The Economic Impact of Covid-19 on

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Introduction

- Covid- 19 completely changed the way the world operates
- NYC was the hardest hit city in the United States
    - New cases reached more than 3,000 a day
- As a part of the strong social restrictions implemented by the different level governments, restaurants, businesses, parks, and schools throughout all five of the city's boroughs were completely shut down
- 35% of the cities labor force was unemployed because of the pandemic

History of NYC Real Estate Market

- Historically, NYC's real estate market has been extremely strong and very profitable.
- From 2000 to 2006 housing prices doubled
  - This happened because of the limited supply of housing in NYC along with the rising incomes of people who live in the city
- After the 2008 Financial Crisis real estate prices rebounded strongly in NYC
  - Rising rent and a steady supply of renters with a limited supply of rental properties have made owning rental properties very lucrative for landlords and real estate developers.
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Average Home price in the Five Boroughs

Borough	Bronx	Brooklyn	Manhattan	Queens	Staten Island
2010	330000	466000	812000	345000	385000
2019	450000	790000	1075000	600000	550000

Average Rent Price

Borough	Bronx	Brooklyn	Manhattan	Queens
2010 Median Asking Rent	1575	2200	2795	1700
2019 Median Asking Rent	1875	2595	3300	2217

Income Inequality

- Income inequality can generally be defined as the degree to which income is distributed in an uneven manner among a population.
- Inequality can be a sign of a lack of income mobility and opportunity, which reflects a continual disadvantage for certain segments of a society and poses various societal problems. Widening inequality also has major implications for growth and macroeconomic stability.
- Clearly, an economy that works for everyone is better than an economy that works for a few. Although income inequality matters at all times, such inequality especially matters during economic recessions.

Income Inequality Cont.

- An analysis conducted by Kruger and other experts on macroeconomic trends of nine different countries discovered that the strongest relationship between inequality and macroeconomic conditions appears during recessions.
- The findings by Krueger can be evidenced by the 2008 financial crisis in the United States. A very recent empirical analysis conducted by Vandi Almeida discovered that although major income losses occurred across the entire spectrum of income classes, the burden was disproportionately displayed by the low-to middle-income groups
- Based of off Krugers findings low to middle income groups will be hit harder financially by the pandemic than high income people.

Harlem vs Upper East Side

- To analyze how income inequality affects housing prices i looked at Harlem a historically low to middle class neighborhood and The Upper East Side a historically upper class neighborhood.
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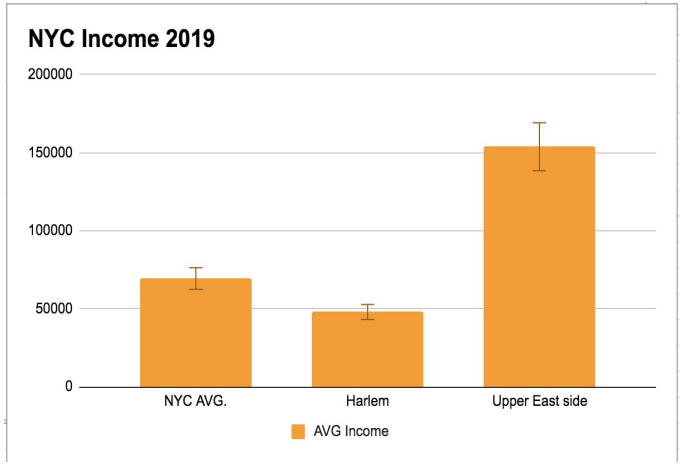

Hypothesis - The Covid-19 pandemic will negatively affect the Manhattan real estate market, especially in low income Neighborhoods.

Independent Variable

- Price

Dependent variables

- Central park distance
- House Age
- Bathrooms
- Square footage
- Covid- Covid cases per month
- Harlem Covid- Covid cases for harlem
- Upper East Side- Covid cases for Upper east side

Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Price $	371	685000	21700000	9362595.06	5694920.46
Central Park Distance (miles)	371	.1	6.9	1.595	1.2324
House Age	371	2	220	108.28	21.461
Bathrooms	371	1	5	2.85	.842
Square Footage	371	470	5995	2059.47	772.182
Valid N (listwise)	371				

1st regression

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.3130900(							
R Square	0.0980253-							
Adjusted R	0.0856695:							
Standard E	5445518.7(							
Observatio	371							
ANOVA								
	df	*SS*	*MS*	*F*	*ignificance F*			
Regression	5	117629281	235258562	7.93353828	0.0000004			
Residual	365	108235912	296536745					
Total	370	119998840						
	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Jpper 95.0%*
Intercept	6332943.07	1815430.85	3.4883967-	0.0005452(	2762926.2(	9902959.8	2762926.2(	9902959.8
SQft	1631.53399	391.53353(	4.1670351(	0.0000385(	861.589334	2401.4786-	861.589334	2401.4786-
bathrooms	-92749.603	172577.37(	-0.5374377	0.5912927-	-432120.35	246621.14	-432120.35	246621.14
House age	3470.6218-	13429.231	0.2584378	0.7962146(	-22937.755	29878.998	-22937.755	29878.998
Covid	2.75661603	0.91305815	3.0191023	0.0027135(	0.9611012	4.5521308	0.9611012	4.5521308
Dist. CP	-730531.81	233730.52	-3.1255302	0.0019170	-1190159.2	-270904.34	-1190159.2	-270904.34

Harlem Regression

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.3769965616
R Square	0.1421264074
Adjusted R Squar	0.1255833905
Standard Error	5325334.1250
Observations	371

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	7	17055004077	243642915398	8.5913233371	0.0000000009
Residual	363	10294383626	28359183543		
Total	370	11999884034			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	6283919.7577	1827324.5741	3.4388634874	0.0006520217	2690448.2656	9877391.2497	2690448.2656	9877391.2497
Square Footage	1772.7570308	384.46282638	4.6109972387	0.0000055610	1016.7029472	2528.8111145	1016.7029472	2528.8111145
Bathrooms	-29928.12622	169523.01764	-0.176543142	0.8599657119	-363298.6394	303442.38702	-363298.6394	303442.38702
House Age	2130.9082184	13143.875185	0.1621217630	0.8713001716	-23716.79363	27978.610067	-23716.79363	27978.610067
Covid Cases	4.0285304774	1.0612886637	3.7958857142	0.0001723565	1.9414844145	6.1155765403	1.9414844145	6.1155765403
Central Park Dista	-778582.2502	236527.21250	-3.291723781	0.0010934633	-1243717.895	-313446.6048	-1243717.895	-313446.6048
Harlem	-287904.8975	774944.44813	-0.371516820	0.7104693825	-1811849.150	1236039.3549	-1811849.150	1236039.3549
CovidHarlem	-6.449528110	2.0464571730	-3.151557821	0.0017590244	-10.47392838	-2.425127839	-10.47392838	-2.425127839

Upper East Side Regression

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.3136523(
R Square	0.0983777(
Adjusted R	0.0835158(
Standard Er	5451928.33
Observatio	371

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	6	1.18052E+1	196753638	6.6194589	0.0000011
Residual	364	1.08194E+1	297235225		
Total	370	1.19999E+1			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*.ower 95.0%*	*Jpper 95.0%*
Intercept	6265768.94	1826271.42	3.43090783	0.0006706	2674401.49	9857136.38	2674401.49	9857136.38
Square Foo	1641.23071	392.836424	4.17789852	0.0000368	868.71688(	2413.74455	868.71688(	2413.74455
Bathrooms	-89902.469	172945.302	-0.5198318	0.6034967	-429999.85	250194.91(	-429999.85	250194.91(
House Age	3489.4261(	13445.1306	0.2595308	0.7953724(	-22950.457	29929.310(	-22950.457	29929.310(
Covid Cases	2.57837624	1.02904296	2.50560603	0.0126600	0.5547606	4.6019918	0.5547606	4.6019918
Upper east	0.59036216	1.56512495	0.37719805	0.7062462	-2.4874601	3.6681844	-2.4874601	3.6681844
Central Par	-705662.30	243116.625	-2.9025669	0.0039265	-1183751.7	-227572.82	-1183751.7	-227572.82

Conclusion

- In conclusion, I found that Harlem's real estate prices were negatively affected by the pandemic. While the the Upper east side and other wealthy neighborhoods remained unaffected.

Recommendations

Governments- Help lower income Neighborhoods get value back in their neighborhoods. They could do this buy investing in these neighborhoods and opening back up as quick as possible. Offer incentives for investors.

Investors- Buy housing in lower income areas while they are discounted.

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