The Econometric Society European meetings 1931-1939: Influences on economics

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Abstract

This paper analyzes the Econometric Society European Meetings (ESEMs) over the period 1931-39, highlighting the research programs produced by the meetings to show the influence that these meetings had on economics in that period and thereafter. The examination of the European Meetings in the 1930s highlights the range of topics discussed in these meetings, connections with ideas of the past economists such as Cournot, Pareto, and Walras among others, and the interest in relevant social and economic issues that characterized the decade. Also, the paper points to the emphasis placed on the quantitative approach to economic analysis taken by the European members of the Econometric Society, and their efforts to establish new lines of research accordingly.

Keywords: *Econometric Society, European meetings 1931-1939, quantitative approach, new lines of research.*

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1. Introduction

The meetings of the Econometric Society (ES) in the 1930s were actively participated in by many economists who were, or became leaders in the profession, and presented papers that became the basis for new research programs.

This paper provides an overview and analysis of Econometric Society European Meetings (ESEMs) over the period 1931-39, showing their characteristics, in terms of focus, people, and output, in addition to, highlighting the research programs produced by the meetings. Moreover, our analysis of the European meeting of the Econometric Society in the 1930s focuses on the debates and efforts of the European members of the Society to develop an approach based on the advancement of

economic theory in its relation to statistics and mathematics, and concomitantly establishing lines of research.

Our account of the European meetings will follow a temporal order, instead of a narrative organized along the line of topics discussed during the meetings. The reason for this choice derives from the fact that we want to highlight the relation between the content dealt with by scholars during the meetings, and the evolution of the historical facts that characterized the 1930s. This decade was marked by deep global economic crisis that hit European countries hard, creating widespread unemployment, and by change in the political climate in Europe with the rise of Nazism and its consequences for the scientific community, bringing out a diaspora within it. Another reason is that we want to underline the birth of the international scientific community and its historical evolution within the ES, and particularly in Europe.

The first section of the paper examines the formative period of the Econometric Society and the European meetings in the 1930s. The second part focuses on topics, people, and output of European meetings of the Econometric Society over that decade. The third section concludes.

1. The origins of the Econometric Society and the European meetings

The Econometric Society (ES), founded in December 1930, was the first international association in economics, and *Econometrica,* the Society's official journal, was the first international journal in economics that began publication in January 1933 (Bjerkholt, 2017).[1]

The Society's aim was the advancement of economic theory in its relation to statistics and mathematics.[2] The emphasis placed on the quantitative approach to economic analysis was a clear anticipation of the path that economic research would follow in the decades to come.

In the 1930s European economists had a primary role in the development of this view, since, in general, economists in Europe were stronger and better trained in mathematics than their American counterparts.

The organizational meeting of the ES was held in the United States on December 29, 1930, in Cleveland, Ohio, coinciding with the joint annual meetings of the American Economic Association (AEA), American Statistical Association (ASA), American Mathematical Society (AMS), and sections A (Mathematics) and K (Economics) of the American Association for the Advancement of Science (AAAS) (Bjerkholt, 2017). During this organizational meeting, the first Council of the

[1] *Econometrica* was financed by Alfred Cowles, and the Cowles Commission had a strong connection with the Econometric Society since its inception, contributing to the development of econometrics (Dimand, 2019).
[2] The term econometrics was introduced by Ragnar Frisch, one of the founders of the Econometric Society, in 1926 (Bjerkholt, 2015).

Society was elected. The Council of the Society was composed of ten people: Irving Fisher, Charles Roos, and Edwin Wilson, from the USA; Ragnar Frisch, Joseph Schumpeter, Luigi Amoroso, Ladislau von Bortkiewicz, Arthur Bowley, François Divisia, and Wladyslaw Zawadzki from Europe. Fisher was elected president of the Society and Divisia vice-president. Therefore, the majority of the Council was represented by European scholars.

The first meeting of the Econometric Society was held in Lausanne in September 1931. The proposal for organizing the first meeting in Lausanne came from Divisia, who was vice-President of the Society, in a letter to Frisch in 1931 (Bjerkholt, 2015). The venue was chosen to commemorate Leon Walras. It was Frisch, however, who wanted a European location and to use the momentum to have a meeting of scholars interested in econometrics. Lausanne was also the first Econometric Society European Meeting (ESEM).

According to Bjerkholt (2015), this meeting is important in the history of economic thought since "it initiated the formation of an international econometric community which came to play a significant role in the ensuing decades in influencing the transformation of economics" (p. 1149).

The Lausanne meeting set the pattern for the style of the ensuing European meetings over the 1930s. The European meetings were organized annually, and usually held in September. Reports of the meetings usually appeared in *Econometrica*, but in some cases appeared in the *Revue d'Economie Politique*.

The ESEMs became an innovation in the scientific exchange amongst European economists, since in Europe an annual conference on economics did not exist at the time. The meetings were usually announced in *Econometrica* with the name of the person organizing the meeting. After the meetings, a report was published and edited by a *rapporteur.* Table 1 shows the list of the ESEMs for the period 1931-1939 with the names of the *rapporteur* and the journals where the reports were published.

Table 1

ESEM-1 Lausanne, Sept. 22-24, 1931 (H. Staehle, *Econometrica,* Jan. 1933)
ESEM-2 Paris, Oct. 1-4, 1932 (G. Lutfalla, *Revue d' Économie Politique*, April 1933)
ESEM-3 Leyden, Sept.30–Oct.2, 1933 (J. Marschak, *Econometrica,* April 1934)
ESEM-4 Stresa, Sept. 25, 1934 (G. Lutfalla *Revue d' Économie Politique*, April 1935)
ESEM-5 Namur, Sept. 23-26, 1935 (H. Staehle, *Econometrica,* Jan. 1937)
ESEM-6 Oxford, Sept. 25-29, 1936 (E.H. Phelps Brown, *Econometrica*, Oct. 1937)
ESEM-7 Annecy, Sept. 12-15, 1937 (G. Lutfalla, *Econometrica*, Jan. 1938)
ESEM-8 Cracow, Sept. 18, 1938 (B. Debiński & J. Wiśniewski, *Econometrica*, April 1939)
ESEM-9 Elsinore, August 25-26, 1939 (P. de Wolff, *Econometrica*, July 1940)

Typically, papers from three areas - economics, statistics, and mathematics - were presented at the ESEMs, attesting to the interdisciplinary nature of the Econometric Society. The papers presented at the ESEMs appeared mainly in *Econometrica*, and journals published in the UK, such as *Review of Economic Studies* (*RES*) and *Economica*, or European journals in German (e. g. *Zeitschrift für Nationalökonomie*) and French (e. g. *Revue d' Économie Politique*). Also, *Econometrica* itself published papers in both English and French.

The number of members who participated to the ESEMs in the 1930s was not large. For instance, in Lausanne (1931), participants numbered 22; in Leyden (1933) 30; and in Oxford (1936) 62, which was the ESEM with the highest number of participants; albeit scholars of different schools and from many European countries attended all the meetings.

The meetings were strongly characterized by the choice of the individual who was to be in charge of their organization, drew up the program and defined the themes, chose the papers that would be presented, and often chaired the meeting. For example, this was the case regarding the 1931 Lausanne meeting, where Frisch was the main organizer of the meeting. Moreover, some participants at the European meetings attended them simply because the host country was their own country. Thus, Italian statisticians as Livio Livi, Ernesto Cianci, and Paolo Luzzato-Fegiz participated at Stresa in 1934. Similarly at Cracow in Poland in 1938, nearly all the participants were from Poland, but this fact is also explained by the tense political situation in Europe at the end of the decade.

Although most of the scholars who participated in the ESEMs were European, the American Henry Schultz and the Australian Maurice Belz joined the European meeting in Leyden (1933). However, the presence of non-European economists in the ESEMs was limited. It is also important to remember that many European economists moved to the United States in the 1930s, forced to emigrate due to the rise of Nazism. Jacob Marschak,[3] Oscar Morgenstern, and Wassily Leontief were among them, and they made important contributions to the Econometric Society meetings that took place in the United States.

Over the period 1931-1939, the European meetings were held regularly every year. The ESEM in Elsinore in 1939 was held on the eve of the Second World War with a small number of participants and a reduced program. The next ESEM did not take place until 1948, creating not only a temporal discontinuity but bringing about a shift in the leadership of the Econometric Society in favor of US-based economists.

[3] Marschak moved first to Oxford in 1935, and then to the US where in 1943 he became research director of the Cowles Commission. The Cowles Commission had a strong connection with the Econometric Society since its inception, and contributed to the development of econometrics. It is known that Alfred Cowles financed the journal *Econometrica* (Dimand, 2019).

The meetings were places of relevant debates among economists of different nationalities and different theoretical backgrounds. The Great Depression and the nature of capitalism characterized by the presence of cycles certainly influenced and conditioned the debate between economists, and the evolution of economic theory in the 1930s. The high unemployment rate and the social impact of the crisis were also a matter of concern among economists. These debates influenced economics and contributed to the change in course of its future research, both in terms of methodology and content. The emergence of econometrics and its affirmation as an efficacious approach to economic analysis was at the core of the debates at the meetings (Louçã, 2007). During the European meetings, the study of supply and demand and the related price mechanism, as well as personal income distribution represented economic topics in which new statistical techniques were applied. Also, statistical inference was accepted as a legitimate mode of research for that generation of scholars. Finally, new models came to light, such as those related to the analysis of economic cycles, market forms, and macroeconomic models (e. g. IS-LM model).

A survey of the ESEMs, therefore, will highlight their focus on historical ideas of economics and their advancement through statistical and mathematical analysis, development of macroeconomic topics such as business cycles, aggregate demand models, and the application of econometric analysis to them.

2. ESEMs 1931-1939: Topics, People, and Output

Lausanne, 1931 and Paris, 1932

At the first ESEM in Lausanne (September, 22‑24, 1931), there were 22 participants from 10 different countries. Although French and English had been declared as official languages for the meeting, all presentations and discussions were conducted in French (Staehle, 1933).

There were 16 papers presented at the Lausanne meeting in addition to the opening speech given by Frisch (1932). Frisch led the meeting and was also "the only person who had been present at the founding of the Society in 1930" (Bjerkholt, 2015, 1160). In addition to the opening and closing speech of the meeting, Frisch presented three papers that remained unpublished. The first was the "Méthodes nouvelles de mesure de l'utilité marginale". Frisch, in all the papers he presented at Lausanne, and in his successive works, was aiming to make economics an exact and quantitative science.

The program of the meeting was characterized by an emphasis on the history of economic theories. The aim was to root the ES in the tradition of those economists who, more than others, had used mathematical methods and who Frisch called "econometric pioneers" (Bjerkholt, 2015, 1158).

In the opening session, René Roy (1933a) gave a short paper on Cournot, Pasquale Boninsegni on Walras and Johan Akerman (1933) on Wicksell. Other papers in this session were presented by Ota Weinberger, Gustavo Del Vecchio, and Piero Sraffa. In subsequent sessions, several papers discussed theoretical arguments. Participants discussed theoretical issues, such as different notions of economic equilibrium (George Bousquet, 1933), the role of time in economic theory (Paul N. Rosenstein-Rodan, 1934); Jacob Marschak made developments in the application of quantitative methods to the analysis of supply and demand; Hans Staehle (1934), Marco Fanno (1934), René Roy (1933) and George Darmois (1933) made significant contributions to the foundation of modern demand theory through the development of statistical concepts and applications. Three additional papers by Philip Le Corbeiller, Jan Tinbergen, and Frisch had strong mathematical orientations. Frisch, in his *discours de clôture*, was very proud of the meeting which he defined "an unsurpassed success", mainly because it was "the first attempt at elaboration of econometrics" (Bjerkholt, 2015, 1164).

Histories of economic theories and mathematical and statistical applications of the theory of demand were the main topics of the Lausanne Meeting. Staehle (1933, 75-76) pointed out in his report that economics needed close collaboration between empirical analysis and theory, but this collaboration could not be established without the help of mathematics.

The second ESEM was held in Paris (October, 1‑4, 1932). In this meeting, Walras, Pareto and Cournot were the economists whose theories constituted major references for the theoretical and empirical developments in the papers presented. These authors also influenced the subsequent meetings. The focus on Walras, Pareto, and Cournot meant that the members of the ES wanted to give pride of place to those economists who used mathematics as a characterizing element of economic analysis.

Clément Colson chaired the first session, while the opening speech was given by Divisia. The twenty-two papers presented in the meeting were classified under four headings: mathematical tools, statics, dynamics, statistics (Lutfalla, 1933, 173). In general, the relationship between mathematics, statistics, and economics was always in the foreground.

Several papers dealt with demand theory, price formation, and polypoly. The approach was microeconomic and mathematical-statistical. In this group, there were the papers by Ernest Henry Phelps Brown and Erich Schneider, as well as a paper by Frederick Zeuthen on bilateral monopoly. Also, Frisch gave a paper entitled "Esquisse d'une Théorie Générale du Polypole" [4]. Frisch's paper (Frisch, 1933a) was important, as emphasized by Arrow (1960, 180-181), because it suggested a

[4] Revised and published with the title "Monopole-Polypole—La notion de force dans l'économie", in Supplement to *Nationaløconomisk Tidsskrift* (1933a).

definition of dynamic equilibrium that generalized Cournot's solution of the oligopoly problem, and was equivalent to Nash's definition of equilibrium.

Ample space was given to monetary issues. Among the participants, Tinbergen discussed a paper on the theory of exchange, and its content reappeared in Tinbergen (1934), while Marschak presented one of the four papers discussing monetary issues and their relationship with statistics and econometrics (Marschak, 1934a). Oskar Lange discussed issues concerning the definition of the value of money and adopted a system of general equilibrium equations à la Walras-Pareto. Other papers, discussing issues in pure monetary theory, were presented by Louis Furlan, Andrew Pikler, Hermann Scheibler, and Hans Bolza.

The Paris meeting essentially demonstrated that an international community of economists, statisticians, and mathematical economists was emerging in Europe. And that this community was carrying out a different, albeit common approach to economics where economic theory, quantitative approaches - through appropriate statistical methodologies –, and tools of mathematical analysis were conjugated together.

Leyden, 1933

ESEM-3 was held in Leyden (Holland), (September 30‑October 2, 1933). Amongst economists who attended the meeting for the first time were John Hicks, Nicholas Kaldor, L. Hamburger, Fritz Machlup, Michal Kalecki, Henry Schultz from US, and Maurice Belz from Australia. Moreover, two women also participated in an ESEM for the first time, Ursula Webb from England, and Elisabeth van Dorp from Holland.

The Leyden meeting is considered a very important meeting of the ES, as research on the business cycle[5] and macroeconomic dynamics was given a significant boost with papers presented there by Fisch, Tinbergen, and Kalecki. The contributions on business cycles discussed in Leyden are an example of how ideas and theories were disseminated via this meeting, with the meeting itself constituting a reference point for future developments on these issues within the international community of economists.[6]

The Leyden meeting was organized by Tinbergen, who gave the opening speech. There were 17 papers presented at the meeting. According to Marschak (1934b, 187), most of the papers presented centered around two main topics, Business Cycles and Theory of Markets.

[5] The Business cycle is a recurring theme in nearly all ESEMs.

[6] According to Bjerkholt (1995b, 20): "The Leyden meeting in 1933 which Tinbergen had been in charge of, … became a meeting often referred to. The study of Business cycles was the key topic".

The main reason for choosing the theory of business cycle as a central topic of the meeting was that Tinbergen was deeply concerned about high unemployment due to the ongoing depression, and was searching for causal explanations of the business cycle determined by the crisis, since the economic theory extant did not provide appropriate explanatory mechanisms.[7] Thus, at Leyden, Tinbergen raised the question: "Is the theory of harmonic oscillation useful in the study of business cycles?" The topic of business cycles was discussed by Tinbergen himself, Frisch, Kaleski, John Hicks, Jan Wiśniewski, and Marschak. Tinbergen presented the paper "Est-ce que la théorie des oscillations harmoniques peut être utile à l'étude des cycles économiques", where he developed his previous contribution at the Lausanne meeting (Tinbergen, 1933).[8] In this paper, as highlighted by Marschak (1934b), Tinbergen approached "cyclical endogenous movements by starting from the mathematical nature of harmonic oscillations and seeking among the main economic relations those likely to fit into the harmonic pattern, i.e., into a differential equation of second degree with suitable coefficients." (1934b, 188). Tinbergen's paper raised a lively discussion in which B. A. Chait, Kalecki, Schultz, Divisia, and Frisch participated. In turn, starting from his critical argument on the periodic functions adopted by Tinbergen, Frisch in his paper "Some Problems in Economic Macrodynamics" emphasized that "static" and "dynamic" properties do not refer to phenomena (which can be stationary or in motion) but to theories. His definition of "dynamics" corresponded substantially to the definition given by Tinbergen of "exogenous movements", the problem was to find the "temporal form" (cycle length, delays, amplitude, etc.) of these movements (Marschak,1934b, 189). Frisch's paper was essentially based on his best-known contribution in business cycle analysis, which is the model he sent for publication on the occasion of the Festschrift for Cassel in the same year on "impulse" and "propagation" (Frisch, 1933b). Following Wicksell, Frisch introduced the concept of dividing business cycles into shocks and structural aspects, using the terms propagation and impulse. Frisch devised a theory that defined a clear causal relationship and provided a synthesis between a deterministic (propagation) and stochastic (impulse) system. This contribution is important mainly for its attempt to find the appropriate methods for analyzing and explaining cycles. Frisch, as well as Tinbergen, provided a mathematical formalization of the economic cycle analyzing statistical data as a source for the construction of models of economic

[7] Tinbergen grew up as an economist in the Great Depression and was already familiar with statistical business cycle data and its analysis.

[8] Later, Tinbergen published a long survey on quantitative business cycle theory in *Econometrica* (Tinbergen, 1935a), where he explicitly outlined his criteria for an appropriate business cycle theory, also examining the major problems of econometric analysis.

dynamics. It is worth mentioning here the alternative approach of Slutsky (1937)[9] who did not provide a business cycle theory *per se*, but showed that by manipulating an artificial set of data, particularly through summation and averaging of random series, it was possible to produce notional cycles even where the underlying data was known not to be cyclical.

Kalecki also discussed the topic of business cycle in the paper "Essai d'une théorie des mouvements cycliques". This paper was the first outline of his best-known business cycle model, published in *Econometrica* with the title "A Macrodynamic Theory of the Business Cycle" (Kalecki, 1935a).[10] Kalecki was convinced that cyclical fluctuations characterized capitalism and that investment activity was precisely the cause of these fluctuations, and therefore of crises, so that growth could only be explained by considering the effects of innovations on investment decisions.

Other papers on the topic of business cycle were presented by Jan Wiśniewski (1934) on the correlation between seasonal and cyclical variation, and Marschak on special questions regarding business cycle policy. Also, John Hicks presented in this section a paper titled "The Application of Mathematical Methods to the Theory of Risk" where he tried to investigate how investors should allocate their portfolios in a risky world. This contribution deserves mention since it anticipates Hicks' famous article on monetary theory "A Suggestion for Simplifying the Theory of Money" (1935).

The theory of markets session was also very stimulating, with a wide participation of scholars. Divisia revisited the classical Cournot theory of duopoly, suggesting a more general and realistic formulation of its assumptions, and Zeuthen, Frisch, Nicholas Kaldor, and van Dorp actively participated in the discussion. In turn, Zeuthen presented his paper "Public Price Policy" with an analysis of a public enterprise desirous of maximizing the sum of its own profit and consumers' rent. Successively, Oskar Lange analyzed the "Relation of Particular to General Equilibrium". Schultz treated the problem of interrelated demand and supply (Schultz, 1933a). Finally, Furlan presented a paper on a further development of Divisia's proposals (Divisia, 1933).

Stresa, 1934 and Namur, 1935

ESEM-4 was held in Stresa (Italy), September 25‑27, 1934, and ESEM-5 in Namur (Belgium), September 23‑26, 1935. The Stresa meeting was characterized by a significant presence of Italian scholars. About one-third of the 18 papers were presented by Italian participants. The meeting was organized and chaired by Del Vecchio. A great variety of topics were on the agenda of this meeting,

[9] Slutsky's paper was originally published in Russian in 1927 with an English summary. It was known to Frisch, who decided to publish it, after revision in *Econometrica* (1937).
[10] Kalecki published a similar paper in French in the same year (Kalecki, 1935b).

and Lutfalla (1935) in his *Compte rendu* tries to classify them under the headings, Statics and Dynamics.

The relationship between income and consumption that long occupied mathematical economists (e. g. Pareto) was a debated topic in Stresa, and classified under the Statics heading. Bowley presented a study consisting of a survey on household budgets, focusing on basic food products. This study was particularly noted for its inherently econometric character. Another contribution presented by Wiśniewski instead referred to luxury goods and had the title "La demande dans ses relations avec la courbe des revenus". Topics in microeconomic theory, mainly concerning issues related to general equilibrium, were addressed by Alexander Bilimovitch, Valentino Dominedò, and Bousquet. In addition, following the general equilibrium approach, Karl Schlesinger presented two studies related to his famous contribution at the Seminar of Mathematical Studies in Vienna, where analyzing the production equations related to the value theory, he showed that, under certain general conditions of continuity of utility functions, there is only one price system that satisfies the equilibrium conditions, providing the key to Abraham Wald's final solution of the existence of the equilibrium problem (Schlesinger, 1935). Furthermore, Kalecki presented a paper regarding the theory of economic development, and Morgenstern a paper on "L'axiomatique en économique".

Under the heading "Dynamics", Amoroso (1935) presented the paper "La dynamique de la circulation" which addressed the issue of economic dynamics and economic fluctuations. This work is interesting on a methodological level, as it attempts to insert cyclical phenomena into a general economic equilibrium system (i. e. Walras and Pareto). It was a first attempt, later taken up by Robert Lucas and the theorists of the equilibrium business cycle. However, it must be pointed out that Amoroso did not obtain the endogenous dynamics from the process of optimization of the objective functions of economic agents, but simply placed it within an equilibrium framework. Other papers discussed statistical methods and population issues.

The Namur meeting in 1935 was the fifth European meeting of the Econometric Society. In his report of the meeting Staehle wrote: "the attendance of a relatively large number of young newcomers was particularly gratifying" (Staehle, 1937, 102). Among the scholars who attended the meeting there were R. G. Allen, F. Banos, H. Bolza, A. L. Bowley, Miss M. E. Bowley, M. Breit, E. H. Phelps Brown, P. de Wolff, L. H. Dupriez, R. Frisch, Wassenaar; G. Lutfalla, J. Marschak, A. Della Riccia, H. Staehle, J. Tinbergen, J. Wisniewski, W. Woytinsky, and F. Zeuthen.

The 12 papers presented were classified by Staehle (1937, 87) under four headings: (1) theories of economic oscillations, (2) theories of special markets, (3) theories connected with consumers' equilibrium, and (4) special constructions explaining economic phenomena. Thus, the theory of business cycles was again an important topic in this meeting. Of course, the issue was whether the

economy was in a stable or unstable equilibrium. Tinbergen, who already treated business cycles in Lausanne and Leyden, presented “A Mathematical Theory of Business Cycle Policy”. Indeed, as Hansen (1969, 329) argues “in that period Tinbergen was shifting his interests on policy making”. Tinbergen’s paper consisted of three parts: (1) the presentation of a simplified business cycle "mechanism," (2) an analysis of its various "influencing coefficients", with a view to discovering those which might be modified by policy, and (3) an analysis of the conditions which would have to be satisfied in order to achieve the aims set by various types of policy (Staehle, 1937, 87). Tinbergen outlined a model representing a simplified business cycle mechanism. He tried to single out a policy, “structural" in character, which aimed at reducing the influence of shocks generally.[11] Breit, Marschak, and Frisch discussed Tinbergen’s paper. Also, Bolza presented a paper on the topic of the theories of economic oscillations titled "Rhythm in Economic Life” that recalls the theme of his book *Der Rhythmus der Wirtschaft*[12] where he argued the existence of an oscillatory movement of the means of payment through time.

Breit, Marschak, and Zeuthen (1935) presented and discussed papers on theories of special markets. Marek Breit, in particular, dealt with the theory of the capital and the money markets. He also pointed out how difficult it is to decide which is "the money rate of interest" whose deviations from the natural rate will determine cumulative deviations from equilibrium in the distribution of productive resources as between capital and consumers' goods (Staehle, 1937, 93). Furthermore, theories connected with consumers' equilibrium were topics of analysis and discussion. Wiśniewski discussed a paper on "The Elasticity of Demand with Respect to Income," dealing with price-elasticity and income-elasticity drawing from his article "Die Elastizitat der Nachfrage in Bezug auf das Einkomme” (Wiśniewski, 1935). Also, Frisch delivered a paper on "Recent Developments in the Measurement of Money Flexibility”, There then occurred a discussion concerning the role of the market and the effectiveness of price flexibility that discussed the structure of capitalism and explored new mathematical insights, as reported in Frisch (1935) (Louçã, 2007, 267-270). Staehle delivered a paper on "A Method of Measuring Variations in the Price of Living, with an Application to Belgium 1891 - 1932." that was related to his article on Price Index Number (Staehle, 1935). In the session ‘Special Constructions’, Umberto Della Riccia in his paper "Recherches analytiques sur le développement normal des fortunes et des revenus des nations," explained the relationship between national income and national wealth, both measured in gold and per capita terms, while Wladimir Woytinsky presented a paper titled "Three Sources of Unemployment and their Measurement."

[11] Tinbergen (1935b) contains a summary of the paper presented at Namur.
[12] *Der Rhythmus der Wirtschaft*, Berlin, 1935.

One of the reasons why the Namur meeting was important is because the discussion on business cycles was not only limited to whether the economy was in a stable or unstable equilibrium, but in addition the analytical conditions to find appropriate policies to "solve" the business cycles was discussed. Also, significant attention was given to the topic of price indexes and, more generally, to questions related to measurement. Finally, Frisch's paper and its discussion was relevant because it not only dealt with the question of what in general was to be understood by a natural or equilibrium position of a certain set of economic variables, but also in political terms for having reflected on the structure of capitalism.

Oxford, 1936

The Oxford Meeting (September 25-29, 1936) saw the participation of 62 scholars (Phelps-Brown, 1937). Among the participants, was Trygve Haavelmo, who participated for the first time at an ES meeting and presented a paper.

The first session was a Symposium on "Mr. Keynes' System". This Symposium is the best-known session of the Oxford meeting since it contributed to the spread of Keynes' ideas and the debate surrounding them. The papers presented at the Symposium were: "Mr. Keynes and Traditional Theory" by Roy Harrod (1937); "A Simplified Model of Mr. Keynes' System" by James Meade (1937), and "Mr. Keynes and the "Classics"; A Suggested Interpretation" by Hicks (1937). All three papers aimed to clarify the difference between Keynes' ideas and classical theory, while concomitantly trying to propose an analytical exposition of Keynes' theory to reconcile it with classical theory.[13] David Champernowne, who was part, together with Harrod and Meade, of the selective Cambridge Political Economy Club run by Keynes, did not attend the Symposium, but participated to another session of the meeting. At the Oxford meeting, Champernowne had already published his article "Unemployment, Basic and Monetary: The Classical Analysis and the Keynesian" (Champernowne, 1936). In it he worked out a model not very dissimilar to those proposed by Meade, Harrod and Hicks.[14] The peculiarity of Champernowne's contribution is that "expectations formation by both businessmen and workers provides the key to Champernowne's effort to sort out the differences between Keynesian and Pigouvian analyses of unemployment", (Boianovsky, 2017, 6). He highlights that where 'uncertainty' and 'nervousness' are not very important, the Classical analysis has advantages over the Keynesian one, "in all other situations the Keynesian analysis would seem advantageous" (Champernowne, 1936, 216). However, according to Darity and Young (1995)

[13] Young (1987), Schilirò (2005).
[14] Hicks had read the article by Champernowne before went to Oxford (Young, 1987).

Champernowne's article, sits apart from those of Meade, Harrod, and Hicks in one major way: Champernowne's emphasis on the centrality of the aggregate labor market.[15]

In his report Phelps-Brown (1937, 361-362) provided a detailed abstract of Meade's paper, writing down the equations of his model. He did not provide any details of Harrod's and Hicks' papers, apart from saying that both works were published in *Econometrica*, providing references. A possible interpretation of this is that Phelps-Brown considered Harrod's and Hicks' models not particularly different and original with respect to Meade's, as they presented broadly similar algebraic expositions of Keynes's theory. This explanation is supported by Hicks' letter to Meade (Young, 1987, 33), which revealed that Hicks read both Meade's and Harrod's papers before he finished his own. His paper was still an incomplete draft, and he verbally presented his model containing the "CC-LL" diagram (later IS-LM)[16]. Hicks' IS-LM model not only became the model that contributed most to the dissemination of Keynes' ideas, but also represented the reference model of the "neoclassical synthesis" to interpret them.[17] In the discussion, Frisch and Kalecki commented on Meade's paper, criticizing particularly his assumption of stability (Phelps-Brown, 1937, 362-363).

Unemployment and the cycle were the topics of another session, where Frisch discussed "Macrodynamic Systems Leading to Permanent Unemployment" following a non-Keynesian approach, and Tinbergen presented "Dynamic Equations Underlying Modern Trade Cycle Theories". In the sessions on the following days, papers with a with a strong statistical and econometric imprint were given by Allen, "The Assumptions of Linear Regression" and Jerzy Neyman, who discussed the Neyman-Pearson theory of hypothesis testing in "Survey of Recent Work on Correlation and Covariation"[18]. Furthermore, there was a presentation by Lerner (1937), "International Trade and Transfer", and two papers respectively from Wiśniewski and Colin Clark focusing on problems of measurement.

Other papers were given by Haavelmo, "Confluent Relations as a Means of Connecting a Macro-dynamic Subsystem with the Total System", by Arie Bijl, a Dutch physicist and economist member of a group of scientists around Tinbergen, on "Wage Subsidies and Unemployment" and Akerman on "Premises of Trade Cycle Theory". In addition, Staehle and Frisch presented papers.

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[15] In addition, the article was a sophisticated and general one-sector approach (Darity and Young, 1995).

[16] CC-LL represented the MEC and liquidity preference schedules. The SI-LL diagram first appears in Hicks (1937, p. 153). The LL curve indicates Liquidity Preference and Money Supply. Subsequently, Hansen (1951) called the curve: LM, or Liquidity-Money. The model became known as IS-LM. Hicks later adopted this new terminology.

[17] In this paper we do not enter in the discussion whether Hicks' model was the most fitted interpretation of Keynes' theory.

[18] The Neyman-Pearson hypothesis test theory is officially presented in the paper "On the Problem of the Most Efficient Tests of Statistical Hypotheses" (Neyman and Pearson, 1933).

In the final sessions, David Champernowne discussed "The Theory of Income Distribution". This was a topic that Champernowne treated in his unpublished fellowship thesis and that he continued to analyze several years later developing symmetric, continuous probability distribution subsequently called "Champernowne distribution"[19]. Robert Gibrat presented a paper on "Depreciation". Horst Mendershausen, Ludwig Hamburger, Bolza, and Russel Bretherton (1937) also presented papers.

The Oxford meeting was relevant both for the diffusion of Keynes' ideas among the international community of economists and, even more, for the development of the research and debate regarding them. The meeting was also important, as it disseminated the idea that the econometric approach was fundamental to economics.

Annecy, 1937

ESEM-7 was held in Annecy (September 12-15, 1937). At the meeting organized by Tinbergen 15 papers were presented. Bowley, then Vice President of the Econometric Society, chaired the opening session which was devoted to general presentations on mathematics and statistics and their relationship to economic theory (Lutfalla, 1939). In particular, Robert James, a young Australian economist, presented a paper on mixed difference and differential equations that were beginning to assume considerable importance in econometrics, especially in connection with dynamical theories of the trade cycle (Frisch, 1933b; Kalecki, 1935a; Tinbergen, 1935a). A paper on a fairly close subject was presented by Pieter de Wolff, a Dutch economist also close to Tinbergen, who considered an economic system with mathematical characteristics similar to those given in James's exposition. The question was what the resulting movements would be when an economic system, like that used by Tinbergen (1937), is disturbed by an external element of a cyclical nature. Tjalling Koopmans provided a systematic account of the results published in his thesis on linear regression analyzes of economic time series. The theory of consumption was the topic of another session. Bowley presented a paper titled "Calcul numérique de l'élasticité de substitution". Communications were presented by L. Dumay, Abraham Wald (1937), Wiśniewski, Victor Edelberg, and by Wiśniewski and Margaret Joseph.

In another session labor productivity, agricultural forecasts, and monetary issues were also discussed with papers and communications by F.J. Van Der Schalk, J.M. Fleming, and F. Samson.

The Annecy meeting reinforced the tendency already initiated in the previous ESEMs to present contributions to the scientific community that used econometrics for the analysis of economic phenomena.

[19] Champernowne (1952, 1953).

Cracow, 1938 and Elsinore, 1939

ESEM-8 was held in Cracow (Poland) on September 18, 1938 (Debiński and Wiśniewski, 1939), and ESEM-9 was held in Elsinore (Denmark), August 25-26, 1939. Both were affected by the political situation. ESEM-8, held between Anschluss and the Munich agreement, attracted very few non-Polish economists (Bjerkholt, 2015). The meeting was announced to last for four days but lasted only one. Also, ESEM-9, which was planned to take place only days before the outbreak of WWII, was announced to last for three days but attracted few participants and was shortened to two days (Bjerkholt, 2013).

At ESEM-8 there were 39 participants, with Bowley the only economist from abroad. Lange, one of the best-known Polish scholars, was not present at the meeting as he had emigrated to the United States in 1937.

The meeting lasted only one day with two sessions and three papers presented. In the morning session, Wiśniewski presented a paper on statistical methodology regarding indices. In the afternoon session, there was a paper by Bilimovic on the theory of planned economy, read by Boleslaw Debińsky. Finally, Adam Heydel discussed the value of capital goods, following the lines of Lange's works (Lange, 1936,1937). The analysis and the discussion after the presentation were focused on the planned economy envisaged by Lange. This presentation stimulated a lively debate on the effectiveness and actual capacity of a planned economy. Edward Taylor, Janusz Libicki, Wladyslaw Zawada, and Antony Tom participated to the discussion.

At the ESEM-9, participants were mainly Scandinavian members. Most participants at the fourth annual meeting of the Society of Nordic Economists, also held in Elsinore, were present during the sessions of the ESEM. Arthur Bowley, Margaret Joseph, and Erik Lindahl also attended the meeting. There were eight papers presented at Elsinore. De Wolff (1940) wrote the report of the meeting, and in the first session presented the paper “A Preliminary Model of the Swedish Trade Cycle”. The other paper in the first session was presented by Børge Barfod. His paper was “The Theory of Advertising”. He started from the theory of monopoly and, by generalizing it, introduced advertising, also distinguishing different forms of advertisement. In the second session, chaired by Bowley, Hermann Wold discussed a paper on methodological problems in statistical regression analysis. Schneider delivered a paper on “Price Policy in a Period of Depression”. The third session (first part) was dedicated to problems of price policy with the papers by Zeuthen, “The Theory of Prices”, T. Kristensen, Thorkil Kristensen, “Complex Monopoly”, among others. In the second part of the third session, A. Bijl discussed the work ‘Wage Subsidies’ De Wolff (1940, 279-286).

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Conclusions and Areas for Future Studies

This paper has provided summaries, often detailed, of the European meetings of the Econometric Society in the 1930s, following a temporal order of the meetings. We justify this approach mainly because we want to stress the linkage between the evolution of the historical events that characterized Europe in the 1930s − high unemployment and the business cycle −, and the attention paid by the European economists at the ESEMs to the economic and social issues emanated from them that characterized that period.

The key question we tried to answer in this paper is whether these meetings had a significant scientific impact on the future development of research programs, methodologies, and models of economists at an international level. Based upon what we have presented, we think that this was indeed the case, and for the following reasons.

ESEM meetings in the 1930s significantly influenced future research programs in economics, both in terms of analytical and applied methods, and as regards the topics they focused upon, such as Keynes's system, business cycle analysis, demand and supply analysis, utility measurement, income distribution, and monopoly, among others. Many of the European scholars who participated in the ESEMs, and in particular the group of Dutch economists led by Tinbergen were very interested in promoting the use of quantitative analysis for designing economic policy. The sessions at ESEMs reflected in the main, a macroeconomic research focus, that is to say, an interest in the problematic aspects of capitalism, and the economic and social implications of the crisis; although microeconomics topics were presented and discussed, such as the analysis of supply and demand, the relationship between income and consumption, theories related to general equilibrium, that is, themes related to the Pareto and Walrasian theoretical strands. Approximately 130 papers were presented at the ESEMs over the period 1931-39 inclusive. The most prominent category was the proportion of papers relating to Macro, Money, and Business Cycle Analysis.

These European meetings were evidence of the aim of the members of the Econometric Society to unify the theoretical and empirical–quantitative approach to economic problems. In general, those scholars had a high awareness of this duty not only to influence, but also to find the tools so as to address the economic and social problems that afflicted the economies over that decade. To achieve this, they stressed the need for adopting rigorous and formalized thought processes, often similar to those in the natural sciences.

An area for further study emerges. The Econometric Society held meetings in the US over the decade. In fact, these meetings were more numerous and had larger attendance than their European counterparts. These meetings deserve study using the same approach used in the present paper, enabling a comparative analysis accordingly.

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