A Basic Economic Analysis of New York's Housing Market: Rent Regulation and the Pied-à-terre Tax

Student 1

May 18, 2018

New York City is in the throes of a housing crisis. Rising rents and stagnating incomes have led to high rates of homeless and rent-burdened New Yorkers.[1] In the past, New York's government has used rent regulation to make housing affordable and, when rent regulation fails, provides shelter to the homeless. However, neither rent regulation nor homeless shelters have ended New York's housing crisis. If city politicians want to lower rents, they must dramatically increase supply of housing in the five boroughs. To do so, they should use a system of taxes and subsidies to encourage the expansion of housing supply in the short- and long-term.

New York City's rent is too high. Between 2005 and 2015, NYC rents increased 13.8 percent while renter income increased by only 1.9 percent [8]. As of 2016, New York had the second highest median rent in the country [7]. There is no reason to think rents are about to fall. Though New York remains a center of global finance

[1] A renter is defined as "rent-burdened" when she pays more than 30 percent of her income in rent.

and a desirable place to live, 2016 saw the first decrease in new housing permits since 2009 [6]. Housing supply is unlikely to grow at a rate equal to or greater than the current rate, which has not been enough to keep rents affordable. Current policy is failing New Yorkers who need affordable housing.

New York makes housing affordable by directly regulating rent. Rent regulation takes two different forms—rent-stabilization and rent-control–but both function as price ceilings. New York's rent regulation policies have two significant effects. The first is that New York's rental market is essentially broken in two. The market for rent-regulated apartments is different from the one for unregulated apartments. Rent-stabilized apartments had a gross median rent of $1,375 per month and a vacancy rate of 2.1 percent in 2017 while market-rate apartments had a gross median rent of $1,830 per month and a vacancy rate of 6.1 percent in 2017 [4].[2] The difference in vacancy rates is a textbook result of a price ceiling. The artificially low price creates a shortage in which the quantity demanded far outstrips the quantity supplied in the market for rent-regulated apartments (fig. 1). It is a shortage that has worsened over time as developers chose to build luxury rentals and units were taken off the rental market and sold. Though aimed at lowering housing costs, the use of rent-regulation has likely raised them by creating a shortage in housing.

[2]The median gross rent of rent-controlled apartments is $1,039. But because a rent-controlled apartment loses that status upon becoming vacant, there is no legal market for rent-controlled apartments and no vacancy rate. Only 1.2 percent of rentals are currently rent-controlled.

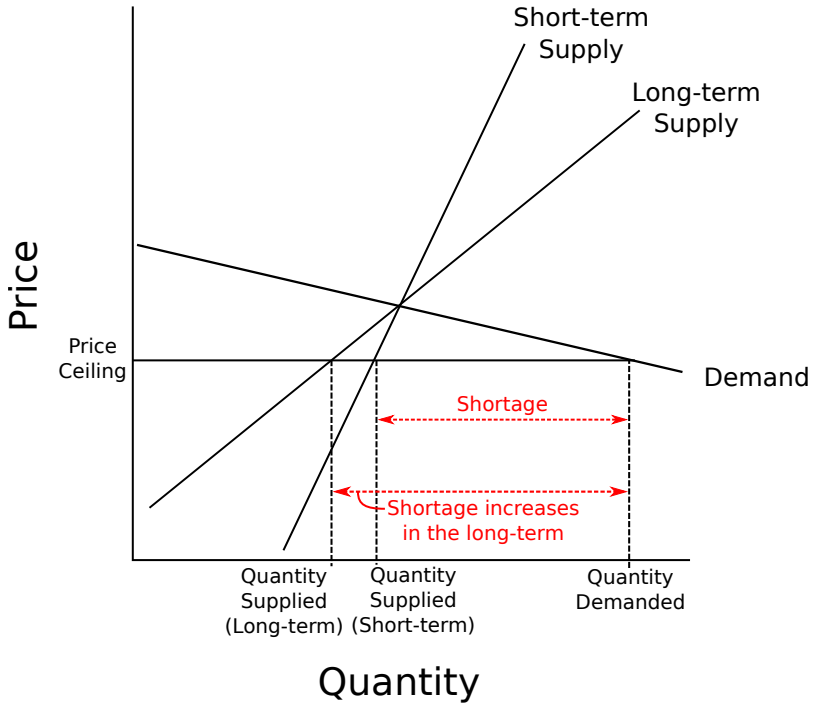

Figure 1: Effect of a price ceiling on supply and demand

New York has also responded to this shortage by creating a legal right to housing. in 1981, the city issued the Callahan Decree, which guarantees housing to all New Yorkers. As a result, the city has a legal obligation to house the many people who cannot afford housing on their own [5]. In 2017, 130,000 different New Yorkers spent at least one night in a homeless shelter [1]. More than 60,000 people lived in a shelters at any given time in 2017 [5] and the total cost to taxpayers is about$1.6 billion per year [3]. The Callahan Decree has created a significant externality to New York's housing market (fig. 2). The classic solution to such an externality would be to institute a Pigouvian tax on housing, raising the price on housing in New York City to the point that it accounts for the social cost of an apartment [2, pp. 178-188]. However, this hardly seems any solution at all. The paradox is obvious: New York

has a high rate of homelessness because the rent is too high, but the most efficient economic solution is to raise the rent. Fortunately, this apparent contradiction can be resolved with two tools: housing subsidies and targeted taxes like the so-called "pied-à-tierre tax."

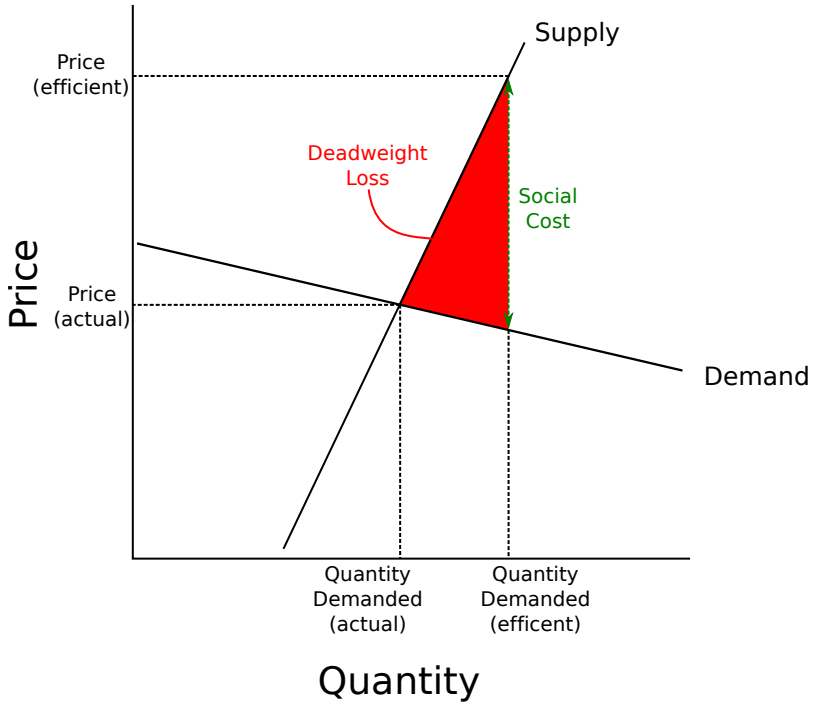

Figure 2: Effect of an externality in New York's housing market

Unlike rent-regulation, housing subsidies would lower the rent paid by New Yorkers and increase supply of rental apartments. While these subsidies could take many forms—vouchers, tax breaks for certain forms of development, etc.—the result would be an increase in the supply of rental housing (fig. 3).[3] While the current policy of setting price ceilings creates a shortage of rental apartments that worsens in the long

[3]Note that a subsidy would have an even more dramatic effect on long-term supply than on short-term supply due to their relative elasticities.

term, subsidizing renters would lower the rent paid in both the short and long term by increasing supply.[4]

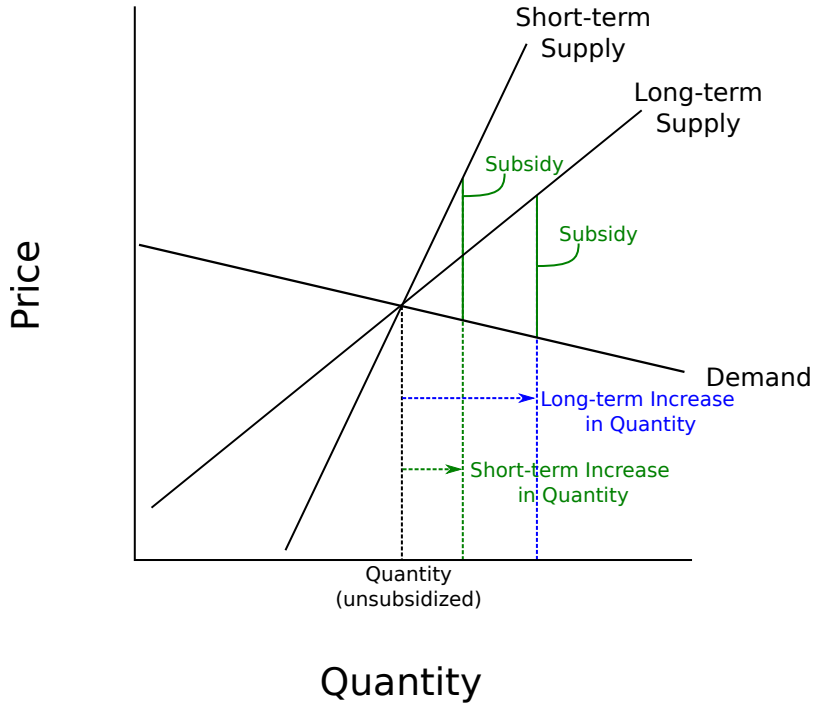

Figure 3: Effect of a subsidy on housing supply

Ideally, these subsidies would be accompanied by (and in part paid for by) a set of taxes on particular forms of housing. One example is the pied-à-terre tax, a proposed tax on New York City apartments that are not the primary residence of their renter or owner. These apartments, which are unoccupied for most of the year, make up an ever-increasing share of New York's housing supply [4]. Such a tax would raise the prices paid by demanders and suppliers of pied-à-terres in New York (fig. 4), which decrease supply of pied-à-terres and increase the supply of housing for New

[4]The mechanisms by which supply would increase are irrelevant to a purely economic analysis, but a number of owners would likely rent out their apartments or rooms in their apartments, a number of large apartments would likely be subdivided into more rental units, etc.

Yorkers. Because a tax decreases the price received by suppliers, the "producers" of pied-à-terres will shift production to substitutes-in-production—untaxed rental apartments—thereby increasing supply and lowering price.[5] The market would adjust to limit unexploited gains from trade through conversion of taxed housing into untaxed housing, which would mean renting to actual New Yorkers.

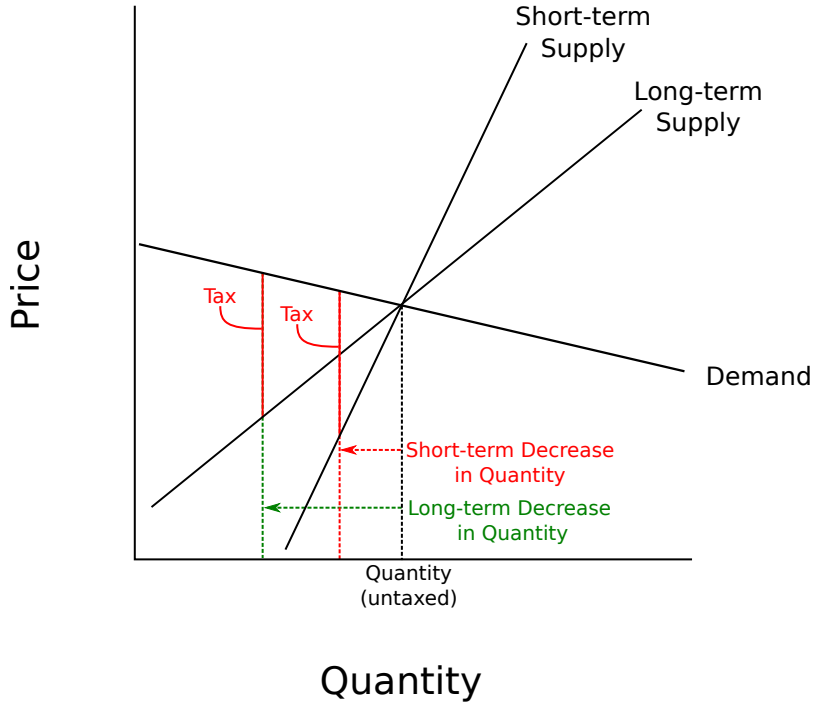

Figure 4: Effect of a Pigouvian tax on housing supply

Of course, a pied-à-terre tax is only one of many Pigouvian taxes that could be levied in New York City. Apartments above a particular square footage, apartments with unused bedrooms, and vacant lots could all be taxed in order to incentivize expansion of housing supply, but all would function in the same way as the proposed

[5]This tendency will likely be exacerbated by the fact that subsidizing rental housing for New Yorkers will increase the opportunity cost of renting to someone not eligible for such subsidies.

pied-à-terre tax.

No one believes that ending rent-regulation, issuing housing subsidies, and levying Pigouvian taxes would eliminate the housing shortage overnight. These economic tools must be used in conjunction with legal ones, such as rezoning low-density neighborhoods to allow the creation of new housing stock, in order to have maximum impact. However, a system of targeted taxes and subsidies would do far more than rent-regulation for alleviating the economic and moral crisis that has come to characterize the housing market in New York City.

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Student 2
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Energy Taxes and Subsidies as a Method for Counteracting Climate Change

An increasingly large body of science, from a variety of disciplines, supports the reality of anthropogenic (human caused) climate change. Without significant mitigation, climate models predict a variety of adverse effects, including sea level rise, increases in frequency and intensity of extreme weather events, and increased cost of food. In this context, it is economically responsible to take significant policy action. As advances in renewable energy technology make wind and solar power an increasingly viable option, one effective policy measure would be subsidies for renewable energy and taxes on sources of energy that use fossil fuels ("brown energy"), often referred to as a carbon tax.

Scientists from a variety of disciplines agree that climate change is anthropogenic, and an increasingly large body of economic research agrees that climate change demonstrates a very real threat to national and global economies. Climate models consistently demonstrate a link between carbon dioxide and other greenhouse gases and global temperature through radiative forcing.[1] Using the relationship between heat and radiation emitted and the impact of greenhouse gases, these models demonstrate how carbon dioxide and other greenhouse gases provide an insulating effect on the earth.[2] Absorption and reemission of radiation by greenhouse gases explains the difference between predicted values for earth's average temperature of about 255K based solely on radiation and the actual 288K earth experiences.[3] This relationship is the foundation for an understanding of anthropogenic climate change. The United Nations' Intergovernmental Panel on Climate Change (IPCC) summarizes findings on climate changes from a variety of scientific disciplines as follows: "Human influence on the climate system is clear, and recent

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[1] Kleeman, Richard, Ph.D. "Zero Dimensional Energy Balance Model." Zero-Dimensional Energy Balance Model. Accessed March 12, 2018. https://math.nyu.edu/faculty/kleeman/zero_dim_ebm.html.

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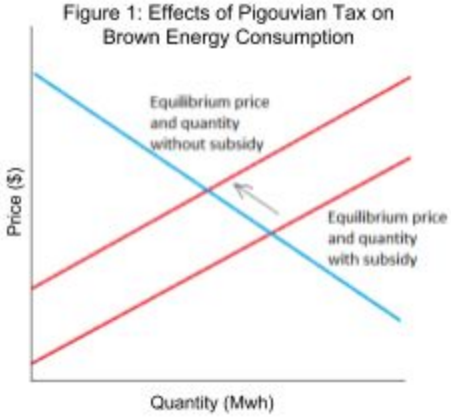
anthropogenic emissions of greenhouse gases are at the highest in history. Recent climate changes have had widespread impacts on human and natural systems."[4]

The IPCC's report on impacts continues the narrative, emphasizing not only that climate change is real, but that it will impact the world in a variety of predictable ways as it pertains to threat to economic business as usual.[5] Simulations considering damage to agriculture, coastal communities, and other sectors have predicted an average of six percent damage to the United States GDP by 2080-2100.[6] Six percent of current GDP would already be more than a trillion dollars per year, and as GDP rises, so too would the value of that portion of the economy.

Some economists have proposed introduction of carbon taxes as a method for mitigating climate change. Others have gone as far as to argue that current ways of viewing natural resources like the atmosphere amount to a substantial subsidy to carbon based energy production. The argument underlying this notion is that negative externalities of brown energy have a cost to the environment, and therefore represent a drain in value from publicly available resources. To counteract this, the argument follows that governments should be collecting a Pigouvian (corrective) tax, and a lack of reflective tax represents a substantial subsidy to brown energy (see Fig. 1) .[7] A 2015 IMF working paper estimates that taxing energy companies to correct for this de facto subsidy would amount to about 3 trillion dollars globally per year.[8] The law of supply and

Figure 1: Effects of Pigouvian Tax on Brown Energy Consumption



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[5] "Climate Change 2014 Impacts, Adaptation, and Vulnerability Summary for Policy Makers." Accessed March 26, 2018. https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf.

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[8] Ibid.

demand dictates that, with a this rise in cost, much of which would be felt by consumers, consumers will demand less brown energy. The IMF predicts that the decrease in demand for brown energy would amount to a drop in demand for coal globally by about 25% and demand for natural gas by 10%, with other fossil fuels falling in the intermediate range.[9] Though this reduction would be insufficient for totally halting the progression of climate change, inaction will ensure that global emissions will not be cut by the 60% that is required to keep the carbon dioxide concentration in the atmosphere at only 450ppm.[10]

Even at far lower numbers than the IMF suggests, a carbon tax could be significant for shifting energy production to renewable energy sources. The funding surplus could be used to subsidize cost of green energy infrastructure construction and subsidizing energy purchased from renewable sources for consumers. As green energy is a perfect substitute for brown energy, this will help shift the burden of the loss of brown energy subsidy away from consumers, and help keep costs for green energy down for consumers even as demand increases (Fig 2). Increasing demand for green energy would increase demand for research in the sector, which would over time produce stronger technology to allow for more energy production at lower cost. However, a portion of the increased taxes on brown energy could be directed towards subsidizing research and development in green energy, which would help bring these results about faster. With better technology, renewable sources of energy can more effectively produce technology. Increasing efficiency of wind turbines, solar panels, and other sources of

Figure 2: Effects of Renewables Subsidy on Green Energy Production

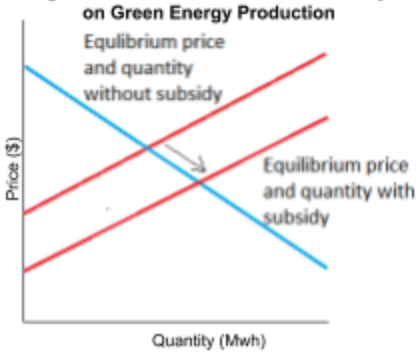
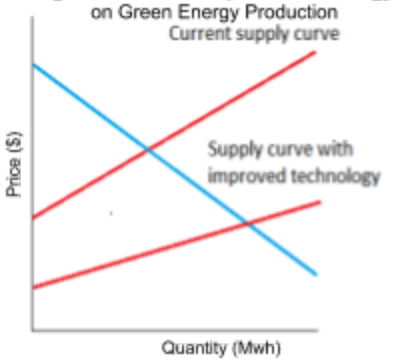


Figure 3: Effects of Improved Technology on Green Energy Production



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renewable energy will decrease the slope of the supply curve, as marginal costs of production of each additional megawatt hour will decrease (Fig 3). One of the most significant burdens for renewables to overcome is the variability of energy production from solar and wind power, so these funds could also be directed towards energy storage infrastructure and technology, as is already being attempted in California.[11] By further shifting consumers from brown energy, green energy subsidies would also help shift potential expenditure away from health and climate change resilience expenditure.[12]

Economic considerations around climate change must be based in the reality that inaction will not be economically free, nor will it be economically viable. As has been discussed, within the next several decades, business as usual will be economically catastrophic. In this context, aggressive stances against brown energy consumption, though potentially painful to consumers in the short run, will ensure continued health of the planet, society, and economies in the future. The fiscal costs to consumers can, however, be mitigated by effectively using the increased government funds from taxation to ease the shift towards green energy, and to accelerate green technology and infrastructure development.

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Student 3

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Economics 200

18 May 2018

Failure of Price Ceilings in the New York City Housing Market

Attraction to urban cities such as New York or Los Angeles has increased over the past several years, and while this phenomenon may, perhaps, be a boom for tourism, this rising interest is also creating a widespread housing crisis on residents. In order to control the issue, New York City mayor, Bill de Blasio, for example, has proposed regulating the housing market so that tenants can be protected from increasing rent. While rent-regulation policies do make housing inexpensive for renters already occupying a rent-regulated unit, they do not make it affordable for low income families, the target demographic. These policies will cause resources to be misallocated and create a larger, city-wide shortage for those seeking available housing because the quantity of available apartments is lower than the quantity demanded.

Rent-regulation is the process of the government creating a cap on the highest value landlords can charge as rent and is an application of a binding price ceiling. Rent-regulation exists in urban areas particularly because the demand for affordable housing has been increasing significantly in these regions. It is in the interest of landlords to increase the rent price so that they can both increase their profit and also keep up with the parallel increase in maintenance costs. In order to protect tenants' rights, Mayor de Blasio has initiated a series of policies that, based on city vacancy rates, regulate rent prices (Leonhardt). The primary objective of these policies is to increase the number of housing units available and ensure that they remain affordable. The solution that the city has been undergoing since 2014 is a two year period of rent

freezes followed by a continuation of rent-control or the more common tactic, rent-stabilization. Economists argue however that price ceilings such as rent-regulation do more harm to a market than good. Price ceilings cause the market price to decrease which results in a shortage because at this controlled price, the quantity demanded is higher than the quantity available.

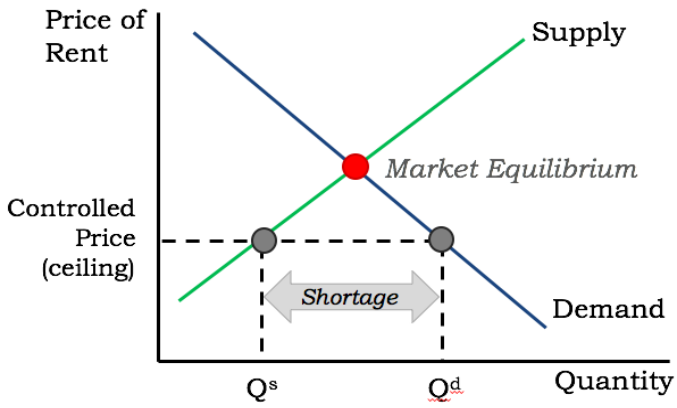

Figure I
Source: Cowen, Tyler, and Alexander Tabarrok. *Modern Principles: Microeconomics*. Worth Publishers, 2015.

As illustrated by Figure I, when a price ceiling is imposed, it results in the number of apartments demanded to be higher than the number of apartments available. Suppliers cannot charge higher prices due to this price ceiling because they are legally obligated to charge either at or below the government regulated price. This forces suppliers to disregard an entire market of people who have the willingness to pay higher than the controlled price.

When rent-stabilization allows individuals to pay rent that is much lower than the market price, it creates an incentive for them to remain in their apartments well after their kids have gone to college or they have retired. In a market price apartment in New York City, the average tenancy is four years, but in a rent-regulated apartment, the average length of tenancy is twelve years (“Rent Regulation”). In other words, people stay longer in cheaper apartments. Davidson states that this again, would not be a problem if the majority of rent-stabilized apartment recipients were poor and not above the poverty line. Christopher Mayer, a housing economist at Columbia Business School, describes Manhattan as having two rental markets: roughly half

under government regulation and the other half under market prices. He says that these policies, as a result, make the city even less affordable for those not living in a rent-regulated apartment because regulation inadvertently creates an incentive for people to stay longer which makes the market price rentals more competitive and scarce, resulting in rent prices to increases even more.

While tenants have little incentive to leave their rent-stabilized apartment, landlords have little incentive to maintain the apartment. *The Economist* explains this idea by stating that landlords have no cause to maintain their property because "when supply and turnover in the market are limited by rent caps, landlords have little incentive to compete to attract tenants" ("Do Rent Controls Work"). This reduction in product quality is highlighted by economists Tyler Cowen and Alex Tabarrok who say that in Manhattan, 18% of rent-controlled housing is described as "dilapidated or deteriorating" (Cowen and Tabarrok 144). When landlords are not profiting as much as they potentially could under a free market, they have no reason to innovate because the price ceiling limits on their ability to compete.

The targeting of rent-regulated apartments to wealthier tenants and these tenants remaining in these units longer than necessary has inevitably led to a city-wide shortage of both affordable and available apartments. The apartments that are being occupied are in bad shape due to a loss of competition on the landlord's end. Thus, it can be argued that Mayor Bill de Blasio's current housing policies will not provide New Yorkers with a long-term solution to the housing crisis. The trends that are currently occurring mirror what economists argued will happen when markets are influenced by regulation rather than self-interest.

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