

Table-T4 – Living-Wage-Gap and Equalisation analysis (vis-à-vis the U.S.) for production manufacturing workers in purchasing power parity terms 1975-2009

In 2009, the international comparison of hourly compensation costs for production-line (PL) workers between the U.S. and selected developed and "emerging" markets, shows, relative to 2007, most countries markedly widening their gap with the wages of their U.S. counterparts or little or no change in their equalisation indices (Eq Idx). Only Japan reported a marked improvement, recording its best equalisation index since 1975. This will be the last report for production workers. Beginning with 2010, the data will report labour costs for all manufacturing employees, including production workers.

Since 2008 Japan began to experience a strong revaluation of the yen with little increase in the PPP cost of living. This enabled Japan to record in 2009 its best living wage equalisation level ever. In contrast, the rest of countries experienced substantial currency devaluations, strong PPP growth or real wage increases below the growth of U.S. wages, with respect to 2007. Thus, all the other countries increased their hourly compensation cost gaps with the U.S. except for Italy and Hong Kong, which managed to sustain their previous Eq Idx.

- Always relative to 2007, South Korea, the UK and Mexico experienced strong devaluations of their currencies in 2009 and meaningful decreases in their PPP costs of living, which enabled them to increase real wages in domestic currencies. Yet, their currency devaluations precluded them from increasing their hourly compensation costs in U.S. dollars. Consequently, their equalisation gaps increased. Canada performed worse. In addition to a currency devaluation and an increase in its PPPs, nominal wages dropped in Canadian dollars. In fact, Canada is the only country in this assessment with a decrease in nominal wages in domestic currency. In this way, its equalisation index not only dropped substantially, but –after decades of equalisation surpluses– generated a gap with equivalent U.S. wages that had not existed since the late 1980s. The four countries recorded the worst performance of the twelve economies in this analysis, with Mexico getting close to its nadir (1995). Overall, South Korea and the UK recorded the worst drops in the Eq Index.
- In the Euro Area real wages dropped in euros in France and Germany, since 2007, because the PPPs increased more than nominal wages. In Spain real wages increased both in euros and in U.S. dollars, but did so at a lower rate than U.S. wages (4,2% versus 3,1%). Italy managed to increase real wages by 4,6%, enough to maintain its previous Eq index.
- Brazil experienced a huge increase of 25%, since 2007, in its PPP cost of living. Consequently, although nominal wages in reals and U.S. dollars increased by almost 17% and 14% respectively, it was not enough to offset the strong growth of the PPPs, and real wages dropped by more than 8% in reals and by almost 9% in U.S. dollars; thus the Eq index dropped almost 13% from 37 to 33. Singapore experienced a similar behaviour with the second highest increase of PPPs and, consequently, a drop of its Eq index from 50 to 47. Hong Kong did managed to increase real wages but only at 3% vis-à-vis the U.S. 4,2% increase. The difference, however, was small enough to leave its Eq index at the same rate of 32.

		1975	1980	1985	1990	1995	2000	2005	2007	2009
Benchmark	1. U.S. Hourly Manufacturing Rate	6,19	9,67	12,76	14,88	17,24	19,73	23,60	25,13	26,19
Canada	GNI PPPs in country currency*	1,222	1,234	1,237	1,254	1,269	1,192	1,165	1,140	1,283
	Exchange rate	1,017	1,17	1,37	1,170	1,370	1,49	1,21	1,07	1,14
	GNI PPPs in US Dollars	\$ 1,20	\$ 1,05	\$ 0,90	\$ 1,07	\$ 0,93	\$ 0,80	\$ 0,96	\$ 1,07	\$ 1,13
	2. Equalised PPP nominal compensation US \$	\$ 7,44	\$ 10,20	\$ 11,52	\$ 15,95	\$ 15,96	\$ 15,78	\$ 22,73	\$ 26,77	\$ 29,47
	3. Actual Real compensation US \$	\$ 5,33	\$ 8,55	\$ 12,62	\$ 15,51	\$ 18,14	\$ 20,98	\$ 25,22	\$ 27,17	\$ 23,46
	4. Actual Nominal compensation US \$	\$ 6,40	\$ 9,02	\$ 11,40	\$ 16,62	\$ 16,80	\$ 16,78	\$ 24,29	\$ 28,94	\$ 26,40
	Compensation Deficit in US \$ (2 minus 4)	\$ 1,04	\$ 1,18	\$ 0,12	\$ (0,67)	\$ (0,84)	\$ (1,00)	\$ (1,56)	\$ (2,17)	\$ 3,07
	Wage Equalisation index (4÷2 or 3÷1)	0,86	0,88	0,99	1,04	1,05	1,06	1,07	1,08	0,90
South Korea	GNI PPPs in country currency*	238,900	469,826	475,856	534,158	668,807	655,045	760,441	750,774	929,230
	Exchange rate	484	607,4	870,02	707,76	771,27	1130,96	1024,12	929,26	1276,93
	GNI PPPs in US Dollars	\$ 0,49	\$ 0,77	\$ 0,55	\$ 0,75	\$ 0,87	\$ 0,58	\$ 0,74	\$ 0,81	\$ 0,73
	2. Equalised PPP nominal compensation US \$	\$ 3,06	\$ 7,48	\$ 6,98	\$ 11,23	\$ 14,95	\$ 11,43	\$ 17,52	\$ 20,30	\$ 19,06
	3. Actual Real compensation US \$	\$ 0,67	\$ 1,27	\$ 2,34	\$ 5,02	\$ 8,70	\$ 14,74	\$ 17,78	\$ 20,98	\$ 17,03
	4. Actual Nominal compensation US \$	\$ 0,33	\$ 0,98	\$ 1,28	\$ 3,79	\$ 7,54	\$ 8,54	\$ 13,20	\$ 16,95	\$ 12,39
	Compensation Deficit in US \$ (2 minus 4)	\$ 2,73	\$ 6,50	\$ 5,70	\$ 7,44	\$ 7,41	\$ 2,89	\$ 4,32	\$ 3,35	\$ 6,67
	Wage Equalisation index (4÷2 or 3÷1)	0,11	0,13	0,18	0,34	0,50	0,75	0,75	0,83	0,65

		1975	1980	1985	1990	1995	2000	2005	2007	2009
Benchmark	1. U.S. Hourly Manufacturing Rate	6,19	9,67	12,76	14,88	17,24	19,73	23,60	25,13	26,19
Japan	GNI PPPs in country currency*	286,000	283,358	205,644	206,539	168,142	143,776	138,352	128,134	106,775
	Exchange rate	296,79	226,74	238,54	144,79	94,06	107,77	110,22	117,75	93,57
	GNI PPPs in US Dollars	\$ 0,96 \$	1,25 \$	0,86 \$	1,43 \$	1,79 \$	1,33 \$	1,26 \$	1,09 \$	1,14
	2. Equalised PPP nominal compensation US \$	\$ 5,96 \$	12,08 \$	11,00 \$	21,23 \$	30,82 \$	26,32 \$	29,62 \$	27,35 \$	29,89
	3. Actual Real compensation US \$	\$ 3,06 \$	4,33 \$	7,24 \$	8,78 \$	13,06 \$	16,26 \$	16,98 \$	18,17 \$	22,22
	4. Actual Nominal compensation US \$	\$ 2,95 \$	5,41 \$	6,24 \$	12,52 \$	23,34 \$	21,69 \$	21,31 \$	19,77 \$	25,36
	Compensation Deficit in US \$ (2 minus 4)	\$ 3,01 \$	6,67 \$	4,76 \$	8,71 \$	7,48 \$	4,63 \$	8,31 \$	7,58 \$	4,53
	Wage Equalisation index (4÷2 or 3÷1)	0,49	0,45	0,57	0,59	0,76	0,82	0,72	0,72	0,85
France	GNI PPPs in country currency*	4,978	5,714	6,716	6,366	6,212	1,030	0,936	0,874	0,901
	Exchange rate	4,29	4,23	8,99	5,450	4,990	1,0832	0,8033	0,7293	0,7176
	GNI PPPs in US Dollars	\$ 1,16 \$	1,35 \$	0,75 \$	1,17 \$	1,24 \$	0,95 \$	1,17 \$	1,20 \$	1,26
	2. Equalised PPP nominal compensation US \$	\$ 7,18 \$	13,06 \$	9,53 \$	17,38 \$	21,46 \$	18,77 \$	27,50 \$	30,10 \$	32,88
	3. Actual Real compensation US \$	\$ 4,07 \$	6,91 \$	10,51 \$	13,84 \$	16,08 \$	16,78 \$	21,42 \$	24,16 \$	24,23
	4. Actual Nominal compensation US \$	\$ 4,72 \$	9,33 \$	7,85 \$	16,17 \$	20,02 \$	15,96 \$	24,96 \$	28,94 \$	30,42
	Compensation Deficit in US \$ (2 minus 4)	\$ 2,46 \$	3,73 \$	1,68 \$	1,21 \$	1,44 \$	2,81 \$	2,54 \$	1,16 \$	2,46
	Wage Equalisation index (4÷2 or 3÷1)	0,66	0,71	0,82	0,93	0,93	0,85	0,91	0,96	0,93
Germany	GNI PPPs in country currency*	3,062	2,330	2,042	1,795	1,831	1,075	0,888	0,794	0,826
	Exchange rate	2,4553	1,8175	2,9419	1,6166	1,4321	1,0832	0,8033	0,7293	0,7176
	GNI PPPs in US Dollars	\$ 1,25 \$	1,28 \$	0,69 \$	1,11 \$	1,28 \$	0,99 \$	1,11 \$	1,09 \$	1,15
	2. Equalised PPP nominal compensation US \$	\$ 7,72 \$	12,39 \$	8,86 \$	16,52 \$	22,04 \$	19,58 \$	26,08 \$	27,35 \$	30,16
	3. Actual Real compensation US \$	\$ 4,14 \$	7,84 \$	11,31 \$	16,26 \$	20,47 \$	19,77 \$	25,91 \$	30,19 \$	30,22
	4. Actual Nominal compensation US \$	\$ 5,16 \$	10,05 \$	7,85 \$	18,05 \$	26,17 \$	19,62 \$	28,64 \$	32,85 \$	34,80
	Compensation Deficit in US \$ (2 minus 4)	\$ 2,56 \$	2,34 \$	1,01 \$	(1,53) \$	(4,13) \$	(0,04) \$	(2,56) \$	(5,50) \$	(4,64)
	Wage Equalisation index (4÷2 or 3÷1)	0,67	0,81	0,89	1,09	1,19	1,00	1,10	1,20	1,15
Italy	GNI PPPs in country currency*	539,500	751,484	1151,038	1238,936	1548,189	0,891	0,875	0,773	0,790
	Exchange rate	652,85	856,45	1909,440	1198,1	1628,930	1,0832	0,8033	0,7293	0,7176
	GNI PPPs in US Dollars	\$ 0,83 \$	0,88 \$	0,60 \$	1,03 \$	0,95 \$	0,82 \$	1,09 \$	1,06 \$	1,10
	2. Equalised PPP nominal compensation US \$	\$ 5,12 \$	8,48 \$	7,69 \$	15,39 \$	16,39 \$	16,23 \$	25,69 \$	26,64 \$	28,81
	3. Actual Real compensation US \$	\$ 5,69 \$	9,35 \$	12,72 \$	17,42 \$	17,58 \$	17,67 \$	22,37 \$	26,65 \$	27,88
	4. Actual Nominal compensation US \$	\$ 4,70 \$	8,20 \$	7,67 \$	18,01 \$	16,71 \$	14,53 \$	24,35 \$	28,25 \$	30,67
	Compensation Deficit in US \$ (2 minus 4)	\$ 0,42 \$	0,28 \$	0,02 \$	(2,62) \$	(0,32) \$	1,70 \$	1,34 \$	(1,61) \$	(1,86)
	Wage Equalisation index (4÷2 or 3÷1)	0,92	0,97	1,00	1,17	1,02	0,90	0,95	1,06	1,06
United Kingdom	GNI PPPs in country currency*	0,380	0,444	0,541	0,583	0,636	0,658	0,643	0,609	0,740
	Exchange rate	0,452	0,43	0,779	0,563	0,634	0,661	0,55	0,50	0,642
	GNI PPPs in US Dollars	\$ 0,84 \$	1,03 \$	0,69 \$	1,04 \$	1,00 \$	1,00 \$	1,17 \$	1,22 \$	1,15
	2. Equalised PPP nominal compensation US \$	\$ 5,21 \$	9,97 \$	8,86 \$	15,41 \$	17,29 \$	19,65 \$	27,57 \$	30,60 \$	30,19
	3. Actual Real compensation US \$	\$ 3,86 \$	7,07 \$	8,71 \$	11,69 \$	13,35 \$	16,67 \$	21,03 \$	23,83 \$	20,26
	4. Actual Nominal compensation US \$	\$ 3,25 \$	7,29 \$	6,05 \$	12,11 \$	13,39 \$	16,60 \$	24,57 \$	29,01 \$	23,35
	Compensation Deficit in US \$ (2 minus 4)	\$ 1,96 \$	2,68 \$	2,81 \$	3,30 \$	3,90 \$	3,05 \$	3,00 \$	1,59 \$	6,84
	Wage Equalisation index (4÷2 or 3÷1)	0,62	0,73	0,68	0,79	0,77	0,84	0,89	0,95	0,77

		1975	1980	1985	1990	1995	2000	2005	2007	2009
Benchmark	1. U.S. Hourly Manufacturing Rate	6,19	9,67	12,76	14,88	17,24	19,73	23,60	25,13	26,19
Spain	GNI PPPs in country currency*	44,830	64,181	82,874	91,745	114,175	0,790	0,757	0,681	0,730
	Exchange rate	57,41	71,70	170,04	101,930	124,69	1,0832	0,8033	0,7293	0,7176
	GNI PPPs in US Dollars	\$ 0,78 \$	0,90 \$	0,49 \$	0,90 \$	0,92 \$	0,73 \$	0,94 \$	0,93 \$	1,02
	2. Equalised PPP nominal compensation US \$	\$ 4,83 \$	8,66 \$	6,22 \$	13,39 \$	15,79 \$	14,39 \$	22,25 \$	23,45 \$	26,64
	3. Actual Real compensation US \$	\$ 3,19 \$	6,47 \$	9,42 \$	12,48 \$	13,76 \$	14,49 \$	18,73 \$	22,61 \$	23,30
	4. Actual Nominal compensation US \$	\$ 2,49 \$	5,79 \$	4,59 \$	11,23 \$	12,60 \$	10,57 \$	17,66 \$	21,10 \$	23,70
	Compensation Deficit in US \$ (2 minus 4)	\$ 2,34 \$	2,87 \$	1,63 \$	2,16 \$	3,19 \$	3,82 \$	4,59 \$	2,35 \$	2,94
	Wage Equalisation index (4÷2 or 3÷1)	0,52	0,67	0,74	0,84	0,80	0,73	0,79	0,90	0,89
Mexico	GNI PPPs in country currency*	9,700	15,213	117,389	1332,653	3,723	5,396	7,113	7,152	8,613
	Exchange rate	12,50	22,97	256,9	2813,0	6,42	9,46	10,89	10,93	13,51
	GNI PPPs in US Dollars	\$ 0,78 \$	0,66 \$	0,46 \$	0,47 \$	0,58 \$	0,57 \$	0,65 \$	0,65 \$	0,64
	2. Equalised PPP nominal compensation US \$	\$ 4,80 \$	6,40 \$	5,83 \$	7,05 \$	10,00 \$	11,25 \$	15,41 \$	16,44 \$	16,70
	3. Actual Real compensation US \$	\$ 2,32 \$	4,09 \$	4,27 \$	4,10 \$	3,19 \$	5,29 \$	5,63 \$	6,34 \$	5,98
	4. Actual Nominal compensation US \$	\$ 1,80 \$	2,71 \$	1,95 \$	1,94 \$	1,85 \$	3,02 \$	3,68 \$	4,15 \$	3,81
	Compensation Deficit in US \$ (2 minus 4)	\$ 3,00 \$	3,69 \$	3,88 \$	5,11 \$	8,15 \$	8,23 \$	11,73 \$	12,29 \$	12,89
	Wage Equalisation index (4÷2 or 3÷1)	0,37	0,42	0,33	0,28	0,19	0,27	0,24	0,25	0,23

		1996	1998	2000	2002	2004	2005	2006	2007	2009
Benchmark	U.S. Hourly Production-line Rate	17,82	18,59	19,73	21,42	22,92	23,60	23,94	25,13	26,19
Brazil	GNI PPPs in country currency*	0,676	0,869	1,036	1,253	1,237	1,166	1,184	1,242	1,596
	Exchange rate	1,005	1,161	1,830	2,921	2,926	2,435	2,174	1,946	2,00
	GNI PPPs in US Dollars	\$ 0,67 \$	0,75 \$	0,57 \$	0,43 \$	0,42 \$	0,48 \$	0,54 \$	0,64 \$	0,80
	2. Equalised PPP nominal compensation US \$	\$ 11,99 \$	13,91 \$	11,17 \$	9,19 \$	9,69 \$	11,30 \$	13,04 \$	16,04 \$	20,90
	3. Actual Real compensation US \$	\$ 8,64 \$	7,43 \$	6,29 \$	6,04 \$	7,50 \$	8,75 \$	9,23 \$	9,38 \$	8,54
	4. Actual Nominal compensation US \$	\$ 5,81 \$	5,56 \$	3,56 \$	2,59 \$	3,17 \$	4,19 \$	5,03 \$	5,99 \$	6,81
	Compensation Deficit in US \$ (2 minus 4)	\$ 6,18 \$	8,35 \$	7,61 \$	6,60 \$	6,52 \$	7,11 \$	8,01 \$	10,05 \$	14,09
	Wage Equalisation index (4÷2 or 3÷1)	0,48	0,40	0,32	0,28	0,33	0,37	0,39	0,37	0,33

		1980	1985	1990	1995	2000	2005	2007	2009
Benchmark	U.S. Hourly Production-line Rate	9,67	12,76	14,88	17,24	19,73	23,60	25,13	26,19
Hong Kong	GNI PPPs in country currency*	3,83	4,60	5,92	7,82	7,79	6,13	5,581	5,451
	Exchange rate	4,976	7,791	7,790	7,736	7,792	7,777	7,801	7,752
	GNI PPPs in US Dollars	\$ 0,77	\$ 0,59	\$ 0,76	\$ 1,01	\$ 1,00	\$ 0,79	\$ 0,72	\$ 0,70
	2. Equalised PPP nominal compensation US \$	\$ 7,45	\$ 7,53	\$ 11,31	\$ 17,43	\$ 19,72	\$ 18,60	\$ 17,98	\$ 18,42
	3. Actual Real compensation US \$	\$ 2,00	\$ 3,00	\$ 4,34	\$ 4,84	\$ 5,50	\$ 7,09	\$ 8,04	\$ 8,28
	4. Actual Nominal compensation US \$	\$ 1,54	\$ 1,77	\$ 3,30	\$ 4,89	\$ 5,50	\$ 5,59	\$ 5,75	\$ 5,82
	Compensation Deficit in US \$ (2 minus 4)	\$ 5,91	\$ 5,76	\$ 8,01	\$ 12,54	\$ 14,22	\$ 13,01	\$ 12,23	\$ 12,60
	Wage Equalisation index (4÷2 or 3÷1)	0,21	0,24	0,29	0,28	0,28	0,30	0,32	0,32
Singapore	GNI PPPs in country currency*	1,564	1,372	1,238	1,278	1,224	1,117	1,016	1,085
	Exchange rate	2,141	2,200	1,813	1,417	1,725	1,664	1,507	1,454
	GNI PPPs in US Dollars	\$ 0,73	\$ 0,62	\$ 0,68	\$ 0,90	\$ 0,71	\$ 0,67	\$ 0,67	\$ 0,75
	2. Equalised PPP nominal compensation US \$	\$ 7,07	\$ 7,96	\$ 10,16	\$ 15,55	\$ 14,00	\$ 15,84	\$ 16,93	\$ 19,54
	3. Actual Real compensation US \$	\$ 2,12	\$ 4,12	\$ 5,58	\$ 8,55	\$ 10,41	\$ 10,96	\$ 12,61	\$ 12,37
	4. Actual Nominal compensation US \$	\$ 1,55	\$ 2,57	\$ 3,81	\$ 7,71	\$ 7,39	\$ 7,36	\$ 8,50	\$ 9,23
	Compensation Deficit in US \$ (2 minus 4)	\$ 5,52	\$ 5,39	\$ 6,35	\$ 7,84	\$ 6,61	\$ 8,48	\$ 8,43	\$ 10,31
	Wage Equalisation index (4÷2 or 3÷1)	0,22	0,32	0,37	0,50	0,53	0,46	0,50	0,47

*Definitions:

- PPPs stands for Purchasing-Power Parities, which reflect the currency units in a given currency that are required to buy the same goods and services that can be purchased in the base country with one currency unit. This analysis uses the U.S. and the U.S. dollar as the benchmark and assumes that the U.S. wage is a living wage.
- The hourly production-line rate is the "hourly compensation cost" as defined by the U.S. Department of Labour, Bureau of Labour Statistics: This includes (1) hourly direct pay and (2) employer social insurance expenditures and other labour taxes. Hourly direct pay includes all payments made directly to the worker, before payroll deductions of any kind, consisting of pay for time worked and other direct pay. Social insurance expenditures and other labour taxes refers to the value of social contributions incurred by employers in order to secure entitlement to social benefits for their employees.
- GNI (Gross National Income) PPPs in country currency express the number of country currency units required to buy the same goods and services a U.S. dollar can buy in the U.S.
- Exchange rate is nominal exchange rate.
- GNI PPPs in U.S. Dollars expresses the U.S. dollar units required in a given country to buy the same goods and services a U.S. dollar can buy in the U.S. If the PPP is less than 1, a U.S. dollar can buy more in the country in question because the cost of living is lower, and viceversa.
- The GNI PPP, expressed in national currency, reflects the exchange rate in comparison with the market exchange rate, which does not reflect the ratio of prices.
- Equalised PPP nominal compensation is the hourly U.S. dollar nominal rate required to equally compensate a worker in a country, in purchasing power terms, for equal work rendered, as the equivalent U.S. worker is compensated. This analysis assumes the U.S. wage to be a living-wage. A living wage is a human right in accordance with Article 23 of the UN Universal Declaration of Human Rights. ILO's Convention 100 of "equal pay for equal work", for men and women is hereby applied in a global context.
- Actual Real Compensation is the hourly wage paid in a given country in purchasing power terms.
- Actual Nominal Compensation is the nominal hourly wage paid in a given country.
- Compensation deficit expresses the wage gap between the hourly nominal rate paid (4) and the equalised PPP hourly rate that should be paid for equal work (2).
- Compensation equalisation index expresses the ratio of actual nominal pay to equivalent PPP hourly pay (4 between 2): or the ratio of actual real pay (3) to the hourly nominal pay benchmark (1) (3 between 1).
- Note: Variations in previous years are due to revisions made by the sources, including the World Bank's new 2005 PPP benchmarks, which replaced the previous 1993 benchmarks. According to the World Bank, the 2005 PPPs are the most comprehensive for developing countries since 1993, and reveal that the size of their economies were often overestimated.

Sources: The Jus Semper Global Alliance analysis using the sources below. (Sources with X indicate that some of their data is directly incorporated in the table:)

- Database of World Bank's World Development Indicators, 1975-2010, (GNI & GNI PPP, Atlas method)
- X Hourly Compensation Costs for Production Workers in Manufacturing (34 Country Tables), updated on March 2011. U.S. Dept. of Labour, Bureau of Labour Statistics.
- Global Purchasing Power Parities and Real Expenditures. 2005 International Comparison Program. World Bank 2008.
- X PPPs for OECD Countries 1970-2002, OECD 2002 and GDP PPPs historical series 1970-1999.
- Purchasing Power parities – Measurement and Uses by Paul Schreyer and Francette Koechlin, OECD Statistical briefs, March 2002.