

THE MOST POWERFUL TOOL OF SOCIAL KNOWLEDGE. CZECH STATISTICAL THEORY IN THE 50S OF THE LAST CENTURY

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Abstract

This year's 60th anniversary of the University of Economics in Prague (VŠE) arouses interest in the history of scientific disciplines, traditionally studied at the University of Economics in Prague. This paper examines the circumstances of the development of statistics in the Czech lands in the 50s of 20th century and the main attention is given to the higher education of statisticians in this period – at the University of Special Sciences (VŠSN) and then at the University of Economics in Prague.

Key words: 50s of last century, statistical theory, Communist ideology

Introductory discussion about higher education of statistics until 1948

The predecessor of the statistical study program at the University of Economics in Prague (VŠE) was the statistical-insurance program, developed at the University of Special Sciences (VŠSN) of the Czech Technical University (ČVUT), which began in the study year 1904/05. Originally a two-year program for actuaries it involved not only the theory of probability and mathematical statistics, but also a number of economics courses. A prominent leader of this program from 1929 was Jaroslav Janko (1893–1965). He introduced not only the mathematical statistics, but also the statistics applications in demography and in socio-economic statistics. Prof. Janko had a major share in the expansion of this two-year program in a four-year university program of statistical-insurance engineering in 1946. Similarly to the previous two-year program, the participants passed in addition to intensive mathematical and statistical courses, economics and practically oriented lectures and exercises. In the second half of the study, students could be unofficially specialized in the applications of statistics for:

- a) business practices,
- b) insurance and financial institutions, or
- c) public administration.

The first students successfully completed this course in the spring of 1947. Graduates who were future leaders of statistics at the VŠE included prof. Korda, prof. Cyhelský, prof. Likeš, prof. Novák and others (Závodský, 1999b). At the Faculty of Science at Charles University (PřF UK), there was

already in 1921 introduced a cycle of alternating lectures on insurance mathematics and statistics. A leader of this study field was in the 20th – 40th prof. Emil Schönbaum (1882–1967). This cycle of lectures was also transformed into a four-year program of mathematical statistics, insurance mathematics and econometrics, while VŠSN focused more on theory and application in natural sciences. Mathematical statistics and the theory of probability was taught at the Faculty of Science, Masaryk University in Brno (PřF MUNI) by prof. Bohuslav Hostinský (1884–1951), the author of, among other things, the important articles on Markov chains (Egermayer, Walter, 1961; Závodský, 2002). The predecessor of the VŠE was the College of Business (VŠO), part of ČVUT (Šauer, 1958, and Šauer, Šauerová, 1984). The statistics lecturer was Leopold Šauer (1901–1983) since the half of the 30th years. At the Law Faculty of Charles University, the statistics was taught by prof. Cyril Horáček jr. (1896–1990), who, unfortunately, did not deserve about the development of statistics in this time. A non-traditional academic workplaces was from 1945 the newly established Political and Social College (VŠPS). The statistics was taught by the leading Czech demographers: prof. Jaromír Korčák (1895–1989) and doc. Antonín Boháč (1882–1950).

1. Statistics and communist ideology

Soon after the seizure of power by the Communist Party in February 1948 there were not only the extensive personnel cleansing at the Czech universities, but also the subordination of disciplines to the communist ideology. Simply stated, in the natural and technical sciences it was often sufficient to emphasize Russian and Soviet science as a model, the Communist Party as the infallible leader of the society and to dedicate more important scientific work as a gift to the Communist Party Congress or to an appropriate anniversary. Neither the campaign against cosmopolitanism in science nor the "kowtowing before the science of capitalist states" had long-term consequences. Worse was the position of the social sciences (including economics), that were directly subordinated to the Marxist-Leninist ideology. Again, simply stated, each discipline was divided into the bourgeois science (bourgeois historiography, bourgeois linguistics, etc.), against which it was necessary to fight, and Marxist-Leninist science, which was developed strictly according to the Soviet models. The situation was worst for some of the modern disciplines, only developed came just in the 20th century, e.g. econometrics, biometrics, or cybernetics. To these were added "Michurin's biology" as well as modern genetics (Mendelism–Morganism). All of them were classified as "bourgeois pseudoscience" and were fought, which often consisted in ignoring the science. During the 1940s, there took place in the USSR the debate about the essence of statistics, about the relationship to mathematics, theory of probability, etc. These discussions resulted in the conclusion that statistics (i.e. social and economic statistics) "is an independent social science that examines the quantitative aspects of the collective social phenomena in the indissoluble connection with their qualitative aspects... The theoretical basis of statistics is the historical materialism and the Marxist-Leninist political economy." From this statement was inferred, that the social and economic statistics is a science of class and of party, and the "need to fight" against the bourgeois statistics. The theory of probability and mathematical statistics were treated as completely different and were a part of mathematics. There were allowed the limited use of these disciplines in statistics (and vice versa: the methods of statistics in natural sciences). Let us recall that the conceptions of statistics born in the world and in Czech science were traditionally different. Basically it was a dispute whether statistics should be a methodological science (universal), i.e. the science of methods based on the theory of probability and useful in a variety of social and natural sciences, or whether it was a material science in which the subject of examination was a person, society, economy, etc. Both of these concepts coexisted for long time, and outside the USSR and its satellites nobody felt the need to state a mandatory definition of statistics - a discipline that was rapidly developed throughout all the 20th century.

2. Institutional development in the years 1949–1953

The conditions for activity of universities in Czechoslovakia began to radically change with the beginning of the communist regime in February 1948. The universities were not trusted by the totalitarian regime, despite repeated reform and drastic personnel cleansing), and were deprived of their centuries-old autonomy and subordinated to the absolute control of the Party. At the same time it began the approximately ten-year period of continuous changes in the organization of universities. The procedure was often made by trial and error, because the comparisons with the Soviet models usually did not lead to a clear solution. However, there was general agreement to abolish VŠO, which previously "served the interests of the bourgeoisie and educated the devoted servants - assistants of the exploiters." In 1949 the opinion prevailed that the education of elite communist cadres for economic management, government, diplomacy and for the teaching of Marxism-Leninism theory, should be concentrated in a newly established university, directly ideologically driven by the cultural and promotional department of the Central Committee of Communist Party. Then was established from the academic year 1949–1950 as the University of Political and Economic Sciences (VŠPHV), with the Faculty of Economic, Political-Diplomatic Faculty and the Faculty of Social Sciences (Herbst, Hlaváček, 1952). VŠO (gradually reformed and renamed in 1948 to the College of Economic Sciences, then in 1951 to the Faculty of Economic Sciences of the Czech Technical University), was (by law No. 227 from 4th November 1949) progressively shut down (it mean that from the academic year 1949/50 it did not accept new students), and was finally closed on 31 July 1953. The Political and Social College (VŠPS) was also shut. The study of statistical-insurance engineering at VŠSN was radically changed from 1949. At first the study was changed to statistical-engineering by the exclusion of insurance mathematics and techniques, and then divided into the mathematical-statistical study, whose leader was prof. Janko, and economic-statistical study, led by prof. František Egermayer. On 1st September 1952, the Faculty of Special Sciences (the name changed to "faculty" the year before) was shut. Prof. Janko with his mathematical-statistical program was transferred to the newly established Faculty of Mathematics and Physics at Charles University (MFF UK). Students who finished in the academic year 1951/52 the second, and third years of the economic-statistical program, were moved with prof. Egermayer to the newly established Faculty of Economics and Engineering (FEI) at the Czech Technical University, where they were allowed to finish studies with a special program. Students who had completed the first year of the economic-statistical program in 1952, were transferred to the Faculty of Economics at VŠPHV, where in the academic year 1952/53 was established a statistical field of study. Two years after the establishment of VŠPHV began the criticism of the concept of the study of economics. A bureaucratically controlled economy needed thousands of "Marxist educated economists", while the Faculty of Economics in 1953 produced about three hundred graduates. In addition, a two-year study of economics courses (after the common framework) allowed students neither a thorough education, nor the necessary specialization. At the end of summer 1952, it was decided that the concept of VŠPHV was an unfortunate consequence of Slánský's policy. The proposal of the State Committee for Universities (the authority of the Ministry of Education) for the establishment of an independent University of Economics by the extension of the Faculty of Economics at VŠPHV was accepted. In addition there were established economics and engineering faculties at technical universities and the faculties of economics and management at the agricultural universities. A government decision on the 19th August 1952 established the University of Economics (on 1st September 1953) with 5 faculties, one of which was the Faculty of Statistics. Throughout the academic year 1952/53 the Faculty of Economics at VŠPHV accepted new employees (mostly young graduates). New departments were established and for each future faculty were appointed the "trustees". There were constituted the party committees, etc.

3. Statistics at the University of Economics to the end of 50s

At the Faculty of Economics at VŠPHV statistics teaching was provided for different fields of study initially by the Department of Finance and Credit, and after it was established in 1951 by the Office of statistics. The only member, Augustin Hlaváček (*1921), taught mostly the external teachers. A separate Department of Statistics was established on 1st August 1952 under the external leadership of Ing. František Herbst (1909–1977). Apart from Augustin Hlaváček it was formed with only one new graduate of the economics and statistical program from VŠSN Ing. Lubomír Cyhelský (*1929). Since the autumn of 1952 110 students of 1st and 2nd year of full-time statistical learning and 13 students of distance learning studied at the Faculty of Economics. As preparations began for the establishment of the University of Economics, the Statistics Department had to be expanded. There were successively admitted: Ing. Bohumil Řezníček, Ing. Benedikt Korda (1914–2010), Ing. Eduard Link (1907–1970) and Ing. Jaromír Walter (1923–2001). External staff also worked for the department, of whom we can mention prof. Egermayer and RNDr. Ing. Jaroslav Hájek, who published there his first textbook: *Theory of sample surveys* (Hájek, 1955). In the summer semester of the academic year 1952/53 preparations for the establishment of VŠE accelerated. The model for the Faculty of Statistics was the Moscow Economics and Statistics Institute (MESI), although it was already recognized that the conditions facing the Prague Faculty of Statistics was quite different (Šurakov, Vlasov, 1982). The Faculty consisted of two departments – a Department of Statistics, led by doc. Link and the Department of Mathematics under the leadership of doc. Ferdinand Veselý (1903–1958). On 1st July 1953 doc. Link was promoted by the Ministry for Universities to be Vice-Rector of the University of Economics, and doc. Veselý was promoted as Dean of the Faculty of Statistics. In September, Ing. Walter was promoted as a Vice Dean. At the beginning of the academic year 1953/54, the Department of Statistics expanded with the help of Ing. Ilja Novák (1927–2009), Ing. Vladimír Roubíček (1930–2005), Ing. Jan Zelinka (1930–1994) and Ing. Jan Vraný (*1928), so there were 10 statisticians, (9 after Ing. Řezníček left). Their average age at the end of 1953 was 29.2 years. The Faculty employed a total of 16 teachers, none of whom was habilitated professor or associate professor.

For the students of full-time and distance learning there was only one study program at the Faculty - Economic statistics. It had the following specializations: Industry statistics, Business statistics, Agriculture statistics, and the Mechanization of evidence (possibly also Statistics in transport), but with only a few dozen students in the year, it was ineffective. The Department of Statistics also taught the theory of statistics and economic statistics for other faculties at the University of Economics (on full-time and distance learning programs). The oldest text for teaching the theory of statistics at VŠPHV was the two-part textbook by F. Egermayer: *Basis of statistics* from 1951, written fully in terms of Soviet models (see Egermayer, 1957 or Závodský, 1999a). The larger first part of the book is devoted only to the Marxist–Leninist conception of statistics and to the interpretation of statistical sorting and tabulating. The second part of the book deals with the elementary statistical methods (relative numbers, indices and mean values, always explaining the merits of Lenin and Stalin), e.g. the theory of averages was significantly different from the bourgeois concept. The following transition to the use of Soviet textbooks, quickly translated into Czech, meant even worse. Statistical methodology was not developed beyond the averages and simpler indices, but students were informed about the issue of statistics in Tsarist Russia, practiced with Russian measurement units used in the 19th century, and learned hundreds citations by Lenin and Stalin (Závodský, 2011a).

After the establishment and expansion of the Department of Statistics in the 1952–1956, the students already received the textbooks written by members of the Department. Their quality gradually improved as the introductory chapters with quotes from communist classics were limited. Greater emphasis was put on the basic methods of descriptive statistics, but gradually also the

interpretation of regression analysis and sampling techniques. This can be demonstrated by the development of the scripta: from *The set of papers of the theory of statistics*, through to *Statistical methods* (for more information see Závodský, 2013). By the end of its 50th year, the Department of Statistics had been already liberated from Stalinist conceptions. The Ministry-approved textbook *General methods of statistics* (see e.g. Cyhelský, 1985) illustrates this. The 1959 textbook only contains the explanation of a quite extended range of statistical methods and completely misses the Marxist introduction or interpretative framework (Závodský, 2011b). The introduction advocates methodological concepts of statistics as “possible and reasonable”, which a few years earlier were prohibited.

Let us now return to the personal constitution at the Department of Statistics in the study year 1954/55. The main authorities at the Department were: doc. Korda, who was the first associate professor at the faculty, and in summer semester took up after doc. Link the management of the Department; Ing. Walter, and in the coming years especially Ing. Cyhelský. A. Hlaváček left the Department and in came Ing. Jara Kaňoková (1932–2006) and Ing. Josef Kašpar (1928–1968). In the academic year 1955/56 came Ing. Václav Čermák (*1932) and Ing. Luděk Rychetník (*1933). Doc. Korda was promoted as the dean of the Faculty. At that time, the original ideas about the rapid development of faculties according to the MESI model already looked unrealistic. With only a small interest in the program from would-be students, it failed to negotiate more than 15 for the reception of applicants in the field of study, so the other activities of the Faculty, with 2 departments, a total of 19 internal teachers, and 159 students (which accounted for about 8.3% of the all full-time students at VŠE), were evaluated by the management of VŠE as uneconomical and the management proposed the abolition of the faculty.

The provisional administration of the still existing Faculty of Statistics was entrusted from the academic year 1956/57 to the Faculty of General Economics, where was moved the Department of Statistics and the field of study. In the final phase, the government decision from August 1959 decided to merge the existing Faculty of Finance and Credit, the Faculty of Statistics and the Faculty of General Economics into the Faculty of Political Economy, which was renamed in 1968 as the Faculty of Economics (Cyhelský, 1992). The abolition of the Faculty of Statistics was only one of a series of radical changes in the organization of study at VŠE. From the Department of Statistics, (which since the beginning of the existence of the University of Economics provided the teaching of computer science), was separated from the academic year 1959–1960 under the direction of doc. Eduard Link the separate Department of Computer and Organizational techniques, the predecessor of today's informatics departments (Závodský, Šimpach, 2013). The following year the use of computer technology was promoted to a separate study field called “Mechanization of national economic evidence”, while statistics temporarily became only one of the specializations in this field. At the beginning of the academic year 1959/60 the Department of Statistics was separated from the newly created Department of Scientific Programming, mainly engaged in econometrics and operations research. As the head of department came doc. Korda, and after Ing. Zelinka and Ing. Rychetník, two years later also doc. Walter. From the academic year 1961/62 was opened the new study field of “Economics and Mathematical calculations”, the students specialized in statistics and in mathematical methods in economics during their study. By the beginning of its 60th year the Department of Statistics had been strengthened by famous academics, especially Ing. Jirí Likeš (1929–1994), Ing. Jaroslav Hátle (1928–1987), and Ing. Josef Kozák (1931–2005). Teaching basic courses for economists, and special disciplines for the statistical field of study were further modernized and upgraded, after Leninist principles had vanished.

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