

Econometrik +



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Up-to-date and New Developments for the
FuturCanada® Models
as Supports to
Canadian Decision-Makers in Economics

by

Ronald Carré
Economist

November 2003

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1. Chronological events : About Econometrik Plus's Tools for Economic Analysis and Forecasting

Since May 2000, Econometrik Plus has constantly developed essential socio-economic tools useful for every provinces and federal government. They are in both categories :

1. Structural analytical economic tools for the long term (FuturCanada®Forecasts Division)
2. Economic Impacts Analysis Tools (FuturCanada®Impacts Division)

They have been built around the FuturCanada® model¹ which has been developed by the author of this document during the year 2000. This large model starts from the concept of Input-output models. A lot of sub-models have been developed in periphery of the input-output models and they are all interconnected. Each of the them describes all the socio-economic dimensions for every provinces, territories and Canada as a whole.

The input-output models are directly connected to the interprovincial national accounts as published by Statistics Canada and to the demographic evolution, in long run, as observed for every provinces and territories. In addition, input-output models for each province and territory are statistically interconnected for every years by their interprovincial trades relations (exports to one's equals imports from the other one, and so on, ...). The models for each province and territory are thus closed and dynamics.

It is consequently possible, for all long term structural analysis and all impact studies made for any province and territory (or for Canada as a whole), to measure the consequences and the impacts for any important economic development project. The results are provided, not only for the specific province or territory, but also for all the other provinces and territories with a very large level of details. In other words, we are now able to know exactly the influence we have on the others and vice versa. We have also extended our models to be capable to provide results by counties² in every provinces.

It is why it is possible, today in 2003 and 2004, to make medium and long term structural analysis and forecasts toward horizons as far as 2026 and 2031. It is important to note, in spite of the fact that the analysis horizon is very far, the validity of our analysis cannot be accurate over two (2) or three (3) years, on condition that no unforeseen «catastrophic» events occurs in short term.

¹ A document dated in January 2001 makes a general presentation to the following address : <http://www.econometrikplus.com/futurcanada.htm>.

The model has also been presented at the following scientific congress in 2002 :

- [*Tenth Inforum World Conference*](#) held in Washington, July 28 to August 3, 2002.
- [*Conférence internationale de techniques d'analyse entrée-sortie*](#) held in Montréal from October 10 to 15, 2002. More details further, note 5.

² For Quebec, the breakdown is by «Municipalités régionales de comté (MRC)».

For example, an event as September 11, 2001, forces the revision of all the long term perspectives. In such a case, we have to begin the work all over again. Before doing new calculations, we must check basic assumptions which had been good until the unforeseen event, etc. The shock on the future, in medium and long term, of a very important unforeseeable event can change long term projections.

The main tools already developed around FuturCanada® Model version 1.0 with forecasts to 2021 are:

- Production block
- Demographic block
- Employment block
- Governments' revenues and expenditures block
- Households expenditures block
- Investments block
- Exports and imports between provinces and the exterior of Canada block
- Block of Input-output matrix for impacts calculations of direct, indirect and induced effects for any changes in the final demand of every provinces and territories, etc.

1.1 FuturCanada®Forecasts Division

Econometrik Plus does the revision of its future perspectives in a specific administrative framework³. The future perspectives revision is an unique occasion to measure, by difference, the impacts of changes of major unforeseeable events.

1.2 FuturCanada®Impacts Division

Because of the input-output matrix at the center of the large model, it is possible to calculate all the economic impacts for every large projects. All the variables being dated (it is why the model is said dynamic), we can also give, by year, the impacts (directs, indirects and induced) calculated by the models.

³ For more details, see : <http://www.econometrikplus.com/EKS.pdf>

2. About the First Version of the Main Analysis Tools

2.1 Context of Realisation

The version 1.0 of the FuturCanada® model (base kit) has been elaborated, for the first time, in 2000-2001 thanks to financial supports obtained from the Quebec Ministry of Transport. Specific impact studies have also been made on request at very competitive rates.

Thanks to these funds, Econometrik Plus has been able to produce its actual base tool kit with assistance from a network of subcontractors experts in economics, statistics and computing. Econometrik Plus applies this method of work for over three years now. This is a very productive way of work which will continue to be applied in the future.

2.2 Use of the Tool Kit (version 1.0) in the Recent Years

The actual forecasting version of the FuturCanada® model (version 1.0) looks like a normal Windows application whereby any person having already had a contact with the Internet is very quickly at ease. The navigation is very easy with menus, scroll bars and so on.

This first version gives to the user the possibility of having a lot of forecasts for all the variables of the model until 2021 on its own personal computer. The user can consult, as often as he wants, millions of variables⁴ that can be printed, put in an Excel file for further manipulations by himself new tables or specific graphics for printing or not.

In 2001 and 2002, this first version 1.0 has been used to produce, mainly, two very important reports :

- **«Quebec, Canadian Economic Space and the Transportation Industry, HORIZON 2021»**, (Elements of knowledge in long run, an application of the FuturCanada® structural analytical model), October 2001, 66 pages. – This report includes recommendations made to the authorities on how to utilise the models for micro-economic specific studies in the interest to the ministry of Transport (pages 59 to 61).
- **«Analysis and Outlook for the Industry of Naval Construction in Quebec and the Rest of Canada, HORIZON 2021»**, (For a better understanding in long run), work made for the Lévis-et-Chutes-de-la-Chaudière's deputy, Canadian parliament, March 2002, including ten (10) recommendations flowing from the structural analysis, 68 pages.

⁴ To have an idea of the list of socio-economic variables in our models, see :
<http://www.econometrikplus.com/prod01.htm>

The models' databank include **plus than 130 000 time series (that are more than 7 millions of socio-economic variables)** beginning in 1981 with forecasts until 2021.

3. Why to Build a New Version 2.0 of the Econometrik Plus's Tool Kit?

3.1 The Time is Going on ... Requirement to update the database

The version 1.0 of our tool kit for quantitative socio-economic analysis has 1997 as base year. It was in 2000, the more recent year for which we had full input-output matrix at once for Canada and each province and territory. These matrix are the core of our system of models.

It is for practical reasons that we choose the base year in function of the more recent year of the input-output matrix. We do not have to build these matrix twice, in current and in constant dollars. By definition, these matrix are the same at the base year. We have just to normalize the various time series in the same base year, which are often in different base year. For that, we must apply the right normalisation rule for each time series.

Now at the end of 2003, it is time to update for input-output tables to 2000, the new base year. Even if it is recognised in economics that the industrial structures changes very slowly in long run, it becomes necessary, after three (3) years, to proceed to an update and to do again the calculations for medium and long term forecasts.

3.2 The «PLUS» of a New Version 2.0 of the Tool Kit

Updating the model represents a unique occasion to improve and to add up new elements to our tool kit for better quantitative analysis. A few elements which justify an update are :

- The Standard Industrial Classification (SIC) in force since 1980 has been replaced by the **North American Industry Classification System (NAICS)**. The NAICS is now the new standard.
- They are now three (3) North Territories instead of two (2). We must take them into account explicitly.
- Three years later, in 2003, we now have three (3) more years worth of data. This means more degrees of freedom for statistical analysis and econometric calculations. This will also permit an extension of the forecasts based on best knowledges of the past.
- Etc.

In addition, Version 2.0 will have new improvements by Version 1.0. Here are the mains improvements :

- The **Block of the Industrial Structure** will be more developed. It will have more primary, manufacturing and services sectors (about 150 productive sectors), plus about 200 categories of transactions. Let us note an important desegregation in the agri-food industry in Quebec and elsewhere in Canada. The employment block directly related to the industrial structure will have about 450 categories of occupations, etc. Above all, the input-output models can calculate impacts down to the county level everywhere in Canada, except for Quebec where the results are by MRC (Regional municipalities of counties).
- Breakdown of results for the 10 provinces, three (3) territories and Canada as a whole.
- Many more identities and stochastic equations.
- In spite of the fact that the **Demographic Block** of the actual Version 1.0 of the large model FuturCanada® has a large level of detail, the new version will be more desegregated including, among other things, a very detailed structure of food consumption. Also, at least 13 categories of households will be taken in account. It is very important to understand the impacts of important structural changes, in long run, that will happen in Canada with the ageing of the population.

If, in short term, sociodemographic changes are difficult to measure, it is the contrary in long term. Its structural evolution will determine the outlines of the economic development in Canada. This reality is now well accepted and taken in account by all decision makers in political economics in Canada.

- A very detailed **Block of governments' expenditures and incomes** will be built in the Version 2.0. It will be possible to simulate important changes in the allocation of federal's transfer of funds to provinces and territories as measure of Fiscal Imbalance in Canada to long term horizon. This subject has a permanent interest for every provinces and territories. This block will permit an appreciation for each year.
- The **Block of the external trade exchanges and external affairs** between provinces and territories and with the exterior of Canada is already well treated in the models, version 1.0. The new Block, Version 2.0, will include a more detailed bilateral exchanges by products and services by provinces and territories with the United States. This block will be directly connected to the American model developed par INFORUM⁵ in Washington D.C. **Let us note that Econometrik Plus is the official Canadian partner in the INFORUM Group since August 2002.**

⁵ To know the list of the representatives for the 24 countries as members and partners of the INFORUM group, we must see : <http://www.inforumweb.umd.edu/Intpartn.html>.

To have an overview of the Ronald Carré's contribution to the INFORUM group at the congress held in Washington in 2002, see : <http://www.inforumweb.umd.edu/IWCX.html>. See, in particular, his contribution Tuesday, July 28, 2002.

Also, Econometrik Plus collaborates to the creation of the Club of Athens which will hold its first Olympic of Governance in Athens, a World Forum, from October 21 to 24, 2004. An overview of the program is in Annex. To know more about the Club of Athens, we may consult : <http://www.paricenter.com/library/papers/valaskakis02.php> (18 pages).

- Etc.

4. The Sectors and Organisations Which Would be Most Interested

4.1 Private and Public Sectors Organisations Which Would Benefit

All governments in Canada will find this model extremely useful for socio-economic analysis in long term at a very large level of details. The same is true for many associations and semi-public organisations in every sectors. The main advantage of this original tool kit is the availability, in a unique and consistent framework of all the basic informations for a decision maker in economics, not only about his own province, but also on all the ten (10) provinces and three (3) territories as the Canada as whole, with which he does business.

All decision makers at every level need the maximum of information on the others when negotiating. A rule is clear in negotiation. The advantage is always in the best informed camp about the consequences of the decisions that could be taken by its partners. This is an important and original advantage provided by Econometrik Plus's tool kit, either for long term forecasts to calculate socio-economic impacts of decisions that could be taken by its partners or interlocutors.

The following activities in governments would benefit the most from the development of Version 2.0 models from Econometrik Plus :

- **Treasury Boards**

Economists working at this level need such a tool kit which is powerful and ease use, either just to validate the presentation made by various ministries and organisms or to make their own analysis. **Every blocks** in the models system challenge this kind of experts working in a central organism managing public funds.

In plus, two four days workshops have been held between Econometrik Plus's specialists and INFORUM's representatives in Quebec City in October 2002 and June 2003 for a follow up of the common work.

- **Departments of Finances.**

All departments of Finances in every governments in Canada can benefit from the **Block of the governments' expenditures and incomes**. The notion of Fiscal Imbalance can be analysed by the use of this very powerful tool from every possible angle. Among them, the detailed economic evolution in long run for a province or a territory by comparison to another is predominant. There is no available quantitative tools able of grasp all the dimensions of a problem as it will be possible to do it with version 2.0.

Benefits For Public and Private Sector Decision Makers

- **Regional and Economic Development Affairs.**

Decision makers who work in economic development are the most concerned with the input-output blocks for every provinces and territories in the large model. The evolution of the industrial and regional structures are linked together in these blocks. About 80% of all the industries are classified in manufacturing and services. Resources sectors make up the rest of the input-output blocks. All the basic data for economic quantitative analysis and for policy development are contained in these blocks. There is one input-output block (incorporating a number of matrices) for each province and territory.

- **Agriculture, Fisheries and Food Affairs.**

Since the middle of the years 1970's, these departments in all governments across Canada have taken an economic orientation starting with the cluster concept beginning with primary resources (production of food and fish), manufacturing processes, marketing of products and final food consumption by households in all regions of Canada and elsewhere in the world (exports). A long term outlook is essential for the formulation of policies. Business organisations and cooperatives also need a quick access to such a sophisticated tool kit.

- **International Affairs.**

Every departments of International Affairs in all governments and international organisations will benefit from international trade and its impacts on the organisations, not only between the provinces, but also at the international level. This block will be very sophisticated in the Version 2.0 of the tool kit.

First, it will be directly connected to the American bi-lateral INFORUM Model constructed in Washington D.C. FuturCanada and Inforum Models will be organised to measure correctly and easily all the impacts of various scenarios on the Canada – US trade for the next 25 years. Let us note that 24 countries are already

interconnected with the INFORUM Bilateral Model. Econometrik Plus is the official Canadian partner of the INFORUM group since August 2002.

Second, Econometrik Plus and INFORUM are jointly associated to the Club of Athens's organisation for helping and participating to the first World Global Governance Group Forum which will be held in Athens from 21 to 24, October 2004 (See the annex for more details).

- **Canadian Intergovernmental Affairs.**

All Canadian Intergovernmental Affairs organisations must have a privileged access to this tool kit. No other tools give as much integrated informations in such a consistent framework. The political stakes for all parts of Canada are very high. For the first time, we have a tool which will permit simulating any changes in the political Canadian landscape between the provinces and the federal government.

- **Public Funds and Public and Private Pension Plans.**

Every governments in Canada as well as Private Pension Fund managers must have a direct access to the tool kit. For the first time, here is a tool kit in socio-economic analysis, capable of connecting socio-demographic evolution to the economic structure in long run. These organisations of management must be able to simulate various foreseeable scenarios for all variables included in the sociodemographic block, such as the evolution of the structure of households, categories of employments and all the others demographic variables.

4.2 Costs, Supplied Services, Human Resources

Costs :

The construction of the database and models is time-consuming and requires professionals with strong qualifications and a long experience in socio-economic analysis, econometrics and computing sciences. It is an investment that will last at least 2 ½ to 3 years, before a new in-depth revision is available. All up dated versions, during this initial period, are free and included in the user's licence.

The more interesting thing, with the construction of this new Version 2.0, is the 2 for 1 price. The purchase of the Version 2.0 gives the right of using Version 1.0 for free and immediately installed in your computer by an easy download procedure. Version 2.0 should be completed by the mid-2004. When completed, all the elements of the new version will be transmitted to the client and installed by the same easy download procedure.

For more details, contact:

Econometrik National Plus Inc.
7345 Félicité-Angers,
Québec, Qc, Canada G2K 2C2

Phone: 418.627.0252

roncarre@videotron.ca

www.econometrikplus.com

What you get :

- Installation of the detailed database in its Version 1.0 on a computer within the organisation. The installation is an easy to use windows application. The database includes data from 1981 to 2021 in current and constant (1997=100) dollars.
- Three days of formation and assistance by organisation.
- On one hand, constant information on methodology applied in the development of blocks, and on the other hand, consultation about new users' needs.
- Up to 10 free simulations per organisation for impact studies with our input-output models for impacts calculations of direct, indirect and induced effects in the case of impact analysis of investment projects.
- A 50% discount on the cost of impact studies over the number of 10.
- Possibility of five (5) free simulations per organisation for the production of more scenarios different of the tendency scenario (to 2021) of the economy supplied with the database. Additional simulations will be charged at half of the marginal cost (100\$/hour).
- The user licence is valid until the production of a new version not before the end of 2006 (as a version 3.0).
- Possibilities of particular studies in quantitative economic analysis ordered from Econometrik Plus by organisations (at a competitive price).

Necessary Human Resources per Organisation :

By experience, it is recommended that every organisation having a user's licence identify a professional resource having a minimum skill and interest in quantitative socio-economic analysis. This person should be able to bring the organisation's needs into focus, considering the enormous capacities of the tool kit.

ANNEX: Presentation of the Club of Athens

**CLUB OF ATHENS
GLOBAL GOVERNANCE GROUP
(Triple GGG)**



**THE OLYMPICS
OF GOVERNANCE**
Exploring New Ways
of Managing Our World

**Athens, Greece
October 21-24 2004**

EXECUTIVE SUMMARY

Address correspondence to

Kimon Valaskakis

President Club of Athens

kimonv@aol.com / Tel – 1- 514 – 739-8634

Club of Athens Global Governance Group

1980 Sherbrooke West Suite 720, Montreal QC, Canada

OVERVIEW OF THE CLUB OF ATHENS Global Governance Group

The Global Governance Group is a proposed initiative best visualised as the “Greek Triangle”. It involves three entities: a Global Governance Institute staffed by World-Class experts in a number of fields, a Club of Athens comprised of a blue-ribbon panel of leading world figures and a Democratic Agora to directly involve private citizens. The whole project is to be known as the Club of Athens (even though, the Club itself is technically one of the three constituent entities). Therefore, although the overall project is in fact the Global Governance Group, the Club of Athens and related Greek metaphors communicate a much sharper message.

To have a good and more detailed overview of the **Club of Athens Global Governance Group**, we must consult the following Web address (18 pages) :
<http://www.paricenter.com/library/papers/valaskakis02.php>

THE CONFERENCE IN A NUTSHELL

Date and Venue

A major conference to be held in Athens Greece in October 2004 as part of the Olympic Celebrations. It will focus on the present state of global governance in 2004 and what can be done to improve it

Objectives

1. **Situation Analysis**. (a) An integrated view of present and emerging global challenges (b) How far can the present World System meet these challenges?
2. **Prospects and Action Plans**. (a) Possible and Desirable Scenarios (short, medium and long-term) (b) What can be done to improve global governance.
3. **Potential Contribution of the Club of Athens – Global Governance Group**. (a) Constituent Assembly of the GGG (b) Competitive Position of GGG (c) Action-Research Plan 2004-2008 (d) Preparation of next meeting Beijing Olympics 2008.

Innovative Features of the Conference

It will be the intellectual counterpart of the Olympic Games with Protagonists and Antagonists facing off in a healthy confrontation of ideas.

A democratic voting system will determine the ‘gold medal winners’ of each debate, thus emulating the Sports Games themselves.

These Intellectual Olympics would revive an old tradition in Ancient Athens designed to complement the physical games with intellectual ones.

Participants

800 - 1000 participants from four groups: (1) Major thinkers on Governance Issues (2) Leading practitioners (heads of government, CEOs of major global

corporations and leaders of Civil Society) and (3) Ordinary Citizens (4) Media and observers

Speakers

- (1) High profile practitioners such as heads of state and corporate CEOs in keynote addresses, lunch and dinner speeches etc.
- (2) World-class experts and analysts to debate the key issues in the Olympic spirit

Format

- Three and a half days
- Mixture of plenaries and concurrent workshops
- Some plenaries in high profile Athenian locations such as the Old Parliament Buildings and the Herodus Atticus amphitheatre at the foot of the Acropolis

Business Plan

- Co-sponsorship by interested organisations worldwide
- Expenses of about 2.5 million euros
- Expected Revenues to come from four sources (1) Grants (2) Registrations (3) Corporate Sponsorships (4) Media attention of a bout 3.5 million euros

Author's Presentation

Ronald Carré has more than 30 years of experience in research and socio-economics analysis.

1968-75 : Works in econometric modelling at the Bureau de la statistique du Québec, as professional, team leader and director of few services. Responsible for many new developments on **the Input Output econometric Model for the Quebec Economy, invented, at the beginning, by professor Tadek Matuszewski at the University of Laval.**

1975-78 : Director of the Quantitative and Synthesis Studies Direction, at the OPDQ (Office de Planification et de Développement du Québec (*Quebec Planning and Development Office*)). Putting in place structural and forecasting models of the Quebec Economy, which have served until 1990. Initiator of the concept of **National Policy**, which has served as basic political framework for the government of Quebec from 1978 to 1982.

1978-88 : General Director and Assistant Deputy Minister at MAPAQ (ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (*Ministry of Agriculture, Fisheries and Food*)), responsible, at federal Provincial level, for the negotiations in agriculture, fisheries and food, responsible of the economic summits held in the agrifood industry in Quebec during this period, co-author of sectorial and intersectorial documents written as, for example, about the Crow's Nest Past (for the transportation in agriculture in the west of Canada), various expertise of the Canadian national policies and their implications at federal and provincial levels.

1988-94 : Economic Advisor at Quebec Ministry of Environment. In-depth analysis of concepts as durable development, differential pricing on merit, etc.

1995-1996 : Secretary of a Socio-economic Conference in Education for implementation new technologies at school, Quebec Ministry of Education.

1997-2000 : Economic Advisor at Quebec Ministry of Trade and Commerce.

May 2000-..... : Founder of the firm Econometrik National Plus Inc. specialised in Economic Forecasting and in political analysis at Canadian level. Conception of a new economic approach for forecasting and putting in place an original and large econometric structural analytical model for all regions of the Canadian Economy.

International Recognition : Since August 2002, Econometrik Plus is the Canadian Partner of the **INFORUM Group** (*Interindustry Forecasting at the University of Maryland*) in Washington D.C., USA. This collaboration has led to merge the FuturCanada® Model developed by Econometrik Plus to the large system of models inter-countries developed since more than 10 years by this organism having a great reputation. Twenty four (24) countries are connected together in this world class system of models for forecasting and simulations. (For more details, see : <http://www.inforumweb.umd.edu/Intpartn.html>).

Para-professional Activity :

1984 : Obtaining the grade of **Ship Captain** for the Saint-Lawrence River awarded by the Department of transport of Canada.

For more details : <http://www.econometrikplus.com/founder.htm>