Citizenship for Sale: A Dilemma of Rights*

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Abstract

Motivated by the commercialization of citizenship rights in the European Union, we study the market for citizenship in a confederation or union of countries if the countries have full sovereignty over the right to grant national citizenship, and if this national citizenship endows members with benefits and citizenship rights of the confederation. We characterize the unique equilibrium and evaluate it from a welfare point of view. We identify country size and local and federal benefits as well as differences in local and union-wide cost externalities as the key determinants. We also consider how the union as a whole can respond to the efficiency problems such a market creates.

Keywords: citizenship-for-sale, commercialization of citizenship, European Union, Malta
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1 Introduction: The EU Citizenship Market

In an economic union consisting of two or more countries, the sovereign right of any one country to grant citizenship to an applicant who is a national of a country outside the union is a significant property right which can become

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the basis for a market. This appears to have happened in the European Union, where several countries sell citizenship, or close substitutes for it, to anyone prepared to pay the price. Given the right of free movement of people within the EU, this is in effect a nascent market for EU citizenship, and has attracted considerable attention both among academics and in the media.

The development of a market in citizenship, and the dilemma stemming from this tension between the sovereign rights of nation states and of the EU governance level in respect of citizenship, is an empirically relevant matter. Goulder (2018) suggests that among the roughly 20 nations that offer variants of Citizenship by Investment or Residence by Investment opportunities there are several member countries of the EU, among them Bulgaria, Malta, Cyprus, and Austria.

The internet source premieroffshore lists the "10 Best Second Passports and Citizenship by Investment Programs For 2016",\(^1\) The various programs differ both in what they offer and in what is required from investors. Apart from direct cash fees, they may give a menu of investment options. Malta for example offers immediate citizenship for a payment of around 1.5 mn. euros, including fees. There is apparently a cap of 1,800 passports a year, agreed with the European Commission (EC), and applicants are expected to spend a "reasonable amount of time" in Malta.\(^2\) Similarly, Cyprus has a program that covers the "investor" together with his family (including dependants up to age 28). The price of citizenship is higher in Austria. The Austrian program, as well as offering EU citizenship rights, offers visa-free travel to 171 countries. Applicants qualify either by making a "donation", which we interpret as a simple cash payment, of 2-4 mn. euros, or by investing around\(^3\) 10 mn. euros in an approved business which should employ a "significant number of people" and generate taxable income. Further "fees" could total around US$500,000.\(^4\) Several other countries such as Bulgaria, Greece, Hungary and Portugal may not offer citizenship directly, but rather award permanent residency with an option to acquire citizenship after a few years. Greece, for instance, started in 2013 to offer a "golden visa" that allows for free travel inside the Schengen area as a benefit to foreigners who invest at least 250,000

\(^3\)Prices are usually quoted in US$ and so the euro sums cited here are approximate.
euros in Greek real estate (Christides, 2018). According to this source this led to more than 8,000 such visas. The UK also had a golden-visa program, and there was a recent debate about its possible suspension.

Shachar and Bauböck (2014) brings together a number of papers from a multiplicity of disciplines which discuss the philosophically-oriented normative question "Should Citizenship be for Sale?". In this wide-ranging volume, Ayelet Shachar reflects upon the relationship between citizenship and wealth. She surveys several of the regimes by which Cyprus, Portugal, Spain and Malta offer either a residence permit or actual citizenship to high-networth applicants in what she calls "unfettered cash-for-passport exchanges", arguing critically that citizenship for sale may change important moral, social and cultural aspects of the very nature of citizenship. David Owen in the same volume goes even further and compares the "commodification of citizenship" to the selling of honours.

Another contributor to the 2014 volume, Peter Spiro, spells out this aspect more explicitly: citizenship in one of its member states opens "a backdoor to the rest of Europe". He emphasizes that national citizenship remains within the exclusive competence of the member countries. Raul Magni Berton in the same volume agrees that this allocation of competence is debatable and invites free-riding of some countries on the efforts of others.

Maas (2016 p. 544) observes a contradiction between national sovereignty over its own citizenship on the one hand, and citizenship of a member state as being the only way to become an EU citizen on the other. He also takes up the argument according to which citizenship in a member country of the EU

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5 Residence-or-citizenship-by-investment schemes not only open access to European citizenship rights, but might also serve the purpose of income tax sheltering. A recent report by the OECD presents a shortlist that is distilled from a survey on more than 100 such schemes. This shortlist has a strong overlap with the OECD former blacklist that is sometimes used as an identifier for tax haven countries and contains mostly non-European countries, but Malta is also on this shortlist. See, for the OECD study and the full shortlist http://www.oecd.org/tax/automatic-exchange/crs-implementation-and-assistance/residence-citizenship-by-investment/ (accessed October 18, 2018, 11:50 CET).


7 From an ethical viewpoint one might also contrast the market for citizenship with the issue of the acceptance of refugees, asylum seekers and illegal immigrants. Is it the case that the only thing that differs is the price? We would argue that our analytical "club of clubs" framework here can be extended to discuss this case also, but leave this for future work.
provides access to a different type of good: "... functional needs driven by free movement of individuals are coupled with the growing realisation that EU citizenship creates a new political sphere that is 'above' that of the member states and whose subjects, EU citizens, have rights and a status that similarly transcends the member states." Carrera (2014, p. 426), analysing what he refers to as the "Maltese Citizenship-for-Sale Affair", concludes by posing the question: "Can EU Member States' actions on the acquisition and loss of nationality still be freely practised without any EU supervision and accountability?" He claims that: "Contrary to preliminary assumptions, the Commission and the European Parliament have successfully claimed co-ownership over citizenship matters, especially when domestic regulations have an impact over supranational citizenship, individual freedoms and the EU general principle of sincere cooperation."

The underlying problem is that there is a fundamental dilemma presented by the simultaneous existence of the two "basic rights": the right of free movement of citizens of member countries within the union; and the sovereign right of individual countries to grant citizenship on criteria of their own choosing. The EU can be regarded as a club of clubs, or "metaclub", with the property that membership of any one club automatically entitles one to membership of them all. The formal analysis in this paper, initially based on the economic theory of clubs, can be seen as an endorsement of Carrera's argument for co-ownership at the layer of European governance. The ethical issue of making citizenship a commodity is not, as such, our main concern, since, as we learn from other clubs and associations, membership fees and strong and stable citizenship ties need not be mutually exclusive. We focus rather on the externalities that emerge inside a union of clubs if these, by selling their own membership, sell entry to the union as well. In contrast to the ethical discussion of the negative side effects of the commodification of citizenship, this paper is the first to provide an economic analysis of what that implies in the context of a union of countries.

The dilemma clash of rights creates can only be resolved by economic models that increase the transparency and awareness of the issues involved. This should then lead ultimately to explicit agreements on the levels of sales that individual countries may undertake. We draw on economic theory to suggest possible forms that these agreements could take, and to that extent our analysis is also normative. We describe the unique Nash equilibrium that exists if all countries independently choose the price of citizenships they want to sell and offer them to anyone prepared to pay this price. We identify
an externality that implies that too many passports are sold from the point of view of the union as a whole, and we rationalise why the small countries among the members of the union are particularly likely to engage in this business. We then go on to analyse the "back door" problem identified by Spiro, and draw on the classic Edgeworth/Bertrand model of oligopoly\(^8\) to suggest how it can be solved.

2 Equilibrium Pricing

We consider an economic union that consists of two countries. The aim of the analysis is to clarify and characterise what is likely to be the equilibrium outcome when individual countries alone are free to offer citizenship and to choose the price they charge for this. The focus of the model is to clarify the determinants of price, and in particular the role that a country’s own size in comparison to the size of other countries plays in this.

Suppose the union consists initially of a total number of indigenous citizens, \(n = n_1 + n_2\), where \(n_i\) is the number of citizens in country \(i\) and \(n_1 \leq n_2\). The two countries simultaneously and independently choose the prices \(p_1\) and \(p_2\). At these prices they offer unlimited amounts of golden passports. Denote by \(z_i\) the number of passports purchased from country \(i\) and \(z = z_1 + z_2\). Purchase of the golden passport of country \(i\) admits the buyers as new citizens into this country. Thereby they become new citizens in the union as well.

The benefit to an individual indigenous citizen of country \(i\) is

\[
\pi_i = h_i - (n_i + z_i)\eta_i + g - (n + z)c + \frac{p_i z_i}{n_i}. \tag{1}
\]

Here \(h_i\) is the local-public-good benefit enjoyed by each citizen of country \(i\), arising for example from the provision of public goods, health care and so on, \(g\) is analogously the additional benefit of being a citizen of the union,\(^9\) \(\eta_i\) is a social cost externality\(^10\) in country \(i\), \(c\) a corresponding social cost to each citizen of the union.

\(^8\)As brought up to date by Levitan and Shubik (1972) and Kreps and Scheinkman (1983), among others.

\(^9\)So that \(h_i\) could be thought of as a "local" public good, and \(g\) as a union-wide public good.

\(^10\)In the economics literature this is often referred to as a "congestion cost", but could of course take many forms, including objections to immigrants on ethnic or religious grounds.
In this formulation, the term $p_i z_i / n_i$ is the revenue $p_i z_i$ from selling golden passports shared equally among the initial population of country $i$. The term $(n_i + z_i) \eta_i$ assumes that all buyers of citizenship in country $i$ remain there, while on grounds of generality the model allows that both countries may be simultaneously selling citizenship. We consider the consequences of relaxing these assumptions below.

Consider the demand for golden passports. If new passport holders enjoy the local amenities of the country they enter plus the global amenities of joining the union as well, then the price a would-be citizen is willing to pay for citizenship in a given country $i$ rather than not purchasing a citizenship in any country in the union is defined to be:

$$w_i(z_1, z_2) = h_i - (n_i + z_i) \eta_i + g - (n + z) c = \pi_i - \frac{p_i z_i}{n_i}.$$  

(2)

Let there be an infinitely large group of individuals who are interested in purchasing a golden passport who all have the same reservation price defined by (2). Turnover for golden passports of country $i$ is determined by the solution of the equations

$$w_i(z_{-i}, z_i) = h_i - (n_i + z_i) \eta_i + g - (n + z_i + z_{-i}) c = p_i$$

(3)

for $i = 1, 2$, which can be solved for

$$z_i(p_i; z_{-i}) = \max \left\{ \frac{h_i - n_i \eta_i + g - (n + z_{-i}) c}{\eta_i + c} - \frac{p_i}{\eta_i + c}, 0 \right\}.$$  

(4)

Note that $z_{-i}$ is an anticipated equilibrium value that depends on $p_1$ and $p_2$.

**Proposition 1** Any given $p = (p_1, p_2)$ determines unique numbers of golden passports sold in the two countries.

**Proof.** Recall the indifference condition

$$h_i - (n_i + z_i) \eta_i + g - (n + z) c = p_i$$

$^{11}$Where these revenues flow into the public purse this is a reasonable simplifying assumption. As we saw in the examples given in the Introduction however, some countries require purchases of housing or investments that create jobs and so some of the benefits flowing from these may have a more localised or personalised incidence. Taking this into account however is unlikely to make a significant difference to the conclusions of our analysis, though it could well matter in a political economy context.
that determines demand for golden passports of country $i$ as a function of $z$ as

$$z_i(p_i; z) = \max \left\{ \frac{h_i - n_i \eta_i + g - (n + z)c}{\eta_i} - \frac{p_i}{\eta_i}, 0 \right\}.$$  

Summing up yields $\sum_{i=1}^{2} z_i(p_i; z) = z$ and

$$z = \sum_{i=1}^{2} \max \left\{ \frac{h_i - n_i \eta_i + g - (n + z)c}{\eta_i} - \frac{p_i}{\eta_i}, 0 \right\}. \quad (5)$$

Note that the left-hand side is the identity function and strictly increasing in $z$. The right-hand side is a decreasing function in $z$. Accordingly, for given $p$ the function has a unique solution for $z$. But once $z$ is inserted in each country’s demand function $z_i(p_i; z)$ this also determines unique equilibrium demands for $z_i$ in each country $i$.

This result describes the market equilibrium that emerges as a subgame for all possible pricing choices made by countries 1 and 2. If we assume that $z_i \geq 0$, the condition

$$p_1 = h_1 - (n_1 + z_1) \eta_1 + g - (n + z_1 + z_2)c$$  \quad (6)

yields

$$z_1 = \left( \frac{h_1 - n_1 \eta_1 + g - cn - cz_2}{\eta_1 + c} - \frac{p_1}{\eta_1 + c} \right). \quad (7)$$

Inserting $z_1$ from (7) into

$$p_2 = h_2 - (n_2 + z_2) \eta_2 + g - (n + z_1 + z_2)c$$  \quad (8)

and sorting terms yields

$$z_2(p_1, p_2) = \frac{h_2 \eta_1 + h_2 c - n_2 \eta_2 \eta_1 - n_2 \eta_2 c + g \eta_1 - cn \eta_1 - ch_1 + cn_1 \eta_1}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} - \frac{\eta_1 + c}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} p_2 + \frac{c}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} p_1. \quad (9)$$

Analogously,
\[ z_1(p_1, p_2) = \frac{h_1 \eta_2 + h_1 c - n_1 \eta_1 \eta_2 - n_1 \eta_1 c + g \eta_2 - c n_2 \eta_2 - c h_2 + c n_2 \eta_2}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} \]

These two equations show that the number of golden passports acquired in country \( i \) is smaller if the country charges a higher price, and larger if the other country charges a higher price. The latter is an externality: if country 2 chooses a higher \( p_2 \) this discourages some customers of country 2 from purchasing a golden passport from this country. This leads to less congestion of the union-wide good and makes the purchase of a golden passport for customers of country 1 more attractive. Moreover, the equilibrium demands for given prices \( p_1 \) and \( p_2 \) depend on the primitives of the model. In particular, the numbers of initial citizens of the countries enter negatively. It follows from (9) and (10) that

\[ \frac{\partial z_1}{\partial n_1} = \frac{\partial z_2}{\partial n_2} = -\frac{\eta_2 \eta_1 + \eta_1 c + \eta_2 c}{\eta_2 \eta_1 + \eta_1 c + \eta_2 c} = -1. \]  

Turn now to the equilibrium choices of \( p_1 \) and \( p_2 \). Country 1 maximizes

\[ \pi_1 = h_1 - (n_1 + z_1) \eta_1 + g - (n + z_1 + z_2) c + \frac{p_1 z_1}{n_1}. \]  

The first-order condition for a maximum of \( \pi_1 \) is

\[ \frac{\partial \pi_1}{\partial p_1} = \left( \frac{p_1}{n_1} - \eta_1 - c \right) \frac{\partial z_1}{\partial p_1} - c \frac{\partial z_2}{\partial p_1} + \frac{z_1}{n_1} = 0. \]  

Using \( z_1(p_1, p_2) \) and \( z_2(p_1, p_2) \) as in (9) and (10) yields

\[ p_1 = \frac{1}{2} \frac{h_1 \eta_2 + c h_1 + g \eta_2 - h_2 c}{\eta_2 + c} + \frac{1}{2} \frac{p_2 c}{\eta_2 + c}. \]  

and analogously

\[ p_2 = \frac{1}{2} \frac{h_2 \eta_1 + c h_2 + g \eta_1 - h_1 c}{\eta_1 + c} + \frac{1}{2} \frac{p_1 c}{\eta_1 + c}. \]  

These are the optimal reply functions of countries 1 and 2 if we focus on interior solutions. These functions have an abscissa that is positive if

\[ h_2 \eta_1 + g \eta_1 + c (h_2 - h_1) > 0 \]
\[ h_1 \eta_2 + g \eta_2 + c (h_1 - h_2) > 0 \]
which we assume to hold in what follows, and a constant positive slope that is smaller than one. This ensures that the optimal reply functions intersect once and only once for positive $p_1$ and $p_2$, and this intersection characterizes the pricing equilibrium. Solving for this equilibrium yields:

**Proposition 2** If (A1) holds the equilibrium is interior and the equilibrium prices of the two countries can be written as

\[
p_1 = \frac{2(h_1 \eta_1 + c h_1 + g \eta_2 - h_2 c)(c + \eta_1) + (h_2 \eta_1 + c h_2 + g \eta_1 - h_1 c)c}{4 \eta_2 c + 4 \eta_2 \eta_1 + 4 \eta_1 c + 3c^2} \quad (17)
\]

and

\[
p_2 = \frac{2(h_2 \eta_1 + c h_2 + g \eta_1 - h_1 c)(c + \eta_2) + (h_1 \eta_2 + c h_1 + g \eta_2 - h_2 c)c}{4 \eta_2 c + 4 \eta_2 \eta_1 + 4 \eta_1 c + 3c^2}. \quad (18)
\]

The equilibrium has some interesting properties. First, the sizes of the initial populations do not affect the equilibrium prices. Of course, they play a role for the number of passport purchases, as these occur only up to the break-even point at which the price of the golden passport is equal to the benefit of its acquisition and this benefit is smaller in country $i$ if $n_i$ and $n$ are larger. Hence, a country that is already quite congested will, for given prices $(p_1, p_2)$, sell fewer passports. What matters for pricing are the marginal congestion costs $\eta_1$ and $\eta_2$ and $c$ as well as the genuine per-capita benefits $h_1$ and $h_2$ of the local public goods and $g$, the per-capita gross benefit of the union-wide public good. This can be illustrated by two examples which we state as corollaries:

**Corollary 3** Let $h_1 = h_2 = h$, but $\eta_1 > \eta_2$. Then $p_2 - p_1 > 0$.

**Proof.** From the equilibrium values of $p_1$ and $p_2$ we obtain that

\[
p_2 - p_1 > 0 \text{ if } (2h + 2g)(\eta_1^2 - \eta_2^2) + (h + g)(\eta_1 - \eta_2)c > 0. \quad (19)
\]

This is the case for $\eta_1 > \eta_2$. ■

We might interpret $\eta_i$ as a measure of country $i$’s size. Small countries congest faster, such that $\eta_1 > \eta_2$ relates to this case. Another dimension that is interesting to address is the size of the gross benefit of the local public good. We find:
Corollary 4 Let $\eta_1 = \eta_2$, but $h_2 > h_1$. Then in an interior equilibrium $p_2 - p_1 > 0$.

Proof. Note that by the characterization of the equilibrium prices, $p_2 - p_1 > 0$ if

$$-(-5h_2\eta c - 2h_2\eta^2 - 2h_2c^2 + 2c^2 h_1 + 5ch_1\eta + 2h_1\eta^2) > 0$$

or, equivalently,

$$5\eta c(h_2 - h_1) + 2\eta^2(h_2 - h_1) + 2c^2(h_2 - h_1) > 0. \quad (20)$$

A necessary and sufficient condition for this inequality to hold is $h_2 - h_1 > 0$.

This result can also be interpreted as country 1 being the smaller of the two countries: membership in this country is, given everything else equal, less attractive. Both corollaries give the characterization of the pricing equilibrium a meaning that suggests that ‘smaller’ countries should charge lower prices for issuing golden passports. This prediction of the model seems to fit well with the anecdotal evidence, according to which it is the smaller countries that make low-price offers for golden passports.

3 Optimal Collective Pricing

One might compare the competitive pricing equilibrium with the optimal golden passport policy if the whole union (of two countries) sells these passports in a way that maximizes their joint welfare. In this case the objective function is

$$\Pi = n_1\pi_1 + n_2\pi_2. \quad (21)$$

Maximization of this function with respect to $p_1$ yields the first-order condition

$$\frac{\partial \Pi}{\partial p_1} = n_1 \frac{\partial \pi_1}{\partial p_1} + n_2 \frac{\partial \pi_2}{\partial p_1} = 0. \quad (22)$$

Note that

$$\frac{\partial \Pi}{\partial p_1 n_1} = \frac{\partial \pi_1}{\partial p_1} + \frac{n_2}{n_1} \left[ -(\eta_2 + c) \frac{\partial z_2}{\partial p_1} - c \frac{\partial z_1}{\partial p_1} + \frac{p_2}{n_2} \frac{\partial z_2}{\partial p_1} \right]. \quad (23)$$
At the equilibrium values of $p_1$ and $p_2$ we have that $\partial \Pi_1 / \partial p_1 = 0$, such that

$$\frac{\partial \Pi_1}{\partial p_1} \frac{1}{n_1} = \frac{n_2}{n_1} \left[ -(\eta_2 + c) \frac{\partial z_2}{\partial p_1} - c \frac{\partial z_1}{\partial p_1} + \frac{p_2}{n_2} \frac{\partial z_2}{\partial p_1} \right]$$

$$= \frac{n_2}{n_1} \left[ -\frac{\eta_2 c}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} + \frac{c}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} + \frac{p_2}{n_2} \frac{c}{\eta_2 \eta_1 + \eta_2 c + \eta_1 c} \right]$$

$$= \frac{n_2}{n_1} \left[ \frac{p_2 c}{n_2 \eta_2 \eta_1 + \eta_2 c + \eta_1 c} \right] > 0.$$  

This shows that $p_1$ is too low from a welfare point of view. The same reasoning applies for $p_2$. Both countries sell their golden passports at a price that is too low from a welfare point of view.

### 4 The "Back-Door" Problem

We now consider the situation in which some, typically small, countries sell citizenship while others, typically large, do not, and a significant proportion of buyers then in fact moves to the large non-seller countries and so imposes country specific costs on them, rather than on the selling countries. We have suggested above that this may be tolerated when congestion costs inside the small countries place an effective limit on their citizenship-for-sale programmes, or if the size of the implicit transfer from large to small countries is relatively trivial for other reasons. A quota for golden passports agreed between the EU and Malta suggests that there is some awareness of a potential problem. This agreement does actually represent an agreed de facto restriction of Malta’s sovereign right to award citizenship.

Should we be comfortable with this situation? There is a dynamic aspect of increasing "back door entry" costs that may eventually create more cause for concern. Selling a large number of citizenships could be more profitable to the small countries when buyers do not remain there, so do not increase local costs that partly offset the revenue gains, while there might well be growing demand for EU citizenship from non-EU citizens who might want in fact to locate in countries that do not sell citizenship. We therefore expect that price competition among small countries could increase the number of sales to these buyers, a kind of "race to the bottom" that characterises much of the analysis of tax competition.
We formalize this "back door" problem by assuming now three countries: one large country $L$ that does not or cannot sell citizenship, and two small countries, $i = 1, 2$, that are able to sell citizenship. To keep things simple, we assume that all new citizenship is of the back-door type, and all new citizens move immediately to country $L$. The ‘large country’ assumption is pushed to the extreme by assuming that $g = c = 0$. In this case the buyers of citizenship of country $i \in \{1, 2\}$ are not interested in the country $i$ itself but use it as a back door into country $L$; they also do not care about possible European public goods ($g = 0$) and they do not congest these goods either ($c = 0$). They are interested in the opportunity to benefit from $h_L$ by using the local public goods $h_L$ and amenities of country $L$, however, and they congest these facilities ($\eta_L > 0$). Furthermore, we normalize the coefficient that measures this congestion in country $L$ to $\eta_L = 1$. Following otherwise the structure of the problem as in section 2, this means that buyers of citizenship in $i \in \{1, 2\}$ have the same benefit and this benefit is

$$w(z_1, z_2) = h_L - \eta_L - (z_1 + z_2).$$

(25)

Each country $i \in \{1, 2\}$ chooses a non-negative price, denoted by $p_1$ and $p_2$, and sells a number $z_i$ of citizenships that is equal to the demand the country faces. We also allow for an exogenously given (e.g., EU-imposed, as in the case of Malta) quota $\bar{z}$, such that $z_i$ is the minimum of actual demand and this quota. This problem of capacity constrained price competition is well-studied, so that we can rely on existing results. A solution to the particular problem with a function that describes marginal willingness to pay as a linear function of the number $z_1 + z_2$ of units sold has been offered by Levitan and Shubik (1972) and we draw on the results of this seminal paper.

12 Alternatively, we could assume that each small country offers two types of sale contract: one in which citizenship is sold for a straightforward fee, and the other which involves some kind of investment, whether commercial or residential. These two contracts are so chosen as to separate buyers unambiguously into two types, those choosing the straightforward fee contract who want to move immediately to country $L$, and those choosing the investment contract who want to stay in $i$.

13 This paper is a formulation in modern game theoretic terms of a classic paper by Edgeworth (1925), who gave a basic characterisation of the market equilibrium but used the approach of Cournot and Bertrand to derive it. This involves players taking decisions sequentially, and assuming that they can take the other’s choice as given when they make her own, even though this assumption is falsified at every step of the resulting dynamic process.

14 A difference between our approach and Levitan and Shubik (1972) is the interpretation
Assuming that both countries have an externally imposed quota equal to $\bar{z}$, their equilibrium analysis applies here. The equilibrium prices are (see Levitan and Shubik, 1972, Table 1, p.116)

$$p_1 = p_2 = 0 \quad \text{if} \quad \bar{h}_L - n_L \leq \bar{z}$$

$$p_1 = p_2 = \bar{h}_L - n_L - 2\bar{z} \quad \text{if} \quad 0 < \bar{z} \leq \frac{\bar{h}_L - n_L}{3}.$$  \hfill (26)

The first line in (26) describes a quota $\bar{z}$ for each country that is sufficiently large that it is non-binding. The equilibrium price is then the same as if there were no quota. The two small countries engage in Bertrand price competition in a market for a homogenous good. This competition eliminates the sellers’ rents from citizenships. Note that, in contrast to a standard market with Bertrand competition, this does not mean that the market outcome is efficient, or that this competition is to the advantage of the buyers. To the contrary, these price choices also drive down the rents of all buyers of citizenship to zero: the number of citizenships sold in this equilibrium is so high and attracts so many persons to country $L$ that each buyer’s willingness to pay for a golden passport is zero, and this is what they pay for it in the equilibrium. In addition, this aggressive pricing behavior also eliminates the location rents of the indigenous population in $L$ that they enjoyed in the absence of this market. The rent of each citizen in country $L$ was equal to $h_L - n_L$ and drops to zero in the Bertrand equilibrium as well.

The second line in (26) describes the case of a very tight quota. For this case both small countries choose a pure strategy described by a price that is just so high that each of them can sell its full quota for this price. Intuitively, consider the choice of country $i$ given that the other country $-i$ chooses this price. Country $i$ could lower its price and would immediately attract much additional demand. But because of the quota restriction it could not satisfy any of this additional demand. So this deviation is not profitable for country $i$. Country $i$ could raise its price. But the price $(h_L - n_L - 2\bar{z})$ chosen in this range of quotas is already as high or higher than the monopoly price; a higher price reduces the quantity that $i$ could sell, and this quantity effect of (25). They consider a standard demand curve that sorts buyers by their willingness to pay for the product. If there are two sellers with fixed capacities selling for different prices, this generates a rationing issue and they have to make specific assumptions about efficient rationing. Their results are not robust to changes in assumptions about the rationing process (Davidson and Deckere (1976)). In our context, all buyers have unit demand and have the same willingness to pay for this unit, but this willingness depends on the number of buyers.
outweighs the benefit of a higher price. Thus choosing a price that just allow the quota to be sold is a mutually best reply.

The characterization of pure-strategy equilibrium in (26) leaves a wide gap for capacity limits in the range of \( \bar{z} \in (\frac{h_L-n_L}{3}, h_L - n_L) \). In this range pure-strategy equilibrium does not exist. Levitan and Shubik (1972, p.118) show that the equilibrium is in symmetric mixed strategies for these capacity choices, that the prices are independently chosen as random variables drawn from a distribution with support \( p \in [\frac{1}{2}(\frac{h_L-n_L-\bar{z}}{2})^2, \frac{h_L-n_L-\bar{z}}{2}] \) and according to a cumulative distribution function

\[
\Phi(p) = \frac{\bar{z}p - (\frac{h_L-n_L-\bar{z}}{2})^2}{p(p + 2\bar{z} - (h_L - n_L))}.
\] (27)

This outcome illustrates the potential problems of regulating the "back door" problem with quotas. If the quota is sufficiently high and does not bind in the equilibrium, the small countries destroy all surplus from the local public good in \( L \): the surplus that could emerge for the buyers of golden passports and the surplus for the indigenous population of the large country \( L \). Moreover, the two small countries have no benefit from this activity for themselves, as their sales revenues are also zero. If the quota is smaller and binding but not sufficiently tight, then the pricing equilibrium is in mixed strategies, and this implies that the precise quantities of citizenships that are sold are random outcomes. Only if the quotas do not exceed the Cournot-Nash sales levels given by \( (h_L - n_L)/3 \) does the game have a well-defined equilibrium in pure price strategies, namely \( p_1 = p_2 = h_L - n_L - (2\bar{z}) \), the price that clears the market when both countries sell exactly their quotas.

According to Kreps and Scheinkman (1983), if the game is such that the countries choose binding quotas first and then choose prices, the small countries would choose quotas \( ((h_L - n_L)/3, (h_L - n_L)/3, ) \) and the corresponding price \( (h_L - n_L)/3 \) as a subgame perfect equilibrium. The point of significance in this for the present paper is that a quota choice in the framework of Kreps and Scheinkman is the choice of capacity, where capacity cannot be enlarged instantaneously and each capacity unit is costly. In the framework we consider, there is no natural mechanism by which small countries could credibly commit on a quota. The quota might, however, be exogenously set by the EU and the level chosen might be at or below the Cournot-Nash quantities. This then effectively prevents the small countries from rent-destroying sales at a price of zero. This leads us to the issue of the optimal choice of quotas.
at the meta-club level, in this case the EU.

5 Quota Choice: a Normative View

We now also bring country $L$ into the game and take the normative approach of asking: what is the best policy from the point of view of the union of 3 countries as a whole? The answer is straightforward, given that the union’s benefit function does not include the welfare of the buyers of new citizens. Define the union’s payoff function as:

$$\Pi(z_1 + z_2) = n_L(h_L - (n_L + z_1 + z_2)) + (z_1 + z_2)p.$$ (28)

Suppose the price can also be regulated by the EU. Then the price for a golden passport will be equal to the value of the golden passport, which is $h_L - (n_L + z_1 + z_2)$, and this leads to

$$\Pi(z_1 + z_2) = (n_L + z_1 + z_2)(h_L - (n_L + z_1 + z_2)).$$ (29)

Note that this is the total rent of all persons residing in $L$. As the buyers of passports pay a price that is exactly equal to the rent they enjoy from it, this payment is already included in $\Pi(z_1 + z_2)$. Maximization of (29) with respect to $(z_1 + z_2)$ yields

$$z_1 + z_2 = \frac{1}{2}h_L - n_L.$$ (30)

Inserting (30) into (29) yields

$$\Pi^* = \frac{1}{4}(h_L)^2.$$ (31)

A comparison of the optimal quota and the Cournot-Nash quota $z^C = (h_L - n_L)/3$ shows that they cannot be clearly ranked in size. The comparison depends on the size of the indigenous population in the big country $L$:

$$z^* = \frac{1}{2}(\frac{h_L}{2} - n_L)$$ compared to $\frac{1}{3}(h_L - n_L) = z^C$$ (32)

This indeterminacy and the dependence on $n_L$ are intuitively plausible, as the two small countries do not take into account that the selling of golden passports reduces the per-capita rents of the indigenous population in country
and that the size of this effect depends on the size of the population in \( L \). Note also that the Cournot-Nash quantity \( z^C \) that emerges in the Kreps-Scheinkman (1983) outcome of capacity choice followed by Bertrand competition is unlikely to emerge in our framework. As discussed, it would be difficult for small countries to commit and constrain their behavior to a voluntary quota. The predicted equilibrium in the absence of an exogenously imposed quota is the worst possible for the 3 countries, the Bertrand outcome in which all rents are dissipated and even the small countries do not gain anything.

This suggests that there is a clear coordination problem at the European level. In practice, it would be difficult or impossible to deny individual countries the right to sell citizenships. The allocation of "agreed" quotas among small countries may be a way to resolve the conflict of rights - the sovereign right to grant citizenship in a country and the right of free movement of citizens. Again, it can be viewed as part of the transfer from larger to smaller countries that is also a feature of the existing situation, but now this would be more explicit and transparent. However, particularly if the optimal quota is higher than \( z^C \) and elicits random price choices, the problem is not solved by such a quota. A more suitable way to solve the problem then is that the European Commission imposes a Pigou tax on citizenship sales, that would induce the selling countries to choose the appropriate levels of sales from the viewpoint of the Union overall. The tax would be such as to induce the countries to sell the optimal number of citizenships as given in (30).

6 Conclusions and Policy Implications

We have studied two simple but fairly general models of the market for national citizenship inside the European Union, based on the idea that this is a "club of clubs" and therefore drawing on the economic theory of clubs. If member states of a confederation are fully sovereign in their decisions on whether and how to award national citizenship to non-citizens, and if national citizenship comes with the benefits of union citizenship, then a market for citizenship may emerge in which at least some nation states overuse their privilege of selling citizenship, compared to what would be optimal from a union-wide perspective. On the other hand, the factors that determine the number of citizenships that each nation state may optimally sell include both the respective national citizenship benefits, the union benefits, and the
crowding externalities or costs that may come with admitting new citizens. Accordingly, there is a role for both the nation states as well as for the central governmental institutions in the European Union to determine the number of citizenship sales and the conditions on the basis of which they are awarded.

It is very important, in our view, that the aggregate costs and benefits and their distributions across countries be quantified and made more transparent. One important aspect of this is the extent to which new citizens move out of the countries that initially admitted them and into other countries that have had no say in the admission process, but will bear at least some of the cost. In this respect, our analysis can be seen as providing support both for the claims made by Carrera (2014) concerning the "Maltese citizenship-for-sale affair" and for Spiro’s identification of the "back door" issue, and the resulting need for cooperation between nation states and the central EU institutions on matters of citizenship.

References


