"Quelle chance, quelle chance d'habiter la France/ Dommage que tant de gens fassent preuve d'incompétence/
Dans l'insouciance générale les fléaux s'installent-normal/Dans mon quartier la violence devient un acte trop banal/
Alors va faire un tour dans les banlieues? Regarde ta jeunesse dans les yeux toi qui commandes en haut lieu/
Mon appel est sérieux on ne prends pas ca comme un jeux/ Car les jeunes changent, voilà ce qui dérange."
 (Kool Shen, Le Monde de demain, NTM, 1991)

'... the test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time, and still retain the ability to function. One should, for example, be able to see that things are hopeless and yet be determined to make them otherwise.'
(F. Scott Fitzgerald, The crack-up)

The 'Urban Divide' – What Role for Demography?

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In January 2006 a lot of people gathered at the *Ecole des hautes études en sciences sociales* (EHESS) in Paris to discuss '*Penser la crise des banlieues: que peuvent les sciences sociales?*' [Thinking the crisis of the suburbs: what can the social sciences do?]. This event creates a feeling of 'What-took-you-so-long', but also one of 'Better-late-than-never'.

Riots or revolts soon stop to be the news of the day. But this does not mean that the 'urban divide' will simply vanish. It is our view that scientific disciplines, including urban demography, should make a contribution to fight the 'urban divide'.

In this article, the urban divide is translated empirically into being vulnerable and deprived. A case study is presented to identify the role of demography. The practical example of a large-scale EU program serves as a test case for vulnerability, deprivation and demography. Finally, directions are given for future research related to: aggregation and disaggregation; (the art of) defining urban problems; the challenge of social innovation in urban revitalization; and – by way of conclusion – a plea for multidisciplinarity.

This article deals primarily with the European experience allthough reference is made to other countries, notably in Latin America. The fact that the sound bite of urban divide (*la fracture urbaine*) has been borrowed from Jacques Chirac, however, does not imply that this is only a French problem. The urban divide cuts across the boundaries of EU 15 and EU 25 member states.This article is not about the Canadian or the Québec experience in particular as we have not been able to investigate whether Québec represents "an other America" or an other Europe in urban matters.

The 'Urban Divide' or being Vulnerable and Deprived

It is easy to coin a phrase such as urban divide. But it is far more complicated to unravel the meaning of it. Sound bites are poor guidelines for policies that try to fight urban problems: 'only variety can destroy variety' as Ashby (1970) has put it. The view held here is that the concepts of vulnerability and deprivation are crucial in understanding urban problems (Hulsbergen, 2005). Vulnerability indicates different forms of dependency (social, economic and physical) whereas deprivation points to a variety of shortages in the living environment.

Vulnerability, defined as a state of dependency, manifests itself in various ways: social contacts; networks and participation; how one provides for one's household; the time spent on all kinds of activity (including leisure); aspirations and future expectancies; knowledge of societal developments; the use of social amenities and services; health and handicaps. A person is vulnerable when he or she is impacted in a negative way by changes in living conditions without being able to improve the situation. Being vulnerable means that the system that creates the changes cannot be used to improve one's own situation.

Deprivation is about the form and uses of available space which create the material conditions for either facilitating or restricting one's life. Deprivation concerns the shortages experienced in providing for one's household, brought about spatial-physical constraints at home, in the neighborhood and district up to the urban and regional level.   It covers the quality and quantity of housing, the

Figure 1.

Short Overview of Research Projects, Data Bases and Main Variables

	Number of Respondents in the Data Base	Number of Initial Scores	Main Variables (number of variables in the multivariate analysis)
Living Conditions Survey (Hulsbergen & Drewe, 1984)	**4693** secondary analyses of 1974 survey data, national sample	**559** Testing the (one-or multi-) dimensionality of the data, and the multivariate data elabortion programmes	Deprivation (dwelling and disrict) (12) Living environment (larger scale) (3) Vulnerability (17) Socio-economic status (3) Phase in life cycle (5)
Urban Marginality (Drewe & Hulsbergen 1987)	**568** analysis of survey data of selected districts in Managua	**64** Testing the multivariate nature of marinality	Deprivation (2) Name of district, representing living environment (1) Vulnerablity (4) Socio-econmic status (3) Phase in life cycle (5) Origin (3)
Urban Unemployment (Feddema & Hulsbergen, 1991)	**598** contribution to construction of questionnaire, analysis of survey data of sample of unemployed in Rotterdam	**489** testing the multivariate nature of unemployment, and the existing (simplistic) unemployment categorisation	Dwelling (10) Neighbourhood/district (8) Unemployment position (8) Socio-economic position (10) Level of income (2) Phase in life cycle (6) Attitude towards work and change (11) Wishes, future expectancies (7) Vulnerability (16) Origin (5)
Cochabamba (Ledo, 2002)	1988: 10,250 in 2,313 households 1996: 2,374 in 532 households	1988: 124 questions 1996: 80 questions	Living conditions - deprivation (housing, drinking water, sewerage, electricity) (11) Socio-economic status (4) Socio-spatial status (3) Position in life cycle, household (6) Vulnerability (4)

Source: Hulsbergen, 2005, p. 51.

accessibility of all kinds of relevant activity, suitable employment, and access to information and communication technologies.

The definitions of the two key concepts are based on hypotheses tested by means of multivariate analyses of survey data: in the Netherlands (as a whole as well as in Rotterdam), in Nicaragua (Managua) and in Bolivia (Cochabamba). For the specific techniques applied see Box 1 (see Appendix). Illustration 1 informs about the research projects, data bases and main variables. At first sight, the variables relating to the phase or position in the life cycle come closest to demography. In order to shed more light on this, let us take a closer look at Cochabamba – just for the sake of illustration.

Vulnerability and Deprivation in Cochabamba: Where does Demography come in?
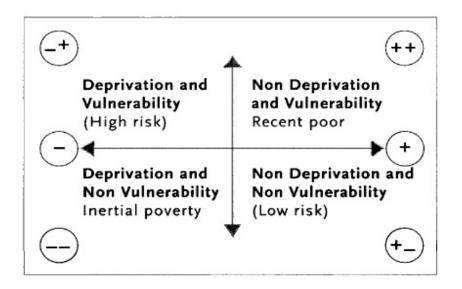
Unlike the preceding studies, the Cochabamba study allows for analyzing changes over time, to wit between 1988 and 1996 (Ledo Garcia, 2002). For both years, the data reveal comparable, two-dimensional structures. The first differentiates households in terms of high-to-low quality of the environment with respect to neighborhood location, sewage system, drinking water and housing quality. The second dimension classifies households in terms of high-to-low vulnerability as well as inequalities expressed by source of income, age, employment insecurity, social stratification and home ownership.

Though the structure of the two-dimensional model is the same for 1988 and 1996, the shifts in the dominant operational variables show that living conditions are worsening, in particular with regard to the availability of drinking water and unemployment.

Moreover, a typology has been constructed based on the two-dimensional model, quantifying four categories: households at low risk; the recent poor; inertial poverty and households at high risk (Illustration 2). Over the 8-year period the share of households at high risk has increased form 26.0 % to 30.5 % and inertial poverty from 23.8 % to 24.6 % (Illustration 3). This means that in 1996 more than half of the population has been 'deprived' (by the way, both the shares of the recent poor and of households at low risk have decreased).

Figure 2

The Multi-dimensional Face of Poverty, Vulnerability, Deprivation and Social Inequality in Cochabamba

When disaggregated by neighborhood and subsequently mapped, the most affected areas are displayed. Segregation between the relatively well-off North East of the city and the old town, on one hand, and the poor South on the other, has become more clearly marked.

What about the main variables and the demographic ones in particular?

The entire set of variables is shown in Illustration 4, including set 4 which consists of:

- household composition   - age
- marital status   - sex
- household size   - children under 12 years.

The vulnerability dimension in set 4 reflects the presence of young adults, single people and women over 65, widowed or divorced.

Figure 3

Deprivation and Vulnerability in Cochabamba: 1988 and 1996

Population Categories	1988		1996		
	Percent in Sample	Frequency generalized to total population	Percent in Sample	Frequency generalized to total population	Expected Frequency compared to 1988
No deprivation, no vulnerability ("low risk")	26.7	19.477	23.6	26.861	30.485
No deprivation, yes vulnerability ("recent poor")	23.5	17.118	21.3	24.271	26.792
Deprivation, no vulnerability ("inertial poverty")	23.8	17.316	24.6	28.102	27.102
Deprived and vulnerable ("high risk")	26.0	18.96	30.5	34.821	29.676
Total	100.0	72.871	100.0	114.055	114.055

Source: Ledo Garcia, 2002, p. 172.

What lessons can de drawn from the Cochabamba study?

Demographic variables pertaining to the position in the life cycle play an important part in defining and measuring the urban divide, but do not suffice to define urban problems. Four more sets of indicators (referring to socio-economic status; spatial status; living conditions and deprivation; vulnerablility) were needed to complete the picture of the "multidimensional face of poverty, vulnerability, deprivation and social inequalities in Cochabamba" (Ledo Garcia, 2002: 172). Moreover, the other facets constitute targets for political intervention, if one intends to change the status quo of urban problems. This brings to a practical example of interventions and of urban demography in practice.

The URBAN Community Initiative as a Test Case

So-called Community Initiatives (within the EU Structural Funds) are launched by the European Commission in search of new approaches to urban problems, to improve the effectiveness of urban policy. The most important initiative is URBAN, in two editions:

URBAN I in the period 1994-1999 and URBAN II covering the years 2000-2006 (GHK, 2003). The first comprises 120 programs with € 900 million of funding and a total investment of € 1800 million. The programs target nearly 3 million inhabitants. For URBAN II another 70 programs have been selected to which the EU has contributed €700 million (the total investment amounts to € 1580 million). The URBAN II programs cover a population of some 2.2 million. The actuality of the URBAN Initiative increases with the fact that the French suburbs of Aulnay-sous-Bois, Clichy-sous-Bois / Montfermeil, among others, are part of the programs.

Urban problems are officially spelled out as follows: *"Poor living conditions aggravate individual problems and distress. In turn, social malaise and the lack of economic opportunity make the individual hostile to his/her environment. This vicious circle is today cause of conflicts and imbalances, particular evident in the areas where the problems are the most acute"*.[1] This explains the focus on neighborhoods or small pockets with extreme deprivation. The latter is considered as multi-faceted, i.e. as having a social, environmental and economic dimension, thus requiring an integrated approach. The vicious circle is to be broken *"by re-valorising the individual through his/her habitat and not in spite of it"*. Or to put it differently, deprivation is to be tackled by an area approach, by targeting a well-defined area of small size.

Figure 4

Main Variables, Scaling Level and Categories

Set		Variable	Description	Categories	Scaling Level	Categories
			STRATIFICATION OF SOCIO-ECONOMIC GROUPS			
						1. Manual Worker
						2. Informal Sector
						3. Non-Manual Worker
1	1	x11		4	Oridinal	4. Director, Professionals
1	2	x12	Income per capita in American dollars per day	4	Oridinal	1. <1$ 2. 1-2$ 3. 2-4$ 4. 5$-+
			PRODUCTIVE STRUCTURE			1. Wholesale & Financial Services
						2. Transport, Communication & Social Services
						3. Retailer, Personal Services & Restaurants
1	3	x13		4	Single-Nominal	4. Primary & Secondary Sector
1	4	x14	Formal Education Level (in years)	4	Oridinal	1. <3 2. 3-8 3. 9-12 4. 13-+
2	5	x21	Area of Origin	3	Single-Nominal	1. Biggest City 2. Intermediate/City 3. Rural
2	6	x22	Neighbourhood Location	3	Single-Nominal	1. Good 2. Regular 3. Bad
2	7	x23	Migrant Condition	3	Single-Nominal	1. No Immigrant 2. Immigrant
3	8	x31	Housing Types	2	Oridinal	1. House or Flat 2. Room & Shack
3	9	x32	Ownership Types	2	Oridinal	1. Owner 2. Rent & Borrow
3	10	x33	Housing Crowding	2	Oridinal	1. High/Density 2. Normal
3	11	x34	Availability of private bathroom	2	Oridinal	1. YES 2. NO
3	12	x35	Readiness of room to cook	2	Oridinal	1. Yes-kitchen 2. No-kitchen
3	13	x36	Walls	3	Oridinal	1. Good-Walls 2. Regular-Walls 3. Bad-Walls
3	14	x37	Roofs	2	Oridinal	1. Good-Roofs 2. Regular-Roofs
3	15	x38	Floor	3	Oridinal	1. Good-Floor 2. Regular-Floor 3. Bad-Floor
3	16	x39	Drinking Water	2	Oridinal	1. Yes-Water 2. No-Water
3	17	x310	Sewer Network	2	Oridinal	1. YES-Sewer 2. NO-Sewer
3	18	x311	Electricity Service	2	Oridinal	1. Yes-Electricity 2. No-Electricity
4	19	x41	Household Composition	3	Single-Nominal	1. Single 2. Nuclear 3. Extended & Compound
4	20	x42	Marital Status	3	Single-Nominal	1. Divorce/Widowed 2. Married 3. Unmarried
4	21	x43	Household Size	3	Oridinal	1. 1-3 2. 4-5 3. 6-+
4	22	x44	Age	3	Oridinal	1. Less 30 2. 30-64 3. 65-+
4	23	x45	Sex	2	Single-Nominal	1. Male 2. Female
4	24	x46	Children under 12 years	2	Single-Nominal	1. Yes/Children 2. No/Children
5	25	x51	Employment Type	2	Single-Nominal	1. Permanent 2. Temporary
5	26	x52	Contract of Employment	2	Single-Nominal	1. Yes/Contract 2. No/Contract
5	27	x53	Type of Income	2	Single-Nominal	1. Yes/Salary 2. No/Salary
5	28	x56	Language	2	Single-Nominal	1. Spanish 2. Spanish-Native

Source: Ledo Garcia, 2002, p. 159.

Moreover, each target neighborhood should be integrated into the rest of the city. The individuals affected by severe deprivation are not to be treated as passive objects of interventions, however. URBAN envisages citizen participation in the development and implementation of programs. The problem of deprivation is supposed to be solved 'at grass root' level. Hence the keywords of the URBAN rationale are: multidimensional deprivation, integrated area approach, and citizen participation.

How does the URBAN Initiative relate to what has been said so far about vulnerablility, deprivation and demography? Where do the respective indicators come in?

Three moments are crucial here:

- the selection of target or program areas: to ensure that the 'right' areas have been chosen
- citizen participation: to check on the mobilization of those for whom URBAN has been set up
- the ex-post evaluation of program impacts: to make sure that a positive outcome has accrued to the targeted groups.

Given the area-based focus, the kind of area selected is of vital importance as it decides on the degree of multiple deprivation tackled by the programs. URBAN I areas were required to have the following socio-economic characteristics: high level of unemployment, decayed urban fabric, bad housing conditions, and lack of social amenities. In an attempt to create 'more transparent' criteria for the selection of areas in URBAN II, learning from the first edition, nine criteria have been proposed (Commission of the European Communities, 2002:11)

- *High long-term unemployment*
- *Low rate of economic activity*
- *High level of poverty and exclusion*
- *The need for structural adjustment due to economic and social difficulties*
- *High proportion of immigrants, ethnic minorities and refugees*
- *Low level of education, major gaps in terms of qualification and high rate of pupil failure*
- *High level of criminality and delinquency*
- *Unstable demographic development*
- *Particularly poor environmental conditions.*

The nine criteria represent a mix of vulnerability, deprivation and demographic indicators. It is an ad hoc mix of indicators. No empirical evidence is provided on the underlying dimensions, especially on the very multidimensional character of the problems addressed by the EU inititiative on an area basis. Pragmatism and plausibility seem to compensate for the paucity of data and data analysis. As to URBAN I with its catchall criteria, the evaluators assure us that "in general, the EC's criteria led to the selection of the most disadvantaged districts" (GHK, 2003: vi).[2]

Active participation of the local community in aspects of management and implementation of the URBAN program has been seen as an important success factor. Conversely, the lack of active participation - according to the evaluators - qualifies as an important hindering factor. But nowhere does one find any information on who is actively participating in URBAN and who is not. The citizen or the 'grass root' remains a black box although it could be 'unblackboxed' by using demographic or other indicators.

Do vulnerable people participate and, if yes, what does participation do to vulnerability?

The real 'proof of the pudding', of course, are the results or impacts of the initiative as revealed by the ex-post evaluation. The top-three impacts listed are: improvements in the physical environment, improvements in socio-economic conditions and social capital impacts (ICT does not figure among the impacts of URBAN I; see Box 2 in Appendix for the relation between the urban and the 'digital divide'.) What strikes is that evaluators' opinions, by and large, have replaced the measurement of tangible output to the target area and population.[3]

To answer the question whether deprivation has been alleviated thanks to URBAN, asks for tangible output measures such as the number of suitable jobs created. As far as vulnerability and demographic characteristics are concerned, the target population can hardly be considered as homogeneous, the crucial question being who has profited from the program and who has not. Take for example the French suburbs. We know from other sources that the young and unemployed were among the frustrated inhabitants, lacking the required education or, not lacking it, but having no access to decent jobs. This is also an example of the importance of demographic variables, in especial (once again) the position in the life cycle. Being unemployed, is far from being a simple indicator as our study on urban unemployment in Rotterdam has shown (Feddema & Hulsbergen, 1991). *The* unemployed simply does not exist. A proper typology requires the inclusion of deprivation, vulnerability and demography.

Summarizing one can say that the rationale or philosophy of the URBAN Community Initiative still holds: multidimensional deprivation, integrated area approach and citizen participation. Even if one accounts for pragmatism and plausibility, URBAN has been hampered by a paucity of data and data analysis. It lacks the discernment and understanding with which to penetrate the heart or essence of the urban divide. This problem is not solved by a major EU investment in urban statistics, to wit the so-called Urban Audit. It collects information on living conditions in large and medium-sized cities in the EU and the candidate countries from 1997 onward (http://www.urbanaudit.org). The collected information consists of aggregate indicators in the domains of demography, social aspects, economic aspects, training and education, and the environment. As to the nature of indicators not much progress has been made since the Council of Europe commissioned a study on the structure and composition of the population of urban areas back in 1963 (Council of Europe, 1983). Missing in the indicators debate is the relation between aggregation and disaggregation. The issue of aggregation versus disaggregation is one of the topics of future research.

Directions for Future Research

The directions for future research refer to four issues:
- aggregation and disaggreggation
- (the art of) defining urban problems
- the challenge of social innovation in urban revitalization
- by way of conclusion: a plea for multidisciplinarity.

Aggregation and Disaggregation

Information can be collected on the individual level or in an aggregated way at different scales, in urban studies, up to the city level. Dealing with the urban divide, the criteria for the selection of program areas in URBAN provide an example of aggregate data. So are the data in the Urban Audit (collected by Eurostat). Aggregate data in this context ask for a critical analysis which relates to the issue of defining urban problems. This includes benchmarks of what is seen as high or low and the potential fallacy of misplaced concreteness.

Examples of individual data have been given in Illustration 4 and, in greater detail, in section 2 analyzing vulnerability and deprivation (it should be noted that any categorization is a form of aggregation starting with households). Note also the need for disaggregate data with regard to citizen participation and the

ex-post evaluation of program impacts – and the lack of this kind of data in URBAN.

Though there is a sharp distinction between aggregation and its opposite, disaggregation, they are essentially interdependent. Aggregate data cannot be constructed without individual data and, in order to get a broader picture, individual data need to be aggregated. Cochabamba, for example, is portrayed in a nutshell by the share of four types of deprivation and vulnerability (Illustration 2). Another example is URBAN and its pragmatic need to define the magnitude of urban problems.

Aggregation ought to be carried out consciously, as a stage in a process of generalization, or to connect different aspects in order to gain knowledge or take action. What is really important is the critical analysis of interdependencies of aggregation and disaggregation: in order to avoid fallacies of aggregation or disaggregation as well as meaningless or stigmatizing definitions of urban problems.

The Art of Defining Urban Problems

At the heart of the question is the importance of defing a problem well. What, actually, is the problem to be approached and possibly solved? How can we be certain that one definition is preferable to another? Which problem definition justifies leaving trusted, well-trodden paths? When is an urban area a problem area that must be dealt with? How can we ensure that we do not neglect those urban needs not explicitly mentioned in the problem definition? Even if an incorrect problem statement could lead to an adequate approach, a 'good' problem definition is preferable.

There is no simple answer to these questions. However, a few considerations should be borne in mind (Drewe and Hulsbergen, 1987; Hulsbergen, 1992):
- it must be possible to conduct research on a problem definition
- it must be possible to underpin the validity of the definition
- defining a problem is more of a process than a one-way affair
- the point of departure, and who takes this position, must be made explicit
- in defining the problem, care should be taken not to stigmatize a group of people or an area
- people's characteristics must be separated from the characteristics of the areas in which they live, being especially alert to avoid fallacies of (dis) aggregation
- before using them, it is best to review potential approaches and also the routes taken to find solutions.

Common policy and practice tackling the urban divide are usually based on information aggregating on an area basis mostly data from existing statistics. There is often little choice as e.g. household data are not available. It is important to establish whether the problem definition, based on the data available, can deal with the complexities of urban regeneration. Our observation is that the needs of the most vulnerable and deprived residents tend to disappear underground, so to speak, so that urban 'sores' continue to fester, both in the regenerated areas and elsewhere in the city or region.

Some definitions of urban problems are even 'dangerous' as they tend to incite stigmatization of population groups or areas. They are, more often than not, based only on demographic indicators such as a "high proportion of immigrants, ethnic groups and refugees" (URBAN II, already quoted in section 3). But there are no 'demographic problems' except for those related to the discipline of demography or existing in the head of demographers. Whether a high proportion of 'foreigners' constitutes an urban problem depends on their deprivation and vulnerability, but not on the sole fact of being concentrated in certain parts of the city.

The Challenge of Social Innovation in Urban Revitalization

Generally speaking, social innovations are neither technological nor commercial. They represent social benefits or collective goods. Even if cities are sometimes considered as competing with each other and hence as 'products' to be marketed (Drewe, 2005), their 'success' is also to be measured in terms of their social sustainability or social cohesion. To achieve this one must focus on issues of distributive justice: to "make the worst off group... as well as possible" (Radcliffe Richards, 1982:123). Social innovations are called for whenever the market fails in achieving distributive justice.

In Québec, the CRISES research center has taken up the challenge of social innovation, illustrated by the case of Montreal (Klein & Fontan, 2003). This case serves as a source of inspiration for our current research which includes selected case studies of urban social innovations around the world: in Europe, Latin America and the divided city of Jerusalem. By the way, one of the cases is the URBAN Initiative, an investigation into the role of the EU as potential social innovator (section 3 refers).

The link with the urban divide is obvious. But what about urban demography? Local actors play a crucial part in territorial social innovations. The case of Montréal and in particular the *Technopôle Angus* experience testify to this.

Urban demography should become involved with citizen participation focusing on the mobilization of those for whom revitalization programs are set up.

By Way of Conclusion: A Plea for Multidisciplinarity

According to Webster's demography is: "*the statistical study of the characteristics of human populations esp.with regard to density, growth, distribution, migration, and vital statistics and the effect of all those on social and economic conditions*" [and vice versa].

This definition is incomplete. We have added 'and vice versa', which means: also attention to the effects of social and economic conditions on density and other population characteristics. This in order to avoid a demographic tunnel vision, in especial in the field of urban demography.

It has been established that the urban divide is multidimensional. To tackle it successfully, an integrated approach is called for. To analyze it properly, one must apply multivariate and multilevel analyses. Both fundamental and applied research into the urban divide cut across scientific disciplines (and national borders). The authors of this article, for example, have a background in respectively economics & sociology and social psychology. Both have been working in spatial planning for many years. The multivariate techiques used to study vulnerability and deprivation, have been developed by social psychologists. And, finally, the author of the Cochabamba study is a demographer.

There are still many open questions. But this just makes for interesting avenues of research, although –facing the urban divide – research should not be seen as an end in itself. Even if attempts at battling the urban divide may appear marginal within an overwhelming societal context (Smith, 2006).

***End Notes*:**

1.   Introduction to the URBAN I Community Initiative 1994-1999 (http://europa.eu.int/comm/regional_policy/urban2/urban/initiative/src/frame1.htm).

2.   Because the "average unemployment rate in the programme areas was over 20%, and in some districts as high as 40%. The programme areas included high concentrations of immigrants and ethnic minority groups, representing up to 70% of the target population of programme areas" (GHK, 2003:vi).

3.   The chosen approach differs from the state-of-the-art. See e.g. Moore and Spires, 2000.

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Appendix A
Steps in the Multivariate (Categorical) Data Elaboration

Step 1: Data Inspection

- Aim: Knowledge of the data base and getting a good idea about the usefulness of the existing response per (theoretical) variable.
- Action: Data inspection (on code mistakes and missing data), corrections where possible and justified, recoding of categories with little response.
- Means: Questionnaire, questions asked, observations, variable list (scores), marginal frequencies (frequency distribution).
- Programs: Cross tabulations.

Step 2: Recoding, New Variables and Composition Preliminary Data Sets

- Aim: As long as possible to keep the available response in the elaboration, that is as part of the operationalization of the theoretical variables. Composition of preliminary data sets linked to the hypotheses.
- Action: Selection of data that can be used as they are, or can be used when recoded. Elimination of redundancy. Construction of new variables based on two or more existing ones, to be able to use the information in the multivariate elaboration. Getting insight in bi-variate relations and in the discriminative power of variables in the (sub) sets.
- Means: Cross tabulations, computer programs for homogeneity analysis of categorical data (HOMALS), principle components analyses (PRINCALS), and scaling (PRIMALS).

Step 3: Composition Final Data Sets

- Aim: Composition of final data sets, based on the outcomes of the former elaborations. The variables are given their final meaning as operationalization of the theoretical variable (in the problem statement and hypotheses).
- Action: If necessary variables are taken together for the construction of new ones.
- Means: The same as in Step 2.

Step 4: Testing (or Exploration) of the Relations between Data Sets

- Aim: Determination of the relations between the data sets. Visibility of the structure in the data, and the main components that determine the structure, including the robustness.
- Action: Canonical analyses of data sets, pair wise. Control of outcomes with more simple techniques, among these the comparison with the concerning (multiple) score profiles of respondents.
- Means: Canonical analyses for categorical data (CANALS; OVERALS for the multivariate analyses of several data sets together).

Step 5: Quantification

- Aim: Insight in the quantitative aspects of the defined groups of respondents, and the determination of (relative) numbers per group (quantification).
- Action: Different approaches possible, quantification based on the selection of most discriminating variables, or based on the composition of a new variable constructed the most discriminating variables.

Appendix B

'Urban Divide' and 'Digital Divide'

Universal access to information and communication technologies, meaning that ICT is accessible to all people in all places, is considered as one of the myths about these new technologies. Low education and employment levels make that e.g., URBAN program ares suffer from a 'digital divide'. It is only in URBAN II (2000-2006) that "developing the potential created by information society technologies in the economic, social and environmental sectors" (Commission of the European Communities: 9) has become one of the priorities for action. However, overall, only 4% of the available funds have been allocated to ICT as against 26% in Bruxelles-Capitale or 30% in Milano. But, in addition, ICT has often been an essential component of raining programs.

How does the digital divide relate to the urban divide? In the early days of ICT it has been assumed that universal access would put an end to the urban divide. Today, we know that barriers to enter the realm of (professional) ICT - if they persist - tend to aggravate the urban divide. Deprivation remains multi-faceted, requires an integrated area approach and the citizens must play (Drewe, Fernandez-Maldonado and Hulsbergen, 2003).

Access to ICT, i.e., the lack of it, needs to be added to the list of deprivation indicators. Questions to be addressed are: What can ICT mean for vulnerability and, as to urban demography, who are the 'digital poor'?