Technical Note October 2024

Developmental Quarterly House Price Indexes for Real Property Manufactured Homes

The Federal Housing Finance Agency (FHFA) has started to publish quarterly developmental Purchase-Only (PO) and All-Transactions (AT) house price indexes (HPIs) for manufactured homes. These indexes are formed using data on real property manufactured home (MH) mortgages acquired by Fannie Mae and Freddie Mac (the Enterprises). They can be downloaded at https://www.fhfa.gov/data/hpi/datasets and will be updated on the release dates schedule for the FHFA HPI[®]. This Technical Note outlines important points related to the motivation and construction of the MH FHFA HPIs.

Motivation

As market conditions increasingly challenge housing affordability, manufactured housing remains an important part of the solution, as recognized by the Enterprises' <u>Duty to Serve</u> initiatives. Manufactured homes can be more affordable than site-built homes because they benefit from the economies of scale associated with factory efficiencies as well as from a standardized national building code (the Department of Housing and Urban Development's <u>Manufactured Home Construction and Safety Standards</u>). In the second quarter of 2024, among Enterprise acquisitions, the median sales price of real property MH was lower than two-thirds that of site-built homes.³

In recent years, manufacturers and developers have worked with trade organizations to narrow the gap between manufactured and site-built housing. Besides being permanently attached to land, many new manufactured homes are compliant with single-family land use regulations, and offer comparable architectural elements, energy efficiencies, aesthetics, and access to community spaces.⁴ This type of real property manufactured housing has the potential to meet the needs of a broader set of homebuyers.

¹ Manufactured homes sold as real property include land. Manufactured homes sold without land are considered personal property.

² FHFA posts monthly and quarterly release dates at https://www.fhfa.gov/data/hpi#ReleaseDates.

³ The median sales price for manufactured homes was \$231,000 compared to \$367,000 for site-built homes. Medians incorporate standard data cleaning.

⁴ Examples of *architectural elements*: porches, attics, carports/garages, sunrooms; *energy efficiency*: appliances, solar options; *aesthetics and finishing touches*: recessed lighting, wood cabinetry, customization options, luxury vinyl flooring; and *community spaces*: walking trails, dog parks, playgrounds, clubhouses. Under certain Enterprise

To support market participants in monitoring changes in MH prices over time, FHFA will publish developmental PO and AT MH FHFA HPIs on a quarterly basis.⁵ These quarterly indexes are the first of their kind in the MH space.

Data Source

Underlying the MH FHFA HPIs are data on conventional mortgages acquired by the Enterprises. FHFA identifies manufactured housing transactions using Enterprise-specific indicator fields. Personal property loans are removed from the dataset. The final dataset contains roughly 755,000 real property manufactured housing transactions, more than 347,000 of which are purchases. Both PO and AT indexes employ sales prices, while the latter additionally employs appraisal values associated with refinance transactions.

All results in this Technical Note are presented based on data through the second quarter of 2024.

Methodology

The MH FHFA HPIs are formed using a repeat transactions indexing methodology that is identical to that used in FHFA's traditional PO and AT HPIs, except in that it directly pools all U.S. transactions data together rather than weighting index data from individual states. This methodological difference is driven by sample size limitations prohibiting the formation of state-specific price indexes. As noted in a prior focus piece, pooling introduces statistical noise arising from sample fluctuations. To the extent that transactions volumes vary across geographic areas over time, price trends from a pooled national series will reflect the fundamental market trend (desirable) as well as fluctuations (noise) arising from period-to-period changes in the geographic mix in the sample."

MH acquisition programs, appraisers are conditionally required to leverage a minimum number of site-built comparable sales—for example, see https://singlefamily.fanniemae.com/media/7706/display.

⁵ FHFA introduced prototypes of these indexes in August of 2018, based on one-off data submissions from the Enterprises as of the second quarter of that year.

⁶ Enterprise acquisitions by nature exclude cash transactions and are not necessarily reflective of the general market in terms of geography or loan characteristics.

⁷ Neither Fannie Mae nor Freddie Mac currently has an active personal property MH loan acquisition program. Fannie Mae acquired personal property MH loans in the 1990s and early 2000s. Freddie Mac has never knowingly acquired such loans.

⁸ The AT index leverages both home purchase and refinance transactions to form pairs for a given property, and is impacted by changes in loan purpose mix. Appraisal values are imputed from origination amount and loan-to-value ratio.

⁹ https://www.fhfa.gov/sites/default/files/2023-10/2018Q2 HPIFocus N508.pdf.

The MH FHFA HPIs start with and are based to the first quarter of 2000. Their sample sizes are small enough that the indexes are considered developmental. ¹⁰ The series are presented without seasonal adjustment.

Results

Figures 1 and 2 visualize the MH FHFA HPIs (orange solid line) against their traditional quarterly HPI counterparts (blue dashed line). Figure 1 shows the Purchase-Only series while Figure 2 shows the All-Transactions series; Appendix Tables 1 and 2 present the same comparisons in tabular form.¹¹

The MH FHFA HPIs have broadly tracked their traditional counterparts, with the index values of manufactured homes decisively catching up to those of site-built homes during the pandemic, having generally made flatter gains and steeper declines in the years of the housing boom and bust. 12 From the first quarter of 2000 to the second quarter of 2024 (the latest period as of the time of writing), index values rose by a cumulative 212 percent for manufactured homes and 213 percent for site-built homes (for the AT samples, 197 and 196 percent for manufactured and sitebuilt homes respectively). ¹³ This long-range parity was achieved in two parts. In the first quarter of 2015, index values for manufactured homes were at their lowest point relative to those of sitebuilt homes (for both PO and AT). Gains in manufactured home values had started to slowly but steadily out-pace those of site-built homes. Between the first quarters of 2015 and 2020, the PO index had an annualized cumulative appreciation of 9.5 percent for the manufactured home sample compared to 5.9 percent for the site-built sample, a difference of 3.6 percentage points (8.2 and 5.2 percent respectively for the AT index, with a difference of 3.1 percentage points). By the start of the pandemic, indexes for the two types of homes were close to converging. In the fourth quarter of 2023, the gap between PO index values for the two types of homes dropped below 1 for the first time, a year behind AT.

As of the most recent periods, indexes for the two types of homes have shown signs of keeping pace with one another. In the first quarter of 2024, with MH at 6.6 percent and site-built at 6.8 percent, the difference in PO year-over-year changes for the two types of homes dropped below 0.5 percentage points for the first time. For the AT sample, this was the case for five (non-

¹⁰ A quarterly pair count of 10 serves as the relevant threshold, with the first quarter of 2000 comprising 13 pairs and the second quarter of 2024 (the latest period as of the time of writing) comprising 693 pairs for PO (59 and 1,608 respectively for AT). Across all estimated periods, the PO sample totals 33,372 pairs and the AT sample 165,495.

¹¹ Results are consistent with 2018 prototypes for the overlapping time period (the first quarter of 2000 through the second quarter of 2018).

¹² Early 2000s through 2012.

¹³ Annualized, this translates to around 3 percent for PO and AT indexes.

consecutive) periods through the first quarter of 2024, when the (rounded) year-over-year changes aligned at 6.4 percent.

It is worth mentioning that the comparisons above of trends in the manufactured and traditional indexes do not account for the inclination of the former towards rural and of the latter towards metropolitan areas. Similarly, the comparisons do not account for differences in typical structure size between manufactured and site-built homes. Accounting for geographic and structure size differences between the two indexes may alter the nature of their relationship.

The MH FHFA HPIs show us how prices for real property manufactured homes change over time. To see price levels for these homes, see the <u>Technical Note on Quarterly House Price Medians for Real Property Manufactured Homes</u>.

The developmental MH FHFA HPIs may undergo changes in data or methodology in the future. For more information or questions on the construction of the MH FHFA HPIs, please contact HPIQuestions@fhfa.gov.

Figure 1: Manufactured vs. Traditional, Purchase-Only House Price Index

(United States, Enterprise Acquisitions, Not Seasonally Adjusted, 2000 Q1=100, 2000 Q1 – 2024 Q2)

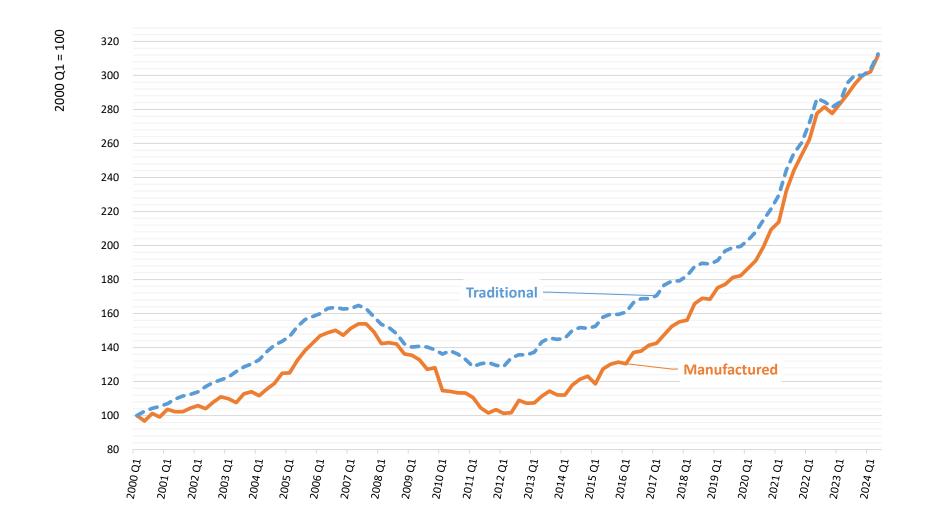
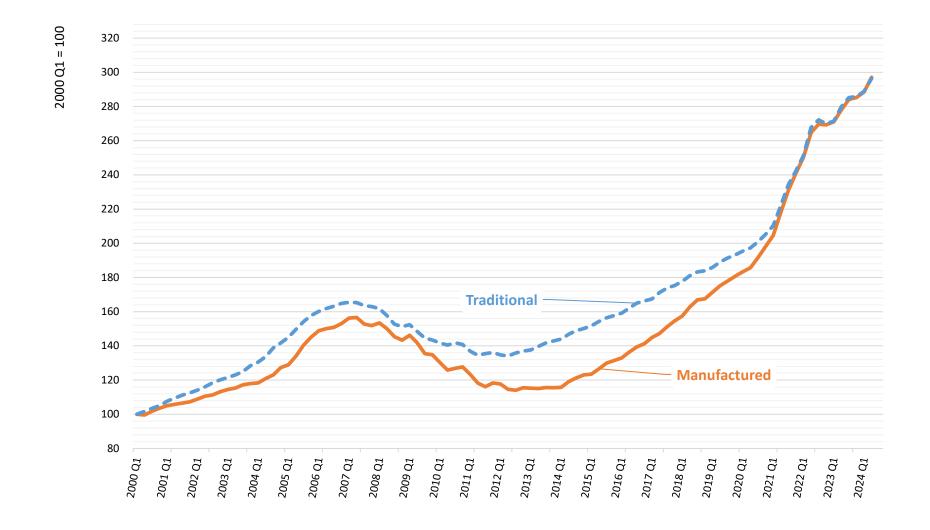
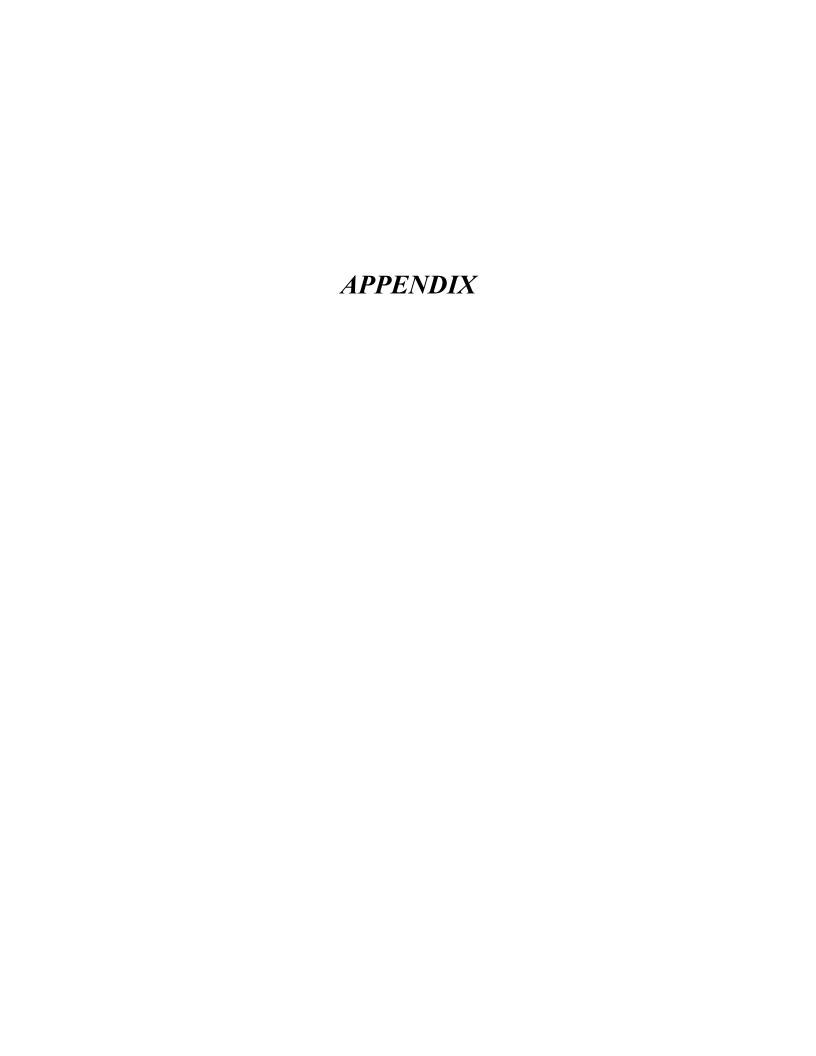


Figure 2: Manufactured vs. Traditional, All-Transactions House Price Index (United States, Enterprise Acquisitions, Not Seasonally Adjusted, 2000 Q1=100, 2000 Q1 – 2024 Q2)





Appendix Table 1: Manufactured vs. Traditional, Purchase-Only House Price Index (United States, Enterprise Acquisitions, Not Seasonally Adjusted, 2000 Q1=100, 2000 Q1 – 2024 Q2)

			Cumulative Change since 2000 Q1			
Year- Quarter	Manufactured	Traditional	Manufactured	Traditional	Manufactured – Traditional (Percentage Points)	
2000 Q1	100.00	100.00				
2000 Q2	96.81	102.53	-3.2%	2.5%	-5.7%	
2000 Q3	101.23	104.26	1.2%	4.3%	-3.0%	
2000 Q4	99.15	105.32	-0.9%	5.3%	-6.2%	
2001 Q1	103.66	106.99	3.7%	7.0%	-3.3%	
2001 Q2	102.28	109.65	2.3%	9.6%	-7.4%	
2001 Q3	102.24	111.48	2.2%	11.5%	-9.2%	
2001 Q4	104.33	112.42	4.3%	12.4%	-8.1%	
2002 Q1	105.81	113.91	5.8%	13.9%	-8.1%	
2002 Q2	104.02	117.05	4.0%	17.0%	-13.0%	
2002 Q3	107.89	119.51	7.9%	19.5%	-11.6%	
2002 Q4	111.03	120.99	11.0%	21.0%	-10.0%	
2003 Q1	109.88	122.66	9.9%	22.7%	-12.8%	
2003 Q2	107.62	125.84	7.6%	25.8%	-18.2%	
2003 Q3	112.81	128.57	12.8%	28.6%	-15.8%	
2003 Q4	114.01	130.42	14.0%	30.4%	-16.4%	
2004 Q1	111.69	132.79	11.7%	32.8%	-21.1%	
2004 Q2	115.51	137.56	15.5%	37.6%	-22.1%	
2004 Q3	118.95	141.38	19.0%	41.4%	-22.4%	
2004 Q4	124.82	143.64	24.8%	43.6%	-18.8%	
2005 Q1	125.09	146.60	25.1%	46.6%	-21.5%	
2005 Q2	132.43	152.20	32.4%	52.2%	-19.8%	
2005 Q3	138.21	156.47	38.2%	56.5%	-18.3%	
2005 Q4	142.64	158.26	42.6%	58.3%	-15.6%	
2006 Q1	147.00	159.94	47.0%	59.9%	-12.9%	
2006 Q2	148.73	163.07	48.7%	63.1%	-14.3%	
2006 Q3	150.18	163.57	50.2%	63.6%	-13.4%	
2006 Q4	147.25	162.68	47.3%	62.7%	-15.4%	
2007 Q1	151.30	162.91	51.3%	62.9%	-11.6%	
2007 Q2	153.95	164.75	53.9%	64.8%	-10.8%	
2007 Q3	153.93	162.85	53.9%	62.8%	-8.9%	
2007 Q4	149.30	158.19	49.3%	58.2%	-8.9%	

	Manufactured		Cumulative Change since 2000 Q1		
Year- Quarter		Traditional	Manufactured	Traditional	Manufactured – Traditional (Percentage Points)
2008 Q1	142.32	153.66	42.3%	53.7%	-11.3%
2008 Q2	142.83	151.71	42.8%	51.7%	-8.9%
2008 Q3	142.08	148.06	42.1%	48.1%	-6.0%
2008 Q4	136.23	142.17	36.2%	42.2%	-5.9%
2009 Q1	135.47	140.23	35.5%	40.2%	-4.8%
2009 Q2	132.72	140.74	32.7%	40.7%	-8.0%
2009 Q3	127.16	140.31	27.2%	40.3%	-13.2%
2009 Q4	128.09	138.63	28.1%	38.6%	-10.5%
2010 Q1	114.67	136.10	14.7%	36.1%	-21.4%
2010 Q2	114.23	138.11	14.2%	38.1%	-23.9%
2010 Q3	113.39	136.10	13.4%	36.1%	-22.7%
2010 Q4	113.27	133.03	13.3%	33.0%	-19.8%
2011 Q1	110.65	128.78	10.7%	28.8%	-18.1%
2011 Q2	104.51	130.49	4.5%	30.5%	-26.0%
2011 Q3	101.54	131.13	1.5%	31.1%	-29.6%
2011 Q4	103.47	129.55	3.5%	29.5%	-26.1%
2012 Q1	101.36	128.82	1.4%	28.8%	-27.5%
2012 Q2	101.73	133.85	1.7%	33.8%	-32.1%
2012 Q3	108.91	135.74	8.9%	35.7%	-26.8%
2012 Q4	107.25	135.70	7.2%	35.7%	-28.5%
2013 Q1	107.43	137.27	7.4%	37.3%	-29.8%
2013 Q2	111.38	143.28	11.4%	43.3%	-31.9%
2013 Q3	114.37	145.65	14.4%	45.7%	-31.3%
2013 Q4	112.16	144.79	12.2%	44.8%	-32.6%
2014 Q1	112.01	145.48	12.0%	45.5%	-33.5%
2014 Q2	118.01	150.10	18.0%	50.1%	-32.1%
2014 Q3	121.37	151.74	21.4%	51.7%	-30.4%
2014 Q4	123.16	151.29	23.2%	51.3%	-28.1%
2015 Q1	118.59	152.53	18.6%	52.5%	-33.9%
2015 Q2	127.42	157.84	27.4%	57.8%	-30.4%
2015 Q3	130.24	159.63	30.2%	59.6%	-29.4%
2015 Q4	131.41	159.43	31.4%	59.4%	-28.0%
2016 Q1	130.49	160.73	30.5%	60.7%	-30.2%
2016 Q2	137.07	166.40	37.1%	66.4%	-29.3%
2016 Q3	137.88	168.65	37.9%	68.7%	-30.8%

			Cumulative Change since 2000 Q1			
Year- Quarter	Manufactured	Traditional	Manufactured	Traditional	Manufactured – Traditional (Percentage Points)	
2016 Q4	141.34	168.77	41.3%	68.8%	-27.4%	
2017 Q1	142.48	170.46	42.5%	70.5%	-28.0%	
2017 Q2	147.42	176.67	47.4%	76.7%	-29.2%	
2017 Q3	152.42	179.05	52.4%	79.1%	-26.6%	
2017 Q4	155.15	179.21	55.2%	79.2%	-24.1%	
2018 Q1	156.12	182.20	56.1%	82.2%	-26.1%	
2018 Q2	165.77	187.59	65.8%	87.6%	-21.8%	
2018 Q3	168.96	189.58	69.0%	89.6%	-20.6%	
2018 Q4	168.40	189.13	68.4%	89.1%	-20.7%	
2019 Q1	175.22	191.21	75.2%	91.2%	-16.0%	
2019 Q2	177.15	196.77	77.2%	96.8%	-19.6%	
2019 Q3	181.15	198.75	81.2%	98.8%	-17.6%	
2019 Q4	182.27	199.41	82.3%	99.4%	-17.1%	
2020 Q1	186.64	203.19	86.6%	103.2%	-16.6%	
2020 Q2	191.10	208.04	91.1%	108.0%	-16.9%	
2020 Q3	199.19	214.97	99.2%	115.0%	-15.8%	
2020 Q4	209.38	221.54	109.4%	121.5%	-12.2%	
2021 Q1	213.71	229.59	113.7%	129.6%	-15.9%	
2021 Q2	232.39	244.50	132.4%	144.5%	-12.1%	
2021 Q3	244.24	254.30	144.2%	154.3%	-10.1%	
2021 Q4	253.27	260.37	153.3%	160.4%	-7.1%	
2022 Q1	262.23	271.95	162.2%	172.0%	-9.7%	
2022 Q2	277.70	286.45	177.7%	186.4%	-8.7%	
2022 Q3	281.44	284.45	181.4%	184.4%	-3.0%	
2022 Q4	277.61	281.36	177.6%	181.4%	-3.7%	
2023 Q1	283.24	284.30	183.2%	184.3%	-1.1%	
2023 Q2	288.97	295.67	189.0%	195.7%	-6.7%	
2023 Q3	295.14	300.28	195.1%	200.3%	-5.1%	
2023 Q4	300.20	299.90	200.2%	199.9%	0.3%	
2024 Q1	302.04	303.58	202.0%	203.6%	-1.5%	
2024 Q2	311.78	312.62	211.8%	212.6%	-0.8%	

Appendix Table 2: Manufactured vs. Traditional, All-Transactions House Price Index (United States, Enterprise Acquisitions, Not Seasonally Adjusted, 2000 Q1=100, 2000 Q1 – 2024 Q2)

			Cumulative Change since 2000 Q1			
Year- Quarter	Manufactured	Traditional	Manufactured	Traditional	Manufactured – Traditional (Percentage Points)	
2000 Q1	100.00	100.00				
2000 Q2	99.56	101.63	-0.4%	1.6%	-2.1%	
2000 Q3	101.75	103.48	1.7%	3.5%	-1.7%	
2000 Q4	103.52	105.07	3.5%	5.1%	-1.5%	
2001 Q1	105.01	107.67	5.0%	7.7%	-2.7%	
2001 Q2	105.75	109.48	5.8%	9.5%	-3.7%	
2001 Q3	106.53	111.17	6.5%	11.2%	-4.6%	
2001 Q4	107.31	112.55	7.3%	12.5%	-5.2%	
2002 Q1	108.86	114.16	8.9%	14.2%	-5.3%	
2002 Q2	110.52	116.11	10.5%	16.1%	-5.6%	
2002 Q3	111.35	118.41	11.3%	18.4%	-7.1%	
2002 Q4	113.21	120.09	13.2%	20.1%	-6.9%	
2003 Q1	114.49	121.55	14.5%	21.6%	-7.1%	
2003 Q2	115.33	123.04	15.3%	23.0%	-7.7%	
2003 Q3	117.20	124.94	17.2%	24.9%	-7.7%	
2003 Q4	117.91	128.48	17.9%	28.5%	-10.6%	
2004 Q1	118.34	130.50	18.3%	30.5%	-12.2%	
2004 Q2	120.83	133.69	20.8%	33.7%	-12.9%	
2004 Q3	122.99	138.78	23.0%	38.8%	-15.8%	
2004 Q4	127.30	141.76	27.3%	41.8%	-14.5%	
2005 Q1	128.90	145.01	28.9%	45.0%	-16.1%	
2005 Q2	134.06	149.66	34.1%	49.7%	-15.6%	
2005 Q3	140.42	154.20	40.4%	54.2%	-13.8%	
2005 Q4	145.05	157.69	45.1%	57.7%	-12.6%	
2006 Q1	148.88	160.19	48.9%	60.2%	-11.3%	
2006 Q2	150.03	161.83	50.0%	61.8%	-11.8%	
2006 Q3	150.85	163.16	50.8%	63.2%	-12.3%	
2006 Q4	153.06	164.84	53.1%	64.8%	-11.8%	
2007 Q1	156.24	165.45	56.2%	65.5%	-9.2%	
2007 Q2	156.57	165.35	56.6%	65.3%	-8.8%	
2007 Q3	152.81	163.49	52.8%	63.5%	-10.7%	
2007 Q4	151.87	162.96	51.9%	63.0%	-11.1%	

			Cumulative Change since 2000 Q1		
Year- Quarter	Manufactured	Traditional	Manufactured	Traditional	Manufactured – Traditional (Percentage Points)
2008 Q1	153.38	161.77	53.4%	61.8%	-8.4%
2008 Q2	150.05	157.69	50.1%	57.7%	-7.6%
2008 Q3	145.40	152.71	45.4%	52.7%	-7.3%
2008 Q4	143.27	151.30	43.3%	51.3%	-8.0%
2009 Q1	146.24	152.42	46.2%	52.4%	-6.2%
2009 Q2	141.86	148.43	41.9%	48.4%	-6.6%
2009 Q3	135.42	144.55	35.4%	44.6%	-9.1%
2009 Q4	134.79	143.45	34.8%	43.5%	-8.7%
2010 Q1	130.34	141.74	30.3%	41.7%	-11.4%
2010 Q2	125.85	140.45	25.9%	40.5%	-14.6%
2010 Q3	126.84	141.82	26.8%	41.8%	-15.0%
2010 Q4	127.65	140.81	27.6%	40.8%	-13.2%
2011 Q1	123.27	136.90	23.3%	36.9%	-13.6%
2011 Q2	118.23	134.49	18.2%	34.5%	-16.3%
2011 Q3	116.09	135.49	16.1%	35.5%	-19.4%
2011 Q4	118.30	136.11	18.3%	36.1%	-17.8%
2012 Q1	117.72	134.69	17.7%	34.7%	-17.0%
2012 Q2	114.61	134.07	14.6%	34.1%	-19.5%
2012 Q3	114.04	135.86	14.0%	35.9%	-21.8%
2012 Q4	115.48	136.93	15.5%	36.9%	-21.4%
2013 Q1	115.25	137.60	15.2%	37.6%	-22.4%
2013 Q2	115.07	139.70	15.1%	39.7%	-24.6%
2013 Q3	115.63	141.71	15.6%	41.7%	-26.1%
2013 Q4	115.54	142.83	15.5%	42.8%	-27.3%
2014 Q1	115.69	144.00	15.7%	44.0%	-28.3%
2014 Q2	119.06	146.80	19.1%	46.8%	-27.7%
2014 Q3	121.26	148.92	21.3%	48.9%	-27.7%
2014 Q4	123.02	150.13	23.0%	50.1%	-27.1%
2015 Q1	123.45	151.78	23.4%	51.8%	-28.3%
2015 Q2	126.59	154.24	26.6%	54.2%	-27.7%
2015 Q3	129.91	156.43	29.9%	56.4%	-26.5%
2015 Q4	131.47	157.69	31.5%	57.7%	-26.2%
2016 Q1	132.92	159.14	32.9%	59.1%	-26.2%
2016 Q2	136.41	162.12	36.4%	62.1%	-25.7%
2016 Q3	139.40	165.01	39.4%	65.0%	-25.6%

			Cumulative Change since 2000 Q1		
Year- Quarter	Manufactured	Traditional	Manufactured	Traditional	Manufactured – Traditional (Percentage Points)
2016 Q4	141.26	166.28	41.3%	66.3%	-25.0%
2017 Q1	144.94	167.48	44.9%	67.5%	-22.5%
2017 Q2	147.27	171.22	47.3%	71.2%	-24.0%
2017 Q3	151.19	173.86	51.2%	73.9%	-22.7%
2017 Q4	154.62	175.30	54.6%	75.3%	-20.7%
2018 Q1	157.42	177.77	57.4%	77.8%	-20.3%
2018 Q2	162.75	181.04	62.8%	81.0%	-18.3%
2018 Q3	166.89	183.26	66.9%	83.3%	-16.4%
2018 Q4	167.57	183.89	67.6%	83.9%	-16.3%
2019 Q1	171.39	185.94	71.4%	85.9%	-14.6%
2019 Q2	175.20	189.05	75.2%	89.0%	-13.8%
2019 Q3	177.92	191.46	77.9%	91.5%	-13.5%
2019 Q4	180.74	193.16	80.7%	93.2%	-12.4%
2020 Q1	183.36	195.40	83.4%	95.4%	-12.0%
2020 Q2	185.70	197.35	85.7%	97.4%	-11.7%
2020 Q3	191.64	200.82	91.6%	100.8%	-9.2%
2020 Q4	198.18	205.24	98.2%	105.2%	-7.1%
2021 Q1	204.56	210.19	104.6%	110.2%	-5.6%
2021 Q2	217.76	221.88	117.8%	121.9%	-4.1%
2021 Q3	230.92	234.24	130.9%	134.2%	-3.3%
2021 Q4	240.89	242.29	140.9%	142.3%	-1.4%
2022 Q1	250.15	251.19	150.2%	151.2%	-1.0%
2022 Q2	264.73	267.77	164.7%	167.8%	-3.0%
2022 Q3	269.69	272.16	169.7%	172.2%	-2.5%
2022 Q4	269.25	269.94	169.3%	169.9%	-0.7%
2023 Q1	271.08	271.47	171.1%	171.5%	-0.4%
2023 Q2	278.01	279.86	178.0%	179.9%	-1.8%
2023 Q3	284.04	285.18	184.0%	185.2%	-1.1%
2023 Q4	285.27	285.81	185.3%	185.8%	-0.5%
2024 Q1	288.45	288.86	188.4%	188.9%	-0.4%
2024 Q2	297.09	296.39	197.1%	196.4%	0.7%