

## *Abstracts*

J. VICENTE: “‘Balkanization’ of telecommunications infrastructures and territorial planning: a network economics approach”. [« Balkanisation » des infrastructures de télécommunications et aménagement du territoire : une approche par l'économie des réseaux]. In the Internet-based society, telecommunications infrastructures are nowadays powerful devices for localized economic growth. In this way, there are subject to strategies of infrastructure installation coming from suppliers and/or public communities, and strategies of location and connection coming from potential users. To understand these strategies, and according to legal considerations and innovations in the French case, the paper focuses on the complex links between telecommunications networks and territorial planning, with special attention to the case of Metropolitan Area Networks (MAN). Using tools of network economics, the paper studies the market dynamics of telecommunications networks and the diffusion of infrastructures from metropolitan regions to peripheral ones in the context of balkanization of Internet infrastructures.

On the supply side, we recall the general principles of cost structures in telecommunications and develop a spatial analysis of competition when pricing and coverage rules are fixed. We show first that competition under uniform pricing constraints can decrease prices but also geographic coverage, and second, that in the absence of regulation, growing competition under coverage constraint can reduce the welfare in an aggregate level.

On the demand side, we recall the general principle of *network externalities* and apply this principle in a spatial analysis where users are unevenly distributed in space. Economic systems exhibit network externalities when the satisfaction or the benefits an agent obtains from his adhesion to a network is positively correlated to the number of members connected to this network or to an interconnected one. According to this definition, we show that metropolitan regions are more attractive for users because of the existence of a critical mass and the stronger willingness to pay that users exhibit in these regions.

If we confront in a dynamic way the aggregate supply and demand, the attractiveness of metropolitan regions is reinforced by *positive feedback* mechanisms. On the one hand, the demand of potential users is increased by network externalities and the interaction effect enhanced. This flow of demand reduces the marginal costs of suppliers in the region. So, on the other hand, suppliers can



easily reduce the connection prices and stimulate the demand by a pricing effect. This latter induces a reinforcement of the interaction effect, and so on. In the context of balkanization of telecommunications infrastructures, networks of metropolitan regions become more and more attractive for users to the detriment of networks of peripheral or sparsely populated areas where a critical mass of users is more difficult to obtain. In consequence, the market dynamic does not generate good incentives for suppliers or local communities in peripheral regions to invest in local networks. We illustrate this tendency with the help of maps published by the French regional observatory of ICT (Ortel), which describe broad bandwidth access and MAN projects in 2002 and 2003.

Finally, we discuss the possibilities of improving territorial planning through the interconnection of networks of metropolitan and peripheral regions. In the context of political decentralization and the increasing power of local public communities, competition and co-operation between these latter are the key-features of balanced territorial planning. Using game theory, and the specific game of interconnection, we show that the interconnection of networks of metropolitan and peripheral regions can reduce inequalities of access and increase the aggregate level of welfare if and only if a central regulator imposes this interconnection.

We conclude with the observation that in spite of the *technological* virtues of decentralization and distance reduction of ICT, the development of Internet infrastructures reinforces the *economic* process of polarization. The preconditions of Internet-based territorial planning are probably more *institutional* than economic and market-driven ones.

R. FINNIE, I. IRVINE and R. SCEVIOUR: "Social Assistance Use in Canada: National and Provincial Trends in Incidence, Entry and Exit". Canada witnessed a dramatic decline in welfare participation from 1993/94 to the end of the nineties – one almost on a par with the U.S., but without the sort of landmark legislation adopted there. We explore the dynamics of Social Assistance usage in Canada over this period using data based on tax files for between 2 and 4 million individuals in each year from Canada's Longitudinal Administrative Data – the LAD. The unique attributes of this base – size, longitudinal nature and income information availability – allow us, for the first time, to calculate annual incidence, entry and exit rates both at the national and provincial level, broken down by family type. We discuss the variety of experiences of these groups; we identify the policy context and discuss the implications of the findings.

M. FOUGÈRE, S. HARVEY, M. MÉRETTE and F. POITRAS: "Ageing Population and Immigration in Canada: An Analysis with a Regional CGE Overlapping Generations Model". This paper uses both a demographic model and a regional overlapping generations model calibrated on Canadian data to evaluate the potential economic-welfare and intergenerational equity implications of increasing the number of immigrants on national and regional labour markets, real per-capita income and wages. The simulations are performed according to alternative scenarios of regional residential location decision of immigrants in Canada.

Among the key findings, the simulations indicate that increasing the number of immigrants to achievable targets may ease to a certain extent the anticipated decline in national savings and real per-capita income in the long run and partly accommodate future young generations. However, these benefits will take several decades to materialize. They also suggest that immigrant's regional location decisions may have important consequences on regional labour markets and regional income disparity in the future.

M. D. RICE: "Regional and Sectoral Growth in Canada's Emerging Economy". This paper studies regional and sectoral concentrations of business activity in Canada. The analysis compares the spatial and sectoral characteristics of rapidly-growing firms, *Next Wave* businesses, with the largest firms in the country, *Establishment* businesses. The study shows that British Columbia, a strong next wave performer, has a sectorally-diverse and geographically-concentrated next wave business community, while Saskatchewan's relatively weak next wave community is sectorally-concentrated and geographically-dispersed. The paper discusses these results and links the findings to the further development of the literature of economic geography and its public policy applications.

P. BURTON, S. PHIPPS and L. LETHBRIDGE: "Longitudinal Estimates of Child Poverty in the Maritimes versus the Rest of Canada". We use the first 3 cycles of the National Longitudinal Survey of Children and Youth (1994, 1996 and 1998) to compare longitudinal estimates of child poverty in the Maritimes and the rest of Canada. We compare how many children *ever* encountered poverty as well as how many children remained poor *throughout* the study period. We describe, as well, the extent of their income shortfall. This descriptive comparison is followed by a multivariate analysis of the correlates of child poverty in the two regions. In particular, we are interested in the role of labour markets as an explanation for the much higher rates of poverty, particularly chronic poverty, experienced by children living in the Maritimes.

A.A. BATBYAL: "Desirable Properties of an Unconventional Population Control Policy". A great deal of concern has now been expressed about the authoritarian population control policies adopted by Asian countries such as Vietnam, India, and particularly China. Many of these autocratic policies and certainly the Chinese 'one child policy' have failed in part because the framers of these policies have attempted to unsuccessfully circumvent a long standing cultural desire for male children. Therefore, in this note, we first propose an unconventional population control policy that is sensitive to this cultural desire for male progeny. Next, we show that this policy is desirable because: (i) it is likely to ameliorate the "missing girls" problem, (ii) it leads to an equal proportion of females and males in the overall national population, and (iii) its adoption will eventually result in replacement fertility rates in the nation under study.