Measuring Welfare Effects of Rent Control – an Illustration

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Morten Skak

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Department of Business and Economics
Faculty of Social Sciences
University of Southern Denmark
Campusvej 55
DK-5230 Odense M
Denmark

Tel.: +45 6550 3271
Fax: +45 6550 3237
E-mail: lho@sam.sdu.dk
http://www.sdu.dk/osbec

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Measuring Welfare Effects of Rent Control

- an Illustration

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Morten Skak*

University of Southern Denmark**

Abstract

In their 1997 and 2003 papers, Glaeser and Luttmer focus on the welfare loss from misallocation of rent controlled dwellings on rental housing markets. The present comment adds new elements to the analysis of welfare effects of rent control when controlled units have substitutes among uncontrolled units. The welfare loss from misallocation of controlled units should in this case be counted among households who are unable to pay the uncontrolled rent, but able to pay the controlled rent. In addition, misallocation under rent control creates a short to medium term welfare loss from oversupply in the non-controlled section.

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* Department of Business and Economics, Campusvej 55, DK-5230 Odense M, Denmark. Phone +45 6550 2116. E-mail mos@sam.sdu.dk.

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In their seminal paper The Misallocation of Housing under Rent Control, Glaeser and Luttmer (1997 and 2003) point out that rent control in a perfectly competitive housing market incurs not only the well known welfare loss from reduced supply, but also a welfare loss from misallocation among households of rent controlled dwellings. This result is demonstrated in a partial model of a rental housing market. However, rent control is often implemented only on a section of the rental housing market with free rent setting in other sections. Thus, the Los Angeles rent control law of 1978 exempted newly constructed units, see Fallis and Smith (1984), and rent control in Vancouver, British Colombia, exempted units built after 1974, see Marks (1984). In the New York case studied by Glaeser and Luttmer (2003[1]) "rent-control regulations by and large exclude apartments in buildings with fewer than five apartments". With such exemptions, a number of uncontrolled apartments will appear as perfect substitutes for controlled apartments, the only difference being the controlled rent. Other apartments will be less than perfect substitutes and yet other dwellings, like owned units, may be more distant substitutes. Conventional wisdom in welfare economics tells us that when perfect or close substitutes exist, it is necessary to include these other markets to evaluate the total welfare effects of a maximum price[2]. The present exposition is close to Fallis and Smith (1984), although their aim is to detect the price effect in the uncontrolled market section. Heffley (1998) makes a spatial equilibrium analysis with rent control only in an inner city ring without addressing the misallocation aspect. A recent empirical study of rent control is Sims (2007).

I Rent control in a section of a rental housing market

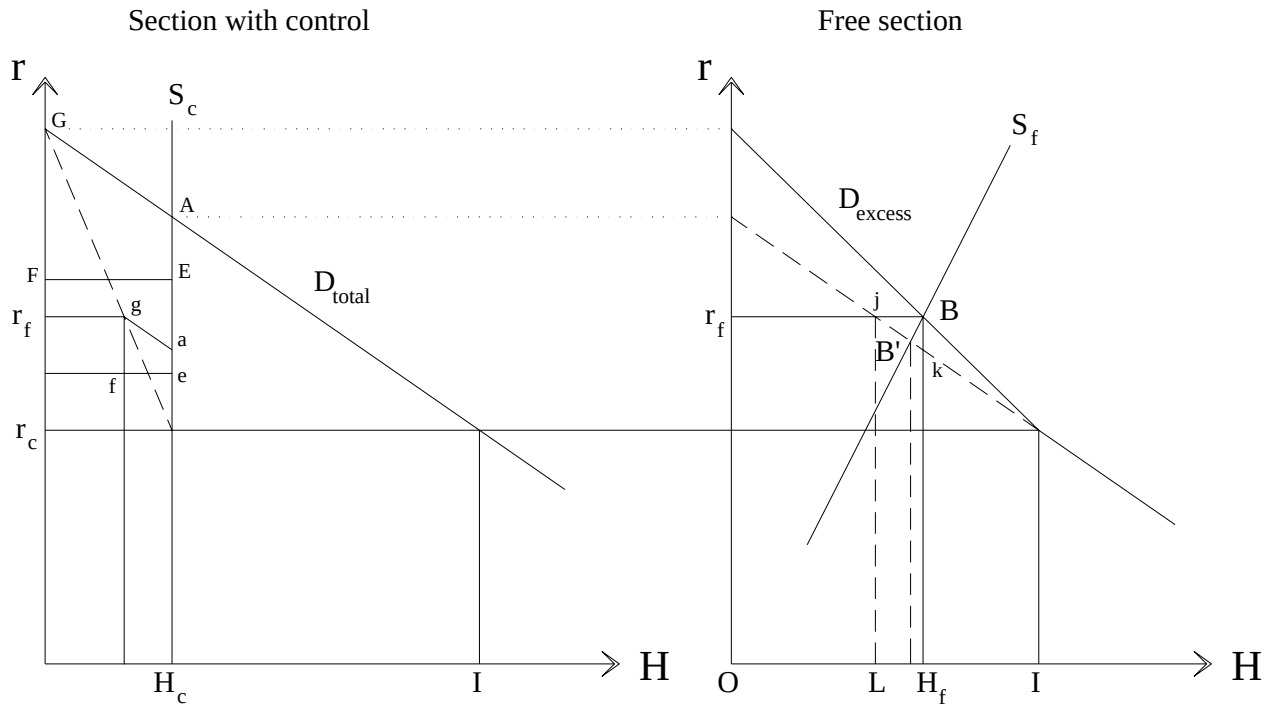
Glaeser and Luttmer (2003) consider a total rent controlled market only, and note that "in the housing context, this may mean that some individuals own, rather than rent, or if there is an uncontrolled section, these individuals rent in that section". They do not, however, consider the possibility of close substitutes in other sections of the market. Figure 1 supplements their analysis by adding a section of the housing market where close substitutes can be found. All other markets, including some housing markets, are assumed to cover non substitutables that can be ignored in the welfare analysis. The figure illustrates a perfectly competitive rental housing market with homogenous housing units where, for expositional simplicity, the market is illustrated in two sections, one with and one without rent control. All distorting elements, like trading costs, taxation,

[1] In the following text, reference is only made to the 2003 article.

[2] See e.g. Yew-Kwang (2004) p. 84.

etc., are ignored. Households are assumed to demand only one housing unit, and diminishing marginal valuation among households explains the negative slope of the total demand curve, which is shown in the rent controlled (left) section of the market. With no income effects assumed, Marshall's consumer surplus is used to demonstrate welfare effects of rent control. Rent control is introduced in a section of the rental market with a supply equal to the amount H_c. The controlled rent is r_c, which is below the market equilibrium r_f, and thus there is a shift of welfare from landlords to tenants who let under control. The excess demand in the controlled section, equal to the horizontal distance H_c–I, is transferred to the uncontrolled or free section as the D_{excess} curve (the distance H_c–I is equal to the distance O–I). The supply curve in the uncontrolled section is the part of total supply that is not subject to control.

Figure 1: Two sections of a perfect competitive housing market



As pointed out by Glaeser and Luttmer (2003), a rationing mechanism, e.g. queuing, lottery, nepotism, etc., will allocate housing in the controlled section in a way such that those households who value housing the most cannot be sure to become tenants in the controlled dwellings[3]. If rent

[3] Fallis and Smith (1984) provide a thorough description of possible allocations and implications of rent control. Here only the random distribution is treated.

controlled units are allocated perfectly randomly, demand satisfied in the controlled section follows the dashed line in the right figure, and the residual or excess demand transferred to the free section is the distance between the dashed and the total demand curve in the controlled section. The excess demand appears as the full drawn demand curve in the free section to the right in the figure. Note that the dashed curve in the free section is the excess demand curve with perfect rationing or with no rent control. The equilibrium in the free section is B with a supply of uncontrolled units equal to H_f and a free rent r_f above the controlled rent r_c.

The figure illustrates additional aspects of welfare effects of rent control along the lines of Glaeser and Luttmer (2003). First, equilibrium in the free section shifts from B' to B because of the introduction of rent control with random allocation. This would not be the case if allocation in the controlled section were generated by free market forces, e.g. if trade among tenants of controlled and uncontrolled units were allowed. The misallocation induces a higher free rent r_f and an increase of the non-controlled supply, as empirically documented by Fallis and Smith (1984) and Marks (1984), and leads to a welfare loss equal to the triangle BkB'. A second observation is that households who value housing above the free rent r_f, but are kept out of the controlled section because of the random allocation, obtain a consumer surplus in the free section and only lose the rent difference r_f minus r_c relative to households in controlled apartments. Hence, among these households there is no overall welfare loss from misallocation, only a random distribution of the welfare gain from the rent difference r_f minus r_c. Those who pay the welfare gain are the landlords who let controlled apartments (or taxpayers if landlords get a subsidy equal to the difference). However, as a third observation we have welfare reducing misallocation of controlled apartments among households who value housing below the free rent r_f, but above the controlled rent r_c. Among this fraction of households misallocation and welfare losses are as explained by Glaeser and Luttmer (2003). As illustrated in the figure, the welfare loss from this misallocation is the area gaef[4], which may be considerably smaller than the area GAEF applied by Glaeser and Luttmer (2003). A corollary from this is that in order to estimate the negative welfare effects from rent

[4] The identification of the area gaef follows the procedure set out by Glaeser and Luttmer (2003): The line through fe shows the average valuation among households in controlled apartments with valuation below r_f and the distance fe is the number of these households. Hence, the area above fe and below the demand curve section ga is the lost welfare area from misallocation.

control in a section of a rental housing market, one should not consider total[5] misallocation, but only misallocation among households who are unable to pay the free rent r_f, but live in controlled units paying the rent r_c. It should, however, be noted that the size of the area gaef depends on the market size or supply of substitutable apartments in the free section. Imagine a vertical short run supply curve at the level H_f through B for uncontrolled apartments. Reduced supply of these will move this supply curve in the free section to the left and the rent r_f will go up. Simultaneously, the area gaef will become larger and finally be equal to the area GAEF when there is no supply of substitutes on the rental market.

The two-section analysis in the figure assumes that existing rent controlled units stay in the market after the introduction of control and that there is an increase in the total rental supply, which is opposite to the normal supply reaction to the introduction of a maximum price in a competitive market. In a housing market, the rise in supply may occur in the short to medium run, which could explain why some myopic politicians favor rent control. Housing capital lasts as long as production costs are covered by rents[6]. Thus, the supply H_c remains in the market for a relatively long period after the introduction of control. However, as documented by Gyourko and Linneman (1990), if profit is negative under control, the supplied housing can be expected to gradually deteriorate until it is ready for demolition. As a consequence, housing in the controlled section may totally vanish in the long run, and the welfare loss becomes severe. On the other hand, if politicians want to keep the controlled section in the market, an option is to subsidize rent controlled housing. If this happens, the long run equilibrium with increased total supply may remain.

A more realistic long run supply curve in the free section may be horizontal[7], e.g. at the rent r_f in the figure. The use of random allocation under rent control will in this case result in a supply increase in the free section equal to the distance L-H_f, and a corresponding welfare loss equal to the triangle jBk. This should be added to the welfare loss from misallocation gaef.

[5] In their empirical study, Glaeser and Luttmer (2003) do not consider substitutes and, as a consequence, measure total misallocation.

[6] The homogeneity assumption for the market formally excludes a short term supply reduction due to lack of maintenance of controlled units.

[7] This requires no scarcity of homogenous building sites.

II Conclusion

Rent control is rarely introduced in the whole rental housing market, but typically leaves some part of the market free and exposed to market forces. Where the degree of substitutability between controlled and uncontrolled units is high, the traditional analysis of maximum price in a single competitive market has some limitations. In a homogenous rental housing market with rent control in one section of the market, the welfare loss from misallocation of controlled apartments should be considered only among households unable to pay the free rent, but able to pay for controlled units. Moreover, the introduction of rent control with misallocation can be expected to lead to a short to medium run welfare loss from increased rental housing supply in the uncontrolled section. In the longer run, rent control can be expected to have severe negative supply effects. If, on the contrary, supply in the controlled section is subsidized, a long run welfare loss from oversupply of housing may remain.

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