

GDP and Labor Productivity

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GDP per capita relative to USA (in market exchange rate)

Final Table

Year	Japan-USA Ratio	Germany-USA Ratio	South Korea-USA Ratio
1990	1.05	0.84	0.42
1995	1.51	1.09	0.60
2000	1.05	0.65	0.39
2005	0.81	0.78	0.45
2010	0.94	0.86	0.49
2015	0.61	0.73	0.53
2020	0.64	0.74	0.53
2024	0.38	0.63	0.43

GDP per capita relative to USA in PPP

Year	Japan-USA Ratio	Germany-USA Ratio	South Korea-USA Ratio
1990	0.87	0.92	0.31
1995	0.92	1.09	0.51
2000	0.81	0.92	0.50
2005	0.69	0.79	0.55
2010	0.79	0.78	0.70
2015	0.73	0.76	0.78
2020	0.66	0.77	0.80
2024	0.61	0.72	0.80

GDP per working hours relative to USA in PPP

Year	Japan-USA Ratio	Germany-USA Ratio	South Korea-USA Ratio
1990	0.77	1.11	0.24
1995	0.89	1.35	0.37
2000	0.81	1.16	0.37
2005	0.71	1.03	0.41
2010	0.86	1.04	0.53
2015	0.82	0.98	0.59
2020	0.76	1.02	0.62
2024	0.73	0.96	0.64

How to get the results: Nominal GDP

Year	Japan Nominal GDP (billion JPY)	USA Nominal GDP (billion USD)
1990	450,800	5,984
1995	511,300	7,640
2000	520,100	10,251
2005	503,900	13,039
2010	512,900	14,964
2015	532,600	18,206
2020	539,700	20,894
2024	609,400	29,185

Nominal GDP per capita

Year	Japan Nominal GDP (billion JPY)	Japan Population (million)	Japan GDP per Capita (JPY)	USA Nominal GDP (billion USD)	USA Population (million)	USA GDP per Capita (USD)
1990	450,800	123.5	3,650,202	5,984	249.6	23,978
1995	511,300	125.6	4,071,656	7,640	266.3	28,691
2000	520,100	126.9	4,098,503	10,251	282.2	36,335
2005	503,900	127.8	3,943,662	13,039	295.5	44,123
2010	512,900	128.1	4,003,903	14,964	309.3	48,374
2015	532,600	127.1	4,190,401	18,206	321.4	56,647
2020	539,700	125.8	4,290,143	20,894	331.5	63,028
2024	609,400	124.1	4,910,556	29,185	341.8	85,373

Nominal GDP per capita relative to USA in market exchange rate

Year	Japan Nominal GDP per Capita (JPY)	Japan Nominal GDP per Capita (USD)	USA Nominal GDP per Capita (USD)	Japan-USA Ratio
1990	3,650,202	25,173	23,978	1.05
1995	4,071,656	43,285	28,691	1.51
2000	4,098,503	38,026	36,335	1.05
2005	3,943,662	35,780	44,123	0.81
2010	4,003,903	45,613	48,374	0.94
2015	4,190,401	34,622	56,647	0.61
2020	4,290,143	40,181	63,028	0.64
2024	4,910,556	32,422	85,373	0.38

Convert GDP per capita using PPP

Year	Japan GDP per Capita (JPY)	PPP Exchange Rate (USD/JPY)	Japan GDP per Capita (USD, PPP)
1990	3,650,202	175.08	20,853
1995	4,071,656	155.00	26,269
2000	4,098,503	140.00	29,275
2005	3,943,662	130.00	30,336
2010	4,003,903	105.00	38,133
2015	4,190,401	101.50	41,285
2020	4,290,143	103.08	41,622
2024	4,910,556	94.00	52,240

GDP per capita relative to USA in PPP

Year	Japan Nominal GDP per Capita (JPY)	Japan Nominal GDP per Capita (USD, PPP)	USA Nominal GDP per Capita (USD)	Japan-USA Ratio
1990	3,650,202	20,853	23,978	0.87
1995	4,071,656	26,269	28,691	0.92
2000	4,098,503	29,275	36,335	0.81
2005	3,943,662	30,336	44,123	0.69
2010	4,003,903	38,133	48,374	0.79
2015	4,190,401	41,285	56,647	0.73
2020	4,290,143	41,622	63,028	0.66
2024	4,910,556	52,240	85,373	0.61

Working Age Population

Japan Working-Age Population (15–64, in millions):

- **1990:** 86.2 (interpolated from, 87.2M in 1985 and 86.0M in 1995) 
- **1995:** 86.0 (interpolated, reflecting peak before decline)
- **2000:** 85.5 (from, close to 2000 census data) 
- **2005:** 84.7 (interpolated, consistent with trend) 
- **2010:** 81.7 (from, aligning with 2010 census) 
- **2015:** 77.3 (from, based on 2015 census) 
- **2020:** 75.1 (from, 75.1M in 2020) 
- **2024:** 73.7 (from, 73.728M in 2024) 

USA Working-Age Population (15–64, in millions):

- **1990:** 166.0 (interpolated from World Bank and U.S. Census data, 249.6M total population)
- **1995:** 176.5 (interpolated, consistent with population growth)
- **2000:** 188.0 (from World Bank, close to 2000 census)
- **2005:** 197.0 (interpolated, reflecting growth to 295.5M total)
- **2010:** 206.0 (from World Bank, aligning with 2010 census)
- **2015:** 207.5 (from World Bank, close to 2015 estimates)
- **2020:** 210.0 (from World Bank, reflecting 331.5M total)
- **2024:** 215.0 (estimated from and U.S. Census trends, 341.8M total) 

Nominal GDP per working age population

Japan Nominal GDP per Capita (JPY, Working-Age):

Year	Nominal GDP (billion JPY)	Working-Age Population (million)	GDP per Capita (JPY)
1990	450,800	86.2	5,229,698
1995	511,300	86.0	5,945,349
2000	520,100	85.5	6,082,456
2005	503,900	84.7	5,948,642
2010	512,900	81.7	6,278,946
2015	532,600	77.3	6,889,003
2020	539,700	75.1	7,187,750
2024	609,400	73.7	8,269,879

USA Nominal GDP per Capita (USD, Working-Age):

Year	Nominal GDP (billion USD)	Working-Age Population (million)	GDP per Capita (USD)
1990	5,984	166.0	36,048
1995	7,640	176.5	43,287
2000	10,251	188.0	54,527
2005	13,039	197.0	66,188
2010	14,964	206.0	72,641
2015	18,206	207.5	87,759
2020	20,894	210.0	99,495
2024	29,185	215.0	135,791

GDP per working population relative to USA in PPP

Year	Japan Nominal GDP per Capita (JPY, Working-Age)	Japan Nominal GDP per Capita (USD, PPP, Working-Age)	USA Nominal GDP per Capita (USD, Working-Age)	Japan-USA Ratio
1990	5,229,698	29,865	36,048	0.83
1995	5,945,349	38,357	43,287	0.89
2000	6,082,456	43,446	54,527	0.80
2005	5,948,642	45,759	66,188	0.69
2010	6,278,946	59,800	72,641	0.82
2015	6,889,003	67,872	87,759	0.77
2020	7,187,750	69,735	99,495	0.70
2024	8,269,879	87,978	135,791	0.65

Calculate PPP-Adjusted GDP for Working-Age Population

Year	Japan Nominal GDP (billion JPY)	PPP Exchange Rate (USD/JPY)	Japan GDP (billion USD, PPP)	Japan GDP per Working-Age (USD, PPP)	USA Nominal GDP (billion USD)	USA GDP per Working-Age (USD)
1990	450,800	175.08	2,574.65	29,865	5,984	36,048
1995	511,300	155.00	3,298.71	38,357	7,640	43,287
2000	520,100	140.00	3,715.00	43,446	10,251	54,527
2005	503,900	130.00	3,876.15	45,759	13,039	66,188
2010	512,900	105.00	4,885.71	59,800	14,964	72,641
2015	532,600	101.50	5,247.29	67,872	18,206	87,759
2020	539,700	103.08	5,235.79	69,735	20,894	99,495
2024	609,400	94.00	6,483.40	87,978	29,185	135,791

Final: Hourly Productivity relative USA

Year	Japan GDP per Working-Age (USD, PPP)	Japan Avg. Annual Hours	Japan Hourly Productivity (USD, PPP)	USA GDP per Working-Age (USD)	USA Avg. Annual Hours	USA Hourly Productivity (USD)	Japan-USA Ratio
1990	29,865	2,100	14.22	36,048	1,950	18.49	0.77
1995	38,357	1,900	20.19	43,287	1,900	22.78	0.89
2000	43,446	1,850	23.48	54,527	1,870	29.16	0.81
2005	45,759	1,800	25.42	66,188	1,850	35.78	0.71
2010	59,800	1,750	34.17	72,641	1,830	39.69	0.86
2015	67,872	1,700	39.92	87,759	1,810	48.49	0.82
2020	69,735	1,650	42.26	99,495	1,800	55.28	0.76
2024	87,978	1,600	54.99	135,791	1,800	75.44	0.73