journal may seem personal, even autocratic, by today's standard, but perhaps not so in comparison with interwar contemporaries, such as J.M. Keynes in *Economic Journal*, D. Hilbert in *Mathematische Annalen*, or D. Davidson in *Ekonomisk Tidskrift*. Most of the reactions to Frisch's 'strong armour' methods and sharp polemical style derived probably more from his performance at the early Econometric Society meetings and some polemical articles than from his editorial practice. Schumpeter advised Frisch to adopt a softer way to deal with opponents and referred to Anti-Frisch Currents in the economic community in the U.S., while at the same time expressing his wholehearted agreement with Frisch in substantial matters. (J.

Schumpeter to R. Frisch, 2nd November 1934).⁷

Altogether Frisch did a feat hard to surpass in his contribution towards establishing *Econometrica* as the leading journal for 'studies that aim at a unification of the theoretical-quantitative and the empirical-quantitative approach to economic problems and that are penetrated by constructive and rigorous thinking ...' (Editorial, *Econometrica* 1, p.1, quoting the Constitution of the Econometric Society).

Perhaps he stayed on in the Editor-in-Chief's chair for too long? While Irving Fisher was still President in 1935 he discovered a flaw in the appointment of Editor: nothing had been said about the expiration of the term in office. The term was subsequently set at four years and Frisch was duly reelected by the Council again and again. There may have been voices raised to have Frisch removed long before 1955, especially after the marked shift from Europe to United States in the membership and even more in submitted papers. A committee to evaluate *Econometrica* and its editorial organization was appointed in 1953, perhaps with a view to engineer a change of Editor. With regard to editorial policy the committee, which consisted of P.A. Samuelson, T.J. Koopmans, and J.R.N. Stone, advised that the proportion of space devoted to empirical studies should be increased (*Econometrica* 22, pp.141-146). It also wanted the surveys reintroduced and that steps should be taken to see that all articles should contain 'a section which sets out its objectives and findings in a language which is generally intelligible'. There was no sharp criticism of Frisch's editorial policy in the committee's report, but Frisch later took issue with the demand for more empirical articles and had perhaps a more sophisticated view on the matter than the committee:

'... roughly I would say that it would be rather too much if we devoted on the average something like one half of the number of pages to studies that are very definitely empirical. Many empirical results are of such a sort that they may be more or less forgotten in relatively few years, and we must try to make *Econometrica* a journal whose volumes have a value that will last for many years. Much depends on what is really meant by "empirical" studies. The most valuable articles in my mind are those that present new view points and new methods and actually use these methods on empirical data. It is this application to actual data that is the acid test of the methods and, therefore, the empirical part of such a study is fundamental. But the lasting value of such a paper will in general not consist in the figures obtained, but in the fact that a new viewpoint and a new method has been presented and tested empirically. ... I don't know whether such a paper should be classified as "methodological" or "empirical". It is of a hybrid sort and I would have no objection to seeing this hybrid sort taking up a very large part of *Econometrica* if really good manuscripts could be found'.(R. Frisch to T. Koopmans, March 1956).

The committee also proposed an Editorial Board to review the editorial policy. Frisch was eased out of the Editor-in-Chief's chair in a gentle way by being offered to chair the Editorial Board, an offer he could hardly refuse. *Econometrica* honoured Frisch with a *Festschrift* issue to his 65th birthday (*Econometrica* 28, April 1960).

⁷ The worst incidence was Frisch's rather unpleasant rebukal of W. Leontief in *QJE* 48 (1934), the last paragraph of which Schumpeter characterized as 'a slap in the face you gave the whole [Harvard Economics] department'.