# Japanese Economy Monthly Forecast

#### April 2023

Head of the Center for Quantitative Economic Analysis, APIR e-mail: inada-y@apir.or.jp

# Headlines

#### <u>Review of latest official data</u>

This forecast reflects data released by the end of April. Although data on household consumption indicators, public works, and the balance of payments are not available yet, most other data necessary for an accurate estimate of 2023 Q1 GDP have been released.

▶ In March, the industrial production index rose +0.8% MoM. Although this was the second consecutive month of increase, production is still below its 2019 level. On a quarterly basis, 2023 Q1 production shrank by -1.3% QoQ, marking the second consecutive quarter of decline.

▶ In 2023 Q1, the number of working people rose by 50 thousand, but the number of employed people fell by 20 thousand. Improvement in the labor market remained unchanged.

► The January-February averages of the real total Consumption Trend Index and the real Consumption Activity Index were almost unchanged from the 2022 Q4 averages.

Planned construction expenditure in 2023 Q1 rose +4.8%, marking the first increase in two quarters. On the other hand, capital goods shipments index declined for the second consecutive quarter, falling -8.9% relative to 2022 Q4. The January-February average amount of public works increased +2.7% over the 2022 Q4 average

▶ In 2023 Q1, real exports and imports fell by -3.3% and -5.4% compared to 2022 Q4 respectively. The contribution of net exports to real GDP growth was slightly positive.

#### <u>2023 Q1 real GDP growth forecast update</u>

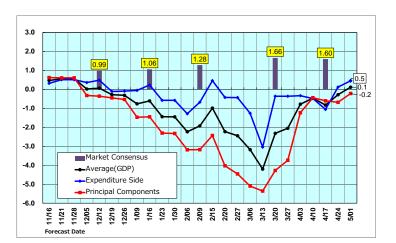
▶ Our expenditure-side CQM forecast for real GDP growth in 2023 Q1 is an annualized +0.5% QoQ. On the other hand, the production-side forecast figure is an annualized -0.2%. The average of the two forecasts is an annualized +0.1%. Being close to zero, our forecast remains lower than the Market Consensus forecast figure (Figure 1).

#### 2023 Q1 inflation forecast update

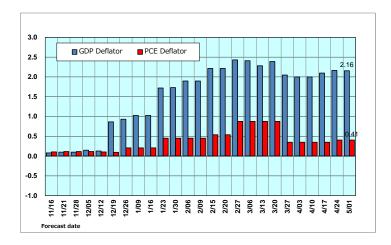
▶ In March, the national composite CPI rose +3.2% YoY, marking the 19th consecutive month of inflation. As a result, 2023 Q1 was the sixth consecutive quarter of inflation (+3.6% YoY). However, 2023 Q1 inflation decelerated somewhat from the previous quarter (+3.9% YoY).

Our CQM forecasts for the private final consumption expenditure deflator and the domestic demand deflator in 2023 Q1 are both +0.4% QoQ. However, since the terms of trade are expected to improve significantly, we forecast a GDP deflator of +2.0% QoQ (Figure 2).

#### Fig 1 CQM Forecast: Real GDP Growth Rate Jan-Mar (Q1) 2023 (%, QoQ annualized growth)



#### Fig 2 CQM Forecast: Inflation Jan-Mar (Q1) 2023 (%, QoQ growth)



We used the Current Quarter Model (CQM) methodology developed by Professor Emeritus L. R. Klein to create two forecasting models for the Japanese economy: a demand-side model and a production-side (principal component analysis) model. We refer to the forecasts by the former model as the main series, and those by the latter model, as well as the average of both models, as the reference series. Forecasts made using the CQM model are renewed continuously, incorporating the latest weekly data, which makes it possible to determine and trace the impacts of the latest short-term trends on macroeconomic conditions.

Release	Data	Economic Indicator	Value/ In- dex	Change		
Date	Month		dex Score	МоМ	YoY	
4/28	March	Labor Force Survey				
		Total employment (millions)	67.31	+0.17		
		Total unemployment (millions)	1.95	+0.15		
		Unemployment rate (%)	2.8%	+0.2%pt		
	March	General Job Placement Situation				
		Job offers-to-applicants ratio	1.32	-0.02%pt		
	March	Indices of Industrial Production (preliminary figures, 2015=100)				
		Production	95.7	+0.8%		
		Shipments	93.1	+0.4%		
		Inventories	104.1	+0.6%		
	March	Current Survey of Commerce (preliminary figures)				
		Retail trade (billion JPY)	14,567.0	+0.6%	+7.29	
	March	New Housing Starts				
		New housing starts (SA, Unit)	73,693	+2.0%	-3.2%	
		Planned residential construction expenditure (billon JPY)	1,252.0	-6.1%	+0.29	
	April	Tokyo Region Consumer Price Index (2020=100)				
		Core	104.8	+0.5%	+3.59	
	February	Construction Costs Deflator (2015=100)				
		Housing construction	120.9		+2.29	
		Public works	118.6		+3.09	
4/27	February	Index of Business Conditions (revised, 2015=100)				
		Leading indicators	98.0	+1.3		
		Coincident indicators	98.6	+2.5		
		Lagging indicators	99.8	-0.4		
	March	Producer Price Index for Intermediate and Final Demand (2015=100)				
		Capital goods	104.5		+3.69	
		Consumer goods	110.1		+2.89	
4/25	March	Corporate Services Price Index (2015=100)				
		Overall index	108.3		+1.69	
4/21	February	Monthly Labor Statistics (final figures)				
	,	Gross average salary per worker (JPY)	271,143		+0.89	
		Total working hours	133.3		+2.49	
	February	General Construction Statistics				
	· · · · <b>,</b>	Private non-residential construction (billion JPY)	932.0		+8.99	
		Public works (billion JPY)	2,047.3		+8.49	
	March	National Consumer Price Index (2020=100)	_,00			
		Core index	104.1	+0.3%	+3.19	
4/20	February	Tertiary Industry Activity Index (2015=100)	100.8	+0.7%		
4/19	February	Indices of Industrial Production (final figures, 2015=100)	100.0	10.170		
T/ 13	robidary	Production	94.9	-5.3%		
		Shipments	94.9 92.7	-3.7%		
		Inventory	92.7 103.5	-3.7% -1.0%		
				-1.0%	0.00	
		Production capacity index	95.5		-0.2%	

# Table 1: Main Economic Indicators (latest)

	March	Trade Statistics (customs clearance level)			
		Trade balance (billion JPY)	-754.5	-3.4%	+62.3%
		Exports (billion JPY)	8,824.3	-0.8%	+4.3%
		Imports (billion JPY)	9,578.8	-1.2%	+7.3%
4/14	March	Public Works Advanced Securities Statistics			
		Contract amount (billion JPY)	1,530.1		+5.5%
		Number of contracts	17,823		-0.4%
4/12	February	Private Core Machinery Orders (billion JPY)	888.0	-4.5%	
	March	Domestic Corporate Price Index (2020=100)			
		Corporate Price	119.4	0.0%	+7.2%
		Export Price	126.4	+0.6%	+6.9%
		Import Price	162.2	-1.2%	+9.9%
4/10	February	Information Services Industry Sales (billion JPY)	1,176.3		+3.1%
	March	Consumer Confidence Index (SA)	33.9	+2.6	
	March	Economy Watchers Survey			
		Current Conditions Diffusion Index	53.3	+1.3	
		Future Conditions Diffusion Index	54.1	+3.3	
	February	Balance of Payments			
		Current account (billion JPY)	2,197.2	+435.0%	-2.3%
		Exports (billion JPY)	7,644.3	+1.9%	+4.5%
		Imports (billion JPY)	8,248.4	-4.7%	+9.8%
4/7	February	Monthly Labor Statistics (preliminary figures)			
		Gross average salary per worker (JPY)	271,851		+1.1%
		Total working hours	133.7		+2.7%
	February	Family Income and Expenditure Survey (households with 2 or more people)			
		Nominal consumption expenditure (JPY)	272,214	-2.8%	+5.6%
		Real consumption expenditure		-2.4%	+1.6%
	February	Consumption Trend Index (2020=100)	103.6	+0.2%	
	February	Consumption Activity Index (2015=100)	97.2	+1.2%	
	February	Index of Business Conditions (preliminary figures, 2015=100)			
		Leading indicators	97.7	+1.1	
		Coincident indicators	99.2	+2.8	
		Lagging indicators	99.2	-1.4	
4/4	March	Food Buffer Stock (billion JPY)	+66.4		-34.7
4/3	March	New Car Sales (vehicles)	477,943		+12.1%

	Real GDP		Defla	tor		Real GDP		Defla	tor		Real GDP		Defla	ator	
Forecast date	Expenditure side	Production side (PCA)	Average	GDP	PCE	Expenditur e side	Production side (PCA)	Average	GDP	PCE	Expenditur e side	Production side (PCA)	Average	GDP	PCE
uute			2022Q4					2023Q1					2023Q2		
		SAAR (%)		QoQ (	%)		SAAR (%)		QoQ	(%)		SAAR (%)		QoQ	(%)
11/16	2.8	1.1	1.9	0.2	0.0	0.3	0.6	0.5	0.1	0.1					
11/21	1.8	0.6	1.2	0.6	0.9	0.5	0.6	0.6	0.1	0.1					
11/28	1.8	0.6	1.2	0.6	0.9	0.5	0.6	0.6	0.1	0.1					
12/05	2.3	-0.9	0.7	0.7	0.9	0.4	-0.3	0.0	0.1	0.1					
12/08									0.0	0.0					
12/12	2.6	-0.6	1.0	0.8	0.8	0.5	-0.4	0.1	0.1	0.1					
12/19	2.6	-0.5	1.0	1.6	0.9	-0.1	-0.4	-0.3	0.9	0.1					
12/26	2.4	1.0	1.7	1.7	1.0	-0.1	-0.5	-0.3	0.9	0.2					
1/09	1.5	0.5	1.0	1.8	1.0	-0.1	-1.5	-0.8	1.0	0.2					
1/16	2.3	-0.0	1.1	1.9	1.0	0.2	-1.4	-0.6	1.0	0.2					
1/23	2.6	-0.5	1.1	2.1	1.1	-0.6	-2.3	-1.4	1.7	0.5					
1/30	2.6	-0.5	1.1	2.1	1.1	-0.6	-2.3	-1.5	1.7	0.5					
2/06	2.1	-0.7	0.7	2.0	1.1	-1.3	-3.2	-2.2	1.9	0.5					
2/09	2.2	-0.5	0.8	2.0	1.1	-0.7	-3.2	-1.9	1.9	0.5					
2/14	<u>0.6</u>			<u>1.1</u>	<u>0.8</u>										
2/15	0.0	0.0	0.0	0.0	0.0		-2.4	-1.0	2.2	0.5	-0.5	-0.2	-0.3	1.1	0.1
2/20	0.0	0.0	0.0	0.0	0.0	-0.4	-4.0	-2.2	2.2	0.5	-0.9	-0.1	-0.5	1.0	0.1
2/27	0.0	0.0	0.0	0.0	0.0	-0.4	-4.5	-2.4	2.4	0.9	-0.9	-0.2	-0.5	1.1	0.1
3/06	0.0	0.0	0.0	0.0	0.0	-1.3	-5.1	-3.2	2.4	0.9	-0.7	-0.7	-0.7	1.0	0.1
3/09	0.1*			1.1*	0.8*										
3/13						-3.0	-5.4	-4.2	2.3	0.9	-0.5	-0.7	-0.6	0.5	0.1
3/20						-0.4	-4.3	-2.3	2.4	0.9	0.5	-0.3	0.1	0.5	0.1
3/27						-0.4	-3.7	-2.0	2.0	0.3	0.5	0.0	0.2	0.3	-0.2
4/03						-0.3	-1.2	-0.8	2.0	0.3	0.9	0.6	0.7	0.3	-0.2
4/10						-0.5	-0.4	-0.5	2.0	0.3	0.9	0.6	0.8	0.3	-0.2
4/17						-1.1	-0.6	-0.8	2.1	0.3	1.1	0.4	0.7	1.0	-0.2
4/24						0.1	-0.7	-0.3	2.2	0.4	1.4	0.6	1.0	1.1	-0.0
5/01	[					0.5	-0.2	0.1	2.2	0.4	0.9	0.2	0.5	1.1	-0.0

# Table 2: CQM Forecast: GDP Tracking

Note: Underlined figures are 1st preliminary estimates, and figures marked by \* are 2nd preliminary estimates.

## Table 3-1: Gross Domestic Product at Chained 2015 Price: Y Billion

	Quarterly Forecast				CY	FY			
	2022Q2	2022Q3	2022Q4		2023Q2	2021	2022	2021	2022
GDP/GDE	LULLQL	202200	202204	2020@1	202002	2021	2022	2021	2022
Gross Domestic Products	548,075	546,608	546,735	547,349	548,523	540,237	545,794	540,924	547,192
Private Consumption	294,688	294,756	295,743	296,326	296,766	287,895	293,861	288,640	295,378
Residential Investment	17,878	17,804	17,803	17,881	18,041	18,797	17,924	18,650	17,841
Nonresidential Investment	88,752	90,120	89,669	87,184	87,482	87,169	88,745	87,177	88,931
Change in Private Inventory	2,581	2,987	202	1,744	696	43	2,444	1,178	1,878
Government Consumption	118,929	119,010	119,315	119,785	120,296	117,047	118,823	117,817	119,260
Public Investment	26,500	26,679	26,599	27,300	27,329	28,532	26,531	27,563	26,769
Change in Public Inventory	-86	-241	-36	-129	-134	-84	-109	-67	-123
Net Exports	-604	-3,846	-1,809	-1,990	-1,201	1,134	-1,828	443	-2,062
Exports of Goods & Services	106,349	109,025	110,612	107,323	108,515	102,620	107,660	103,697	108,327
Imports of Goods & Services	106,952	112,871	112,421	107,323	109,716	102,020	107,000	103,057	110,389
Gross National Income	564,653	561,527	567,410	573,272	579,714	562,365	563,371	562,538	566,716
Memo:	304,033	501,527	507,410	515,212	575,714	302,303	303,371	302,330	500,710
Total Demand	655,027	659,478	659,156	656,662	658,239	641,722	655,282	644,179	657,581
	033,027	039,470	039,130	030,002	030,239	041,722	000,202	044,179	037,301
	Linnor Pou	v: % chang	o from tho	provious a	artor Low	or Pow · %	change fro	ma yoar oa	rlior
Gross Domestic Products	1.2	-0.3	0.0	0.1			change 110	ina year ea	
SAAR	4.7	-0.3 -1.1	0.0 0.1	0.1 0.5	0.2 0.9				
% Change Year Ago	1.4	1.5	0.4	1.0	0.1	2.1	1.0	2.6	1.2
Private Consumption	1.4	0.0	0.4	0.2	0.1	2.1	1.0	2.0	1.2
% Change Year Ago	2.5	3.7	1.0	2.2	0.1	0.4	2.1	1.5	2.3
Residential Investment	-1.9	-0.4	0.0	0.4	0.7	0.4	2.1	1.5	2.3
% Change Year Ago	-1.9	-0.4	-3.9	-1.9	0.9	-1.1	-4.6	-1.1	-4.3
Nonresidential Investment	-0.4	-5.2	-3.9	-1.9	0.9	-1.1	-4.0	-1.1	-4.3
% Change Year Ago	0.7	4.0	-0.3	0.3	-1.4	0.8	1.8	2.1	2.0
Government Consumption	0.7	4.0	0.3	0.3	-1.4	0.0	1.0	2.1	2.0
% Change Year Ago	1.5	0.1	1.6	1.5	0.4 1.1	3.5	1.5	3.4	1.2
Public Investment	0.6	0.3	-0.3	2.6	0.1	5.5	1.5	5.4	1.2
% Change Year Ago	-9.0	-5.1	-0.3	3.6	3.1	-1.9	-7.0	-6.4	-2.9
Exports of Goods & Services	-9.0	2.5	-2.3	-3.0	3.1 1.1	-1.9	-7.0	-0.4	-2.9
% Change Year Ago	2.8	2.5 5.7	6.8	-3.0	2.0	11.7	4.9	12.3	4.5
Imports of Goods & Services	0.9	5.5	-0.4	-2.8	0.4	11.7	4.9	12.3	4.5
% Change Year Ago	3.5	11.0	-0.4	3.2	2.6	5.0	7.9	7.0	6.9
	0.6	-0.6	10.2	3.2 1.0	2.0	5.0	7.9	7.0	0.9
Gross National Income			-		4.6				
SAAR	<b>2.4</b> -0.3	-2.2	4.3	<b>4.2</b> 2.1	<b>4.0</b> 2.7	2.0	0.2	2.2	0.7
% Change Year Ago		0.3	0.7			2.0	0.2	2.2	0.7
Total Demand	1.1	0.7	0.0	-0.4	0.2				
SAAR	4.5	2.7	-0.2	-1.5	1.0				0.4
% Change Year Ago	0.0	13.4	2.0	1.4	0.5	2.6	2.1	3.3	2.1
Contribution to GDP Grow th Ra		0.0	0.0	0.4			4.0	4.0	4-
Domestic Demand	1.0	0.3	-0.3	0.1	0.1	1.1	1.6	1.8	1.7
Private Demand	0.8	0.3	-0.4	-0.1	0.0	0.5	1.7	1.4	1.6
Public demand	0.2	0.0	0.1	0.2	0.1	0.6	-0.1	0.4	0.1
Net Exports	0.1	-0.6	0.4	0.0	0.1	1.0	-0.6	0.8	-0.5

	Quarterly			Forecast		CY		FY	
	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2	2021	2022	2021	2022
GDP/GDE									
Gross Domestic Products	558,619	554,151	560,607	573,335	580,729	549,379	556,387	550,561	561,678
Private Consumption	308,814	309,988	313,555	315,441	315,760	293,986	308,537	296,284	311,950
Residential Investment	21,183	21,185	21,222	21,385	21,474	20,828	21,216	21,129	21,244
Nonresidential Investment	94,199	96,690	97,115	95,648	96,674	89,270	94,540	90,078	95,913
Change in Private Inventory	3,545	3,771	561	2,121	467	135	2,935	1,104	2,499
Government Consumption	120,139	122,035	122,662	123,695	124,278	117,711	121,202	118,968	122,133
Public Investment	29,588	30,063	30,146	30,790	30,810	30,510	29,690	29,807	30,147
Change in Public Inventory	-96	-864	-30	-275	-279	-108	-261	-90	-316
Net Exports	-18,753	-28,717	-24,624	-15,468	-8,455	-2,952	-21,473	-6,718	-21,891
Exports of Goods & Services		124,890	127,054	119,731	121,448	99,996	119,786	103,637	122,452
Imports of Goods & Services		153,607	151,678	135,199	129,903	102,948	141,259	110,355	144,343
Gross National Income	591,710	590,082	601,694	613,039	621,028	576,048	591,563	579,812	599,131
Memo:	001,710	000,002	001,004	010,000	021,020	570,040	001,000	070,012	000,101
Total Demand	695,506	707,758	712,286	708,535	710,632	652,327	697,646	660,916	706,021
Compensation of Employee	293,883	294,846	296,766	295,984	297,455	288,746	294,492	289,508	295,370
compensation of Employee	293,003	294,040	290,700	293,904	291,433	200,740	234,432	209,300	293,370
	Linner Deu	·· º/ ohong	o from the l	provious au	ortor Low	or Pow · 9/	obongo fro	m o voor oo	rlior
Gross Domestic Products				2.3			change 110	m a year ea	
SAAR	1.0 <b>4.3</b>	-0.8 <b>-3.2</b>	1.2 <b>4.7</b>		<b>5.3</b>				
				<b>9.4</b>	-	1.0	1.2	2.4	2.0
% Change Year Ago	1.4	1.2	1.7	3.7	4.0	1.9	1.3	2.4	2.0
Private Consumption	2.5	0.4	1.2	0.6	0.1	1.0	1.0	0.7	5.0
% Change Year Ago	5.2	6.7	4.6	4.7	2.2	1.0	4.9	2.7	5.3
Residential Investment	-0.4	0.0	0.2	0.8	0.4	1.0	1.0		0.5
% Change Year Ago	2.0	0.3	-0.6	0.5	1.4	4.0	1.9	6.3	0.5
Nonresidential Investment	3.7	2.6	0.4	-1.5	1.1	<u> </u>			
% Change Year Ago	4.7	8.6	7.5	5.3	2.6	2.4	5.9	4.7	6.5
Government Consumption	0.1	1.6	0.5	0.8	0.5				
% Change Year Ago	2.2	1.8	3.4	3.1	3.4	4.0	3.0	4.5	2.7
Public Investment	2.2	1.6	0.3	2.1	0.1				
% Change Year Ago	-4.3	-0.5	1.9	6.4	4.1	0.4	-2.7	-3.3	1.1
Exports of Goods & Services		5.7	1.7	-5.8	1.4				
% Change Year Ago	18.7	23.2	21.4	9.8	2.8	19.3	19.8	22.8	18.2
Imports of Goods & Services		12.2	-1.3	-10.9	-3.9				
% Change Year Ago	35.9	45.9	34.1	10.3	-5.1	20.7	37.2	30.1	30.8
Gross National Income	1.2	-0.3	2.0	1.9	1.3				
SAAR	5.0	-1.1	8.1	7.8	5.3				
% Change Year Ago	2.3	2.6	3.5	4.9	5.0	3.1	2.7	4.1	3.3
Memo:									
Total Demand	3.0	1.8	0.6	-0.5	0.3				
SAAR	12.4	7.2	2.6	-2.1	1.2				
% Change Year Ago	0.0	28.7	7.2	4.9	2.2	0.0	4.5	0.0	6.2
Compensation of Employee	0.6	0.3	0.7	-0.3	0.5				
% Change Year Ago	2.1	2.0	2.6	1.3	1.2	2.0	2.0	2.1	2.0

## Table 3-2: Gross Domestic Product at Current Prices: Y Billion

	Quarterly			Forecast		CY		FY		
	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2	2021	2022	2021	2022	
GDP/GDE										
Gross Domestic Products	101.9	101.4	102.5	104.8	105.9	101.7	101.9	101.8	102.7	
Private Consumption	104.8	105.2	106.0	106.5	106.4	102.1	105.0	102.6	105.6	
Residential Investment	118.5	119.0	119.2	119.6	119.0	110.7	118.4	113.3	119.1	
Nonresidential Investment	106.1	107.3	108.3	109.7	110.5	102.5	106.6	103.3	107.9	
Government Consumption	101.0	102.5	102.8	103.3	103.3	100.5	102.0	101.0	102.4	
Public Investment	111.7	112.7	113.3	112.8	112.7	106.9	111.9	108.0	112.6	
Exports of Goods & Services	111.1	114.6	114.9	111.6	111.9	97.4	111.2	99.9	113.0	
Imports of Goods & Services	128.0	136.1	134.9	123.7	118.4	101.4	128.8	106.8	130.7	
Unit Profit	104.8	102.9	104.7	110.0	112.1	104.7	104.1	104.7	105.6	
Unit Labor Cost	99.5	100.1	100.7	100.3	100.6	99.2	100.1	99.3	100.2	
	Upper Row	: % change	e from the	previous qu	arter Low	er Row:%	change fro	m a year ea	rlier	
Gross Domestic Products	-0.1	-0.5	1.1	2.2	1.1					
	0.0	-0.4	1.2	2.7	3.9	-0.3	0.2	-0.2	0.9	
Private Consumption	0.8	0.4	0.8	0.4	-0.1					
	2.7	2.9	3.5	2.4	1.5	0.6	2.8	1.2	2.9	
Residential Investment	1.5	0.4	0.2	0.3	-0.5					
	9.0	5.8	3.5	2.4	0.5	5.2	6.9	7.5	5.1	
Nonresidential Investment	1.5	1.1	0.9	1.3	0.7					
	4.0	4.4	4.4	4.9	4.1	1.7	4.0	2.6	4.5	
Government Consumption	-0.6	1.5	0.3	0.5	0.0					
	0.7	1.5	1.8	1.6	2.3	0.5	1.4	1.1	1.4	
Public Investment	1.6	0.9	0.6	-0.5	0.0					
	5.2	4.9	4.3	2.7	1.0	2.4	4.6	3.3	4.3	
Exports of Goods & Services	6.7	3.1	0.3	-2.9	0.3					
	15.5	16.5	13.7	7.1	0.8	6.8	14.2	9.5	13.1	
Imports of Goods & Services	10.6	6.3	-0.9	-8.3	-4.3					
	31.2	31.5	21.8	6.9	-7.5	14.9	27.1	21.6	22.4	
Unit Profit	0.0	-1.8	1.7	5.0	1.9					
	0.0	2.6	0.2	5.3	6.9	-0.3	-0.5	0.2	0.8	
Unit Labor Cost	0.0	0.6	0.6	-0.4	0.3					
	0.0	14.2	2.2	0.3	1.1	-0.2	1.0	-0.5	0.9	

# Table 3-3: Deflator : 2015=100