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SESSION 3: STATISTICIAN: A PROFESSION?

A STATISTICIAN IN TRANSITION: DIFFERENCES BETWEEN
AN OFFICIAL STATISTICIAN IN A PLANNED ECONOMY AND IN A MARKET ONE

Report submitted by Czech Statistical Office */

I. INTRODUCTION

1. This paper is basically a personal observation of mine, gathered from three years of work in the Czech Statistical Office after twenty-four years of experience at Statistics Canada. Some of the following points may be more common than others, some may actually spring from different traditions, rather than the communist experience of Czechoslovakia; or they may be too subjective. After this time, however, I have been often asked to compare my experiences. The following is the result of my trying to answer such questions.

2. From the present perspective one could derive a picture of an unmitigated series of lost opportunities over the forty or fifty years preceding 1989. This image is not necessarily correct, at least for three reasons:

*/ Prepared by Mr. Edvard Outrata, President, Czech Statistical Office.

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- (1) The spark was always kept alive. Statistical theory was taught at universities and pursued academically throughout the period, maintaining a good idea (albeit mostly academical) of good statistics and to some extent of its place in the world. There is a strong national tradition of respect to learning which

persisted and resulted in senior and qualified staff being much more ready for change, than would naturally follow from their immediate duties.

- (2) Even at its worst, the crude imposition of the system was not all-encompassing. Firstly, it affected generally "just" business statistics, while demographic statistics were distorted much less, if at all. Secondly, much excellent analytical work was done in the research branches of the statistical system and, very importantly, in confidence for the Party and State leadership. In Czechoslovakia at least this work was largely meant to be frank and was. Thirdly, much of the work in business statistics too required and trained skills which were as easily applicable to the free-market model as to the communist one. Thus some excellent classification work was done by Czechoslovak specialists; and while the immediate results of this work, of course, were discarded in the 90's, the skills of trained staff were immediately applicable to transition. Finally, the link with the world, however often tenuous, was never completely cut, thanks to the efforts of senior staff, and also often of the management of the Czechoslovak statistical office. Thanks here should also go to the support of the statistical community at large.
- (3) There were two relatively long periods during which the model was changing. The first (second half of the 60's, culminating in "Prague Spring") was tentative in direct effect, but profound in its impact on thinking. For a short while, the world was open and intensive work was begun on a transition which at the time could have been achieved much more naturally and cheaply. Apart from some good analytical work in the social area, its main legacy was the first set of National Accounts. This work was never lost and ensured that knowledge from the world was always present, even when a new generation took over.

3. The second period was the 80's. After a little more than a decade had passed after Prague Spring, the first tentative openings to the world were immediately made use of: to name a few important results: National Accounts were again on the agenda since ca. 1985, and by 1987 price indices were being developed (CPI introduced in January 1989, anticipating the collapse of communism by a year). This advance on most fronts made possible the development in the Federal Statistical Office of the first transition programme document, which appeared in the spring of 1990 and contained all the main requirements and plans for the next several years. This document shows how well prepared for the change all the senior staff were and why the actual process of transition in Czechoslovakia took off so quickly.

4. While we now describe the different roles of statistics in the two systems, please, keep in mind this introduction. What follows is in my view true, only if it is balanced by the above.

II. DIFFERENCES IN MODELS

Different role of statistics.

5. Czechoslovakia was an extreme case of a communist state in that the theory of how a communist state is supposed to work was applied in practice more fully there than in any other communist state, probably in some respects more fully (or at least more efficiently) than in the USSR. There was literally no private enterprise of any type; what could not be nationalised was collectivised and, therefore, controlled in the same way as national property. Indeed, around the mid-fifties formal recorded ownership became so unimportant for all practical concerns that no further formal changes were recorded in registries, leaving a sensitive pickle for the restorers of legality in the nineties to tackle.

6. From around the mid-fifties virtually up to 1990 the whole state operated as a single big company. Its management was performed directly by government (cabinet was responsible for the management of the economy, while political decisions were all shifted to Party institutions like the Politburo). Such a super-company needed a great planning department, which was provided in the Ministry of Planning, and a nation-wide accounting department, into which the State Statistical Office was turned.

7. Thus gradually came about a serious split in the understanding of what official statistics were supposed to be: in a free market environment official statistics (even if they tried, which I doubt any did) could never aspire to more than providing a global picture of the phenomena they set out to describe, if only because of the continuing change in the number and quality of the units in view and because of the natural independence of will and action on the part of any such unit. In a planned economy, on the other hand, the whole economy was divided into exactly delineated discrete sub-entities; each of these received clear planned targets in terms of well defined indicators; and the performance of each was controlled by reports again in the terms of these same indicators, which were collected by the Statistical Office. (NB: People usually realise much of what was just written, but often fail to understand how all-encompassing this situation was: there was no individual small shop in the country, but only large collections of them, all neatly organised to fit the plan/account scheme mentioned. Even the performances of theatres and writers were thus treated.)

8. The responsibility of the Statistical Office under this scheme was then performance reporting and control of plan at the individual and aggregate levels. Of course, the highest aggregates became in some outward

way similar to official statistics everywhere; but they remained different in substance.

Economic model

9. The ideological imposition of Marxist economics theory led business and other statistics to develop around a different model of the economy. The three greatest differences from our point of view were (1) the distinction between "productive" and "unproductive" economic activity, (2) reliance on indicators of material product as the fundamental measure of performance, and (3) reduction of the role of prices to only that of common denominator.

Institutional model

10. The role of the Statistical Office as the central accounting centre for the economy led on the one hand to an increase in the powers of the Office, which in turn brought about strengthening of its relative prestige; while on the other hand it caused a drop in professional standards (which had been relatively high between the World Wars and which survived to some extent in demographic statistics), as it grew closer and closer to becoming just a branch of the Audit Office. Its new role as the main data collection agency turned it into a central computer bureau for the government, emphasising even further a peculiar reversal of roles: the Statistical Office did not make use of administrative records at this time; it rather collected all records, which were then used administratively by others.

11. This way on the one hand the Statistical Office received unmitigated powers to demand and enforce the extraction of any data it needed from any economic unit. This enforcement was quite literal: officers of the Statistical Office were entitled, for example, to enter forcibly into the records of any respondent and check the accuracy of reported data on the spot. As the custodian of all relevant information, the Statistical Office was indispensable at the cabinet table and its President became a virtual member of cabinet, heading a separate (if tiny) department of government.

12. On the other hand, emphasis in the functions of the Statistical Office shifted from statistical methodology to raw data production, as the Office took on new non-statistical duties as the main number cruncher, custodian of all sorts of registers, etc.

13. The original "proper" role of the statistical office, however, never quite disappeared: most importantly it was still the source of most qualified analysis for Party and State leadership, allowing analytical skills to develop. It also retained an important research institute, where further good work could be done.

Decentralisation.

14. Decentralisation of Party and state since the late fifties was accompanied by growth of Regional Offices. As responsibilities for detail moved from central Party institutions to regional or local ones, so each such centre of power developed its own control loop of planning and "statistics". At each such level a Regional Statistical Office sprang into being in order to provide regional powers (Party and state) with direct information on performance against plan. The Regional Director worked under dual command: he collected data from respondents for control of the Regions, and he provided low level aggregates for the central level. This process was further extended by the federalisation of the country in 1969, when a Provincial level was added. This four-level hierarchy (centre, province, region, district) added to the complexities and helped to underscore the emphasis on processing and procedure.

III. IMPLICATIONS

15. These differences in the role of the Statistical Offices had practical implications on the character and perception of official statistical work; and these implications became cast in stone after the forty years or so of communism. The following were the most striking.

No sampling

16. All surveys were designed as censuses, there was very little scope in the system of official statistics for any sampling. 1/ The need for exhaustive surveys follows from requirements for detailed performance checking; exhaustive surveys were also facilitated by fully standardised accounting and a relatively low number of respondents in a register which remained virtually without change. This practice led, of course, to serious bias, as respondents tended to use methods fair and foul to optimise their results (or more precisely to maximise personal premiums for good performance); this was, however, sometimes tolerated in a system where the "true" picture of the economy came only third after (1) the publicity impact and (2) the interest of an intermediate hierarchy level on managing its own aggregate performance measures.

Preponderance of administrative or bureaucratic solutions

17. Where measuring performance was paramount, it was easy to prefer the recorded over the real, the "legal" over the practical. Thus, for example, what was in the register was by definition right (and nobody cared about that which was not registered), etc.

Integration of official statistics into the power mechanism

18. The Statistical Office was very much a part of the mechanism of the power of the state, was not meant to be independent in any way. Political interference was expected, albeit not necessarily at the crudest levels.

Absence of confidentiality protection

19. There was certainly no real requirement for confidentiality of individual data. Indeed, such confidentiality would deny the Office its main task. The role of official statistics brought statistics close to audit. (Actually, the two were even linked in one office for a while in Czechoslovakia, but even at that time this was strongly resented and later abolished.)

Secrecy and censorship of results

20. Regular censorship was imposed and the suppression of results for political reasons was quite common. This affected not only indicators that were declared "secret" from the beginning, but extended to other ones, normally publishable, which somehow "did not come out right". The victims, relevant entries in the Statistical Yearbooks, are still identifiable through the unusual use of the "no figure" sign (.). 2/

Hyper-regionalisation

21. Enormous regionalisation of statistical collection and production led to the development of regional statistical centres. When local power in turn declined, these centres tried to develop regional statistics, largely through local initiative and with minimal methodological knowledge. The resulting hodge-podge of "regional statistics", while elevating the position of the statistical offices in the Regions, in the end often hurt true regional statistics by creating a demand that could not be satisfied.

Absence of statistical methodologists

22. The worst aspect was probably the truncation of certain functions which are essential for the working of a modern statistical office. Lack of need for sampling meant there was no statistical methodology (methodology degenerated into questionnaire design and classification). Similarly, there was no need for true price statistics: prices were all fixed and common, so all you needed was the official price list. Foreign trade was allowed only through eight foreign trade companies, so there was no need for customs statistics; keeping registers was a rather trivial task, because all respondents were first defined by the Ministries in great detail, including classification and size; etc.

23. There was also no need for National Accounts. 3/ In both macroeconomic aggregates and classifications, the Marxist system developed its own theory and practice.

Jack-of-all-trades-ism

24. The boundary of what statistics was became blurred as the Statistical Office took on more functions of a non-statistical nature. (This process actually increased after the revolution, when functions such as election results processing, all sorts of registration, etc. were taken on).

IV. TRANSITION: PRACTICAL PROBLEMS

25. Transition to democracy and a market economy thus required important changes in four areas. In all these areas some knowledge existed beforehand, but it was more theoretical than practical. Very important aid was, however, available, particularly through the PHARE programme of the European Union from members of the Union and other advanced countries and from Eurostat.

Content

26. In content it was necessary to provide basic macroeconomic information to government in a manner compatible and comparable with the statistics of advanced economies. This had to be done in an environment of permanent radical change, where the nature of the universes kept changing. Suddenly, registers were destabilised by the lifting of various controls, prices became variable, everybody started trading, etc.

- (a) Statisticians therefore set out to fill in gaps created by the need for economic indicators in areas which had not been surveyed or (as in the case of National Accounts) were not acceptable within the theoretical pattern of Marxist economics. Apart from National Accounts this included the full range of price statistics, foreign trade statistics based on customs statistics and a labour force survey.
- (b) At the same time virtually all classification systems had to be changed, which wrought further havoc in the established time series. All registers underwent transformation as well.
- (c) Finally, basic indicators measuring production are being changed. Measures of material product were last on the list of change, because this was not an addition, but a replacement; and was, therefore, both less urgent (the old indicator was

still useful) and more threatening (the change in time series is being resented). This last of the changes in the transition of content is now taking place in the Czech Republic and should become effective in 1997.

Institutions

27. Institutional transition was in a way more important. The task here was to fix in law and custom patterns of behaviour that are virtually taken for granted in advanced countries, but were foreign to the role of official statistics in a communist state.

- (a) First, it was necessary to establish the concept of statistical independence. There was, of course, no doubt about the basic principle that statistics had to be genuinely truthful and as far as I know there was never any interference on the part of Czech democratic politicians. The more subtle issues, however, took some time to explain, both to the users and to the statisticians themselves. There were many problems with establishing a fixed release schedule for sensitive indicators. (It was only in 1996 that this calendar became comprehensive, exact and understood by ourselves and our users. Today, the CSO publishes 12 sets of indicators on a release schedule at 9 a.m. at pre-published dates without fail or pre-release.) Much explaining was also required before most relevant people, both in the CSO and among users or respondents, understood the complexities of our being at the same time strict in adherence to rules and helpful in serving the needs of users.
- (b) Introducing data confidentiality was harder, because it implied a significant change in the role of the Office. In the past, files in the Statistical Office were the legitimate source of most information and government officials thought it quite natural to ask for individual data. When we started to enforce the rules, we brought down long established practices which in themselves seemed to cause no harm. It took some effort, for example, to explain to some government departments that if they wish to collect individual information on companies that still remain in state ownership, they have to collect it directly using their supervisory powers, not ask us to provide it. Such things took about two years to settle.
- (c) The Statistics Act, passed in 1995, fixed the institutional aspects of maintaining these principles and gave them proper publicity.

Organisation

28. An organisational transformation is taking place at the same time as we are finishing the transformation of content. Its main objective is to invest in highly qualified staff in statistical methodology, subject matter, analysis and dissemination at the expense of the large regional collecting mechanism. District offices will remain with reduced staffs and responsibilities: they will concentrate on interviewer management and service, while the collection of questionnaires from business respondents will be centralised. In order to keep processing capacities where they now are as much as possible (and for several other reasons) we shall keep the staff levels in the regions, but these regional offices will take on central processing of assigned surveys (e.g. industry surveys in Pilsen, etc.). This change is made possible by the last step in the transition in content, while changing the whole pattern of data flows and collection designs.

29. There are clearly serious risks involved in this change. Naturally, we are trying to minimise the disruption, but also to do as much as possible at the same time, in order to minimise the impact of discontinuity on users.

Personnel

30. Staff is, of course, key to these changes. It follows from much of the above that our qualification and specialisation mix is wrong: in the event, we need to multiply several times over the numbers in some of the particularly specialised professions (like statistical methodology). Clearly, this must be a gradual process.

31. Our great advantage in Czechoslovakia, however, was that the concepts of a free-market democratic statistical system never quite died off. This was due to a long tradition, good academic training and, particularly, to the tradition of the 1960's. Of course, staff qualification and training was necessarily spotty, better in some areas, worse in others.

32. In this whole process we have been helped in a significant way by the manner in which aid from Eurostat and national statistical offices of advanced democracies was provided. Very early in the process most of our qualified staff (or at least that significant part which could speak foreign languages) was brought into intensive contact with their counterparts at the working level. This had deep and speedy impact: very soon everybody was quite clear about objectives, and later also about required changes in work style, etc. This has been helping profoundly in the actual management of change.

33. There remains, however, a long term problem of providing the capacities and energies to a large scale effective programme of training on the job, without which it is hard to imagine how to maintain the

momentum of the change we have gone through. At present we are most intrigued by the Canadian training course of survey design and processing, which seems to fit our requirements.

V. CONCLUSION

34. By now the CSO is close to the end of its transition process and is emerging at a point where it experiences all the problems of other statistical offices. Personnel development and training is now a priority, as it becomes more important to develop and maintain internal momentum, than quickly to copy things common in other places. It is a good time to take stock.

ENDNOTES

1/ Sampling survived, but only in a very limited number of surveys, e.g. in a general social survey ("microcensus"), in a family expenditure survey and in preliminary estimates of yields in agriculture.

2/ It is worth mentioning here that according to the information I have seen there seem to have been no instances (at least in the 1960s through 1980s) where censors would have insisted on the publication of a genuinely false figure. The public was systematically and purposefully misled by the Party through its censors and its media, so the reader might pooh-pooh this nice distinction. I maintain, however, that the fact that statisticians were not forced directly to lie (only to tolerate lying by others) made a world of ethical difference and in its consequences helped in building ethical standards after the revolution very substantially. Not all statisticians in the Soviet block were so lucky.

3/ In Czechoslovakia, however, National Accounts were developed in the 1960s and their place in modern official statistics was well recognised. Transition in the 1980s started with work on them, and the 1960s experience allowed this to be tried effectively.