An Evaluation of the Economic Theoretical Potential of the Rural Environment Mismanged During 1956-2010

Florentin Gabriel Niculescu [1]

Under the context of the essential role and growing importance of the rural environment in the development of a country, we focus on evaluating the economic theoretical potential of the rural environment that we consider to have been mismanaged during 1956-2010. For this purpose, in this paper we define, describe and explain the main concepts, as to be able to evaluate the economic potential of the rural development and further contribute to its improvement. The study focuses on the correlations between the population of working age, occupancy, unemployment and the wasted economic potential, putting forward a new concept, statistically valid, demographic named the absolute able overpopulation.

Keywords: rural environment, economic potential, population of working age, unemployment
JEL Classifications: N50, O13, 044, P25

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1. Introduction

In order to better understand the purpose of this article we need firstly to explain the concepts of our area of interest. Thus, we explain the following concepts:

a. An evaluation

In DEX the word evaluation is defined as: assessment, calculation, estimation, measurement, estimation, appreciation, the estimated value of an object for instance.

The noun phrase an evaluation may be an attempt to make such an assessment, calculation, estimation without considering this operation final and its result as an absolute end. According to DEX an evaluation is an estimation of the value and not necessary a measurement having as result an absolute number, even with decimals.

b. The mismanaged economic potential

Also, according to DEX the word potential is defined as that itself has all the prerequisites for achievement, which exists as possibility, which exists virtually.

The economic potential sets this explanation, it individualizes it into a certain approach, conceptually determined (economics) and subsequently, historically and geographically in time and space (the period between1956 – 2012 and the Romanian rural environment).

Theoretical – also according to DEX, is defined as abstract, national, conceptual, and speculative. This explanation better outlines the ttopic of this article.

Wasted – is defined in DEX (one of the definitions) as wasted, scaterred.

c. The rural environment

This concept can be defined easily semantically and statistically as well (which is very important here), for instance the Statistic Annual of Romania, since 1904 until today define this concept very well.

And starting from this point we may make the connection to the other dimension of the national binom the concept of urban, we mention the

economic potential of the urban environment and the cumulative economic potential, urban and rural, meaning the national environment.

2. Literature review

In this study we may find two main theoretical concepts to be analysed. The study focuses on the correlations between the population of working age, occupancy, unemployment and the wasted economic potential, putting forward following this analysis a new concept, statistically valid, demographic named the absolute able overpopulation:

a) The relation between work and the economic value

Starting from this idea the study identifies a segment of population which could work but it doesn't because there is no vacancy and based on this we calculate the wasted economic potential where the relation work – economic value is very important. We may assume that we may find a million or two of people in this situation but they do not have any economic potential because there is a relation between work-economic potential as the machinery, the nature, and the rain do not produce economic value but the man. This is why a solid argument, contemporary is required for the validity of this analysis.

b) Calcula

This analysis requires a medium level of statistic knowledge.

In his well-known book The theory of the value of work and the contemporary world, (Editura Politică, Bucureşti, 1984), professor N.N. Constantinescu reviews in Chapter 1 the contributions across history and thought to the Theory of the value determined by work. Thus, the author mentions Aristotle's contributions and the ones of the Chinese scienties from the IV-III centuries A.D. (The economic and political treaty of Huan-tzî, mentioning that the economic power of the state increases due to hard work and supposes a special attention given to agriculture and crafts) reaching to the last centuries of the past millennium, Adam Smith and David Ricardo and their remarkable

works. David Ricardo explained the prices and thus of value by considering the work incorporated in producing goods.
We also find here J.M. Keynes thesis that work is the one that produces all, in addition to what was once called craft and nowadays is named technology. Keynes'd rather work was considered the only factor of production.
Starting from what we mentioned above, we may consider that the vale is an expression of the work materialized. Therefore, as this potential (theoretical but wasted as well) supposes to measure its vale and itself, quantifying the work (theoretically and wasted as well) within this value. Among the Statistical Annual and the scientific articles we first depicted some work which is wastes namely uncapitalized which later we tried to quantify.
The idea came from a discussion we had with the professor N.N. Constantinescu about defining and denominating unemployment and the relative suprapopulation. My question was Why it is relative! The index doesn't give an absolute number, because in different countries, though we try to have a unitary international methodology, there are some differences in calculating it from country to country. There are differences in considering the period (number of months), its duration, when exactly it started which are the restraints of that period (if a person is registered to an employment office, if the person is actively looking for work, if he/she refused or not any job offers, if he/ she is attending any reorientation courses, etc.). Among the political meaning of this notion (due to the fact that it differs from country to country and thus from political system to political system or to the fact that I the United States announcing the rate of unemployment is the President's duty) there is something else to point out which is the fact that not all the people who do not have a job are unemployed. So the question is how many they are, what their economic potential is, what the value of their unquantified work is, and how much potential is wasted at national level.

It must be emphasized here that the level of collective consciousness, even at the economic one, there is still the perception that unemployed are all those people who do not have a job.

Therefore, we considered indices like the total population, the population of working age, the number of employed or workers, the number of pupils and students over 16 years old, still studying (thus without a job, theoretically at least for the period 1956–1989), GDP, and GDP per capita.

We may state that the wasted economic potential (total or by components – rural or urban) is given by the unrealized GDP at working age, and we may go further by pointing out the real GDP (politically the GDP is reported per capita, but it is not only what that population produced) or by comparison (starting from the fact that GDP is reported and calculated annually), between the GDP produced and the wasted GDP we may calculate the wasted years, and can see from the politically point of view a situation (theoretically) which may be analyzed and improved (even resolved).

On the other hand, not to spoil an article of an economic analysis which uses scientific methods, we need first to delineate the perimeter work, demarcation beyond which we cannot ignore. The data is largely from the period (1956–1989) and from the socialist-communist statistics, which is a question mark for us regarding the validity of the data, not to mention the definition poetically though given to statistics by the professor Slăvescu within the courses given at the Bucharest University of Economic Studies, statistics is the only science which can transform a city in a cemetery and vice versa.

And I would add that on a personal touch that's to say if now 3-4 centuries ago each Indian man had a bow and 20 arrows the UN headquarters today would have been likely in Mumbai.

Consequently, using the data from the Statistic Annual regarding the Population and occupancy, for the period 1956–2011 and data on GDP from the work Romanian GDP by Victor Axenciuc, for the period

1956–2000 and the Statistical Annual for the period 2000–2010, we calculated based on given indices a first important index which we name the absolute working overpopulation, both total and o areas that is urban and rural.
The presentation of the indices used is given in Annex 1, both for those taken from the Statistical Annual (AS) and those we calculated.
Total population (T.P.) – millions – as extracted from the SA (Anuarul Statistic)
Population of working age (P.W.A.) – millions- calculated
Population of working age in the rural environment (PWAR) – millions – calculated
Population with an occupation (PO) – millions – as extracted from the S.A.
Population with an occupation in the rural environment/ in agriculture (POA) millions – as extracted from the S.A.
Number of employees (NE) – millions – as extracted from the S.A.
Number of employees in agriculture (NEA) – thousands - as extracted from the S.A.
Number of laborers (NL) – millions – as extracted from the S.A.
Number of laborers in agriculture (NLA) – thousands - as extracted from the S.A.

3. Estimating the absolute able overpopulation from the rural area (S.P.A.A.M.R.)

This index is calculated deducting from the number of the employees from the rural area, the employees from the population of working age from the rural area. The error here comes from the fact that we do not have enough data for the medically unable population, judicially unable population and the pupils and students over 16 years studying full time. We calculated this last index at national level (including rural) but not segregated on rural area. However, estimating correctly at national level, the error is minimal. On the other hand, not including the medically

unable population and the judicially unable population does not alter significantly the S.P.A.A.M.R index.
The index for the whole period is calculated in Table 1, we will present below some examples

S.P.A.A.M.R. = (P.A.M.R. – N.S.M.R) million People

1956 = 7,979
1965 = 8,406
1975 = 8,422
1989 = 6,97
2000 = 7,314 mil. People
2005 = 7,139
2010 = 6,157

PETIT1 – theoretical wasted economic potential 1
PETIT2 – theoretical wasted economic potential 2
PETIR1 – theoretical wasted economic potential in rural area 1
PETIR2 – theoretical wasted economic potential in rural area 2
PETIR1.1 – the real wasted economic potential in rural area 1
PETIR2.1 – the real wasted economic potential in rural area 2
ATI 1 – theoretically wasted years 1
ATI 2 – theoretically wasted years 2

Formula
PETIT1 = PIB/PT x SPAAR
PETIT2 = PIB/NS x SPAAR
PETIR1 = PETIT1 x % PR (% rural population from the total population)
PETIR2 = PETIT1 x %PR
PETIR1.1 = PETIR1 x 83%
PETIR2.1 = PETIR2 x 83%

ATI1 = PETIR1.1/PIB
ATI2 = PETIR2.1/PIB
Calculation SPAAMR – rural area
SPAAMR = PAMR – NS.MR (millions)
1956 = 7,979
1965 = 8,406
1975 = 8,422
1989 = 6,972
2000 = 7,314
2005 = 7,139
2010 = 6,157

Then, we focused on the exact potential of the rural population that is able to work (ie working age and able, available labor), we did an analysis of what time direct employment is affected to individual households, work time available socially accepted (eight hours a day, six days a week until 1989 and eight hours a day, five days a week since 1990) to distinguish the time remaining and unused (wasted) for work with the final economic value (GDP / capita) i.e. unrealized value, i.e. wasted.

4. The degree of occupancy of the theoretical working time of a person from the rural area

The Academician, Victor Axenciuc analyzes the problem mentioned above in his work Romania's economic evolution, vol. II, Agriculture. He refers to two studies, one in 1905 conducted by the researcher I. Codescu Romanian General Statistics, The amount of labor used in agriculture the main vegetable crops in 1905 and the second work of Ion C. Vasiliu, The availability of human and animal work in Romanian agriculture in 1939, paper published in 1945 (Table 1 and Table 2).

Table 1

The amount of labor used in agriculture for the main vegetable crops in 1905 (simple working days)			
Crops	Required work-days to 1 ha	Crop surface (ha)	The total number of work-days
1	2	3	4
Straw and others	36	3312210	119275560
Corn and others	44	2050557	90235116
Potatoes	70	10880	761600
Sugar beet	194	12029	2333626
Tabacco	100	7717	771700
Vegetables	226	26304	5944690
Artificial hayfields	24	55469	1331256
Natural hayfields	15	491126	7366890
Vineyards	152	89890	13663280
Ochards	54	71917	3883518
TOTAL		6129099	245567236
Souce: L. Colescu, *Statistica agricolă a României* , partea I – *Exploatările agricole* , Bucure?ti, 1907			

Table 2

The annual working time on branches in 1939				
Branch	The area thousand ha	Necessary man-days / ha	Total man-days	Total gross thousand man-days
Total				521766,4
Plant production of which:	15693,2	26	401076,2	363652,1
Cereals	9320,2	27	249456,4	
Forage	730	29	21317,4	
Plants	833,3	59	48770,2	
Industrial plants	664,3	73	48756,3	
Fields	273,4	1,5	273,4	
Hayards and meadows	3872	8	32502,5	
Minus equivalent of the benefit of machines, man-days				
Wine production, from which:			-37424,1	
Vineyards indigenous grafted	324,4	167,6	54365,7	53510
Grafted vineyards	22,9	230	5624	
Hybrid vineyards	124,7	230	28669,7	
Rootstock vineyards	174,7	115	20090	
The difference of work minus fruitless vineyards	2,1	166	342	
Fruit production				
Forestry production	14,8	58	-855,7	
Breeding animals	227,5	37,2	8463,3	8463,3
Other work:	5172	2,73	14113,5	14113,5
The transport of products			66590,8	66590,8
Transporting manure			15300	15300
Fuel supply			6800	
			3000	
			5500	

5. Working time available in rural areas

Based on the above two documents we made an analysis of the working time available after the requested one is finished by household activities. We considered that from the period 1905 to the period analyzed the technological progress (mechanization, electrification, in fertilizer, new varieties of plants, etc.) made to achieve a 50% reduction in the time allocated to these activities.

We also considered a household from nowadays with the following characteristics:

2 members
4 hectares of land
1 hectare of wheat
2 hectares of maize
0.5 hectares of vineyards
0.3 hectares of orchard
0.2 hectares vegetables
Time for work required (TMN)
Wheat - 36 days
Corn - 44 days
Living - 75 days
Orchard - 16 days
Vegetables - 45 days

Total – 216 days x 50% ≈ 100 days= TMN
(50% - mechanization, technical progress as compared to 1906)
Theoretical time for work (TMT)
2 persons x 24 days / month x 12 months = 576 days

The employment rate (RO) theoretical working time
RO = (TMN / TMT) x 100 = 17%

Wasted work time (TMI)
TMI = TMT – TMN = 476 days

Individual work time wasted (TMII)
TMII = TMI / 2 = 238 days

As it is a contemporary household, we will apply the above results in 2010, but in Table 1 were calculated under these assumptions, for the entire period.

The absolute overpopulation able from the rural area in 2010
PTR – 10 mil. - total population in rural area
PVMMR – 6,7 mil. - working age population in rural areas
POA – 2,7 mil. - employment in rural areas
Self-employed – 1,35 mil.
Unpaid family workers – 1,14 mil.
Total number of employees (NS) – 4,4 mil.

Consequently:
SPAAR (2010) = PVAMR – POA – NSR = 6,7 mil – 2,7 mil – 1 mil = 3,7 mil people

It must be mentioned two things that were considered above:
1. Generally, rural people who have a job solve their own household chores in their free time (after work)
2. We did not considered two indicators Self-employed (LCP) and unpaid family workers (LFN), for reasons of economic analysis starting from the fact that if tomorrow it would set up a factory in that locality and members of two categories would be hired as employees basically work during the previous two occupations assumed might be the same. Estimating the theoretical economic potential wasted in the rural area

To express this theoretical potential wasted, we conducted a set of indices presented below:
PETIT1 – Theoretical total wasted economic potential (ie. the entire country, urban and rural) 1
PETIT2 - Theoretical total wasted economic potential 2
PETIR1 - Theoretical wasted economic potential in rural areas 1- (mld. euro)
PETIR2 - Theoretical wasted economic potential in rural areas 2- (mld. euro)
PETIR1.1 - Real wasted economic potential in rural areas 1 (mld. euro)
PETIR2.1 - Real wasted economic potential in rural areas 2 (mld. euro)
And a set of two indicators is a little more spectacular:
ATIR 1 – Theoretical years wasted due to rural environment 1- (years)
ATIR 2 – Theoretical years wasted due to rural environment 2- (years)

Calculi
PETIT1 = PIB/PT x SPAAT
PETIT2 = PIB/NS x SPAAT
PETIR1 = PETIT1 x % PR (% rural population from total population)
PETIR2 = PETIT1 x %PR
PETIR1.1 = PETIR1 x 83%
PETIR2.1 = PETIR2 x 83%
ATIR1 = PETIR1.1/PIB
ATIR2 = PETIR2.1/PIB

And as a concrete example, although all indicators are calculated in Annex 1.
PIB (2010) = 522561 mil. lei
PIB/NS 118760 lei 1,2 mld (lei former)
PETIR = 1,2 mld x 3,7 mil. = 28000 € x 3,7 mil = 100 mld. €

Conclusions

Under the context of the essential role and growing importance of the rural environment in the development of a country, we focus on evaluating the economic theoretical potential of the rural environment that we consider to have been mismanaged during 1956-2010. For this purpose, in this paper we define, describe and explain the main concepts, as to be able to evaluate the economic potential of the rural development and further contribute to its improvement. The study focuses on the correlations between the population of working age, occupancy, unemployment and the wasted economic potential, putting forward a new concept, statistically valid, demographic named the absolute able overpopulation.

It must be emphasized here that at the level of collective consciousness, even at the economic one, there is still the perception that unemployed are all those people who do not have a job. Therefore, we considered indices like the total population, the population of working age, the number of employed or workers, the number of pupils and students over 16 years old, still studying (thus without a job, theoretically at least for the period 1956–1989), GDP, and GDP per capita.

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Aknowledgement
This paper has been financially supported within the project entitled "Horizon 2020 - Doctoral and Postdoctoral Studies: Promoting the National Interest through Excellence, Competitiveness and Responsibility in the Field of Romanian Fundamental and Applied Economic Research", contract number POSDRU/159/1.5/S/140106. This project is co-financed by European Social Fund through Sectoral Operational Programme for Human Resources Development 2007-2013. Investing in people!

Annex

	1956	1957	1958	1959	1960	1961
	17,489	17,829	18,056	18,226	18,403	18,567
Total population (m) (mil)	68,50	68,50	68,30	68,10	67,90	67,50
Rural Population (% of PT)	12,040	12,400	12,600	12,750	12,880	12,992
Working age population (P. A.) (mil)	8,247	8,494	8,606	8,683	8,746	8,770
The average working age population areas (PAMR)	10,449					
The employed population (P.O.) (mil)						
Employment in agriculture (million)	2,991	2,908	2,944	3,058	3,249	3,488
Nr. employees (N.S.) (mil)	268,80	258,10	245,90	280,80	310,60	330,70
Nr. agricultural employees (thousands)	2,003	1,989	2,042	1,188	2,284	2,468
Nr. workers (N.M.) (mil)	220,10	213,70	202,10	239,80	266,80	284,70
E+S	304772,00	301752,00	3104133,00	487,90	463,52	438,74
PIB (mil $)	34884	41495	38947	43921	48168	52238
PIB/P.T.	1994,57	2327,35	2157,02	2409,82	2617,34	2813,50
PIB/P.A.	2897,34	3346,37	3091,03	3444,78	3739,75	4020,78
PIB/P.O.	3338,44					
PIB/N.S.	11661,82	14269,26	13227,48	14360,78	14824,57	14974,77
PIB/N.M.	17418,49	20861,19	19072,97	36961,21	21088,39	21164,41
SPAAO (mil)	1,591	12,400	12,600	12,750	12,880	12,992
SPAAR (mil)	9,049	9,492	9,656	9,692	9,631	9,504
SPAAMR (mil)	7,979	8,236	8,360	8,402	8,435	8,439

	1956	1957	1958	1959	1960	1961
PETIT1	18048,30	22091,16	20827,30	23355,03	25207,08	26738,35
PETIT2	105524,30	135443,79	127719,28	139178,91	142772,49	142314,26
PETIR1	12363,09	15132,45	14225,05	15904,77	17115,61	18048,38
PETIR2	72284,15	92779,00	87232,27	94780,83	96942,52	96062,12
PETIR1.1	10261,36	12559,93	11806,79	13200,96	14205,96	14980,16
PETIR2.1	59995,84	77006,57	72402,78	78668,09	80462,29	79731,56
ATI1 (years)	0,29	0,30	0,30	0,30	0,29	0,29
ATI2 (years)	1,72	1,86	1,86	1,79	1,67	1,53

	1962	1963	1964	1965	1966	1967
Total population (m) (mil)	18,681	18,811	18,927	19,027	19,103	19,285
Rural Population (% of PT)	67,30	66,90	66,60	66,30	61,60	61,30
Working age population (P. A.) (mil)	13,076	13,167	13,244	13,320	13,499	13,510
The average working age population areas (PAMR)	8,800	8,809	8,821	8,831	8,315	8,282
The employed population (P.O.) (mil)						
Employment in agriculture (million)						
Nr. employees (N.S.) (mil)	3,741	3,932	4,116	4,305	4,497	4,680
Nr. agricultural employees (thousands)	358,70	381,60	407,20	425,60	450,60	432,20
Nr. workers (N.M.) (mil)	2,689	2,826	3,530	3,637	3,553	3,402
Nr. agricultural workers (thousands)	311,00	328,90	353,00	363,70	379,40	365,10
E+S	510,37	598,41	535,34	592,34	612,77	

	1962	1963	1964	1965	1966	1967
PIB (mil $)	54096	58988	64774	70122	78007	85570
PIB/P.T.	2895,82	3135,82	3422,29	3685,32	4083,46	4437,17
PIB/P.A.	4137,04	4479,99	4890,82	5264,41	5778,72	6333,83
PIB/P.O.						
PIB/N.S.	14459,92	15002,42	15737,12	16287,37	17347,61	18285,36
PIB/N.M.	20118,26	20875,54	18349,58	19280,18	21957,10	25149,89
SPAAO (mil)	13,076	13,167	13,244	13,320	13,499	13,510
SPAAR (mil)	9,335	9,235	9,128	9,015	9,002	8,830
SPAAMR (mil)	8,441	8,427	8,413	8,406	7,865	7,849
PETIT1	27032,19	28959,61	31238,68	33222,08	36760,53	39181,54
PETIT2	134981,89	138548,81	143648,46	146825,72	156168,39	161465,22
PETIR1	18192,66	19373,98	20804,96	22026,24	22644,49	24018,29
PETIR2	90842,81	92689,16	95669,88	97345,46	96199,73	98978,18
PETIR1.1	15099,91	16080,40	17268,12	18281,78	18794,92	19935,18
PETIR2.1	75399,53	76932,00	79406,00	80796,73	79845,78	82151,89
ATI1 (years)	0,28	0,27	0,27	0,26	0,24	0,23
ATI2 (years)	1,39	1,30	1,23	1,15	1,02	0,96

	1963	1964	1965	1966	1967	1968
Total population (m) (mil)	18,811	18,927	19,027	19,103	19,285	19,721
Rural Population (% of PT)	66,90	66,60	66,30	61,60	61,30	63,80
Working age population (P. A.) (mil)	13,167	13,244	13,320	13,499	13,510	13,800
The average working age population areas (PAMR)	8,809	8,821	8,831	8,315	8,282	8,804
The employed population (P.O.) (mil)						

	1963	1964	1965	1966	1967	1968
Employment in agriculture (million)						
Nr. employees (N.S.) (mil)	3,932	4,116	4,305	4,497	4,680	4,785
Nr. agricultural employees (thousands)	381,60	407,20	425,60	450,60	432,20	414,90
Nr. workers (N.M.) (mil)	2,826	3,530	3,637	3,553	3,402	3,506
Nr. agricultural workers (thousands)	328,90	353,00	363,70	379,40	365,10	354,00
E+S	598,41	535,34	592,34	612,77		
PIB (mil $)	58988	64774	70122	78007	85570	91988
PIB/P.T.	3135,82	3422,29	3685,32	4083,46	4437,17	4664,47
PIB/P.A.	4479,99	4890,82	5264,41	5778,72	6333,83	6665,80
PIB/P.O.						
PIB/N.S.	15002,42	15737,12	16287,37	17347,61	18285,36	19223,04
PIB/N.M.	20875,54	18349,58	19280,18	21957,10	25149,89	26236,56
SPAAO (mil)	13,167	13,244	13,320	13,499	13,510	13,800
SPAAR (mil)	9,235	9,128	9,015	9,002	8,830	9,015
SPAAMR (mil)	8,427	8,413	8,406	7,865	7,849	8,390
PETIT1	28959,61	31238,68	33222,08	36760,53	39181,54	42048,83
PETIT2	138548,81	143648,46	146825,72	156168,39	161465,22	173289,91
PETIR1	19373,98	20804,96	22026,24	22644,49	24018,29	26827,15
PETIR2	92689,16	95669,88	97345,46	96199,73	98978,18	110558,96
PETIR1.1	16080,40	17268,12	18281,78	18794,92	19935,18	22266,54
PETIR2.1	76932,00	79406,00	80796,73	79845,78	82151,89	91763,94
ATI1 (years)	0,27	0,27	0,26	0,24	0,23	0,24
ATI2 (years)	1,30	1,23	1,15	1,02	0,96	1,00

	1969	1970	1971	1972	1973	1974
Total population (m) (mil)	20,011	20,253	20,470	20,663	20,828	21,029
Rural Population (% of PT)	63,80	63,10	62,80	62,40	61,90	61,30
Working age population (P. A.) (mil)	14,000	14,177	14,329	14,464	14,545	14,581
The average working age population areas (PAMR)	8,932	8,946	8,999	9,026	9,003	8,938
The employed population (P.O.) (mil)		9,875	9,938	9,971	10,021	10,070
Employment in agriculture (million)	4,975	4,849	4,602	4,206	4,012	4,012
Nr. employees (N.S.) (mil)	4,958	5,109	5,375	5,621	5,821	6,025
Nr. agricultural employees (thousands)	431,20	440,10	462,50	482,60	498,90	470,10
Nr. workers (N.M.) (mil)	3,618	3,839	4,081	4,286	4,563	4,762
Nr. agricultural workers (thousands)	367,00	374,30	395,60	411,20	422,30	400,00
E+S	556,33	886,73	895,32	918,05	944,40	1034,75
PIB (mil $)	97815	107592	115570	130348	146695	148062
PIB/P.T.	4888,17	5312,52	5645,92	6308,39	7043,32	7040,90
PIB/P.A.	6986,79	7589,19	8065,46	9011,89	10085,60	10154,41
PIB/P.O.		10895,39	11629,10	13072,84	14639,34	14703,13
PIB/N.S.	19729,12	21060,54	21503,40	23191,12	25202,73	24576,24
PIB/N.M.	27035,66	28026,78	28322,51	30414,63	32150,21	31093,05
SPAAO (mil)	14,000	4,302	4,391	4,493	4,524	4,511
SPAAR (mil)	9,042	9,068	8,955	8,843	8,724	8,556
SPAAMR (mil)	8,501	8,506	8,536	8,543	8,504	8,468
PETIT1	44199,36	48175,51	50556,37	55787,60	61448,77	60245,17

	1969	1970	1971	1972	1973	1974
PETIT2	178392,67	190983,33	192552,16	205088,34	219878,68	210285,52
PETIR1	28199,19	30398,75	31749,40	34811,46	38036,79	36930,29
PETIR2	113814,52	120510,48	120922,75	127975,12	136104,90	128905,02
PETIR1.1	23405,33	25230,96	26352,00	28893,51	31570,54	30652,14
PETIR2.1	94466,05	100023,70	100365,89	106219,35	112967,07	106991,17
ATI1 (years)	0,24	0,23	0,23	0,22	0,22	0,21
ATI2 (years)	0,97	0,93	0,87	0,81	0,77	0,72

	1975	1976	1977	1978	1979	1980
Total population (m) (mil)	21,245	21,446	21,658	21,855	22,048	22,201
Rural Population (% of PT)	60,70	60,10	56,10	55,30	55,20	54,20
Working age population (P. A.) (mil)	14,672	14,755	14,804	14,835	14,878	14,887
The average working age population areas (PAMR)	8,906	8,868	8,305	8,204	8,213	8,069
The employed population (P.O.) (mil)	10,150	10,227	10,264	10,290	10,320	10,350
Employment in agriculture (million)	3,837	3,641	3,530	3,345	3,170	3,049
Nr. employees (N.S.) (mil)	6,301	6,559	6,740	6,956	7,183	7,340
Nr. agricultural employees (thousands)	484,20	516,50	521,20	534,20	547,00	550,00
Nr. workers (N.M.) (mil)	4,994	5,202	5,386	5,585	5,753	5,869
Nr. agricultural workers (thousands)	484,20	441,00	448,60	460,90	471,90	472,70
E+S	1140,38	1236,86	1291,20	1342,05	1331,85	1280,61

	1975	1976	1977	1978	1979	1980
PIB (mil $)	151409	168205	178309	194780	202913	198465
PIB/P.T.	7126,77	7843,30	8233,09	8912,54	9203,11	8939,31
PIB/P.A.	10319,27	11399,71	12044,41	13129,80	13638,26	13331,59
PIB/P.O.	14917,14	16447,15	17371,76	18929,06	19662,11	19175,18
PIB/N.S.	24030,12	25645,70	26454,56	28000,52	28249,06	27038,83
PIB/N.M.	30319,40	32335,92	33109,09	34874,94	35268,98	33817,54
SPAAO (mil)	4,522	4,528	4,540	4,545	4,558	4,537
SPAAR (mil)	8,372	8,196	8,064	7,879	7,695	7,547
SPAAMR (mil)	8,422	8,351	7,784	7,670	7,666	7,519
PETIT1	59662,90	64286,83	66392,42	70218,81	70819,96	67463,36
PETIT2	201171,97	210202,50	213332,03	220606,36	217382,73	204057,25
PETIR1	36215,38	38636,39	37246,15	38831,00	39092,62	36565,14
PETIR2	122111,39	126331,70	119679,27	121995,32	119995,27	110599,03
PETIR1.1	30058,77	32068,20	30914,30	32229,73	32446,87	30349,07
PETIR2.1	101352,45	104855,31	99333,79	101256,11	99596,07	91797,20
ATI1 (years)	0,20	0,19	0,17	0,17	0,16	0,15
ATI2 (years)	0,67	0,62	0,56	0,52	0,49	0,46

	1981	1982	1983	1984	1985	1986
Total population (m) (mil)	22,353	22,478	22,533	22,625	22,725	22,823
Rural Population (% of PT)	53,10	51,60	51,00	50,80	50,00	49,40
Working age population (P. A.) (mil)	14,885	14,925	12,204	15,440	15,600	15,701
The average working age population areas (PAMR)	7,904	7,701	6,224	7,844	7,800	7,756
The employed population (P.O.) (mil)	10,376	10,428	10,458	10,500	10,586	10,670

	1981	1982	1983	1984	1985	1986
Employment in agriculture (million)	3,003	2,986	3,019	3,032	3,021	3,019
Nr. employees (N.S.) (mil)	7,435	7,553	7,600	7,630	7,661	7,751
Nr. agricultural employees (thousands)	587,30	608,90	603,5	608	612	613,3
Nr. workers (N.M.) (mil)	5,974	6,028	6,065	6,074	6,084	6,154
Nr. agricultural workers (thousands)	502,40	525,40	520	490	472,7	525,5
E+S	1302,36	1469,39	1560,785	1589	1614,785	1574,432
PIB (mil $)	198606	206658	219220	232237	232024	237399
PIB/P.T.	8885,13	9193,91	9728,81	10264,84	10210,15	10401,53
PIB/P.A.	13342,49	13846,54	17962,96	15041,26	14873,33	15119,99
PIB/P.O.	19141,82	19817,42	20962,34	22118,02	21917,80	22250,25
PIB/N.S.	26711,95	27360,32	28844,36	30437,35	30285,20	30628,18
PIB/N.M.	33243,39	34280,74	36142,71	38234,61	38134,24	38573,87
SPAAO (mil)	4,510	4,497	1,746	4,940	5,014	5,032
SPAAR (mil)	7,450	7,372	4,604	7,810	7,939	7,950
SPAAMR (mil)	7,317	7,092	5,621	7,236	7,188	7,143
PETIT1	66195,32	67774,65	44790,47	80168,43	81055,32	82692,13
PETIT2	199007,40	201691,80	132796,54	237715,72	240425,11	243494,01
PETIR1	35149,72	34971,72	22843,14	40725,56	40527,66	40849,91
PETIR2	105672,93	104072,97	67726,23	120759,59	120212,56	120286,04
PETIR1.1	29174,27	29026,53	18959,81	33802,22	33637,96	33905,43
PETIR2.1	87708,53	86380,56	56212,77	100230,46	99776,42	99837,41
ATI1 (years)	0,15	0,14	0,09	0,15	0,14	0,14
ATI2 (years)	0,44	0,42	0,26	0,43	0,43	0,42

	1987	1988	1989	1990	1991	1992
Total population (m) (mil)	22,940	23,054	23,152	23,185	22,810	22,789
Rural Population (% of PT)	48,70	48,10	46,70	45,70	45,90	45,70
Working age population (P. A.) (mil)	15,859	16,025	16,216	16,306	16,398	16,147
The average working age population areas (PAMR)	7,723	7,708	7,573	7,452	7,527	7,379
The employed population (P.O.) (mil)	10,719	10,805	10,946	10,840	10,786	10,458
Employment in agriculture (million)	3,017	3,024	3,012	3,055	3,116	3,362
Nr. employees (N.S.) (mil)	7,790	7,843	7,997	8,102	7,390	6,525
Nr. agricultural employees (thousands)	593,1	609,6	601	640	592,3	534
Nr. workers (N.M.) (mil)	6,188	6,238	6,389	6,397	5,676	4,886
Nr. agricultural workers (thousands)	505,5	520,4	528,1	542,1	523,9	460,8
E+S	16.631.597	1.677.356	1.745.800	1.524.806	1.368.308	1.310.660
PIB (mil $)	239415	238305	224380	211813	184409	168096
PIB/P.T.	10436,38	10337,02	9691,79	9135,74	8084,56	7376,20
PIB/P.A.	15096,48	14870,83	13836,95	12989,99	11245,80	10410,31
PIB/P.O.	22336,41	22054,25	20499,37	19539,94	17097,07	16073,44
PIB/N.S.	30733,63	30385,97	28057,67	26142,65	24955,55	25761,84
PIB/N.M.	38688,33	38205,21	35120,84	33112,86	32488,11	34400,79
SPAAO (mil)	5,140	5,220	5,270	5,466	5,612	5,689
SPAAR (mil)	8,069	8,182	8,219	8,204	9,009	9,622
SPAAMR (mil)	7,130	7,098	6,972	6,812	6,934	6,845
PETIT1	84211,13	84581,62	79655,82	74946,58	72829,93	70974,31

	1987	1988	1989	1990	1991	1992
PETIT2	247989,68	248630,15	230603,19	214465,54	224812,68	247882,19
PETIR1	41010,82	40683,76	37199,27	34250,59	33428,94	32435,26
PETIR2	120770,98	119591,10	107691,69	98010,75	103189,02	113282,16
PETIR1.1	34038,98	33767,52	30875,39	28427,99	27746,02	26921,26
PETIR2.1	100239,91	99260,62	89384,10	81348,92	85646,89	94024,19
ATI1 (years)	0,14	0,14	0,14	0,13	0,15	0,16
ATI2 (years)	0,42	0,42	0,40	0,38	0,46	0,56

	1993	1994	1995	1996	1997	1998
Total population (m) (mil)	22,755	22,731	22,681	22,076	22,546	22,503
Rural Population (% of PT)	45,50	45,30	45,10	45,10	45,00	45,10
Working age population (P. A.) (mil)	16,267	16,331	16,386	16,477	16,410	15,311
The average working age population areas (PAMR)	7,402	7,398	7,390	7,431	7,385	6,905
The employed population (P.O.) (mil)	10,062	10,011	9,493	9,379	9,023	8,813
Employment in agriculture (million)	3,537	3,561	3,187	3,429	3,322	3,269
Nr. employees (N.S.) (mil)	6,672	6,438	6,160	5,933	5,597	5,369
Nr. agricultural employees (thousands)	560	484	420	364	283	250
Nr. workers (N.M.) (mil)	4,875	4,590	4,290	4,093	3,807	3,526
Nr. agricultural workers (thousands)	479	407	338	295	231	195
E+S	1.440.270	1.325.850	1.413.880	1.424.509	1.460.032	1.449.456

	1993	1994	1995	1996	1997	1998
PIB (mil $)	170599	177249	189867	197436	185390	176530
PIB/P.T.	7497,12	7797,81	8371,21	8943,47	8222,77	7844,80
PIB/P.A.	10487,39	10853,53	11587,15	11982,52	11297,38	11529,62
PIB/P.O.	16954,78	17705,42	20000,74	21050,86	20546,38	20030,41
PIB/N.S.	25569,39	27531,69	30822,56	33277,60	33123,10	32879,49
PIB/N.M.	34994,67	38616,34	44258,04	48237,48	48697,14	50065,23
SPAAO (mil)	6,205	6,320	6,893	7,098	7,387	6,498
SPAAR (mil)	9,595	9,893	10,226	10,544	10,813	9,942
SPAAMR (mil)	6,842	6,914	6,970	7,067	7,102	6,655
PETIT1	71935,32	77143,70	85603,99	94299,93	88912,83	77993,01
PETIT2	245339,77	272370,98	315191,55	350879,01	358160,10	326887,92
PETIR1	32730,57	34946,10	38607,40	42529,27	40010,77	35174,85
PETIR2	111629,60	123384,05	142151,39	158246,43	161172,04	147426,45
PETIR1.1	27166,37	29005,26	32044,14	35299,29	33208,94	29195,12
PETIR2.1	92652,56	102408,76	117985,65	131344,54	133772,80	122363,96
ATI1 (years)	0,16	0,16	0,17	0,18	0,18	0,17
ATI2 (years)	0,54	0,58	0,62	0,67	0,72	0,69

	1999	2000	2001	2002	2003	2004
Total population (m) (mil)	22,458	22,458	22,408	24,681	21,673	21,673
Rural Population (% of PT)	45,10	45,40	45,40	46,70	46,60	45,10
Working age population (P. A.) (mil)	15,311	16,431	16,340	15,800	16,002	16,114
The average working age population areas (PAMR)	6,905	7,460	7,418	7,379	7,457	7,267
The employed population (P.O.) (mil)	8,420	8,629	8,563	8,239	8,306	8,238

	1999	2000	2001	2002	2003	2004
Employment in agriculture (million)	3,419	3,523	3,456	3,011	2,884	2,634
Nr. employees (N.S.) (mil)	4,761	4,623	4,619	4,568	4,591	4,469
Nr. agricultural employees (thousands)	187	146	189	159	152	143
Nr. workers (N.M.) (mil)	3,056	2,874	2,894	2,810	2,734	2,668
Nr. agricultural workers (thousands)	144	113	140	116	109	97
E+S	1.463.931	1.542.738	1.494.725	1.535.406	1.575.642	1.594.899
PIB (mil $)	174372	177973	1167687	15126168	1974276	247368
PIB/P.T.	7764,35	7924,70	52109,36	612867,55	91093,80	11413,48
PIB/P.A.	11388,67	10831,54	71461,87	957352,41	123376,83	15351,13
PIB/P.O.	20709,26	20624,99	136364,24	1835922,81	237692,75	30027,68
PIB/N.S.	36625,08	38497,30	252800,82	3311332,75	430031,80	55351,98
PIB/N.M.	57058,90	61925,19	403429,73	5382977,94	722119,97	92716,64
SPAAO (mil)	6,891	7,802	7,777	7,561	7,696	7,876
SPAAR (mil)	10,550	11,808	11,721	11,232	11,411	11,645
SPAAMR (mil)	6,718	7,314	7,229	7,220	7,305	7,124
PETIT1	81913,92	93574,81	610773,80	6883728,29	1039471,39	132909,79
PETIT2	386394,58	454576,07	2963078,44	37192889,44	4907092,89	644573,15
PETIR1	36943,18	42482,96	277291,30	3214701,11	484393,67	59942,31
PETIR2	174263,96	206377,54	1345237,61	17369079,37	2286705,28	290702,49
PETIR1.1	30662,84	35260,86	230151,78	2668201,92	402046,74	49752,12
PETIR2.1	144639,08	171293,36	1116547,22	14416335,88	1897965,39	241283,07

	1999	2000	2001	2002	2003	2004
ATI1 (years)	0,18	0,20	0,20	0,18	0,20	0,20
ATI2 (years)	0,83	0,96	0,96	0,95	0,96	0,98

	2005	2006	2007	2008	2009	2010
Total population (m) (mil)	21,624	21,584	21,538	21,504	21,470	21,431
Rural Population (% of PT)	45,10	44,80	44,90	44,30	43,90	43,50
Working age population (P. A.) (mil)	16,149	16,105	16,049	16,089	16,013	14,373
The average working age population areas (PAMR)	7,283	7,215	7,206	7,127	7,030	6,252
The employed population (P.O.) (mil)	8,390	8,460	8,786	8,747	8,411	8,371
Employment in agriculture (million)	2,674	2,514	2,462	2,407	2,411	2,440
Nr. employees (N.S.) (mil)	4,559	4,667	4,885	5,046	4,774	4,376
Nr. agricultural employees (thousands)	144	138	125	105	110	95
Nr. workers (N.M.) (mil)	2,635	2,655	2,721	2,718	2,801	2,653
Nr. agricultural workers (thousands)	99	92	86	84	81	80
E+S	1.614.465	1.608.179	1.613.186	1.545.172	1.577.857	1.504.539
PIB (mil $)	288954	344650	416006	514700	418007	512561
PIB/P.T.	13362,75	15967,58	19315,37	23934,59	19469,39	23916,47
PIB/P.A.	17892,55	21400,59	25920,39	31990,59	26104,58	35660,88
PIB/P.O.	34440,29	40738,77	47348,74	58843,03	49697,66	61230,56

	2005	2006	2007	2008	2009	2010
PIB/N.S.	63381,00	73848,30	85159,88	102001,59	87559,07	117130,03
PIB/N.M.	109659,96	129811,68	152887,17	189367,18	149234,92	193200,53
SPAAO (mil)	7,759	7,645	7,263	7,342	7,602	6,002
SPAAR (mil)	11,590	11,438	11,164	11,043	11,239	9,997
SPAAMR (mil)	7,139	7,077	7,081	7,022	6,920	6,157
PETIT1	154879,60	182632,33	215643,94	264312,21	218812,26	239097,76
PETIT2	734611,32	844654,59	950756,38	1126414,32	984057,39	1170972,43
PETIR1	69850,70	81819,29	96824,13	117090,31	96058,58	104007,53
PETIR2	331309,71	378405,26	426889,61	499001,54	432001,19	509373,01
PETIR1.1	57976,08	67910,01	80364,03	97184,96	79728,62	86326,25
PETIR2.1	274987,06	314076,36	354318,38	414171,28	358560,99	422779,59
ATI1 (ani)	0,20	0,20	0,19	0,19	0,19	0,17
ATI2 (ani)	0,95	0,91	0,85	0,80	0,86	0,82
Total ATI1 (1956-2010)	10,94					
Total ATI2 (1956-2010)	46,58					