The Regional Economic Structure of Argentina : An Analysis Focusing on Recent Major Macroeconomic Changes and Trends

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Two aspects of the Argentine regional economic structure are presented. The first is the performance of the nation's two principal sectors: the industrial sector and the agricultural sector to shed some light on macroeconomic issues with stress on geographic and regional features. The second aspect to be proved is Argentina's economic recovery since early 1991 and the current economic development policy to prognosticate "feasible regional impacts" of the privatization program on three counts: institutional stability, investment growth and efficiency in resource allocation. After a long period of stagnation, economic isolation and hiper inflation which have plagued the nation, Argentina has made significant progress in the control of the chronic inflation, at present in line with international levels. The capital inflows are also significant as investment has become the basic tool for economic growth. Increases in investment since the implementation of the Convertibility Plan along with the Economic Deregulation and Privatization of Public Entities suggest that capital accumulation is likely to continue. The continuation of drastic fiscal, administrative and social welfare reforms will provide the framework for strengthening both the state and private enterprises in their respective functions and genuine responsibilities of serving the community.

1. Introduction

Located at the southern end of South America, Argentina is the continent's largest country after Brazil, with 3,761,274 km² surface (See Figure 1). Most of Argentina's 32.8 million people (1991 Census) are of European descent, and the nation inherited many traditions from its Spanish colonizers. Since gaining independence in 1816, Argentina has experienced economic and political instability. Periods of civil strife and dictatorships have alternated with stable leadership and democratic reforms.

In 1929 Argentina was among the seven richest countries in the world ; after long period where the living standard had fallen far below that in advanced countries, Argentina's economy has been recovering since 1991, under the influence of stabilization inflows of external capital, control of its long drawn-out inflationary process, drastic fiscal adjustments and privatization of public enterprises (See [2] and [6]).

In the light of the foregoing, this paper aims to explain in its first part, the application of the "Model Refence Adaptive Management Theory", focusing on the adaptation of policies on the introduction of management methods from advanced countries in Japan (after World War II). This Model is an important reference to Argentina, because of its similarities with the ongoing adaptation of management methods, particularly macroeconomic policies, from advanced countries in

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Fig. 1 Map of the Argentine Republic.

Argentina. A detailed analysis of the main components of the Argentine Regional Economic Structure, selecting as representative sectors: industry and agriculture, highlighting macroeconomic issues, geographical and regional features and their recent performance, is provided also in this section. In the second part, this study focuses on the process of real economic progress and expansion that began in early 1991. The essential requirements for a resumption of such a sustainable growth are three-fold:

- *Increased and sustained stability (institutional, financial, and political).
- *Increased investment, both in the private and public sectors.
- *Improved resource utilization and increased efficiency throughout the economy.

This second section attempts also to analyze those achievements and trends under the current macroeconomic policy. As pointed out above, those three requirements can be set up as assumptions, in order to describe the present Argentina's Economic Development Policy. It is indeed necessary to clarify this concept, because it is not just an economic growth pattern.

2. Model Reference Adaptive Management Theory : Economic Development and Structural Change in Postwar Japan

The adaptation policies on the introduction of management methods and economic policies from advanced countries, especially United States, to Argentina since early 1991, has many simila-

rities with post-war Japanese adaptation policies. The process of successful adaptation of Japan to foreign methods (introduction of technology, science and management), can be linked to the Model Reference Adaptive Theory. The Japanese experience teaches important lessons which should be taken into account by developing country's such as Argentina, in order to accelerate definitive economic development. A detailed analysis focusing on the current adaptation policies in Argentina, is provided in the later part of this paper.

After World War II, in the Showa era, Japan made an effort to reconstruct its economy and establish self-reliance (See [12]). In this period, great efforts were made in both public and private sectors in order to achieve speedy postwar reconstruction and economic selfreliance. After the defeat, major reforms centered on: economic decentralization; promotion of democratic forces, the elimination of concentration and the resumption of peaceful economic activity. Attention was devoted to the break up of financial cliques, land reform and labor democratization. The first reform was the "Anti-Monopoly Law" of April 1947, which became a basic principle of the postwar Japanese economy; in December of 1947, the "Elimination of Excessive Concentration of Economic Power Law" was also approved. The second reform was the "Land Reform Program" submitted by the Ministry of Agriculture and Forestry. Japanese officials instituted a reform stipulating that agricultural land worked by tenant farmers would be reduced from 50% to 10%. As a result of this stringent reform, the productive capacity of rice-growing land sharply increased. The third reform was "Labor Democratization". The promulgation of the "Trade Union Law", the "Labour Standards Law" and the "Labour Adjustments Law" played an important role in improving working conditions.

The above major reforms exerted great influence over the entire postwar economy. As pointed out by Yamamura, it was an economy characterized by intense competition in all industries (See [12] and also [13]).

In addition, further reforms in other fields may be summarized as follows:

The Dodge Plan :

One of the most important programs adopted was the Dodge Plan, a broad program of Fiscal and Monetary policies developed under the advice of Detroit Bank President Joseph Dodge. Dodge launched three basic policies: balanced budget, reduction and abolition of subsidies and a full-scale deflationary policy (12). The high inflation of postwar Japan was decreased by applying this policy. Furthermore, Japanese companies could participate in international trading. In 1955, the GNP and index of industrial production exceeded the highest levels in prewar period for the first time. In addition, Japan overcame the inflation that had afflicted the country since the end of the War, and had achieved self-reliant operation without foreign economic assistance or U.S. special procurement for the Korean War. Following the transition period in the second half of the 1950's, the Japanese economy began to sustain selfreliant growth (See [13]) and entered the next high growth period through the "Suryo Boom" (quantitative growth, 1955) and "Jinmu Boom" (meaning the record high-growth in the Japanese history, 1956-1957).

The Development of Management in the Reconstruction Period :

The purpose of industrial policy after the war, was to revive the production of companies to cope with the grave shortages. The industrial rationalization plan was supported by industrial policies such as the special tax step, the treasury investment of the Japan Export-Import Bank and Japan Development Bank, the interest supply for shipping, and foreign currency allotment. In 1952 was established the enterprise rationalization promotion law.

The Development of Management of Rapid Growth Terms :

During the late 1960's, the two girder growth rate and full employment were achieved by the income-doubling plan; inflation was 5% annually. The higher structure of industries was expanded by increase in secondary and tertiary industries., the rapid growth of heavy industries and the increase in medium sized firms. MITI controlled industry-wide plant and equipment capacity

agreements with the cooperation between government and company to avoid future fear of overproduction.

The Development of Management in Low Growth Period :

By the early 1970's, the Japanese economy was affected by high inflation, the decline of economic growth and the wide deficit of international payments because of the restrictions of oil exports from Middle East. The economic adjustment to the crisis consisted of adaptation to the short term problem of the energy conservation, the rationalization of companies and the actual devaluation of labor wages. The industrial policy of the 1980's was the creative intelligent intensification of industrial structures; namely these industries were IC, Computers, Robots, Fine chemicals, New materials, NC machinery, Aircraft and Information.

Introduction of European Management :

In the history of Japanese management, most ideas of modern management science was based on the adaptation of the excellent European practices of management control as the model referent. After the end of the war, Japanese companies began a new management, facilities and manpower. However, in Japanese practical management, the two methods QC circle (Quality Control) and just in time production were developed and given world-wide attention (See [12]). Other important management control methodologies were: Material Requirement Program (MRP); Accounting System; Interior Control of Enterprises; Project Branch System and Management Control.

3. The Argentine Regional Economic Structure

***Industrial Sector**

The actual beginning of the industrialization process in Argentina was as early as the Great Depression in the 1930's; the industrialization ratio (defined here as the ratio of the added value of manufactured goods to GDP) exceeded 20% in the 1950's, and reached a level of some 30% in the mid-1970's. In Argentina, not only did industrialization advance from early on, but industry can be found to be relatively diversified and sophisticated compared with other countries at a similar income level.

The export of traditional agricultural products, which had supported the basis of Argentina's economy, was strongly hit by the Great Depression around 1930, and this situation forced Argentina's economic development strategy to change from outward-looking to inward-looking. Since then, this attitude, though it has fluctuated in intensity depending on the environment, has been maintained for approximately four decades as a policy in developing Argentina's economy. The promotion of industrialization to substitute for imports, a specific aim of the policy, has accelerated the whole of industrialization in Argentina (See [9]).

Although the policy of import-substituting industrialization, which has been supported by protectionism, has provided smooth industrial progress and has brought about diversified industrial products on the one hand, it has also caused vulnerability in the industrial sector. In other words, this policy, while effective in the long term, has resulted in low production efficiency, creating few industrial products powerful enough to compete in the international market. Such a long-term outlook can be seen in many Latin American countries, but it has caused serious problems in Argentina because of the country's unique situation involving the early start of industrialization and a relatively small domestic market, both resulting in early product saturation of the domestic market.

Clearly, import-substituting industrialization aims to substitute domestic products for existing imported ones, thus once such a domestic product has fulfilled the domestic demand, it is difficult to expand production further without taking any action to increase the demand. Such limitations cannot be circumvented without increasing exports of the product and strengthening its international competitiveness. Argentina's low growth rate in industrial production indicates clearly that the goal to replace imports with domestic products was reached at an early stage in the country's

industrial history. A matter of more importance is the fact that the growth rate of manufacturing production has fallen below that of domestic production on the whole since the mid-1970's, indicating that the manufacturing sector has lost its role as the leader of Argentina's industry. The contribution of the industrial sector to economic growth (the proportion of the increase in manufacturing added value to that in GDP) has drastically decreased from 45% in the 1960's to 17% in the 1970's, with a remarkable figure of -2.3% in the second half of the decade. The slump of this sector, which holds the greatest shares of both production and employment (25% and 24% respectively in 1980), has been the main reason for Argentina's economic depression since the latter half of the 1970's. Furthermore, the country's economic environment was too uncertain to establish long-term investment plans for industrial capital formation because of long-lasting political instability and the resultant discontinuity in economic policies, high inflation rates, unstable exchange rates and so on. Accordingly, real investment has been impeded due to an outflow of capital overseas and enhanced liquidity options. Plant and equipment investment has fallen sharply from the beginning of the 1980's, accelerating the deterioration of equipment in every industrial field, and there is a considerable retardation in grasping the wave of technological innovation in the world due to the lack of new investment to cope with advanced technologies.

The manufacturing sector grew relatively smoothly from 1950 to 1974: in this period, GDP grew annually at a rate of 3.4%, while manufacturing producing grew by 4.5% (and as high as 4.9% for 1965 to 1974). As a result, the sector's share of the GDP rose steadily from 22.1% in 1950 to 28.4% in 1974 (See [5]). The growth of industrial production, after peaking in 1974, showed sluggish trends. Its decline after 1980 is particularly significant; the production level has decreased by 20% from 1974 to 1985, indicating an annual average rate of -2.0%. Particularly dramatic was 1981's production figure, which was similar to that to 1970, falling by 16.0% from that of the previous year. During the period, GDP also decreased, but the annual rate was only 0.1% and therefore the share of the manufacturing sector in GDP dropped to 23.0% in 1985.

The Argentine manufacturing sector can be analyzed from four points of view. The first point is the subsector structure considered from the aspects of production and employment; second, the structure is looked at from the viewpoint at activity scale; the third viewpoint is the analysis from the aspect of organizational type. Fourth, the structure is analyzed from the viewpoint of "geographical distribution". Argentina's production activities are concentrated in Buenos Aires City and Greater Buenos Aires, and manufacturing activities are no exception, of course. It is very important for economic development planning to grasp the geographical and regional features. In order to further explain the regional linkages arising from that inter relation between Industries and Locations, only the fourth point of view will be focused on here.

Regional Structure of Industry

Among the total of 32,315 enterprises, 7,957 are located in Capital Federal and 13,836 in Buenos Aires Province, accounting for 67.4% of the total, as provided in Table 1. Other provinces accounting for relatively high numbers of establishments are Santa F (11.2%) and Crdoba (6.5%). This means that 85.1% of the establishments of Argentina's manufacturing sector are concentrated in the Capital and these three provinces.

Concentrations of employees and production value in these areas are 82.2% (66% in Capital Federal and Buenos Aires) and 81.3% (65.3%) respectively, and these two figures, though somewhat smaller than the former 85.1%, indicate that a little over 80% of the country's entire production activity is centered in these areas.

For reference, concentrations of population and gross regional product in these areas in 1980 were 66.8%, and 49.4% in Capital Federal and Buenos Aires respectively. These data indicate, then, that concentration of production activities of the manufacturing sector in these areas is relatively high.

The Geographical Structure by industrial type is characterized by the following points: First,

Table 1. Geographical Structure of Manufacturing Sector: Number of Establishments in 1985.

Industry (ISIC)	TOTAL	31	32	33	34	35	36	37	38	39
Total	32,335	7,137	4,677	2,725	1,629	3,357	1,489	652	9,990	659
Province										
Capital Federal	7,957	923	2,072	461	763	825	193	67	2,300	333
Buenos Aires	13,836	2,365	1,919	959	494	1,855	594	369	5,022	229
Catamarca	52	23	14	2	0	5	4	0	4	0
Córdoba	2,111	675	148	162	74	133	157	51	690	21
Corrientes	182	128	12	7	6	3	11	1	14	0
Chaco	281	100	57	51	6	14	12	3	36	2
Chubut	198	46	57	19	5	11	21	3	36	0
Entre Rios	567	321	16	47	22	29	40	3	85	4
Formosa	118	48	11	34	5	1	8	0	10	1
Jujuy	100	32	1	20	8	8	7	11	13	0
La Pampa	189	78	2	22	8	14	17	1	45	2
La Rioja	91	32	21	2	7	15	2	1	10	1
Mendoza	1,058	607	21	78	20	68	52	14	191	7
Misiones	607	179	9	302	14	11	35	0	55	2
Neuquén	96	32	2	16	4	5	20	1	15	1
Rio Negro	255	134	2	40	10	7	21	1	51	0
Salta	189	85	4	31	9	16	18	3	22	1
San Juan	178	113	5	1	2	15	22	1	18	1
San Luis	139	40	27	6	6	20	20	2	14	4
Santa Cruz	30	10	3	2	0	4	7	0	4	0
Santa Fé	3,621	988	228	420	153	242	193	95	1,257	45
Santiago del Estero	97	46	5	16	3	2	14	0	11	0
Tucumán	298	138	19	24	10	18	20	5	60	4
Tierra del Fuego	65	5	22	3	0	6	1	0	27	1

Source: Dirección General de Información Industrial.

Notes: ISIC=31-Food; Beverage; Tobacco 32-Textile; Apparel; Leather 33-Wood; Wood Products 34-Paper Products; Printing 35-Chemicals; Chemical Products 36-Non-Metallic Mineral Products 37-Basic Metal Products 38-Metal Products; Machinery 39-Others.

as for Capital Federal, the most highly concentrated industries are textiles, apparel and leather (according to ISIC: International Standard of Industrial Classification, ISIC 32); paper products and printing (ISIC 34), and others (ISIC 39); while the least concentrated are food, beverage and tobacco (ISIC 31), nonmetallic mineral products (ISIC 36), and basic metal products (ISIC 37). Second, as for the Buenos Aires Province, all industrial subsectors are concentrated here, especially chemical and chemical products (ISIC 35), basic metal products (ISIC 37), and metal products and machinery (ISIC 38). Finally, food, beverage and tobacco (ISIC 31), and wood and wood products (ISIC 33) are less concentrated in this area (i.e. the Capital and three provinces above mentioned): the former group is concentrated in the provinces of Mendoza, Tucumán, Entre Ríos and Jujuy, while the latter group in the provinces of Misiones and Mendoza.

As for industrial subsectors, the highest in the number of establishments and employees is metal products and machinery, followed by food, beverage and tobacco, then textiles, apparel and leather. The largest in terms of production is food, beverage and tobacco, followed by metal products and machinery, then chemical and chemical products. At any rate, the food products industry and metal and machinery industry account for a large share of Argentina's manufacturing sector.

Geographical distribution of industry features the following points. First, in the Pampeana Area centering in Buenos Aires Province, much weight is given to so-called "heavy industry", which includes metal products and machinery, and chemicals and chemical products, whereas the food products industry holds large share in other regions. Second, there are many provinces of which industrial structure has not been diversified. For example, the food, beverage and tobacco industry accounts for more than half of the entire production of Entre Ríos (80.5%), Tucumán (66.5%), Jujuy (65.4%), Salta (60.0%), Corrientes (58.0%), Santa Cruz (57.3%) and La Pampa (55.9%). On the other hand, textiles, apparel and leather companies account for 61.5% of Chaco's entire production, and metal products and machinery companies make up 73.9% of Tierra del Fuego's.

As seen above, the current geographical structure in each province is a result of local conditions including existing resources, presence of big consuming markets like Buenos Aires and so on. In Tierra del Fuego, for example, plants for home appliances like radios and TV sets were encouraged by governmental promotinal measures, which were discontinued under the economic policy launched by the Argentine Government in 1991. Now, 17 of 27 plants of that province manufacture home electric appliances, according to the R.I.N. (Registro Industrial de la Nación) data (See [1] and [5]).

Measures for decentralization of industry have to be based on adequate understanding of these geographical features of industry. Especially, to relocate the metal and machinery industry, which requires an industrial fringe area, to local regions. It is necessary to select sites not only for major plants, but also for related parts supplies and subcontractors.

The manufacturing industry has experienced an important transformation in its productive and business structures as a result of stability and the process of opening the economy to international trade, improving since early 1991 (See [6]). There have also been partial and complete changes in the ownership of some companies. In the case of steel and petrochemicals these changes have resulted from the privatization program. The most noteworthy aspects are the following:

— The expansion of activity in non-durable consumer goods industries occurred among soft drinks, beer, crackers, vegetable oils, cigarettes and alcoholic beverages.

— An encouraging level of activity was experienced by the durable goods industry, in response to demand stimulated by the reappearance of credit in a context of reduced inflation, although the rate of growth slowed down towards the end of 1992.

— High levels of production were also recorded by the automobile industry, reaching 260,000 units in 1992, the second highest level in the history of the local industry. Production will continue at high levels, fueled in part by the compensatory regime under which imports must be offset by exports.

- The textile industry experienced a sharp contraction, with declines in the production of thread and synthetic and cellulose fibers, reflecting their high vulnerability to competition from imports.
- The cement industry continued to enjoy sharp increases in production in response to continued demand from the construction industry as well as in the case of paper and paper paste.
- Steel is suffering through a difficult period, compounded by the fall in international prices ; the industry is going through a dramatic change in its productive and ownership structure.
- The capital goods industry is experiencing a growth due to growing local investment. In addition to the production of passenger and cargo vehicles, tractors and agricultural machinery is also improving, and sharp increases were recorded in harvestors and seeders for forrage and fine grains.
- The Petrochemical Industry

Table 2. Features of the Petrochemical Industry, Petroleum Sector and Electric Energy.

Sector/Outline	Location	Corporations	Production
Petrochemical Industry			
1-Bahia Blanca Complex	Bahia Blanca (Buenos Aires Province)	Petroquímica Bahía Blanca S.A. (PBB)	Ethylene
2-Santa Fe Complex	San Lorenzo (Santa Fe Province)	Petroquímica Argentina S.A. (PASA)	Aromatics
3-Ensenada Complex	Ensenada (Buenos Aires Province)	Petroquímica General Mosconi (PGM)	Aromatics
New Petrochemical Projects	Plaza Huincul (Neuquen Province)	Fertineu S.A.	Amonia and Urea
	Salta City (Salta Province)	Fertinoa S.A.	Amonia and Urea
	Lujan de Cuyo (Mendoza Province)	Petroquímica Cuyo S.A.I.C.	Polypropylene
	Tierra del Fuego Province	Petroquímica Austrab S.A.	Methanol, Acotic Acid, Formic Alcohol
Petroleum Sector	<p>Austral Basin : Rio Negro, Chubut, Santa Cruz and Tierra del Fuego Provinces.</p> <p>Neuquina Basin : Neuquen Province.</p> <p>Cuyana Basin : Mendoza Province.</p> <p>Northwest Basis : Salta, Jujuy and Formosa Provinces.</p>	Yacimientos Petrolíferos Fiscales (YPF)-National Petroleum Corporation (newly privatized) and other Private Companies	Crude Oil
Electric Energy	National Interconnected System (SIN) in the whole country.	Agua y Energia (Water and Energy), Empresa Social de Energia de Buenos Aires (ESEBA), Servicios Electricos del Gran Buenos Aires (SEGBA), San Luis Provincial Electrical Power Company (SESLEP), all of then newly privatized, and National Atomic Energy Commission (CNEA) and Salto Grande Mixed Technical Commission (Binational Entity).	<p>Supply to Electric Energy (1991)</p> <p>Steam : 19,786 GWh</p> <p>Internal Combustion : 6,597 GWh</p> <p>Hydroelectricity : 16,161 GWh</p> <p>Nucleoelectricity : 7,803 GWh</p> <p>Total Production : 50,347 GWh</p>

The petrochemical industry in Argentina started in the early 1940's by Yacimientos Petrolíferos Fiscales (YPF) (the National Petroleum Corporation) in San Lorenzo, Santa Fe Province, for the production of isopropanol from the refinery and also by Dirección General de Fabricaciones Militares (DGFM) in Campana for the production of aromatics by the naphtha reforming process. These firms were the first petrochemical establishments in the Latin American region. The principal basic input products manufactured in Argentina include: aromatics, ethylene, styrene, methanol and formol, maleic anhydride, toluene diisocyanate, latices, LAB/DEB, polyols and thermoplastics.

The abundance of natural gas has determined over the last 20 years the companies, stimulated by official industrial promotion schemes, have developed their investments mainly in Bahía Blanca area (Buenos Aires Province), Loma de Lata and Plaza Huincul (Neuquén Province), Luján de Cuyo (Mendoza Province), Río Grande (Tierra del Fuego Province) and Puerto San Martín (Santa Fé Province) (See [9]). Nowadays, major petrochemical plants are concentrated in three main locations with major core complex as follows: Bahía Blanca Complex; Santa Fe Complex and Ensenada Complex, which were included in the calls for public tender (See [6]). A summary for Petrochemical Industry, Petroleum Sector and Electric Energy is provided in Table 2.

Petroleum Sector

The situation in the petroleum picture is characterized as follows: local supplies of petroleum are precarious and are largely tied to a program for well drilling and assisted recovery projects. Every year more reserves are consumed than are discovered. However, deregulation and opening up the industry to private investment are making possible the expansion of production of crude oil and improving efficiency in all segments of this industry. The main basins and central oilfields in Argentina are located in the following areas: the Austral Basin including Río Negro, Chubut, Santa Cruz and Tierra del Fuego Provinces; the Neuquina Basin including Neuquén Province; the Cuyana Basin (Mendoza Province) and the Northwest Basin in Salta, Jujuy and Formosa Provinces.

— Electric Energy

Most of the country's energy needs are supplied by the National Interconnected System (SIN), made up of networks of 500 KW and 132 KW. Energy is provided by Agua y Energía (Water and Energy), ESEBA, SEGBA, SESLEP, CNEA and Salto Grande.

***Agricultural Sector**

The structure of the output in the agricultural sector has undergone a remarkable change in Argentina during the 1970's and the early 1980's; some refer to this period as the country's second agricultural revolution. The change has come most prominently in the Pampas (Buenos Aires, La Pampa, Córdoba, Entre Ríos and Santa Fé Provinces) which traditionally produce the bulk of the country's exports, but it is also observable, though to a lesser extent, in other regions (See [1] and also [9]). Change principally stemmed from the dynamic expansion of the crop sector relative to the livestock sector, and from the increased predominance of the five major crops of wheat, maize, sorghum, sunflower and soybean vis-a-vis the other crops.

The expansion of the crop sector was partly brought about by the changes in the world market conditions for Argentina's major export products. Most notably, the European Community's increased protectionism and subsidized export initiatives since the mid-1970's substantially reduced the demand for beef, among others in Argentina's traditional export markets. As a result, the country's livestock sector reduced its economic importance in the Pampas relative to crop production and has not entirely recovered from this setback to this day. In contrast, the world demand for major cereals and oilseeds continued to expand in the 1960's and the 1970's, though with some setbacks during two oil crises. Moreover, the USA's embargo of grain exports to the USSR in 1980 functioned to give a boost to Argentina's export and production of major pampean crops. The USSR emerged as the country's major export destination, offsetting the shrinkage of its traditional

export markets. These external factors supported the significant technological progress in the production of major export crops in Argentina during the 1970's.

Non-Pampa regions produce a variety of crops, taking advantage of their diverse agro-ecological environments: sugarcane, tobacco and beans in the Northwest, yerba mate, rice and tung oil in the Northeast, cotton in the North, apples and pears in Rio Negro, grapes for wine and certain vegetables in the West, and so forth. Agricultural production in non-Pampa regions is estimated to contribute approximately one-tenth of Argentina's total exports, but non-Pampa agriculture is on the whole oriented to domestic markets. Some crops are grown for their exports possibilities, but increases in their production is hampered by difficult access to overseas shipping. This is especially the case in the Northwest and the West. In general, the situation is improving because of opening of Chilean sea ports on the Pacific coast for Argentine export products.

Moreover, the limited size of domestic markets constrains the possibility of fully taking advantage of the diverse agro-ecological conditions in non-Pampa regions. The recent expansion of the areas planted in five major crops (including cotton, tobacco, and sugar) in non-Pampa regions can be understood as one of the most important attempts to diversify the marketing horizon of regional agriculture. This development highlights the urgent needs for supportive efforts in developing efficient product marketing and for adopting sustainable systems of crop production which are suited to their agro-ecological conditions. In recent years, there has been extraordinary progress in Argentina's exports of major crops, such as wheat, to MERCOSUR (Southern Cone Common Market) countries, especially to Brazil. The mediumterm outlook points to the real consolidation of this large economic space and the increasing of exports of crops to MERCOSUR member countries.

Agriculture in the Pampa region has been undergoing remarkable changes since the 1970's. The five major export crops of wheat, maize, sorghum, sunflowers and soybeans led the notable expansion of the crop sector which has been observed in Argentina during the last two decades. Two important dimensions of this process of expansion have been, a) the increase of agriculture vis-a-vis the livestock sector, and b) the increased dominance of the five crops over other crops.

The major contributing technical factors would appear to be:

- (1) The introduction and wide diffusion of high-yielding varieties, such as the hybrids of maize, sorghum and sunflower and the early maturing mexican varieties of wheat.
- (2) The increased use of chemicals for plant protection and, though to a much lesser extent, of fertilizers.
- (3) Employment of more efficient and sophisticated farm machinery.
- (4) Technical improvements of farm management which accompanied the increased use of such inputs. Approximately 39 million tons of various grains were produced in the 1991-1992 season (See [6]).

With regard to Argentina's livestock farming sector, it should be pointed out that it is founded on a wide expanse of range land endowed with extremely favorable natural conditions, e.g., climate, soils and topography. It is principally centered in the fertile Pampa region where cattle, pigs and poultry are raised. Some sheep are raised on the Pampas but roughly half of the sheep population is raised in the cold and dry Patagonian plains (Rio Negro, Neuquén, Chubut, Santa Cruz and Tierra del Fuego Provinces) with annual rainfall of less than 300 mm. The total cattle population is about of 54.7 million head; some 80% are found in the six provinces in the eastern central part of the country (Buenos Aires, Córdoba, Santa Fé, Entre Rios, La Pampa and San Luis) and 17% are in the nine provinces to the north and northeast of these provinces. In other words, cattle in Argentina are largely brought up in the Pampa region and areas located to the north of it (See [1] and also [9]). The number of dairy cows was estimated to be two million in 1990, accounting for less than 5% of the total cattle population. Beef has the overwhelming share in Argentina's meat production which constitutes the mainstay of the country's livestock sector. Cattle management in Argentina

is generally characterized by its large-scale operations based on extensive grazing. Cattle farming is divided into breeding (*cria*) and fattening (*invernada* o *engorde*).

The breeding operations are mostly carried out extensively in areas less favored by natural conditions or less suitable to crop cultivation, such as on the fringes of the Pampa region with drier climatic conditions. Fattening is done mainly in the Pampa region, and traditionally it is conducted in combination with crop cultivation. In the fattening farms of 300–5,000 ha., about one-third of the land is commonly used for cereal production, and after three to five years of cropping, depending on the soil conditions, the land is turned to pastures for four to seven years until the soil fertility recovers. In smaller farms, cattle raising is usually a subsidiary operation compared with crop cultivation. Breeding farms are mostly located on the fringes of the Pampa (La Pampa, San Luis, and the north of Santa F Provinces), parts of the Northwestern (NOA) and Northeastern (NEA) regions, and the central eastern area called “Cuenca del Salado” in Buenos Aires Province. Breeding operations on the fringes of the pampas, the NOA and the NEA are mostly of the extensive and extractive types utilizing natural pastures, whereas mixed farming enterprises in Buenos Aires Province and parts of Entre Ros Province are much more intensive in nature.

Fattening farms are chiefly found in the western half of Buenos Aires Province, and the southeastern part of Crdoba Province and southern Santa F. The operations in these areas are mostly done by large-scale farming enterprises. Extensive fattening operations are also found in Entre Ros Province, whereas family-size farms specialize in fattening operations in the south of Santa F Province. In the northern area of Buenos Aires Province, which constitutes part of the traditional maize-growing zone, smaller farms began to specialize during the 1970’s in more intensive crop cultivation, largely at the expense of the cattle farming phase. Land use in the Pampa region has undergone the process of agriculturalization in the last fifteen years, mainly because cattle farming lost its profitability relative to crop cultivation; this was associated in part to loss of export markets. The current general pattern shows the reduction of the cattle farming area and the expansion of the cropped area.

4. Current Economic Development Policy Focusing on Feasible Regional Impacts of the Privatization Program

Stagnation in the Argentine economy over the last decade was due to a combination of unfavorable domestic political response to the international situation and to “Argentine structural deficiencies” (See [11]).

By the end of the 80’s, the country had fallen into a cycle of foreign indebtedness backed by a context of world liquidity, but without development of an export capability nor significant growth in internal investment. When the international financial crisis hit and credit lines dried up, Argentina was forced to adopt drastic classical adjustment measures. In fact, the transfer of resources abroad to meet foreign debt payments led to reduced imports to free a greater trade balance. Over the last few years net investment has been negative, thus reducing the capital/product ratio and average economic productivity. This explains the difficulties in achieving long term growth. There have been some short “stop-go” type periods of growth, but in recent years these have grown shorter and the Gross Domestic Product has not grown more than 2 years in a row. After 11 years of permanent GDP growth from 1964 to 1974, there were declines in value-added economic activity during 1975–76, 1978, 1982, 1985, 1988, 1989 and 1990.

Moreover, in recent years Argentina has suffered of bouts hyperinflation (See [4]). From 1960 to 1989 the GDP was stagnant, growing barely 1.3% yearly (cumulative). Since 1991 overall economic activity has moved into significant recovery, led by industry, construction and commerce. The rate of growth in 1991 was 7.3% (See Figure 2).

Argentina’s current “macroeconomic policy” set up by the Economy Ministry in early 1991, is

Fig. 2 Growth of Total Gross Domestic Product.

supported by The World Bank, the US Federal Treasury and the International Monetary Fund (IMF). These "Adaptation Policies" (Model Reference Adaptive Management Theory) stressed on the following economic measures:

*New Economic Reform

The Convertibility Plan is a full convertibility between the Peso currency unit and the Dollar. It sets the foreign exchange rate on this basis, it eliminates all existing indexing practices, and it sets up a new tariffs policy (See [2] and [6]). Full convertibility implies that the Argentine Central Bank is to sell all the dollars that the market demands at the rate of \$1 Peso, as of April, 1991. Convertibility is ensured by the relation between the monetary base and level of liquid reserves. The base could expand or contract in accordance with Central Bank buying or selling of dollars.

The Convertibility Plan has moved the Argentine economy into a full "virtuous circle": with growing economic activity, unprecedented reduction of inflation, real-value growth in monetary aggregates and greatly improved fiscal conditions [2].

The continuation of administrative, fiscal and social welfare reform, along with the privatization and sale of state assets, provides the framework for strengthening the state's ability to meet its

Fig. 3 Variations in the Consumer Price Index (1984-1992).

responsibilities [11] while permitting the advance of private enterprise. Since the launching of the Convertibility Plan [6], price indicators have reacted very unevenly. In the first semester of the plan wholesale prices accumulated a 3.9% increase, and consumer prices rose a total 18.3%, as seen in Figure 3.

An evaluation of the impact of deregulation cannot be made according to a single approach or objective; the effects can be classified, however, according to their effect on the economy as a whole or on individual sectors as well as according to their short and long term impact. Nevertheless, significant macroeconomic effects have been noted, as follows: First, a reduction of the tax burden on production of nearly U\$500 million, representing a 2%-5% improvement in the real exchange rate, depending on the sector. Second, a varied improvement in the real exchange rate of tradable goods, combined with the downward pressure on the prices of certain non-tradable goods, that became subject to domestic competition through deregulation, resulted in a net transfer of resources via the system of relative prices that is difficult to calculate, although it is undoubtedly significant.

*Privatization

The sales of state companies and licensing services, are one of the fiscal pillars supporting the economic plan (See [3]), both for "cash" reasons since it is the financing source for public accounts, and because of the reassignment of revenues for the public and private sectors. The major achievements since 1991 included (See [6]):

— YPF: Oil exploration grants include primary and secondary areas. Private capital participation in primary areas increased up to 90% in the Vizcacheras and El Tordillo oilfields, 70% in El Huelmo and 60% in Puesto Hernández. New central areas were opened up to private industry include the Austral and Northwest basins. The overhaul of YPF includes selling its fleet and refineries among other goods. The sale of more than 50% of its shares was also achieved.

— Transportation: Regarding railways, the sale of the Rosario-Bahía Blanca grain line (5,000 km.) was a major event. The Mitre, Sarmiento, Roca and Belgrano lines will be adjudicated, as will the urban and suburban lines and the Buenos Aires Subway. As far as ports go, deregulation came to the Buenos Aires, Rosario, Quequén, Bahía Blanca, Santa Fé and Ushuaia Ports. The state shipping company ELMA is to be privatized through the sale of assets. The state airline, Aerolíneas Argentinas, was sold to Iberia, the Spanish Airline.

— Electricity, Gas and Water: Privatization of Gas del Estado, the Sebga electrical company's power generation, transport and distribution services was the biggest single event. The Obras Sanitarias Waterworks was adjudicated to Lyonnaise des Eaux and Dumez (France), Aguas de Barcelona (Spain) and Sociedad Comercial del Plata (Argentina) prior to the recent round of privatizations.

— Communications: The Entel National Telecommunications Company was privatized and granted to the consortiums headed by Telefónica de España (Spain) and Telecom (France).

— Defense: Tandanor Shipyards, Forja Iron Works, Altos Hornos Zapla Iron Works, SOMISA Iron and Steel Works, the Bahía Blanca-Ensenada (General Mosconi)-Rio Tercero Petrochemical Complexes, Fabricaciones Militares, the Domecq García and AFNE Shipyards had already been privatized.

*An Early Evaluation of Feasible Regional Impacts of Most Significant Privatizations Through a Sample of Three Case-Studies.

— Water Supply and Sanitation. Obras Sanitarias de la Nación (OSN) was responsible for providing potable water supply and sewerage services to a total population of about 11 million inhabitants, which includes the City of Buenos Aires (Federal Capital) and thirteen Municipalities of the Greater Buenos Aires. Although coverage of both, water and sewerage in the City of Buenos Aires is 100%, only about 50% of the metropolitan population are estimated to be connected to public water supply and 30% to sewerage (See [10]).

Thus, about 6 million people lack adequate water, sewerage facilities or both. The Metropoli-

tan Area has expanded in recent years to cover over 281,500 square blocks yet OSN's network of running water reaches only about 53,831 square blocks of this area; less than 40,550 blocks are equipped with sewers. Moreover, the wastewater collected from this area is discharged into the La Plata River with almost no treatment of any kind. This practice creates a serious problem, an environmental hazard. The situation is exacerbated by the proximity of the water intake to the sewage discharge outlets.

The biggest challenge in privatizing OSN was how to provide adequate incentives to satisfy the demand for water and sewerage services, and at the same time to improve the environmental conditions of the area.

OSN was owned and managed by national, provincial and municipal governments, so a tripartite government was established for the privatization. A consortium led by Lyonnaise des Eaux and Dumez (France), Aguas de Barcelona (Spain) and Sociedad Comercial del Plata (Argentina), began operations in May 1993. The winner has been given twelve years to meet its investments and service-level commitments, of as much as US\$4 billion. The most urgent investments by the consortia are needed to finish the incomplete section of the No. 4 Trunk Sewer, to build treatment plants for the Northern and Western Trunks, and to install an underwater sewer outlet or treatment plant at the discharge point in Berazategui (Greater Buenos Aires).

The addition of further works will allow the incorporation of 2 million new customers with sewage services at a cost of US\$56 million. The new works and constructions mentioned above, will have a direct impact on the lives of inhabitants, leading to improvement of the "standard of living" in the Greater Buenos Aires Metropolitan Area, especially in the poorest districts.

— Railways. Ferrocarriles Argentinos (FA) was responsible for providing rail passenger and cargo service all over the country. FA operated the following six railway lines: Belgrano, Mitre, Roca, San Martín, Sarmiento and Urquiza, as well as the intra-urban rail and the subway system of the City of Buenos Aires. Mismanagement led to a "chronic" deficit averaging at least US\$500 million annually (See also [10]), chiefly to cover the operation of the subway and unprofitable interurban passenger service.

The government developed a privatization strategy which entailed: a) long-term concessions for all profitable services, including cargo networks, inter-urban passenger services, railway workshops and rolling stock. In all, over 34,000 km of lines were involved; b) reorganization of the Buenos Aires metropolitan passenger service into a new company. This required creation of a separate regional authority, with participation of authorities from the Buenos Aires City Hall and Buenos Aires Province, to coordinate and oversee suburban rail/subway operations. They then granted a concession to the regional authority to operate the combined rail/subway service; c) finally, closing or transferring "noncritical" Inter-urban Passenger Services to the provinces. By early 1993, only a few provinces had agreed to take over the management and operation of the railways under their jurisdiction. Of 23 provinces, only Buenos Aires, Córdoba, Santa Fé, Río Negro, La Pampa and Tucumán, had agreed to operate their railway systems.

As mentioned above, the decision by the Federal Government to close or transfer unprofitable services to the provinces, has relieved it of another fiscal burden on the Federal Government, but it has led to a critical situation in some provinces, especially in those with severe financial problems. Most of them could not start operating their railway networks because of lack of funds; this meant the closing of many unprofitable lines which were, in some cases, the only means of transportation for many small size cities, towns and villages. It created not only a situation of virtual "isolation" in some places, but sometimes real damage on regional (rural) economies.

The privatization and concession of cargo networks and passenger services to private operators, sometimes allows for an improvement of service quality and it may lead to new equipment investments by the contractors or concessionaires. For instance, investment by the government and the private operator of the Buenos Aires urban subway system in new equipment and infras-

tructure will improve customer service.

With regard to the new concessionaries, it is expected that further investments in equipment and facilities will boost the nation's regional economies, thereby making profitable cargo and/or passenger services. It can be pointed out that foreign investors from the U.S.A., Japan, Belgium and Portugal, have been awarded numerous contracts. The importance of some contracts lies more in the future than in the present. For instance, "Ferropampeano" operates the network which links the city of Rosario (Southern Santa F Province) with Baha Blanca (Southern Buenos Aires Province). These are the two major grain export ports of Argentina (See [7]). This railway runs across the "Humid Pampa Region", which traditionally produces the bulk of the country's exports, and provides transportation of agricultural products from Rosario and Baha Blanca. The dynamic expansion of the crop sector, especially wheat, maize, sorghum, sunflower and soybean, makes the Pampas and surrounding areas exceptionally important (See [7] and also [8]).

The master Plan for the Baha Blanca Trunk Freight Route and the Grain Railway Transportation Improvement Project for Baha Blanca Port Development, were concluded some years ago before private operators took over the management in either the railway network or port facilities. Construction projects included the construction of producing area storage facilities, development of the port yard area, improvement of freight handling facilities and remodelling of rolling stock. Efforts by the concessionaire stressing management and equipment investments, are being undertaken to provide a high-quality transportation system that meets user demands.

"Ferrosur Roca", which runs from Plaza Constitucin (Buenos Aires City) up to Northern Patagonia, crossing Buenos Aires Province, is a cargo company whose major share holder is "Loma Negra". This firm is a major mining company which produces most of Argentina's cement. The source is a large 'quarry' located in Olavarra (Southern Buenos Aires Province) and its production is transported by "Ferrosur Roca" to large consumer centers, such as Buenos Aires. This cargo company is providing an efficient, low cost service, which has a positive direct economic impact on the local and subregional economies. It should be also remembered that "Ferrosur Roca" is a main part of the transportation network for grain export. It links the agricultural hinterland to major ports of the area including Baha Blanca, Quequn, Mar del Plata, La Plata and Buenos Aires City [7], [8].

With regard to other concessionaires, Roggio (Argentina) and Burlington Northern (U.S.A.), operate the Inter-urban Passenger Service that runs from Plaza Constitucin (Buenos Aires City) to Mar del Plata (Buenos Aires Province), Argentina's most famous tourist center. Due to its high-speed, comfort, punctuality and reliability, this railway network has had a positive effect on local and subregional economies of surrounding areas.

Regarding other newly privatized Cargo Services, the "Mesopotmica" (Entre Ros, Corrientes and Misiones Provinces), the "Central" (Central and Northern Argentine Provinces), and the "Belgrano" (Northern Argentina) (See [8]), fill almost the same role as "Ferropampeano" and "Ferrosur Roca", which cross Argentina's richest region, the "Humid Pampa".

— Yacimientos Petrolferos Fiscales (Y.P.F.) National Oil Company. Management rationalization was of utmost importance to the National Oil Company (Y.P.F.) because its operational deficit was imposing a "heavy burden" on the nation's finances in as much as it was Argentina's largest public company.

Y.P.F. held a major stake in all aspects of the oil industry, from exploration, development, and processing of oil and natural gas, through refining, transportation, sale and distribution of final products. It still controls some 60% of Argentina's petroleum market even after the opening of the sector to private activity. By early 1993, YPF had sold over US\$200 million worth of refining facilities and pipelines, shipping fleets and port facilities, storage centers, retail outlets, in-house drilling and exploration services, and research laboratories (See [10]).

The entire hydrocarbon sector has also been deregulated and liberalized. Private companies

are now allowed unrestricted participation in the oil industry. Four central areas with reserves estimated at 255 million barrels have been opened to private participation; the "Plan Argentina" (10) opened a further 1.4 million square kilometers to private exploration-850,000 square kilometers on land and the remainder on the continental shelf. Further, field exploitation works led to an increase of oil production, allowing oil exports worth US\$700 million.

Most of the major Argentina's oil fields have been transferred to private, mostly foreign companies. Exploration and exploitation activities are boosting the creation of new employments in areas surrounding these fields, but the rationalization in some regions has caused increased unemployment. The most severe case is the one which took place in Comodoro Rivadavia (Patagonia-Chubut Province), which has been well known as "Argentina's Oil Capital". It is a city that began drilling in 1907, when the first oil field was discovered in Argentina. Oil exploitation, with the monopolic participation of Y.P.F., inflated employment levels.

When Y.P.F.'s privatization came, thousands of workers were working in oil related activities; as management rationalization became a reality prior to the sale of the company, lay offs were the means that the government applied to cut down personnel costs. According to officials, labor costs were the main cause of Y.P.F.'s deficit. Thus, the unemployment rate in Comodoro Rivadavia, Patagonia's largest city, rose to 13.9%, in October 1992. It was the highest in the entire country. The same situation occurred in other places where Y.P.F. had a preponderant role as a source of employment. Examples include: Caleta Olivia (Santa Cruz Province) and Berisso and Ensenada (Buenos Aires Province).

*Foreign Debt. Argentina's change in economic policy and its interest in returning to foreign solvency first made possible the reestablishment of foreign financing and subsequently reversed the flight of capital. The inflow of investment funds is even expected to intensify due to new reductions in international interest rates and the country's improved risk status. The government reached an efficient solution to the foreign debt problem through the Brady Plan (See [2] and [6]). This plan calls for reducing the debt in the hands of creditor banks and lowering interest rates through debt-equity swaps or through the exchange of old debt for new (discount value bonds) at prices near to secondary market prices. It extends the refinancing scheme to 30 years with capital guaranteed by US Treasury Bonds. During 1990 economic authorities made headway with a straightforward policy of strengthening monetary reserves through privatization and in reducing foreign debt through debt-equity swaps. This two-stage methodology, which involved a turnaround from traditional policy, produced an accrued reduction of nearly US\$10 billion in its first phase (ENTEL and Aerolineas Argentinas). The second phase (Defense Industry, Obras Sanitarias Waterworks, Gas del Estado and Segba Metropolitan Electrical Services) resulted in an accrued reduction of another US\$10 billion, thus jointly producing a nearly 60% reduction in debt to foreign bank creditors, or one-third the total foreign debt.

5. Conclusions and Recommendations

Argentina has made significant progress in the control of its long drawn-out inflationary process. Average inflation has slowed down drastically, exceeding 1,000% prior to 1990, between 70% and 84% in 1991. The inflation rate of 18% on yearly average in 1992 is the lowest since 1969. The expected inflation average of 7% for 1993, is in line with international levels. There has also been recovery in the purchasing power of earnings. Internal gross investment has also recovered significantly following the severe setback experienced in recent years.

In 1992 capital inflows attained levels higher than in any preceding period; capital flows were triggered by very specific international conditions, especially the successful Privatization Program and by what was perceived as the lower risk of holding assets in Argentina. These factors were also reflected in the rapid growth of dollar deposits in local banks. The new fiscal policy seems to be an effective framework bringing permanent stability for developing business. On the other

hand, a strong fiscal surplus of US\$5 billion (1991) consolidated the Convertibility Plan parity of 1 peso per dollar, allowing for an increase of US\$ 500 million for greater monetization. The monetary goal consists in not printing money maintaining 100% coverage of the monetary base with gold, dollars and Bonex. The National Tax Board (DGI) tax intake in 1991 rose substantially in real terms, making it possible to meet current expenditures. The tax Refom Plan is aimed at cutting labor costs, simplifying tax collection, creating a single invoice system, and reducing the role of the underground or informal economy. At the same time it encourages development of a new capital market segment: pension funds. Gross Domestic Product (GDP) reached an average rate of 7.3% in 1991, and 6% in 1992. A growth-rate of over 5% is forecast for 1993. The push by authorities to throw open the economy with the two-fold purpose of a) shoring up the price stabilization program and b) lowering the costs of inputs and non-locally manufactured capital goods, led to a sharp upturn in Imports. Imports skyrocketed 96% in 1991. Exports, on the other hand, experienced a 2.9% annual drop in 1991.

Nevertheless, some unsatisfactory points can be found in this current Economic Policy. Firstly, there probably should be more governmental control over recently privatized public utilities, in order to avoid shortages among citizen users. Secondly, major improvements in the efficiency of government services, particularly the quality and coverage of social services, have to be met; the Social Budget should be increased. Thirdly, "The Model Reference Adaptive Management Theory Application" should be based as much as possible into the Argentine experience to assure the most appropriate Adaptive Policies. Fourthly, special measures should be put into action if any fiscal policy leads to negative consequences on regional economies thus deepening "regional disparities".

Nevertheless, the market-oriented economy, low inflation, inflow of capital and investments, economic expansion with political stability, and a general consensus among Argentinians on the need of a long-term growth path of sustainable development, all indicate that the challenge of reaching Argentina's real modernization through the new "Economic Development Policy", is possible.

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