Restricting ownership of secondary homes

by

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Abstract

The paper focuses on the effects on public access to nature of restricting private ownership of secondary homes or estates with a fixed supply by use of a simple partial model of the stock and rental market for such homes. It is not surprising, that under realistic assumptions a free market will lead to stock trading of houses implying that the houses will become owned by consumers with the highest income. Within the model of the paper it is furthermore shown that the demand for weeks in the houses will increase so that the price on the rental market goes up and the number of consumers with access to nature is reduced. The welfare effect of restricting ownership of secondary homes may go both ways.

Key Words: Land, Ownership, Secondary Homes, Access to Nature, Political Choice.

JEL: D1, D63, D71, Q 26, R13, R21

1 Introduction

Wildlife and nature seem to have increasing influence on the welfare of human beings, not least in industrialised societies with high GDP per capita. Besides the preservation of a rich wildlife, efforts to secure public access to recreational areas with a rich nature are on the agenda of many political parties and grass root organizations. The present paper focuses on the effects on the access to nature of restricting private ownership of secondary homes or estates. Hence, it is a partial analysis and only a fragment of a much bigger problem involving, among other tings, the balance between accessibility and preservation of the wildlife.

In Europe, enlargement of the European Union implies that new member states have to abolish obstacles to freedom of movement for persons, services and capital inside the enlarged union. In short, citizens of all member states shall be treated as national citizens and thus allowed to buy land in all countries. This often creates fears in applicant countries that the "gems" of their national heritage, i.e. land, nature, and capital, will be sold to "foreigners". Much of this fear has to do with nationalism and symbols, but in the case of nature it may also be feared that local societies in attractive recreational areas will be depopulated because increasing demand for the houses as secondary homes will push up prices and drive out the locals, and turn the societies into ghost cities in the out of the season period, see e. g. the debate in the Swedish parliament on this: Sveriges Riksdag (1999/2000). Buying land in attractive regions of Austria thus requires a permission from local authorities, which does not give this if it against public interest, see the home site of the land Tirol (2002) and Bock (1998). The latest enlargement of the European Union with Austria, Finland, and Sweden included a transitional five-year period for those countries in which they where allowed to maintain their existing regulations, e.g. restrictions on "foreign" ownership of secondary homes. After the expiration of this period none of the three countries insisted on prolongation or permanent derogation. Today, inside the European Union, only Denmark and Åland, a small group of islands between Finland and Sweden, keep derogation implying that only citizens living permanently in the countries are allowed to own secondary homes.

The aim of the present paper is to look closer at the effects of restrictions on ownership of secondary homes. By use of a simple partial model it is demonstrated that restrictions may put a brake on an unwanted development, and that this may benefit the not only local societies but also

the median voter of a nation or a union. There are, however, no arguments for restrictions that follow nation state borders.

The paper is organised as follows: The next section presents the model. Section 3 elaborates on the political choice, and section 4 on various ways to increase public access to nature. Section 5 concludes the paper.

2 The model

In this section a simple partial model of the market for secondary homes and the corresponding renting market is presented. The purpose is to clarify whether or not some politicians' fear about negative regional effects of unrestricted trade of secondary homes can be justified by economic theory. The propositions of the model are of course based on the underlying assumptions. Naturally, the real world deviates from strict model assumptions, but it is hoped that the propositions bear general validity.

Within the model, the supply of nature or recreational areas of the economy is assumed to consist of a fixed number H of identical estates each equipped with one (identical) secondary house. The secondary houses are privately owned with one owner per house. The possibility of shared ownership is ruled out by assumption, but discussed in section 4. Moreover, the houses are so small that only one consumer can be on vacation at a time in the house. To make things a bit more realistic, each consumer might be taken as the representative person of a household. It is also assumed, that the only way to enjoy nature is by occupying a secondary house for some time, so, within the model, other persons are not allowed to access the recreational site in any other way. Possible ways to enlarge the access are discussed in section 4. The time span a consumer can enjoy nature, i. e. occupy a secondary house, is limited from below by a minimum time equal to M weeks per year. Typically, summerhouses are rented in number of weeks with one week being the minimum time for occupation of a house. For owners, occupying their own house, the assumption may seem less realistic; however, whenever owners present the house on the rental market they will be subject to the same constraint. Moreover, with transportation costs involved to reach the house, owners will set a lower time limit for one stay. In the same way it is realistic to impose a time limit of V weeks on the total number of weeks per year each secondary house can be occupied. V may be thought of as the "season" period, but may also be imposed by law or regulation (Denmark being

one case) in countries where there is a need to distinguish between primary and secondary houses. Owners occupy only their own houses and at least the minimum time M weeks. The maximum time a consumer can spend in nature in a year is assumed equal to V so that each owner only owns and occupies one secondary home. Finally, all consumers are identical with respect to the utility function, which is of Cobb-Douglas type:

$$U = W^\alpha C^{1-\alpha}, \quad 0 < \alpha < 1, \quad 0 < M \le W, \quad 0 \le C. \quad (1)$$

Where U is utility, W is weeks per year spend in a secondary home (consumption of nature) and C is consumption per year of other goods. The price of a unit of C is equal to one. The price for W varies between owners and tenants. Renting is assumed to be through an agency on a perfect competitive rental market to the price of r, i.e. the rent tenants pay. The agency takes a fee so that owners only receive σr, where $0 < \sigma < 1$. σr is the opportunity cost for owners when they occupy their own houses. This discount to owners is crucial for the predictions of the model. On the Danish rental market for summerhouses professionals from rental agencies declares that σ is typically 0.6, increasing to 0.7 for very attractive summerhouses. They also indicate that up to twenty percent of total renting is direct between owner and tenant with $\sigma = 1$.

The difference in rent between tenant and owner gives two budget constraints:

$$\text{Tenant:} \qquad Y = C + rW. \qquad (2)$$

$$\text{Owner:} \qquad Y = C + \sigma rW. \qquad (3)$$

Where Y is the yearly income. It is assumed that user costs are equal to the potential rental income so that there is no net income from ownership.

By utility maximization the following two demand functions can be derived:

$$\text{Tenant:} \qquad W = \alpha \frac{Y}{r}, \quad M \le W < V \iff M \frac{r}{\alpha} \le Y < V \frac{r}{\alpha}. \qquad (4)$$

$$\text{or:} \qquad W = V, \qquad V\frac{r}{\alpha} \le Y. \tag{4a}$$

$$\text{Owner:} \qquad W = \alpha\frac{Y}{\sigma r}, \qquad M \le W < V \quad \Leftrightarrow \quad M\frac{\sigma r}{\alpha} \le Y < V\frac{\sigma r}{\alpha}. \tag{5}$$

$$\text{or:} \qquad W = V, \qquad V\frac{\sigma r}{\alpha} \le Y. \tag{5a}$$

The increase of demand for weeks on the income dimension follows from the utility function. Consumer surveys confirm that household outlays on housing and recreation grows with higher income. Let relation (4) and (5) be the general case, which holds for less than full occupation, and reveals that the lower rent (opportunity cost) for the owner has the implication that his demand for time in nature is higher than the demand of a tenant with the same level of income. The assumption that secondary houses are occupied at least the minimum M weeks per year implies that the left hand inequalities of (4) and (5) hold for tenants as well as for owners.

With consumers assumed identical except for a difference of their yearly income, and with α and σ being fixed parameters, the demand of each consumer depends on whether he is a tenant or an owner and on his income Y, see (4) and (5). From (4) and (5) it is clear that an increase in the market rent r reduces demand and so total demand for weeks on the renting market. With H houses, the economy has a fixed supply of weeks in secondary houses equal to VH. r becomes the equilibrating price, which secures equilibrium on the rental market. Finally, it follows from the previous assumptions that the number of owners is equal to the number of houses H.

Besides the rental market there is a stock market for trading of secondary homes, which is assumed to be competitive too. With no transaction costs for house trading, the stock price a consumer will pay for a house is equal to the present value of the yearly utility he gets from ownership. With an equilibrium rent r on the rental market, the yearly utility, or consumer surplus, of an owner CS is

$$CS = \int_{0}^{\alpha \frac{Y}{\sigma r}} \alpha \frac{Y}{W} dW - r\alpha \frac{Y}{r} \Rightarrow \qquad (6)$$

$$CS = \alpha Y \left(\alpha \frac{Y}{\sigma r} - 1 \right). \qquad (7)$$

(6) and (7) assume that the consumer occupies the house less than the maximum time V, i. e. $Y <$ $V\sigma r/\alpha$. If the consumer's income is so high that $V\sigma r/\alpha < Y$, the consumer surplus of the owner becomes

$$CS = (\alpha Y - \sigma r)V \qquad (7a)$$

Note that (7) < (7a) for $V\sigma r/\alpha < Y$. To keep things simple, let the capital market be perfect with an interest rate i, and let secondary houses last forever. The corresponding stock price a consumer is willing to pay for a secondary home is then, either

$$PV(CS) = \frac{\alpha Y}{i} \left(\alpha \frac{Y}{\sigma r} - 1 \right), \qquad (8)$$

or

$$PV(CS) = (\alpha Y - \sigma r)\frac{V}{i} \qquad (8a)$$

respectively, with (8a) used for $V\sigma r/\alpha < Y$. Note, that (7) and (7a) also represent the welfare (per year) a person gets from owning a house.

To see the consequences of unrestricted trading of the houses, let some consumers with lower income own some of the houses before trading starts, and let there be a competitive rental market with many tenants for weeks in secondary houses.

Proposition 1: If house stock trading is unrestricted it will continue until the *H* consumers with the highest income own the secondary houses.

Proof: It follows from (8) and (8a) that the price a consumer will pay for a house increases with his income. Whenever two persons meet on the housing stock market, the person with the highest income will be the buyer. Because the maximum time limit *V* of weeks in a house excludes any welfare increase from ownership of more than one house, no one will buy more than one house, and trading stops when the *H* consumers with the highest income own the houses.

On the competitive housing stock market sellers will cash a windfall gain. However, if the competitive market assumption is relaxed, one might alternatively state that if sellers have information about the demand of buyers they will be able to cash a windfall gain. Moreover, normally trading of houses takes time, so the ownership will only gradually shift away from poorer consumers towards consumers with high income.

Proposition 2: Stock trading of houses increases total demand for weeks and the equilibrium rent on a rental market with many tenants.

Proof: A rigorous proof is not made, but assuming a rental market with many tenants implies that a majority of tenants demand less than *V* weeks at the going rent, and furthermore many owners who present their houses on the rental market demand less than *V* weeks. In short, the assumption of a rental market with many tenants should be interpreted so that (5) dominates over (5a) and can be used to derive the change of total demand for weeks for a given rent *r* when an owner, having income Y^l, sells his house to a consumer with a higher income Y^h. The change of demand for weeks in nature following such a trade is

$$\alpha \frac{1-\sigma}{\sigma r}\left(Y^h - Y^l\right) > 0. \tag{9}$$

From the proof of proposition 1 it is known that owners will sell houses to consumers with higher income so that (9) holds and total demand goes up for *r* given. With a fixed supply of weeks equal

to *VH*, the increase of demand for weeks from house stock trading is neutralised by an equilibrating rise of the rent *r* on the rental market. Note that if owners and tenants have the same rent, e. g. if renting is direct between owners and tenants, i.e. $\sigma = 1$, (9) is zero and house stock trading will have no effect on the equilibrium rent on the rental market. The assumption $\sigma < 1$ is thus important for the proposition.

Where proposition 2 does not hold: The effect on total demand for weeks of a shift of ownership consists of two elements, an increased demand from the buyer who gets a smaller rent, and a reduced demand from the seller who gets a higher rent. The first element will dominate because the buyer has the highest income. However, if the buyer has an income so that (4a) holds and he demands the maximum weeks *V* both as tenant and as owner, the first element from trade will disappear and the last dominate so that total demand falls. To understand this, note that because owners occupy the houses at least *M* weeks, the buyer, who is a tenant, must occupy more than one house before he becomes owner. When he becomes an owner, he will only occupy one house even though his rent has decreased, and at the same time the former owners demand will fall, hence total demand falls. A fall of total demand could also be the case if (5a), but not (4a), holds for the buyer. However, the rental market will be very thin with few tenants in both cases.

Based on proposition 1 and 2 one further proposition can be derived. Let the distribution of consumers according to their income follow a continuous density function where *f(Y)* is the density of consumers at the income level *Y*, and

$$\int_{Y_{min}}^{Y_{max}} f(Y)dY = 1, \tag{10}$$

Y_{max} and Y_{min} are the highest and lowest income, respectively, of individual consumers. The continuity is an approximation with a fixed number *N* of consumers in the economy. However, it is acceptable if *N* is big. Further, define the cumulative distribution function from above as

$$I(Y) = \int_{Y}^{Y_{max}} f(Y)dY. \tag{11}$$

Where $\partial I/\partial Y < 0$ so that an increase of Y reduces the fraction of consumers with an income equal to or above Y out of the total number of consumers N. The total number of consumers with $Y \geq Y_0$ is thus $NI(Y_0)$, which is decreasing in Y_0.

Before trading of houses takes place, the market equilibrium rent is r^0, and, as earlier stated, it is assumed that some persons with lower income own some of the houses, and that a rental market with many tenants exists. The consumers who have access to nature are thus the H owners and the tenants. From (4) it is known that tenants must have an income equal to or higher than Mr^0/α in order to occupy a house at least the minimum time M. Hence, the number of tenants is at least $NI(Mr^0/\alpha)$ minus H.

After house stock trading has ended, following proposition two, the rent has increased to $r^1 > r^0$, and, following proposition one, the H consumers with the highest income are owners. The number of tenants is thus $NI(Mr^1/\alpha)$ minus H. This leads to the third proposition.

Proposition 3: Free trade reduces the number of consumers with access to nature.

Proof: Free stock trading of houses does not change the number of owners, which remains equal to H. Thus, the change of the number of consumers with access to nature follows the change of the number of tenants on the rental market. To be on this market a consumer must have an income equal to or above Mr^0/α before, and equal to or above Mr^1/α after the stock trading of houses. According to proposition two, the rent has increased so that $r^1 > r^0$, Because $NI(Y)$ is a decreasing function in Y it is clear that

$$M\frac{r^0}{\alpha} < M\frac{\sigma r^1}{\alpha} \quad \Rightarrow \quad NI(M\frac{\sigma r^1}{\alpha}) < NI(M\frac{r^0}{\alpha}). \tag{12}$$

This proves that the number of tenants has been reduced after stock trading of houses has taken place and the rent has increased. Hence, the total number of persons who have access to nature has been reduced. In fact, the number of tenants might decrease more than the difference between $NI(Mr^0/\alpha)$ and $NI(Mr^1/\alpha)$ because the number of owners with income higher than Mr^1/α may have increased under stock trading of the houses.

Figure 1 illustrates the situation before and after stock trading of secondary houses has taken place and clarifies the argument. Imagine, that the consumers of the economy are lined up along the figure's arrows according to their income from Y_{min} (the beginning from left, which is not shown) to Y_{max}.

At the outset, before stock trading of houses, the H owners are distributed in an unspecified manner over the interval from $M\sigma r^0/\alpha$ to Y_{max}, while tenants are the consumers with income equal to and above Mr^0/α except those consumers in this interval who are owners. It follows that the number of tenants is bigger than or equal to the number of consumers to the right of Mr^0/α minus H.

Figure 1: Before and after house trading
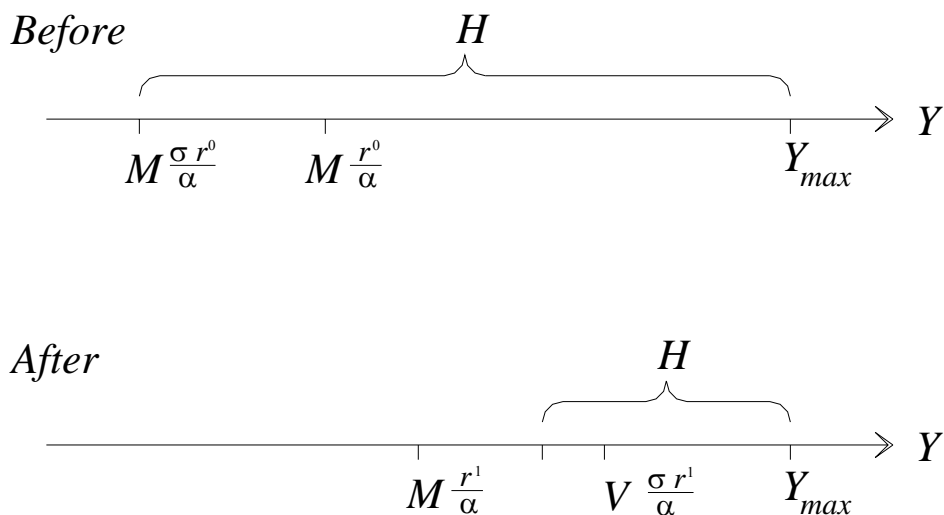
As stated by proposition 1, an unrestricted stock trading of houses changes the ownership in a way so that after trade has stopped, the H owners are the consumers with the highest income, i. e. the first H consumers counted leftwards from Y_{max}. From proposition 2 it is further known that stock trading of houses raises the rent to $r^1 > r^0$, and this increases the minimum income of tenants on the rental market to Mr^1/α. Hence, the number of tenants on the rental market will be reduced to consumers with an income equal to or above Mr^1/α minus H. This is clearly less than the number

before and so, with an unchanged number of owners, the number of consumers with access to nature has been reduced.

Figure 1 illustrates a situation after housing trade has stopped with a still existing rental market. As illustrated, the poorest owner has an income below $V\sigma r^1/\alpha$ so that he only occupies his secondary house part of the maximum time V, leaving the rest for the rental market. However, fewer secondary homes, i. e. more scarcity of nature, and/or more rich owners might concentrate H over a smaller interval from Y_{max} and "downwards" to the left on the arrow, so that all owners will occupy their houses the maximum time V. In this case the rental market will disappear as a consequence of the free stock trading of houses.

3 The political choice

Whether or not restrictions that only allows ownership of secondary homes for consumers living permanently in or close to a recreational area can secure more access to nature and activity in the area depends on the income level of the consumers in that region - or more precisely the relative level and density of the top segment of incomes in the region, and the scarcity of the summerhouses. If the consumers' incomes are very high in the attractive region there is little to gain from this kind of restriction in terms of more consumers having access to nature or more activity in the area. In general, restricting ownership of secondary homes to follow nation state borders will only by coincidence produce the wanted result, except for the effect from lower distance between owners and the houses, which may increase the actual presence of owners in their houses and so (slightly) improve the level of activity.

In section 2 above, equations (7) to (8a), show the welfare that owners get from ownership of secondary houses. It follows that if a consumer sells his secondary house to a buyer with a higher income, total welfare of the trading partners increases. In effect, if trade is free this is why every single trade takes place and this is, no doubt, the main argument behind economists' traditional appraisal of unrestricted trade. On the other hand, the welfare loss of all the tenants suffering from an increasing market rent, which gives them a clear loss of welfare, has to be taken into account. In fact, some of the former tenants will be pushed completely out of the market; see Figure 1. However, the increased demand that raises the rent comes from rich new owners getting a welfare gain because they do not have to pay an agency for their own – intense - use of the house. In the

framework of the model of section 2 this gain is higher than the tenants' loss and hence they push tenants out of the market. Also in the real world will some tenants, no doubt, be pushed out of the market as described, but the statement that they suffer a smaller welfare loss than the gain of new owners depends on the use of the same utility function for all consumers. Using this makes interpersonal comparison of utility possible. However, it is impossible to say that the tenants' loss of welfare is less than the owners' gain without interpersonal utility comparison. Hence, in general one cannot say whether or not unrestricted trade maximises welfare. Moreover, even in case all consumers share the same utility function a loss of total welfare cannot be excluded. In example, this will happen if the group of welfare loosing consumers were able to establish shared ownership without costs and overbid one of the new owners. Shared ownership is treated in the following section.

The political choice of restricting ownership of secondary homes may be guided by different views on the most important aspects. Three ways of choosing can be mentioned.

Firstly, the decision of politicians may be influenced by the "environmental wave" so that they seek to maximize the number of consumers that get access to nature. In the framework of the model above this would lead to a restriction of ownership of secondary homes where only poor consumers are allowed as owners. Such an ownership restriction would be a severe interference on the free market and would furthermore involve unequal treatment of consumers. A restriction of ownership to consumers living permanently in the region may have much of the wanted effect if it is a low-income region, and be more acceptable.

Secondly, politicians guided by a strong commitment to an unrestricted market economy will tend to avoid any restriction on ownership and let market forces decide the outcome. A development as described by propositions 1 to 3 might follow in this case.

Finally, politicians may be guided by the position of the median voter. If, again, the above model is taken as the framework, many consumers are neither (potential) owners nor tenants and thus unaffected by possible restrictions on the ownership of secondary homes. It seems reasonable to assume that these consumers do not vote at all or, alternatively, that they vote equally pro and con any proposal on ownership restriction. Among the rest of the consumers is H that are actual owners,

and up to H potential new owners. These stock traders of secondary homes will gain from trade and thus the maximum number of voters (households) in favour of unrestricted ownership is $2H$[1]. Consumers in favour of some kind of restriction of ownership to avoid or reduce trade of secondary homes from poor to rich owners will be the tenants, i.e. consumers with an income above Mr^0/α except those that will gain from stock trading of houses (up to $2H$ consumers). To put some round numbers on this, official statistics on Danish summerhouses show a total of 198,860 houses in year 2000. With rounded figures this give $2H = 400,000$ consumers (or households) that would vote in favour of no restrictions. The reported number of rented nights in summerhouses in year 2000 was 15,551,000 equal to 2,215,857 weeks. However, this figure covers only reporting from bigger agencies, no statistics for smaller agencies and direct renting between owners and tenants exists. Professionals in the market estimate that up to 20 per cent of the rental market is direct between the owner and the tenant. With smaller agencies included a 30 per cent increase of the 2,215,857 to round 2,880,000 weeks may be a realistic guess. Moreover, official statistics show an average renting period of 1.4 weeks per contract so that approximately 2,057,000 contracts have been signed, with an average number of 4.5 persons per contract. The average size of Danish households was 2.2 persons in year 2000; however, households that rent summerhouses are probably bigger. If each contract covers 1.5 households, the total number of tenant households in year 2000 is finally around 3,086,000 (Danish households totalled 2,434,000 in 2000). This is a much bigger number than the 400,000 households that will gain from unrestricted trade. Moreover, if part of the tenants (households) of year 2000 does not rent the house in subsequent years, but are replaced with new tenants, the total number of households involved as tenants on the rental market might grow considerably.

At a first glance, it thus seems without doubt that politicians guided by the median voter will favour some kind of restriction of ownership to protect the welfare of tenants. The final outcome depends, however, on the number of tenants and owners respectively that are allowed to vote. Typically, many, and in the Danish case 80 per cent of, tenants are "foreigners" without voting rights, and this may (in the Danish case it does not) tip the balance in favour of owners and hence unrestricted stock trading of secondary homes. Another factor that might influence the position of the median voter is that some of the above-specified abstainers might vote in favour of restrictions because restrictions give them an option on cheaper access to nature, should their income change to the better in the

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[1] With full information on a perfect competitive market no intermediate stock trading of houses will take place on the

future. This gives an addition to the number of voters in favour of restrictions on trading of secondary homes. In conclusion, the presented model does not give a final answer on the position of the median voter and does not cover all factors that may influence his position. Moreover, the definition of the constituency of a referendum might influence the position of the median voter.

4 Ways to increase public access to nature

In the restrictive frame of the model presented in section 2, only consumers that occupy a secondary home get access to nature, and the number of homes is fixed. This section presents alternative ways to expand public access to nature.

One way to enlarge access is to allow the public to settle down on privately owned estates. This is the case in Sweden, Norway, and Finland where the so called Everyman's Right (Allemansrätten) states that everybody is allowed to settle down on others property for a shorter stay, picking berries, fishing, bathing, tenting, and enjoying the nature. There are some limitations on the right, which aims to protect the nature against abuse and to give some privacy to the owner, but in principle Everyman's Right secures free public access to nature under private ownership. Everyman's Right is a special feature of the Nordic countries and has to do with traditions and the low population density of the countries. This becomes clear when one looks at Denmark, which has a population density five to ten times higher than the other Scandinavian countries. Here Everyman's Right is reduced to the accessible costal line of the country and the right is only for shorter stays and bathing and not for tenting. In more sparsely populated countries where private ownership of nature is still limited, plain prohibition of private ownership may be applied. This is the case in Costa Rica, which, since 1977, has a public owned zone covering a 50-meter broad strip of land along the coastline, and a restricted zone covering the next 150 meter towards the inland. Private ownership is prohibited in the restricted zone and leasing is only open to Costa-Ricans, see Costa Rica Information Network (2002). Also Mexico has a restricted costal zone within no less than 50 kilometres of any Mexican coastline. In 1973, a constitutional amendment known as the Foreign Investment Law allowed foreigners to purchase property anywhere in Mexico, except in the restricted zone. However, from 1997 non-Mexicans has been able to purchase land in the restricted zone under a Mexican bank trust of 50 years, renewable for another 50 years.

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way to the final allocation of the secondary homes.

Shared ownership or timeshare arrangements may also increase public access to nature. In fact, if it is costless, the propositions of the model collapse. However, such arrangements involve costs. Besides various administrative costs connected to shared ownership, potential owners must take into account the costs of possible owner disagreement about the standard of maintenance, the level of equipment, possible changes of the interior and exterior of the home, disagreement about the use of own or external labour for maintenance etc. It is difficult to find reliable statistics on timeshare, but the British Timeshare Consumers Association estimates (October 2000) the total number of resorts in the world to be 4700 with 3.75 million owners. 1.9 million of these are living in the USA and 1.14 million are Europeans. To this can be added, that the percentage increase in timeshare ownership in Europe has been steadily falling since 1990, coming close to a halt in 2000. Many people obviously do not like to have their decision power on the treatment of "their premises" restricted by consensus ruling with "foreign" people, and consider this a serious cost.

Under private ownership of nature, building houses with several apartments and/or hotels can expand public access by increasing the supply of weeks for renting. In this case the (long run) perfect market equilibrium will give "unlimited" access to nature guided by demand and supply similar to any perfect competitive market. The propositions of the model will be invalidated to the extent that this happens. However, the public opinion may be opposed to big houses and sky-scraping hotel buildings that in their opinion destroy the landscape. This is the case in Denmark where it is found that the natural and beautiful coastline will be broken by tall buildings. Finally, hotel building will increase the human pressure on the nature and wildlife, and this may tip the balance and lead to a reduction of the total welfare to be harvested from nature. Restricted private ownership might come closer to the optimal balance.

Finally, as owners, contrary to tenants, may occupy their houses without actually being present on the site, unrestricted stock trading of houses might involve a risk that some recreational areas become sparsely populated in long periods of the year. This is the fear of some politicians who fear so-called ghost cities. Such a development not only reduces the number of consumers having access to nature but might also contribute to an unwanted depopulation of the region because less manpower is needed to take care of tourist (tenants).

5 Conclusions

Often, when goods are in scarce supply, e.g. paintings by famous artists, objects of historical interest, tickets for extraordinary games, etc., the question of distribution and possible way to enlarge public access arises. Around the world there are regions where nature is a scarce good, and where for specific reasons public access cannot be increased by public expropriation, allowing public trespassing of private property, or by erecting buildings for hotels or timeshare in order to increase public access. In such cases restricting ownership of secondary homes may be considered. By use of a simple partial model of the stock and rental market for secondary homes in limited supply the present paper shows that a free and unrestricted market will lead to stock trading of the houses with the implication that the houses will gradually become owned by the consumers with the highest income, leading to an increases of the demand for weeks in the houses, a rise in the price on the rental market, and, most likely, a reduction of the number of consumers with access to nature. Depending on the income distribution of consumers, restricting ownership to a low-income group may increase public access and give a higher welfare than no restriction.

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