MANUFACTURING AND DEVELOPMENT IN COUNTRIES AND AREAS OF ASIA-PACIFIC, 2000-2010

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Abstract.

Abstract: We analyze the evolution of manufacturing and development in 30 countries or territories of Asia-Pacific, for the period 2000-2010, following our previous studies of the period 1980-1999. We find importance advance in industrial development of several countries for the period of study, particularly in the cases of the two most populated countries: China and India. Achievement of the Millennium Development Goals (MDGs) requires international cooperation to play a role in order to foster industrialization in many countries with a low level of manufacturing activities, given the positive impact of industry on non industrial development. The paper contributes to show empirical evidence in favour of Kaldor´s perspective on the positive role of industrialization.

Keywords: Kaldor, Industry, Manufacturing, Asia-Pacific countries, Development for 2000-2010.

JEL codes: L6, N16, O14, O51, O54

1. Introduction

In this study we analyze the evolution of economic development in countries and areas of Asia and Pacific for the period 2000-2010, following previous studies published by Guisan and Exposito(2001) and (2003) for the evolution of the period 1980-1999. Eurasian countries are not included in this article but in a future study devoted to Europe and Eurasia. In Guisan and Aguayo(2015) we have analyzed the evolution of American countries and in year 2016 we expect to publish the studies of Africa, Europe and Eurasia.

As seen in Guisan, Aguayo and Exposito(2001), Guisan(2014) and other studies, empirical evidence shows the great importance of Kaldor´s views on the positive impact of industrialization on economic development. Guisan, Aguayo and Exposito(2015) analyze several ways of international cooperation including not only investment but also trade, transfers from abroad and other activities that foster industrial and non industrial development in low income countries.

Section 2 presents a comparative table of the degree of economic development, investment and savings in 6 areas of Asia-Pacific together with other groups of areas of the World and the total average.

Section 3 analyzes the evolution of manufacturing and non-manufacturing real value-added per head in 30 countries of Asia and Pacific, and presents the estimation of an econometric model that quantify the positive impact of manufacturing on non-manufacturing. We may notice that several countries, in spite of a positive evolution for the period 2000-2010, have yet very low values of these variables and conclude that international cooperation should be favoured in order to foster economic development in those countries. Finally section 4 presents the main conclusions.

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2. Manufacturing, Investment and Development in 6 Areas of Asia-Pacific, 2000-2010.

Table 1 show the evolution of Manufacturing real value-added per capita (qmh), for the period 2000-2010, together with real Gross Domestic Product per capita (GDPH), investment per capita (IH) and Savings per capita (SH), in 6 areas of Asia-Pacific, in comparison with other areas and with World average.

Table 1. Manufacturing, GDP, Investment and Savings, per inhabitant in 6 areas of Asia-Pacific. (USD at Purchasing Power Parities of year 2005): evolution 2000-2010

Area	qmh 2000	qmh 2010	gdph 2000	gdph 2010	ih 2000	ih 2010	sh 2000	sh 2010
7. Western Asia	1149	1262	10800	12237	2005	2172	2944	2303
8. Iran and Pakistan	513	646	3741	4836	1023	2475	1208	1824
9. India and South	245	411	1635	2887	393	983	409	975
10. China and N.E.	1444	2648	5547	9606	1657	3671	1796	4109
11.Indochina	708	1044	2555	4039	614	1169	717	1257
12.South Pacific	1207	1278	5320	6978	1281	1882	1476	2054
Africa	278	282	2080	2638	413	620	471	578
Asia-Pacific	903	1443	4004	6333	1093	2115	1213	2315
America	3312	3052	19865	21908	3977	3811	3602	3094
Europe and Eurasia	3220	3191	17408	20828	3722	4151	3857	4195
World	1494	1728	7905	9852	1788	2403	1834	2422

Note: Data have been elaborated by Guisan(2014) from country data of World Bank(2014). In case of non available data, we have included our provisional estimations. QM is real value-Added in Manufacturing GDP is Gross Domestic Product, I is investment and S is savings. Data of IH in area 16 has been updated on 5th October of 2015. Data of SH00 by area. and data of IH and SH of Area 8 (for years 2000 and 2010), updated on 30th June of 2018.

The average investment per head in Asia and Pacific. in 2010 , was higher than 2000 Dollars and a little lower than World average. In spite of increases in all the Asian areas, we notice that Investment per head is yet very low in some areas, like India and South. Investment per head in China and N.E. has experienced a great increase in this period. Bhatt(2014) analyzes the evolution of Foreign Direct Investment (FDI) in Asia and found important increases in stock of FDI inflows for 1990-2012. In Guisan, Aguayo and Exposito(2015) we recommend several ways of international cooperation in this regard.

3. Manufacturing and development in 30 countries or territories of Asia-Pacific

Table 2 presents data of real value added per head in manufacturing (qmh), and non-manufacturing (qnmh), as well as gross domestic product per head (gdph) and population, for the period 2000-2010. Data of population are in thousand and other variables are expressed in United States Dollars at 2005 prices and Purchasing Power Parities (PPPs).

In year 2010 the following countries had a real value of manufacturing higher than 2000 Dollars per head: Australia (2753), China (2181), Israel (4702), Japan (5503), Korea (South) (8378), New Zealand (2958), Saudi Arabia (2037), Singapore (10393) and Thailand(2609). We may notice a positive evolution for 2000-2010, with a percentage of increase of 60% in Asia-Pacific. The percentages of increase in the more populated countries of table 2 were 156% in China and 67% in India. There was an increase per head

in Asia-Pacific, for 2000-2010, of 540 Dollars per year in manufacturing and 1789 Dollars per year in non-manufacturing sectors.

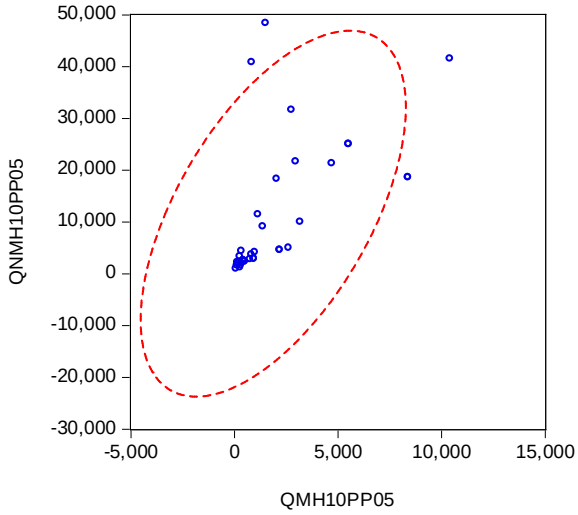
This group of countries, or territories, with the highest values of qnmh includes those with high values of industrial production per head (in manufacturing or in energy) as well other ones with special features that favour a high level of foreign trade, tourism or other services activities.

Table 2. Manufacturing, Development and Population in countries of Asia-Pacific, 2000-2010: QMH, GDPH, QNMH in USD at 2005 prices and PPPs, Population in thousand.

nb	Country/ Territory	qmh 2000	qmh 2010	gdph 2000	gdph 2010	qnmh 2000	qnmh 2010	pop 2000	pop 2010
6	Australia	3760	**2753**	28926	34411	25166	**31658**	19153	22299
9	Bangladesh	135	268	901	1488	766	1220	128916	148692
19	Cambodia	172	315	1009	1968	837	1653	12744	14139
25	China	852	**2181**	2664	6816	1812	4635	1262645	1338300
26	H-K China	1489	834	29785	41713	28296	**40879**	6665	7068
53	India	258	430	1718	3073	1460	2643	1015923	1224615
54	Indonesia	760	931	2714	3880	1954	2949	206265	239870
55	Iran, I.R.	997	1368	7667	10526	6670	**9158**	63664	73973
57	Israel	4154	**4702**	22991	26023	18837	**21321**	6289	7624
60	Japan	6009	**5503**	28613	30573	22604	**25070**	126870	127451
61	Jordan	581	980	3632	5157	3051	4177	4755	6047
64	Korea, R.	5072	**8378**	17489	27027	12417	**18648**	47008	48875
65	Kuwait	1008	1498	33603	49934	32595	**48436**	2190	2736
67	Lao PDR	87	183	1452	2288	1365	2105	5279	6201
69	Lebanon	1083	1136	8328	12621	7245	**11485**	3398	4227
75	Malaysia	3184	**3171**	10271	13214	7087	**10043**	22997	28401
80	Mongolia	162	253	2029	3620	1867	3367	2398	2756
83	Myanmar	41	122	582	1749	541	1627	47724	47963
85	Nepal	81	75	905	1075	824	1000	24431	29959
87	New Zealand	3736	**2958**	21975	24649	18239	**21691**	3858	4368
92	Pakistan	290	338	1931	2411	1641	2073	138080	173593
94	Papua-NG	157	177	1963	2217	1806	2040	5299	6858
97	Philippines	633	748	2637	3560	2004	2813	75766	93261
103	Saudia Arabia	1972	**2037**	19716	20374	17744	**18337**	21484	27448
106	Singapore	10445	**10393**	37304	51966	26859	**41573**	4018	5077
111	Sri Lanka	522	820	3068	4555	2546	3735	19359	20860
114	Syrian, A.R.	261	332	3725	4741	3464	4409	16813	20447
117	Thailand	1948	**2609**	5729	7673	3781	5064	61438	69122
129	Vietnam	271	489	1597	2875	1326	2386	78523	86928
130	Yemen, R.	124	143	2064	2380	1940	2237	17937	24053
	Asia-Pacific	903	1443	4004	6333	3101	4890	3451889	3913211

Note: Data have been elaborated by Guisan and Exposito, in this study, from country data of World Bank(2014). In case of non available data, we have included our provisional estimations. QMH is real Value-Added in Manufacturing per head, GDP is Gross Domestic Product per head, QNMH is real Value-Added in non Manufacturing per head, IH is investment per head and SH is savings per head. World(132) is the set of 132 countries of the study by Guisan, Aguayo and Exposito(2001). Data of QMH, GDPH, QNMH, IH and SH in US Dollars at constant prices and 2005 Purchasing Power Parities (PPPs).

Graph 1. Manufacturing and Non Manufacturing in Asia-Pacific, year 2010
(USD per head at 205 prices and PPPs)



All the countries of table 2 have experienced an increase of real production per head in the period 2010, although there are several countries with values that are yet far below World average. The advancement to achieve the Millennium Development goals, in several low income countries, has been not enough, for the period 2000-2010 and thus more initiatives to foster manufacturing, investment and other ways of international cooperation, as seen in Guisan, Aguayo and Exposito(2014) and (2015) are of uppermost importance.

We have estimated an econometric model that relates the value of qnmh in year 2010 to its lagged value in year 2000 and to the increase of qmh for the period 2000-2010. We have included some dummy variables for some cases with special features. Table 3 presents the results.

Table 3. Equation of qnhm as a funciont of its lagged value and increase of qmh

Dependent Variable: QNMH10PP05. Method: Least Squares				
Sample: 1 132 IF DAS=1. Included observations: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
QNMH00PP05	1.253758	0.023238	53.95198	0.0000
QMH10PP05-QMH00PP05	0.930252	0.242107	3.842324	0.0008
D26 Hong-Kong China	6011.968	1176.750	5.108960	0.0000
D60 Japan	-2799.247	1098.451	-2.548359	0.0180
D65 Kuwait	7113.923	1207.836	5.889806	0.0000
D103 Saudi Arabia	-3970.155	1032.205	-3.846285	0.0008
D106 Singapore	7946.677	1135.367	6.999214	0.0000
R-squared	0.996193	Mean dependent var		11614.40
Adjusted R-squared	0.995200	S.D. dependent var		13670.28
S.E. of regression	947.1274	Akaike info criterion		16.74571
Sum squared resid	20632157	Schwarz criterion		17.07265
Log likelihood	-244.1856	Hannan-Quinn criter.		16.85030
Durbin-Watson stat	0.398475			

The positive coefficients of dummy variables in Hong-Kong China and Singapore are due to their great importance in international trade. The positive coefficient of Kuwait is due to the important role of non-manufacturing industry (energy). There are two cases (Japan and Saudi Arabia) with value of qnmh below the fitted value of the model.

4. Conclusions

The main purpose of this study has been to evaluate the real evolution of manufacturing and development in 30 countries of Asia-Pacific during the period 2000-2010. We find that each country, and the average, has experienced an important increase. The increase in China and India has been very important.

The impact of manufacturing on non manufacturing activities has been positive and significant. Accordingly to the econometric model in table 3, each unity of increase in real value-added of qmh has implied an increase around 0.93 in real value-added of qnmh.

In spite of the positive evolution the average of Asia-Pacific is below World average and it should be convenient to increase both manufacturing and non manufacturing activities in many countries of this area, particularly in those with the lowest values.

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