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European Experience of Using Administrative Data for Censuses of Population: The Policy Issues That Must be Addressed

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ABSTRACT

The experience of the four Nordic countries illustrates the advantages and disadvantages of a register-based census of population and points to ways in which the disadvantages can be contained. Other countries see major obstacles to a register-based census: the lack of data systems of the kind and quality needed; and public concern about privacy and the power of the State. These issues go far beyond statistics; they concern policy and administration. The paper looks at the situation in two countries, the United Kingdom and Australia. In the United Kingdom past initiatives aimed at population registration in peacetime foundered and the present environment is hostile to any new initiative. But the government is going ahead with a controversial reform of local taxation that involves setting up new registers. In Australia the government tabled a Bill to introduce identity cards and an associated register, and advanced clearcut political arguments to support it; the Bill was later withdrawn. The paper concludes that the issues involved in reforming data systems deserve to be fully discussed and gives reasons why statisticians should take a leading part in the debate.

KEY WORDS: Census of population; Identity cards; Personal reference numbers; Population registers; Record linkage.

1. INTRODUCTION

This paper has its origin in a study of alternative approaches to the census of population that I carried out for the Statistical Office of the European Communities (Redfern 1987). The study examined the experiences of the 12 member countries of the EEC together with Canada, Sweden and the United States. The study found that sample surveys can complement, but cannot replace, a 100 per cent census, because they do not provide reliable statistics for small areas. An important example of samples complementing a 100 per cent enumeration is the short form/long form censuses of Canada and the U.S. A sample survey complementing 100 per cent data from registers is in prospect in Norway (Section 3.3).

Registers that contain addresses give figures for small areas; and, if the registers cover the census topics reliably (in terms of definitions, coverage, accuracy and timeliness) and can be linked, it is possible to create a record for each individual akin to his census return and so to conduct a register-based census: in essence administrative data are being recycled for statistical purposes. The pressure of costs and the burden of formfilling in the traditional census have persuaded the Nordic countries (Denmark, Finland, Norway and Sweden) to adopt this approach in whole or in part.

Though administrative data can support a *conventional* census in a variety of ways (Redfern 1987, paragraphs 3.65—3.67), it is their use in a *register-based* census that provides the first main theme of this paper. Section 2 describes the registers that are needed as a base for a census and Section 3 identifies the similarities and differences between the four Nordic countries in

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their approaches to this kind of census. Section 4 then considers the obstacles that other countries would face if they were to upgrade their record systems so as to make a register-based census feasible, and recognises that the issues raised concern administration and policy more than statistics.

It is these wider issues that provide the second main theme of the paper. Section 5 looks in more detail at a country in which, for reasons of policy and ideology, administrative records are not coordinated through a population register: the United Kingdom. Section 6 describes a recent initiative in Australia to improve administrative records. Finally Section 7 summarises the political arguments for and against coordinating administrative records through population registers and puts the case for statisticians taking a leading part in debate on the subject.

2. THE REGISTERS NEEDED AS A BASE FOR THE CENSUS

2.1 Population Registers

The essential starting point for a register-based census is a population register that includes personal reference numbers and addresses. The personal numbers must be in one to one correspondence with the members of the population. To keep the register up-to-date the citizen is obliged to notify changes. The personal numbers are also recorded in the files of the various administrative agencies, and so can be used to link records for statistical purposes.

Population registration serves essentially administrative ends. It is an efficient way of organising the many dealings between public authorities, both central and local, and the individual citizen: for example taxes, social security, publicly-provided health services and electoral registration. To work effectively, population registration should serve a wide range of administrative activities, so that opportunities for updating and correction are frequent and the citizen becomes used to quoting his personal number.

The key to the system is the central population register which records identifying information about each person (name, place and date of birth, date of immigration, marital status, and possibly items like parentage and citizenship) and his permanent reference number. In most countries the central population register includes up-to-date addresses, though the French *Répertoire National d'Identification des Personnes Physiques* does not. The basic administrative function of the central register is to act as reference point for administrative agencies which can check the identities of the individuals that they are dealing with and, as necessary, can correct or record the personal reference numbers in their own files.

2.2 Other Key Registers in a Register-Based Census

A register-based census of population and housing makes use of registers of other kinds of units than persons. The most important are a central register of housing and a central register of business enterprises and establishments (workplaces). Provided the housing register identifies each housing unit (and not just the building or the address) with a code that also appears as part of the address in the population register, then data on the housing unit in the housing register can be associated with data on the occupants in the population register: the two registers can be linked. Similarly a register recording each person's employer and workplace can be linked to a central register of enterprises and establishments to show the person's industry, commuting journey, *etc.*

3. CENSUSES IN THE NORDIC COUNTRIES

The four Nordic countries have well-developed population registers of the kind described in section 2.1. They have constructed, or propose to construct, central registers of building and housing to serve mainly administrative purposes. This section of the paper outlines the census of each country in turn and then summarises the directions in which Nordic census-taking is developing.

3.1 Denmark

Denmark is the only Nordic country – and I believe the only European country – to have switched completely from the conventional census to a register-based census. The switch was made in little more than a decade. The central population register with personal reference numbers was created in 1968 for administrative purposes, and a register-based census of population (but not housing) followed in 1976. A central register of buildings and dwellings was created in 1977, again mainly for administrative purposes, and a register-based census of population *and* housing followed in 1981. Another significant step in 1979-80 was to extend the return in which employers report each employee's earnings to the tax authorities: employers with more than one workplace added each employee's workplace to the return. This was done purely for statistical purposes and the statistical office has had to make a considerable effort to secure a good response.

The registers held by Danmarks Statistik for statistical purposes, numbering some 37, provide annual or more frequent statistics of population, employment, commuting, income, housing and construction for municipalities and sometimes smaller areas. But, because of the cost, analysis on the scale of a census takes place much less frequently: the next after the 1981 census will take place in 1991 and even that may be on a lesser scale than 1981.

The transition to a register-based census has been facilitated by the reorganisation of the Danish central statistical office in 1966. Danmarks Statistik was given a measure of independence of the central government, which could help to reassure the public on confidentiality. It was given powers to demand, and to use for statistical purposes, data held by public authorities for administrative purposes, and to participate in the construction of registers containing such data.

The problems that Danmarks Statistik now faces concern mainly the quality and timeliness of data, both of which depend on the efficiency of administrative procedures. Thus the slowness in compiling tax authorities' files – which provide data on industry, occupation, journey to work and income – delayed analysis of these topics in the 1981 census until summer 1983; and it is expected that statistics on the labour force will continue to lag at least a year behind the reference year to which they relate. Reliable data on occupation are particularly difficult to obtain because the topic is of little administrative interest; a main source is the information given by the taxpayer on his annual tax return. Despite problems of these kinds Danmarks Statistik takes the view that the register-based census has come to stay in Denmark because of the savings in cost and in burden on the public (Jensen 1983).

3.2 Finland

Register-based censuses have a long history in Finland. In the 1600s the parish registers recorded everyone over the age of 12 living in the parish, and in 1749 figures of the total population were compiled analysed by age, sex, marital status and social class: one of the first-ever register-based censuses? Later censuses followed this pattern. The censuses of 1950 and 1960 adopted the conventional method of collecting the information through questionnaires. But

beginning with the 1970 census an increasing range of data has been extracted from registers. In the mid-decade census of 1985 the questionnaire asked only about economic topics: type of activity (if any) and occupational status, employer and workplace, occupation, and number of months worked in the past year. Data on housing were taken from the register of buildings and dwellings that had been created from 1980 census data and is updated with information from the municipalities.

The 1985 census was planned to cost a little under the equivalent of 1 US dollar per person, or only a quarter of the cost of the 1980 census in real terms though covering the same range of variables. Factors that helped to make this possible included: mail-out of questionnaires preprinted with data on workplace (from the 1980 census) and occupation (from the central population register) – to be corrected by the respondent if necessary; mail-back to the central office with no local field organisation; only one reminder, with no follow-up of the 3.7 per cent of forms which were not mailed back or were mailed back incomplete; and imputation of missing data, where possible, using a variety of registers, one of which was pension records in respect of private sector employment. The final response rate to the questionnaire was 97.4 per cent, and by imputing missing data a final coverage of 98.6 per cent was achieved. Another reason for the low cost of the census is that part of the cost and burden has been transferred to the registration systems, including the annual field checks on the population registers by means of forms issued to each household/dwelling and quinquennial checks on the register of buildings and dwellings by means of forms sent to owners and occupiers.

Comparisons between the 1980 census responses and register data on economic variables have been regarded as encouraging. This, and the methods developed in the 1985 census to impute the economic characteristics of non-respondents, open up the possibility that the 1990 Finnish census might be wholly register-based. To fill one gap in register data, employers with more than one workplace will in future make a return of each employee's workplace (Laihonen and Myrskylä 1987; Heinonen and Laihonen 1987).

3.3 Norway

The 1980 census of Norway was to a substantial extent register-based. It took data on basic demographic topics, income and completed education (other than education abroad) from registers. These data were complemented by means of a mail-out mail-back questionnaire to each person aged 16 and over on economic topics, education abroad, country of birth, religious affiliation and housing. All persons in the same household were to return their forms, together with one housing form, in the same envelope, thus defining the composition of the household for census purposes.

For several reasons it is not feasible to switch to an entirely register-based census in 1990. First, register data on some important census variables do not conform to desirable statistical definitions or are not of sufficient quality for census purposes (this applies for example to industry); and register data for other variables do not exist (for example occupation). Second, the development of the register of land property, addresses and buildings (the "GAB" register), begun in 1983, is unlikely to be far enough advanced by 1990 to provide housing data for the census. Third, because the link between the GAB register and the population registers is the address, it is not possible to identify household composition or to associate housing characteristics with personal characteristics when two or more housing units have the same address.

In the 1990 census data from registers will again be used for basic demographic topics, income and completed education (other than education abroad). A method is being developed for converting register data on most of the economic variables to statistically-desirable definitions by

reference to the results of an enquiry addressed to a 10 per cent sample of persons aged 16 and above (100 per cent in municipalities with populations under 6,000). The register data for a sub-population would be adjusted in part using sample data for the sub-population and in part using sample data for a wider population – a procedure that would partially eliminate the bias in the register data. The sample enquiry would be the only census source for topics for which no register data exist, including occupation and probably housing and household composition.

This approach – the use of registers plus a 10 per cent sample enquiry – is estimated to cost 60 per cent of the cost of a census on 1980 lines. The penalties would be the sampling variance, which would be greatest for topics for which no register data exist, and also some bias in the case of topics for which register data exist but are not of the quality needed for census purposes (Heldal *et al.* 1987).

3.4 Sweden

Over the past two decades the balance of the Swedish census has changed: in 1970 most of the data came from questionnaires and a few from registers, but in 1985 the position was reversed. In 1985 the mail-out mail-back questionnaire to each person aged 16 and over (or married couple) asked only (1) whether the person was economically active in a specified week and, if so, the occupation, (2) the household composition – a list of the adults who live in the dwelling and (3) housing questions. It was possible to omit questions asked in the preceding census on the name of the enterprise at which the person was employed, the workplace and the industry, because from 1985 the annual returns that employers make to the tax authorities giving each employee's earnings were extended to show the employee's workplace. But the topic hours of work was dropped from the 1985 census when employers resisted the proposal to include this too on the annual returns.

After the 1980 census a study had been made of the steps that would have to be taken if the 1985 census were to be wholly register-based. The steps included:

(1) The use of data on occupation from the forms on which employed persons report changes in income to the national insurance offices.

(2) The creation of a register of household composition, which would be updated by asking for more information when a person moved house.

(3) The creation of a register of buildings that contain housing units, to be updated by the municipalities.

(4) The creation of a register of completed education, to be updated with information from educational institutions on new graduations.

But, as already noted, a questionnaire was retained in the 1985 census mainly because of doubts about the quality of information that could be obtained from registers on occupation, household composition and housing. Of the proposed new registers only the register of completed education is as yet under construction. But a committee is studying the possibility that the record of a person's address in the population registers should include the housing unit and not just the property – an essential step in linking population registers to housing registers.

A Parliamentary Commission is reviewing the 1985 census, particularly aspects concerning privacy and confidentiality. Its findings will be one of the factors shaping the 1990 census.

3.5 Summary of Nordic Census-Taking

The four Nordic countries are developing their censuses along different paths but there are many features in common:

(1) All have as a starting point accurate registers of population which give regular and reliable statistics of population for small areas.

(2) All wish to maximise the use of information in other registers and to minimise the burden of formfilling on the public. All are striving to contain or reduce costs.

(3) All recognise the problems of definition, quality and timeliness of the information in registers, particularly for economic topics. Employers' returns are being extended to give information on each person's workplace, and hence on industry – though extensions for purely statistical purposes are unwelcome and may yield data that are of poor quality. Register data on occupation are generally unreliable. And data on some topics, such as method of travel to work, do not exist in any register.

(4) Registers of buildings and houses have been created or are proposed. But it is difficult to keep the registers up-to-date, whether by using information available to the municipalities or by collecting information directly from owners. In some countries the registers need to be further refined to identify each housing unit in a way that permits a link with the address information in the population registers. Another problem is how to get data on household composition from registers if, as in Sweden, the household is not defined as all the occupants of the housing unit.

All four countries appear ready to sacrifice something in the quality of the census results in order to cut costs and the burden on the public. But they differ in their approaches. Denmark has gone the farthest by abandoning the census questionnaire. Because of doubts on the quality of some register data, particularly on economic topics, the 1985 censuses in Finland and Sweden retained a limited questionnaire, and the responses were linked to demographic and other data taken from registers. But the possibility is foreseen of making the 1990 census of Finland wholly register-based. In Norway, where there was no mid-decade census, the 1990 census is expected to retain a questionnaire on at least economic topics but, to reduce costs, the questionnaire may be sent only to a 10 per cent sample of persons; where register data for economic topics exist, though imperfect, they could be converted to statistically-desirable definitions by reference to the sample data. A valuable account of Swedish experience of using registers as a census source has been given by Johansson (1987).

4. THE FEASIBILITY OF A REGISTER-BASED CENSUS IN OTHER COUNTRIES

The two main forces that have driven the Nordic countries towards a register-based census – the need to cut costs and the burden of formfilling – have been strongly at work elsewhere. They show for example in a halt, and sometimes a reversal, of the pre-1980 trend to longer census questionnaires.

A new and disturbing feature, public protest, disrupted the census in two countries. In the Netherlands the plans for a 1981 census were abandoned. The census in the Federal Republic of Germany planned for 1983 had to be postponed to 1987 because of more stringent conditions on confidentiality laid down by the Constitutional Court, and even then there was some non-cooperation. No country can feel itself secure against this kind of challenge. But a register-based census is less likely to be sabotaged provided it does not have to be supplemented by a questionnaire. This is because there is no occasion (Census Day) when everyone is faced with a questionnaire and the protests of a minority can be fanned into large-scale opposition.

If the register-based census is so much cheaper with less burden on the public and less risk of sabotage, why do so few countries see it as a viable methodology? There are three main reasons. First, for some topics, particularly economic topics, administrative data may be of poorer quality than data collected through questionnaires; and for other topics no administrative data exist. The Nordic countries recognise these shortcomings, and so some have retained a questionnaire and linked the responses to the data from registers (Section 3.5).

Second, many countries do not possess the necessary data systems of the kind described in Section 2. For example, local population registers may exist but without a central population register, as in the Federal Republic of Germany, Greece and Italy. The population registers may not be up-to-date and indeed some countries rely heavily on the canvass for a conventional census of population to update the registers (Italy and Spain). Outside the Nordic group, the Benelux countries have, or are likely soon to have, the data infrastructure needed for a register-based census.

The third main obstacle to a register-based census follows from the second. If the data systems have to be radically improved – and particularly if there has to be wider use of personal numbers and a new obligation to notify each change of address – opposition may be expected from politicians and the public on grounds of privacy and erosion of freedom. There may be doubts too whether the public would cooperate in the bureaucratic disciplines of a good register system. In addition, even when the necessary data infrastructure is in place, its use for record linkage for census or other statistical purposes could be sensitive. These are important issues but they go far beyond statistics. They concern policy and administration. They are now discussed by reference to the experience of the United Kingdom.

5. RECORD SYSTEMS IN THE UNITED KINGDOM

Decennial censuses in the United Kingdom use conventional methods. The 1981 census was probably the most successful census since the Second World War – a success that was helped by the shortened form and the omission of a controversial question on ethnicity. So three factors combine to make a register-based census seem a rather remote possibility: the 1981 success; doubts about the range and quality of statistics that could be extracted from administrative records; and the absence of a population register to coordinate the record systems.

But statisticians have recognised the benefits, both administrative and statistical, that population registers could bring. The two initiatives on this subject in the past 70 years – both of which failed – are described in Sections 5.1 – 5.4. Now the government, while opposing a central population register, is introducing a limited form of local population register as part of a controversial reform of local taxation (Section 5.5).

5.1 National Registration in Two World Wars: The 1918 Committee on Registration

Thinking in Britain about population registers goes back over seventy years to the First World War. The National Registration Act of 1915 had obliged every adult to carry a National Registration Certificate and to register every change of address. This led Sir Bernard Mallet, Registrar General, to consider a permanent system, which he outlined in his Presidential address to the Royal Statistical Society in November 1916 (Mallet 1917). But he was aware that he might be criticised for "desiring to Prussianise our institutions".

These ideas were developed in the report of a committee appointed by the government in 1918 and chaired by Sir Bernard Mallet. Many years later he reviewed the findings in his Presidential address to the Eugenics Society (Mallet 1929). What he then said remains true today:

"We found in existence in England a very considerable number of registers being kept at considerable expense for various special purposes, some of them covering very large sections of the population. These registers are kept under different Acts of Parliament, by various authorities, in varying areas, for independent purposes, without any provision for their coordination one with another".

The committee proposed continuous registers of the population kept locally and associated with identity cards. A central index register would interrelate the local registers to deal with removals and to prevent duplicate entries. This registration system would coordinate the registers kept for special purposes – electoral registers, school attendance registers, the decennial census, registers of births, marriages and deaths, etc. It is noteworthy that the committee, reporting nearly seventy years ago, proposed that the census of population should be linked to population registration.

In his 1929 address Sir Bernard Mallet set out the principles to which any good system should conform: first, the accurate identification of every individual "in order (a) that he shall be made responsible for the fulfilment of his obligations to the community and (b) that he shall be ensured his rights as a citizen, whether these take the form of franchises to be exercised or dues to be received"; second, the acquisition of statistical information and in particular regular figures of the populations of local areas. The analysis made and the proposals that followed would still stand as a valid response to the situation that we face in the United Kingdom today, though some of the features would not be acceptable now. Thus:

> "the numerous official enquiries and registers, now made and maintained independently of each other, would be coordinated into a single system which would provide a *dossier* for each individual containing those particulars regarding him which the State is concerned to know" (Mallet 1929).

To Sir Bernard Mallet's regret the recommendations in his committee's report were not carried out and, with the demise of the temporary wartime legislation, national registration ceased until the outbreak of the Second World War.

During the Second World War and for a few years after a full system of population registration operated in Britain. A National Register was set up linked to the issue to each person of an identity card bearing his identity number and address. Local registers were coordinated through a central register which held each person's name, date of birth, identity number and a code for area of residence. A person had to notify changes of address to the local register. The National Register survived until 1952 when identity cards and the obligation to notify changes of address were abandoned in a post-war spirit of "set the people free".

5.2 The National Health Service Central Register

The central register set up in 1939 during National Registration has been maintained since 1952 to serve a more limited role in the running of the National Health Service (NHS). Renamed the National Health Service Central Register (NHSCR), it now includes everyone resident in Britain apart from the 1 or 2 per cent who were born abroad and who have never registered on the patient list of a doctor in the NHS. But the NHSCR does not fill the role of a central population register of the kind found in many countries in Northern Europe because it is not used as a reference point from which other agencies can check personal identities and can carry the personal reference numbers into their own files. Indeed the identity numbers recorded in the NHSCR serve only NHS purposes. Other limitations which would inhibit the wider use of the NHSCR are:

(1) A significant proportion of the data arriving at the NHSCR do not carry the identity number and, given the difficulty in using names and dates of birth as unique identifiers, some of these data cannot be linked to already existing NHSCR records; thus some 1 or 2 per cent of the deaths notified to NHSCR cannot be linked in. This and the failure to remove all emigrants from the register are main factors in the inflation in the register, currently estimated at about 5 per cent. But this figure should reduce shortly when the register is computerised.

(2) Addresses are held in full in local registers and as area codes in the NHSCR. But in most cases changes of address are recorded only when a person registers with a new doctor – which may occur years after the person has moved house.

5.3 The Wide Range of Registers in the United Kingdom

As in any other developed country, a wide range of registers containing personal data is held by public authorities in the United Kingdom. The main ones concern vital registration (births, deaths, marriages and divorces), immigration and naturalization, the national health service, social security (contributors and beneficiaries such as the unemployed, pensioners and children), personal taxation, passports, electoral lists, the ownership of cars and licenses to drive cars. But these registers are maintained independently of one another by the different agencies, each with its own personal numbering system. (An exception is the joint arrangements for collecting employees' social security contributions and income tax under Pay-As-You-Earn, using one set of personal numbers, the National Insurance numbers.) This case apart, there is no coordination of record systems, no consistency in the content of records and no single set of personal numbers in general use. Details of a person's identity, usually name and date of birth, may differ between one register and another or even within the same register. This causes duplication and makes linking between registers for statistical purposes uncertain and costly. Information on address is even less consistent. There is no mechanism for carrying updating information simultaneously into all relevant records, for example information on change of address, change of name on marriage, or even the fact of death. In the words of Sir John Boreham, then head of the Government Statistical Service (GSS), "the information is never properly brought together ... It's all rather ramshackle" (Boreham 1985).

5.4 The 1960s Study of Registers

The existing uncoordinated system of records is inefficient for administration; and the absence of up-to-date addresses and the inability to link records are severe handicaps for statistics. And so in the late 1960s the GSS looked for a remedy. It studied the case for replacing the variety of personal numbering systems by a single set of personal numbers to be held in a central register, which might also include up-to-date addresses (Penrice *et al.* 1968). But Ministers decided that these ideas were politically unacceptable and terminated the studies (House of Lords 1969).

5.5 The Registers for the New Community Charge

It would seem that one of the biggest obstacles to the creation of a population register in Britain has now been overcome: an obligation has been laid on the citizen to report changes of address. Despite this, no effective population register will be created. The government has set its face against that.

The new obligation to report changes of address – a revolutionary departure from peacetime traditions in Britain – stems from the government's decision to change the basis of local taxation. In the past local taxes have been levied on the occupiers of property on the basis of the property's rental value. The tax on the occupier of a dwelling is now to be replaced by a flat rate tax on each person aged 18 and over living in the dwelling: the *Community Charge* (CC). To administer the tax new local registers will be maintained listing addresses and the persons aged 18 and over resident there. Though the registration officer will be able to make enquiries and to call on information held by local authorities and housing bodies and in electoral rolls, the obligation to inform him of changes to the register is laid on the individual. Legislation has been enacted to introduce the new system in Scotland with effect from April 1989 and in England and Wales from April 1990.

But the CC registers will be primitive instruments compared to the population registers in the Nordic and Benelux countries because:

(1) The CC registers will not cover everyone; in particular they will not cover the under-18s and people living in boarding houses and institutions.

(2) The registers (which will record each person's name, address and, in Scotland only, date of birth) will be maintained locally with a limited degree of standardisation of procedures. There will be no central register to standardise the description of each person's identity and to coordinate the local registers (for example to facilitate transfers between authorities).

(3) Although the legislation makes no specific provision for including a personal reference number in the registers, a report had recommended that local authorities in Scotland should create such a number and suggested a possible algorithm for this based on name and date of birth (Chartered Institute of Public Finance and Accountancy 1987). But the recommendation is not being implemented.

(4) The legislation specifies who can have access to which parts of the register. Apart from local authority access for the purpose of administering the CC: an individual can inspect the entry relating to himself; the public can inspect the list of addresses and the names of persons relating to each address (but, to quote the Scottish legislation, "not so as to ascertain whether that person resides at that address"); and the Electoral Registration Officer has access for his purposes. No other access is permitted.

The government's rejection of a population register that would coordinate administrative records is spelt out in the Green Paper on the CC scheme (Her Majesty's Government 1986). The paper cites countries that "have unified their separate registers and use them for several different central administrative purposes". It goes on "The British tradition is different. Registers are kept separately for different purposes by the body which needs them for a particular purpose. ... There will be no national register." This contrast between other countries' practices and United Kingdom practice is mistaken, because in other countries the different agencies maintain *separate* registers but call on a central register in order to identify the individuals that they are dealing with. I would judge that the statement "There will be no national register" reflects a political axiom, not the conclusion of rational analysis.

The creation of the CC registers is perhaps a missed opportunity to set up an effective population register. But the CC scheme is not an ideal vehicle for that. If it is to be effective, population registration should serve many ends, the more the better, and not just one – particularly when the single purpose is to levy a tax which many will feel onerous and many may try to avoid. Moreover the CC is politically controversial because of its differential impact on various groups in the community: in general terms a transfer of resources from the poor to the rich.

Thus there are several reasons for questioning the operational effectiveness of the registers to be set up under the CC scheme: the single purpose and controversial aim of the registers; the incomplete coverage of the population (the omission of some groups); the lack of a central register to coordinate the local registers; and the reliance on a person's name and (in Scotland only) date of birth as identifiers rather than a permanent personal number. The local authorities have made some critical observations on the problems that they will face in attempting to set up the registers (Rating and Valuation Association 1987). It looks as though the government has embarked on new tax legislation without thinking through the practicalities of implementation.

Another worrying feature of the CC scheme is its effect on response to the 1991 census of population. Many of those who evade CC will probably try to evade the census too, not trusting the census authorities' assurances that census data will not be passed on to other agencies. And if the census form is too explicit by stating "YOUR INFORMATION WILL NOT BE PASSED TO THE AGENCIES DEALING WITH TAX, SOCIAL SECURITY, COMMUNITY CHARGES, ...", will the census authorities themselves be seen to be condoning or even encouraging evasion and fraud?

5.6 The United Kingdom Environment

Leaving aside the CC, the present environment in the United Kingdom is generally hostile to the idea of population registers. But two positive features may be mentioned. First, the *Data Protection Act, 1984* introduced safeguards for personal data held on computers on the lines of the Council of Europe's Convention of 1981 (Council of Europe 1981). In fact the government's primary aim in introducing the 1984 legislation was commercial: to establish the United Kingdom as a safe place in the eyes of other countries which might be considering transmitting their data to the United Kingdom for processing. Protection of privacy was a lesser aim. Second the GSS, which would be concerned with some aspects of the working of population registers, has established an unquestioned record of protecting data; it has published a code of practice (Government Statistical Service 1984). Integrity in handling data has been underpinned by the fact that the GSS is decentralised, so that legal and administrative barriers have prevented the exchange of data even for statistical purposes. Such barriers would have to be removed if the statistical fruits of population registration were to be secured.

On the other side of the balance sheet the GSS's dependence on central government contrasts with the relative autonomy of the statistical organisations in, for example, Denmark and the Netherlands; this could lessen public confidence in its handling of data. The GSS's image as a creature of central government has been intensified by the Rayner Reviews of the early 1980s, as a result of which the GSS was instructed to give greater priority to the needs of central government at the expense of the needs of others – the local authorities, business, academics and the general public.

A main obstacle to population registers in the United Kingdom is the public's traditional resistance to governmental actions that appear to be overbearing or bureaucratic. The privacy lobby can be relied on to lead the opposition to any new reporting obligations placed on the public, to any extensions of the government's holding of personal data or to any project for linking data. The opposition overlooks the costs and injustices that result from inefficient management of data; and it overlooks or undervalues the checks on the misuse of personal data that can be provided by legislation on data protection and freedom of information – if properly implemented. In recent years fears about giving more personal data to the government have been reinforced by the public's perception of the style of government: the United Kingdom government is seen as almost obsessively secret and as seeking to concentrate power

in its own hands. Thus, not only is there no Freedom of Information legislation in the United Kingdom, but all government information has, in principle, been protected by the catch-all *Official Secrets Act, 1911* (Superseded in May 1989 by a more narrowly worded Act). Peter Hennessy, editor of *Contemporary Record*, asserts that British governments "maintain the tightest system of administrative secrecy in the western world" (Hennessy 1987). And recent events have called into question the proper accountability of the security services. Writing of the whole range of government activity, William Plowden, Director General of the Royal Institute of Public Administration, said "a modern British government, supported by an adequate majority in the House of Commons, at little risk from the rubber-toothed bulldogs of the select committees and entrenched behind the Official Secrets Act, is one of the least accountable executives in the developed world" (Plowden 1987).

So the public is suspicious of any new scheme of population registration. And, as already noted, opposition to full registration has been expressed by the present administration, which, like its counterpart in the United States, has made determined efforts to "get government off our backs". One of the administration's major policy objectives has been to reduce the size and influence of the public sector – sometimes giving a higher priority to this than to cost-effectiveness. So public concern about privacy, political ideology and scarce resources combine to block a full register which could lead to substantial savings and to a fairer and more just society. In fact there has been no balanced presentation of all the issues, and so no public discussion of them, in the past half century.

6. AN AUSTRALIAN INITIATIVE: IDENTITY CARDS

I know little about the Australian temperament or the Australian political scene, but I guess that resistance to bureaucratic government is as strong there as it is in the United Kingdom. Even so, the Australian government introduced a Bill to issue each citizen with an identity card – the Australia Card (AC). The reasons were wholly administrative: to reduce tax evasion, to reduce social security fraud and to reduce illegal immigration. The AC would carry the person's name, his photograph, his signature and an AC number (personal reference number) but not address. It would be backed up by an AC register (which would also include address and date of birth) accessible only to certain government departments.

The *Australia Card Bill, 1986* was passed by the House of Representatives but was rejected by the Senate (in which the government party did not have a majority). The rejection was given as one of the reasons for calling the July 1987 general election and, following the electoral success of the government party, the Bill was due to come before Parliament again. But the Bill was withdrawn because of a serious legal flaw. However it is worth describing the Bill's provisions.

The AC register would be a central population register. But it would be less developed than those in Northern Europe for two main reasons:

(1) The Bill did not place an obligation on the citizen to notify each change of address. The hope was, I understand, that most changes of address would be picked up by one or other of the government agencies taking part in the scheme and would then be passed on to the AC register.

(2) The AC scheme would not be as multi-purpose as several of the population registers in Europe. As a result of concerns about privacy and uncontrolled linking of data, the AC register would be accessible only to the government agencies dealing with tax, social security and health insurance, and then only to check identities.

The Bill defined the situations in which a person could be required to produce his AC; these included making any of a wide range of financial transactions, entering a new employment, claiming Medicare or social security benefits, and receiving hospital treatment. It would be illegal to require a person to produce his AC in any other situation.

As a further safeguard on privacy the Bill provided for a Data Protection Agency. However the government argued that privacy had to be balanced against the losses to government funds through tax evasion and fraud. The government estimated that the costs to government of the AC scheme would $0.8 billion over ten years, but that this would be offset many times over by savings of $4.1 billion in tax and $1.4 billion in social security, giving a net saving over the ten years of $4.7 billion (Australian House of Representatives 1986).

Remarks made by the Minister of Health in Parliament (Australian House of Representative 1986) show what Ministers were trying to achieve and the clear political commitment:

> "I bring before Parliament today... a long overdue reform to provide fairness and equity for all Australians."
>
> "No one doubts that the Australia Card will check tax evasion; no one doubts that it will contribute to the integrity of our social security system; no one doubts that it will be a useful weapon in deterring illegal immigration; no one doubts that by facilitating the pursuit of the money trail it will provide an invaluable instrument against corporate and organised crime."
>
> "Irrefutably, citizens need to be protected against abuse of their privacy by government. But equally citizens need to be protected against others who cynically hide behind the mantle of privacy to create false identities and thus defraud the community."
>
> "It is inevitable that this country will establish an identification system before the century is out."

Though the AC Bill has now been withdrawn, the government is searching for other ways to clamp down on tax and social security fraud, and so the story is not yet ended.

6.1 Identity Cards

The main emphasis in the Australian scheme was placed on the identity card as a way of checking identity, rather than on the personal number and register. Some European systems also combine the issue of identity cards with population registration; the Belgian system is one of the most highly developed. And undoubtedly the identity card provides an extra tier of security – provided it is not forged or stolen. In some countries identity cards are unconnected with population registration, for example in France.

In countries unaccustomed to identity cards in peacetime, the card is seen as a symbol of an authoritarian régime and an affront to civil liberties. That may be one of the reasons why the AC scheme generated so much public opposition in Australia. But much of the benefit from population registers can be secured without identity cards provided that citizens know their personal numbers and quote them in dealings with public authorities. This is what happens in Denmark and Sweden where population registration is effective, both administratively and statistically, without issuing identity cards to everyone.

A country like the United Kingdom ought not to shy away from correcting the incoherence of its records just because the uninformed critic might equate the necessary remedy – population registration – with what is only an optional extra – identity cards.

7. CONCLUDING REMARKS

Setting up a population register, with up-to-date addresses and personal reference numbers that are also carried into administrative files, would in fact be little more than bringing order into an existing "ramshackle" system: even in the most ramshackle system the citizen has to identify himself and inform various agencies of a change of address. Nonetheless some people are deeply worried by the prospect of a population register because of its threat to privacy and freedom and because it gives increased power to the State with all the dangers of misuse by an authoritarian or oppressive government. But specific remedies can and should be put in place: an effective data protection régime and legislation on freedom of information.

On the other hand a properly coordinated record system would have political advantages that have been largely overlooked. At the top of the list I would put two things:

(1) A brake on fraud, crime and illegal immigration.

(2) A fairer society, so that burdens and duties are fairly shared and benefits and rights go only to those entitled to them. Put another way, freedom should not extend to the freedom to cheat the rest of the community.

Rather lower down the list I would put:

(3) The financial savings to government. More accurate records will cut the costs of administration, give a higher yield of tax and reduce the amount of benefits paid improperly – illustrated by the Australian figures (Section 6).

(4) A wider range of policy options for government. Thus, if a reliable population register were already in place in the United Kingdom, the government would not have to construct a register *ad hoc* in order to launch its Community Charge scheme; and it could regulate immigration through control on residence in addition to the controls at airports and seaports.

(5) Other benefits from more reliable checks on identity. The late Registrar General gives as an example better checks on a couple's eligibility to marry. There would also be fewer different reference numbers to be quoted and perhaps fewer plastic cards to be carried.

(6) Better statistics (but see a qualification below).

This list is one answer to the charge that a population register is totalitarian and Big Brother. Without safeguards and in the wrong hands it could be. But it could also be the key to a fair and just society. The question is: what kind of society do we seek? Is it one that encourages, or at least turns a blind eye to, fraud, tax evasion and crime? Australian Ministers cite the man who was convicted for collecting over 50 separate unemployment benefit cheques each fortnight (Australian House of Representatives 1986). In the United Kingdom a Member of Parliament and barrister was convicted in 1987 for making multiple applications for shares against the rules by using different names, addresses and bank accounts; the defence was that it was common practice.

Another answer to the charge of totalitarianism is to look at the population registers in other countries. Table 1 divides 15 countries – all the countries of Western Europe except Austria and Switzerland – into four groups according to the kind of register system that each has. The six countries in group A have the most effective systems: their administrative records are coordinated by the population registers. The four countries in group B are in an intermediate position. In the three countries in group C population registers exist only at the local level and their quality is sometimes poor. Finally Ireland and the United Kingdom are in group D at the least developed end of the spectrum. If the United Kingdom were to take what I believe is a rational and realistic course and move into group A, it would not be joining a totalitarian company.

Table 1

Particular Features of Population Registration in 15 Countries[1]

	Local Population Registers	A Central Population Register which Coordinates Administrative Records	Personal Reference Numbers
A. With a Full System of Population Registration			
Belgium	x	x	x
Denmark	x	x	x
Finland	x	x	x
Luxembourg	x	x	x
Norway	x	x	x
Sweden	x	x	x
B. Intermediate Group			
France	•	x	x
Netherlands	x	•	x
Portugal	•	x	x
Spain	x	x	x
C. With Local Population registers only			
F. R. of Germany	x	•	•
Greece	x	•	•
Italy	x	•	•
D. Without Population Registers			
Ireland	•	•	•
United Kingdom	•	•	•
Number of Countries with the Feature	11	8+	10

[1] For details see Redfern 1987.

The statement noted earlier (item 6) that a properly coordinated record system will lead to better statistics needs to be qualified. Better statistics are indeed the *direct* consequence; a good example is regular and reliable population statistics for small areas. But if, as an indirect consequence, irresistable pressure builds up to replace a conventional census by a wholly register-based census, there are both benefits and penalties. Against the benefits of lower costs, a smaller burden on the public and a lesser risk of sabotage has to be set the probable deterioration in the range and quality of census results on economic topics, housing etc. Thus administrative records may increasingly fail to reflect the complexities and informalities of present-day life-styles which a conventional census could attempt to record – for example more part-time employment and self-employment, more second homes and looser family and household ties. It is here that Nordic experience (Section 3) is relevant.

Statisticians are not likely to underestimate the value of better statistics. But policy and administration – political considerations – carry a bigger weight in the arguments for and against population registers. The arguments need therefore to be debated by policy-makers,

politicians and the public. In the United Kingdom a debate ought to take place on the wisdom – indeed the feasibility – of constructing the single-purpose CC population register deliberately disconnected from other registers, rather than a multi-purpose population register with all the benefits that that could bring.

But I believe it right to bring the subject before statisticians for three reasons. First statisticians understand both the technical problems and the wider issues, and so can give a lead. Thus, in the United Kingdom both the earlier initiatives on population registers were taken in a statistical-cum-registration context (Section 5). Second, statistical agencies may be given responsibility for the key coordinating mechanisms, in particular the central population register, as INSEE has in France and SSB in Norway. Third, statisticians would benefit from more reliable data.

I hope therefore that statisticians will make their views known. Registers are very much a live issue, not least in such "under-developed" countries as the United Kingdom and Australia. Statisticians working in government service should reflect on the comment on professional ethics offered to the US Bureau of the Census; the words were written in a different context by the 1984 Panel on Decennial Census Methodology (Citro and Cohen 1985) but are very relevant here:

> "We recognise that the temper of the times is not conducive to the initiation of new programs, but we believe that statisticians have the responsibility to describe the facts and recommend the actions they believe are sensible."

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