The 1934 Turkish Surname Law as an Early Application of Matching Theory*

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Abstract

We analyze the allocation problem inherent in the 1934 Turkish Surname Law through the lens of matching theory. The law imposed three allocation rules: (i) exclusivity within each locality, (ii) first-come priority, and (iii) a genealogical override that allowed later applicants to displace earlier applicants. This structure is equivalent to a priority matching market with endowed priorities, decades before Gale and Shapley's (1962) formal model. We formalize the historical procedure as the Turkish Surname Mechanism (TSM) and define a stability notion that meets the requirements of the surname law. We show that it does not satisfy stability, strategy-proofness, and Pareto efficiency. We then propose a simple modification that is outcome-equivalent to the Deferred Acceptance mechanism (DA) and implemented similarly to the NH4 mechanism used by MIT's housing office. Our analysis reframes the Surname Law not only as a nation-building reform but also as a natural experiment in early matching design, yielding lessons for contemporary allocation problems involving priority classes.

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1 Introduction

In 1934, the Turkish Grand National Assembly enacted the *Surname Law* (*Soyadı Kanunu*, Law No. 2525), which required all citizens to adopt fixed, hereditary surnames. Until then, as in the Ottoman Empire, individuals were commonly identified by titles, patronymics, professions, or places of origin, but not by permanent family names. The law was part of the sweeping reforms aimed at secularization, modernization, and nation-building, complementing earlier changes such as the adoption of the Latin alphabet (1928) and the Hat Law (1925). Parliamentary discussions emphasized the need for surnames to establish clear civic identities, facilitate administration, and prevent confusion in legal, military, and educational records.

Implementation was overseen by the Interior Ministry: the head of each household applied to the local authority in a village, town, or city to register a chosen surname. Exclusivity rules prohibited unrelated families in the same locality from sharing a surname under one exception: If a surname had already been registered in one locality by a member of a family, other members of the same family living in different localities were allowed to carry the same surname. Apart from this exception, when multiple families applied for the same surname, the first applicant prevailed unless another could demonstrate genealogical entitlement. Disputes were adjudicated by governors and district officials, with courts serving as a final arbiter. The process was also relatively transparent: local newspapers often announced which surnames had already been chosen in their district, while national outlets published lists of suggested surnames along with their meanings, guiding families in their selection.[1]

Beyond symbolism, the way surnames were actually *allocated* created an environment that, in hindsight, closely resembles a priority-based matching mechanism. In this framework, surnames (objects) were allocated to families (agents) according to their preferences,

[1]For example, the provincial daily *Fırat* in Malatya repeatedly printed lists of newly adopted surnames in 1934–35, while *Zaman* (9 December 1934) and *Son Posta* (14 December 1934) reported on the publication of recommended names and warned about the dangers of duplication. Türköz (2017) further documents that some lists of suggested surnames circulated nationally, often accompanied by their meanings, to help guide families through the process.

subject to policy-determined priority rules indicated in the articles of the surname law, and with the restriction that each object could be allocated up to a predetermined quota, except for the aforementioned exception. In this context, the quota was *essentially* one per surname in each locality: no two unrelated families, who did not satisfy the exception, in the same town or village could share the same name. Priority depended first on genealogical entitlement and, failing that, on the order of application. Crucially, when applying to local authorities, many families did not submit a single surname but instead provided a ranked list of acceptable alternatives, allowing registrars to assign the first available option. This practice mirrored the logic of preference-list submissions in matching markets.

The aim of this paper is to analyze this historical episode through the modern framework of matching theory. We show that the rules of the Surname Law—exclusivity, priority, and genealogical overrides—constitute an early real-world instance of a structured allocation mechanism. Our main contribution is threefold: (1) to formalize the historical procedure as a priority matching problem in which capacities are endogenous, (2) to show the theoretical shortcomings of the implemented mechanism compared to the benchmark Deferred Acceptance (DA) mechanism,[2] and (3) to demonstrate that a simple modification of the historical procedure, which was plausible to be implemented back in 1930s, is outcome-equivalent to DA, thus recovering desirable properties like stability and strategy-proofness. In doing so, we provide the first formal economic analysis of surname allocation, linking a key historical reform to the intellectual foundations of modern market design.

This perspective connects the episode to the modern matching literature, inaugurated by Gale and Shapley (1962) and subsequently developed into a rich body of theoretical and applied work in market design. Matching algorithms (especially the DA and Top Trading Cycles (Shapley and Scarf, 1974) and its variants) now underlie many real-world allocation systems, including school choice mechanisms in large U.S. districts (Abdulkadiroğlu and Sönmez, 2003), college admissions in centralized systems (Balinski and Sönmez, 1999),

[2]We would like to highlight that we use DA mechanism with embedded choice rules designed to capture the articles of the surname law.

kidney exchange programs that save lives through priority-based organ matching (Roth et al., 2004, 2007), and on campus housing assignment such as MIT's dormitory allocation (Abdulkadiroğlu and Sönmez, 1999; Guillén and Kesten, 2012). The literature has also expanded to specialized applications, such as the U.S. Army's redesigned cadet branching process, which balances individual preferences with institutional quotas in a minimalist market design framework (Greenberg et al., 2024). Although the Turkish reform predates these contributions by decades, its core features—local quotas and priority rules—map directly onto concepts that are now standard in matching theory and market design. The parallels suggest that the surname allocation system of 1934 can be seen as a natural historical experiment in structured priority matching, even before the formal theory existed.

We would like to highlight another unique feature of the model that mimics the surname allocation in Turkey in the 1930s. Exclusivity within each locality, with the exception that the surname had been taken in a different locality with other members of the family, makes this problem an example of matching with endogenous capacities.

The matching problem studied in this paper has similarities with other matching problems, especially the house allocation problem with existing tenants (Abdulkadiroğlu and Sönmez, 1999). First of all, when we rule out the exception on the local exclusivity, both problems are one-to-one matching problem. Moreover, genealogical claimants resemble existing tenants. Finally, under both problems, there is a common ranking for all objects. Abdulkadiroğlu and Sönmez (1999) introduce a Pareto efficient and strategy-proof mechanism, called "You Request My House–I Get Your Turn" (YRMH–IGYT).[3] Even though the YRMH–IGYT mechanism possesses appealing properties, the fact that it will violate the priority coming from arrival time toward a family without genealogical rights will be against the articles of the surname law. In that paper, Abdulkadiroğlu and Sönmez (1999) also discuss mechanisms used in practice for on-campus house allocation. One of these mechanisms is the NH4 mechanism that has been used by MIT since the early 1980s. Guillén and Kesten

[3]Using additional axioms, Sönmez and Ünver (2010) characterize YRMH–IGYT in the house allocation problem with existing tenants as a unique mechanism.

(2012) analyze the NH4 mechanism, and they show that the NH4 mechanism is outcome equivalent to the DA mechanism in the house allocation with existing tenants problem. The formulation of the NH4 mechanism and the ease of implementation help us to provide a simple modification of the historical surname allocation procedure to capture the desired features.

Other countries enacted surname reforms around the same era, yet none mirrored the distinctive institutional design of Turkey's 1934 law. In Thailand, the 1913 Surname Act legally required all residents to register a unique family surname; if a name was already taken, the family had to select another—effectively granting priority to the first applicant, though without structured genealogical exceptions (Batson, 1984; Thailand Foundation, 2020). In Scandinavia, countries transitioned from patronymic naming—where a child's surname changed each generation—to fixed hereditary family names. In Sweden, the 1901 Names Regulation Act (*släktnamnsförordningen*) required that surnames be passed down across generations, effectively "freezing" patronymics or encouraging new nature- or status-based names (Powell, 2025; Högman, 2023). In Norway, the Personal Names Act of 1923 mandated hereditary surnames across society to reduce confusion from changing names (Utne, 2023).[4] In Iran, the 1919 reform introduced family names but permitted unrestricted duplication and made no provisions for genealogical priority, leading to widespread use of tribal or occupational identifiers (Chehabi, 2020). Japan's Meiji-era implementation of the household registry system (*koseki*) achieved nearly universal coverage, but duplication was allowed, emphasizing administrative tracking over exclusivity or hereditary status (Chapman and Krogness, 2014). The Napoleonic Civil Code (1804) fixed surnames at birth in civil registers (Code civil, Livre I, Titre II, arts. 57–60). Unlike Turkey's 1934 reform, however, it did not prohibit unrelated families from bearing the same surname or used priorities in the assignment procedure.

Taken together, this comparative evidence underscores Turkey's singular approach: unlike other countries, it combined local exclusivity, first-come priority, and genealogical override

[4] Also see https://en.wikipedia.org/wiki/Patronymic (accessed 09/12/25).

into a structured mechanism for surname allocation. For a concise, country-by-country summary, see the comparative table in the Appendix.

The structure of the paper is as follows. Section 2 describes the institutional details of the law and its implementation, drawing on parliamentary debates and press evidence. Section 3 develops a formal model of surname allocation. Section 4 provides the definition of the mechanisms. Section 5 presents the theoretical results. Section 6 concludes by highlighting the lessons of this early case for market design and economic history.

2 Institutional Details

The 1934 Surname Law was part of the sweeping reforms of the early Turkish Republic, designed to modernize institutions and consolidate national identity. Its implementing regulation, the *Soyadı Nizamnamesi* (24 December 1934), reflected not only bureaucratic design but also the debates in the Grand National Assembly, where deputies raised concerns about surname duplication, confusion, and fairness. For instance, during the Grand National Assembly debates in June 1934, several deputies expressed concerns: that many families might end up with the same surname, creating confusion and disputes (TBMM Zabıt Ceridesi, 16 June 1934).[5] The articles of the regulation were thus crafted as responses to these parliamentary discussions and the practical challenges anticipated in implementation. Four provisions stand out as particularly central.

First, content restrictions (Articles 7–12) banned surnames of tribal, religious, foreign, title-based, or offensive nature. Article 11 further restricted names of historical heroes unless genealogical kinship was certified (*Soyadı Nizamnamesi*, Art. 11).

Second, Article 14 codified local exclusivity and first-come priority. Within a village, town, or city, unrelated families were forbidden from adopting the same surname. If multiple families sought the same name, it would be assigned to the first applicant; the later appli-

[5]The same fear was echoed in the press: *Zaman* published an editorial on 9 December 1934 titled *"Soyadları Karışmak Korkusu"* (Fear of Surname Confusion), noting that with 17 million citizens but only 2–3 million viable surnames, unregulated duplication would be inevitable. It urged Interior Ministry intervention.

cants had to change or accept modifications such as "Büyük" (elder) or "Küçük" (younger) However, exceptions for local exclusivity were allowed when relatives in other localities chose the same surname as their kin (*Soyadı Nizamnamesi*, Art. 14).

Third, while there was no single clause labeled as a genealogical override, the combined effect of Article 11 (limiting historical names to those with proof of kinship) and Article 30 (delegating conflict resolution to local authorities) created such an override in practice. Families with documented genealogical claims could overturn earlier applications, with disputes adjudicated locally or in the courts (*Soyadı Nizamnamesi*, Arts. 11, 30).

Finally, Article 30 explicitly empowered provincial governors and district governors to resolve conflicts over surname selection, with judicial recourse available if administrative resolution failed (*Soyadı Nizamnamesi*, Art. 30).

The implementation of the Surname Law followed a standardized bureaucratic pathway. According to the Soyadı Nizamnamesi, the head of household was responsible for applying on behalf of his/her family to the local authority: the village headman in rural areas, the district governor in smaller towns, or the provincial governor in larger cities. The chosen surname was then entered into official registers. In cases where more than one family sought the same surname, Article 14 stipulated that the name would be assigned to the first applicant, while later families would have to alter their choice. When disputes arose over entitlement, especially when genealogical claims were involved, Article 30 gave authority to the district or provincial governor to resolve the matter, with the possibility of judicial appeal. This framework meant that the process was at once highly localized and formally codified, balancing administrative discretion with legal oversight.

In major urban centers, the process acquired an additional feature: families often arrived with pre-written lists of alternative surnames. Oral histories suggest that clerks encouraged applicants to submit several options, so that officials could approve the first available surname that met the legal criteria and had not already been claimed. These lists were sometimes even attached to the application forms themselves. For instance, one family that

ultimately adopted the surname *Korkman* ("fearless") submitted two full lists of alternatives; their second list included *Korman, Korkma, Albayrak, Özyürek, Kanmaz, Baydur, Çelikkol, Pakalın, Pakyürekli, Dirik, Özcan, Erkal*, among others (Türköz, 2017). While not mandated by the regulation, this practice became common in larger cities where duplication was frequent. Functionally, it mirrored the preference-list submissions now standard in modern matching mechanisms, where applicants rank multiple acceptable outcomes to reduce the risk of conflict or rejection.

The genealogical override generated legal conflicts. *Son Posta* (14 December 1934) reported: "There are already applications to the courts. A man named Faik Şemseddin intends to resolve in court the issue that the surname *Benli*, which had been used in his family for centuries, was being claimed by another." Another case involved Ragıp Kemal, who sought to register *Ayrancıoğlu* based on descent from his grandfather; upon learning that another family had claimed it, he prepared to take the matter to court. These anecdotes show that genealogical claims could overturn first-come priority, with courts acting as arbiters of genealogical entitlement.

3 Model

In this section, we model the surname allocation law and its implementation as a two-sided matching market, which is composed of the following elements:

- $F = \{f_1, \ldots, f_n\}$: the set of families (applicants),
- $S = \{s_1, \ldots, s_m\}$: the set of surnames available in a locality,
- $P = (P_f)_{f \in F}$: a profile of strict preferences such that P_f is the preferences of family f over S,
- $G = (G_{sf})_{s \in S, f \in F}$: genealogical entitlement matrix where $G_{sf} \in \{0, 1\}$ indicates whether the family f has genealogical entitlement to the surname s,

- $K = (K_{sf})_{s \in S, f \in F}$: an indicator matrix where $K_{sf} \in \{0, 1\}$ indicates whether the family f has relatives in other localities with surname s,

- $t = (t_f)_{f \in F}$: a profile of application time with lower t_f meaning earlier application such that $t_f = t_{f'}$ implies $f = f'$.

It is worth noting that by 'application time,' we mean the initial application to a local authority.

For any given family-surname pair (f, s), $G_{sf} = 1$ means that f has genealogical entitlement for s, and $K_{sf} = 1$ means that f has relatives in other localities with surname s.

A surname allocation problem (or, a problem in short) is a tuple (F, S, P, G, K, t).[6] For notational convenience, in the rest of the paper, we represent a problem with P.

We consider each locality (e.g., village, town, or city) as an independent market. Hence, it is natural to assume that the number of surnames exceeds the number of families, i.e., $|F| \leq |S|$.

We assume that at most one family may have genealogical entitlement for a given surname. That is, for every $s \in S$

$$\sum_{f \in F} G_{sf} \leq 1.$$[7]

Notice that we do not have any restriction on the number of surnames a family may have genealogical entitlement.

We allow more than one family to have relatives in other localities to be assigned a given surname. Moreover, a family may have relatives who are assigned different surnames in other localities. That is, the following cases are possible: (i) $K_{sf} = K_{sf'} = 1$, and (ii) $K_{sf} = K_{s'f} = 1$ for some $s, s' \in S$ and $f, f' \in F$ such that $s \neq s'$ and $f \neq f'$.

[6] In the surname law, some surnames were prohibited, and some historical surnames were allowed only for some families. For the sake of simplicity, we do not model such related articles. In fact, our model can be easily extended to cover them by adding acceptability for the surnames.

[7] This restriction does not play a role in our analysis. Rather, it simplifies the exposition.

When the surname law was implemented, families had higher claims on a given surname first based on their genealogical entitlement and then on application time. Moreover, having a relative taking a surname s in another locality gives an absolute right to take the surname s. We capture these features by constructing a strict priority order, denoted by $\succ_s$, for each surname s. In particular, $\succ_s$ is a lexicographic order first based on genealogical entitlement, then whether a relative has taken the surname in another locality, and then the arrival time, such that:

- if $G_{sf} = 1$, then $f \succ_s f'$ for all $f' \in F \setminus \{f\}$,[8]
- if $K_{sf} = 1$ and $K_{sf'} = G_{sf'} = 0$, then $f \succ_s f'$,
- if $G_{sf} = G_{sf'} = 0$, $K_{sf} = K_{sf'} = 1$, and $t_f < t_{f'}$, then $f \succ_s f'$, and
- if $G_{sf} = G_{sf'} = 0$, $K_{sf} = K_{sf'} = 0$, and $t_f < t_{f'}$, then $f \succ_s f'$.

We would like to emphasize that, under the articles of surname law, there is no prioritization for a given surname s between two families f, f', such that $G_{sf} = K_{sf'} = 1$ and $G_{sf'} = K_{sf} = 0$. Here, we give the highest priority to the family with genealogical entitlement to capture the articles of the surname law via the stability notion defined below.

Next, we define the notions and properties used in the paper.

Recall that a surname s can be assigned to at most one family with an exception: if s is assigned to families f and f' such that $t_f < t_{f'}$, then $K_{sf'} = 1$, i.e., relatives of family f' in other localities were assigned s. Hence, there is an implicit endogenous quota constraint for the surnames in our setting. Moreover, a family needs to get a surname under the law. Given these, we define a matching as follows: A (feasible) **matching** is a function $\mu : F \to S$ such that whenever $|\mu^{-1}(s)| > 1$ for some $s \in S$ then for any $f, f' \in \mu^{-1}(s)$ with $t_f < t_{f'}$ we have either (i) $K_{sf'} = 1$ or (ii) $G_{sf'} = 1$ and $K_{sf} = 1$. Notice that, under a matching, we do not allow two families f, f' with $t_f < t_{f'}$ to be assigned to the same surname s if

[8] Recall that, at most one family has genealogical entitlement for a given surname.

i. $G_{sf'} = K_{sf'} = 0$, and

ii. $G_{sf'} = 1$ and $K_{sf} = 0$.

As a result, whenever two families are assigned to the same surname, then either the later applicant has a relative assigned to the same surname in a different locality, or the earlier applicant has a relative assigned to the same surname in a different locality, and the later applicant has a genealogical claim on the surname. Hence, our matching definition is consistent with the articles of the surname law.

A matching μ is **non-wasteful** if there does not exist a family-surname pair (f, s) such that $sP_f\mu(f)$ and either $|\mu^{-1}(s)| = 0$ or $K_{sf} = 1$. A matching μ has **no justified envy** if there do not exist families f, f' and a surname s such that $\mu(f') = s$, $sP_f\mu(f)$, and $f \succ_s f'$. A matching is **stable** if it is non-wasteful and has no justified envy.[9] We would like to emphasize that our stability notion covers the articles under the surname law. First of all, if a matching μ is non-wasteful, then there is no unassigned surname that is preferred by a family, and there is no family-surname pair (f, s) such that f prefers s to $\mu(f)$, and f has relatives in other localities assigned to s. Similarly, respecting the priority order constructed above guarantees that surname allocation is done according to the articles of the surname law. Using an example, we illustrate our stability notion.

Example 1. *Let the families be $F = \{f_1, f_2, f_3\}$, and the surnames $S = \{s_1, s_2, s_3\}$. All families prefer s_k over s_{k+1} for $k \in \{1, 2\}$. Let $t_{f_1} < t_{f_2} < t_{f_3}$. We consider several cases.*

Case 1: *$K_{sf} = G_{sf} = 0$ for all $s \in S$ and $f \in F$. In this case, the unique stable matching is:*

$$\mu^1(f_1) = s_1,\ \mu^1(f_2) = s_2,\ \mu^1(f_3) = s_3$$

Notice that the assignment respects the application time as required by the surname law. Any other matching does not respect the requirements of the surname law.

[9]Notice that, since all surnames are ranked by the families, we do not include individual rationality in our analysis.

Case 2: *$G_{s_1f_2} = 1$, $G_{sf} = 0$ for all $(s, f) \in S \times F \setminus \{(s_1, f_2)\}$ and $K_{sf} = 0$ for all $s \in S$ and $f \in F$. In this case, the unique stable matching is:*

$$\mu^2(f_1) = s_2,\ \mu^2(f_2) = s_1,\ \mu^2(f_3) = s_3$$

Notice that, the assignment respects the genealogical entitlement and the application time as required in the surname law. In particular, even if f_1 applies before f_2, f_2 is assigned to the most preferred surname thanks to its genealogical entitlement. Moreover, any other matching does not respect the requirements of the surname law.

Case 3: *$K_{s_1f_2} = 1$, $K_{sf} = 0$ for all $(s, f) \in S \times F \setminus \{(s_1, f_2)\}$ and $G_{sf} = 0$ for all $s \in S$ and $f \in F$. In this case, the unique stable matching is:*

$$\mu^3(f_1) = s_1,\ \mu^3(f_2) = s_1,\ \mu^3(f_3) = s_3$$

Notice that, the capacity of s_1 is set to two due to the application of a family with relatives with surname s_1 after some other family applied to s_1. Matching μ^1 respects all requirements of the surname law, and there is no other matching that meets all the requirements.

Case 4: *$K_{s_1f_1} = 1$, $K_{sf} = 0$ for all $(s, f) \in S \times F \setminus \{(s_1, f_1)\}$ and $G_{sf} = 0$ for all $s \in S$ and $f \in F$. In this case, the unique stable matching is μ^1. Different from Case 3, since a family with relatives with surname s_1 applied to s_1 first, the capacity is set to one. The matching μ^1 respects all requirements of the surname law, and there is no other matching that meets all the requirements.*

Case 5: *$K_{s_1f_2} = 1$, $K_{sf} = 0$ for all $(s, f) \in S \times F \setminus \{(s_1, f_2)\}$ and $G_{s_1f_3} = 1$, $G_{sf} = 0$ for all $(s, f) \in S \times F \setminus \{(s_1, f_3)\}$ for all $s \in S$ and $f \in F$. In this case, the unique stable matching is:*

$$\mu^5(f_1) = s_2,\ \mu^5(f_2) = s_1,\ \mu^5(f_3) = s_1$$

Notice that the capacity of s_1 is set to two due to the application of a family with relatives

with surname s_1 and a family with genealogical entitlement for s_1. The matching μ^5 respects all requirements of the surname law, and there is no other matching that meets all the requirements.

A matching is **Pareto efficient** if there does not exist another feasible matching μ' such that either $\mu'(f) = \mu(f)$ or $\mu'(f)P_f\mu(f)$ for all $f \in F$.

A **mechanism** is a rule Φ that assigns to each problem P a matching. We denote the matching selected by mechanism Φ under problem P with $\Phi(P)$. We denote the allocation of family f under $\Phi(P)$ with $\Phi(P)(f)$.

A mechanism is stable (Pareto efficient) if for every problem, its outcome is stable (Pareto efficient).

A mechanism is **strategy-proof** if for every problem, every family f, and every misreport $\hat{P}_f$ either $\Phi(P)(f)P_f\Phi(\hat{P}_f, P_{-f})(f)$ or $\Phi(P)(f)P_f\Phi(\hat{P}_f, P_{-f})(f)$,

4 Mechanisms

In this section, we mimic the actual surname allocation procedure as a matching mechanism and call it *Turkish Surname Mechanism (TSM)*. For comparison, we describe the canonical *Deferred Acceptance (DA)* algorithm, widely used in matching markets such as school choice, college admissions, and hospital residency matching (see Abdulkadiroğlu and Sönmez (2003); Balinski and Sönmez (1999); Roth (1984)). We need to highlight that, due to the endogenous capacity constraint, we define the deferred acceptance mechanism with choice rules (Hatfield and Milgrom, 2005) that we introduce to meet the requirements of the surname law.

In the actual surname allocation procedure, families applied to the local authorities with one surname or with a list of surnames (see Section 2). The surnames were then allocated to the families by respecting the articles of the surname law. Moreover, the capacities were endogenously arranged by taking into account whether the applying family had relatives in other localities with the given surname. In smaller localities (e.g., villages and towns),

where authorities can easily follow up on applications, whenever a family applied, they were assigned to the most preferred surname among the available options. In larger localities, e.g., major cities, families might have left their preference list to the authorities, and then the authorities might have allocated surnames periodically (see Section 2). In either case, an allocation might have been overturned in case genealogical claims occurred. In the following, we describe this procedure as a matching mechanism in which a family can rank multiple surnames.

Turkish Surname Mechanism (TSM):

Let f_k denote the family in the k-th position in the application order. The mechanism proceeds as follows:

Step 1: Family f_1 is tentatively assigned to its most preferred surname.

In general:

Step $k > 1$**:** Let S_k be the set of available surnames for f_k such that $s \in S_k$ if either (i) no family has been assigned to s, or (ii) $G_{sf_k} = 1$, or (iii) $K_{sf_k} = 1$. Family f_k is tentatively assigned to its most preferred surname in S_k, say s_k. If $G_{s_k f_k} = 1$, s_k had been taken earlier by f_m with $K_{s_k f_m} = 0$, then f_m is displaced and relabeled as f_{k+1}, with all subsequent families following f_k shifted one position.

The procedure ends when all families are tentatively assigned a surname and all tentative assignments become final.[10]

Notice that the TSM essentially allocates surnames sequentially but allows later genealogical claimants to "bump" earlier assignees who might lose other opportunities, creating potential instability. This situation might also cause families to be strategic (see Proposition 1).

In smaller localities, families were usually asked to select a surname from the available ones. In this case, even though a family was not asked to submit a rank-order list, such a

[10]Since $|S| \geq |F|$, families rank all surnames, and at most one family has genealogical entitlement for a given surname, the mechanism terminates in finite steps.

procedure is also covered by the definition of TSM. This follows from the fact that, in each step, the only crucial surname is the most preferred among the available ones.[11]

In a two-sided matching market in which there are well-defined and law-enforced rules, stability is deemed the main objective. Whenever stability is the main objective, the deferred acceptance mechanism (Gale and Shapley, 1962; Balinski and Sönmez, 1999; Abdulkadiroğlu and Sönmez, 2003) stands out as the main candidate, since it Pareto dominates any other stable mechanism, and it is the unique stable and strategy-proof mechanism (Alcalde and Barbera, 1994). In our setting, the selection of the surnames from a given set of families does not only depend on the aforementioned priority order due to the endogenous capacities. Moreover, our stability notion slightly differs from the one in the standard model, again due to the endogenous capacities. As a result, we first define a selection rule, known as a **choice rule**, for the surnames and embed it in the deferred acceptance mechanism. This choice rule will be constructed by considering articles of the surname law.

Surname Choice Rule:

For a given set of families $\bar{F} \subseteq F$, we denote the selected families by surname s with $C_s(\bar{F})$, and it is calculated as follows:

Step 1. Set $C_s(\bar{F}) = \{f \in \bar{F} \ : \ K_{sf} = 1 \text{ or } G_{sf} = 1\}$. If there exists a family f with $G_{sf} = 1$ or $C_s(\bar{F}) = \bar{F}$, then the selection procedure stops here. Otherwise, we continue with Step 2.

Step 2. Let $f = \text{argmax}_{\succ_s} \bar{F} \setminus C_s(\bar{F})$. We add f to $C_s(\bar{F})$, if for all $f' \in C_s(\bar{F})$ we have $t_{f'} > t_f$.

Notice that, for any $\bar{F} \neq \emptyset$, we have $C_s(\bar{F}) \neq \emptyset$. It is easy to verify that this choice rule respects the articles of the surname law. In particular, in Step 1, we select all families who are guaranteed to be assigned to the surname independent of the application time. In case of a family with genealogical entitlement is selected, then we only select families if they have

[11] It is easy to see that for the family f_1 all surnames are available.

relations to other localities with that surname. In Step 2, we consider the remaining families, and a family is selected in this step only if it applies earlier than all other families.

We provide the definition of the deferred acceptance mechanism, embedded with our choice rule, which serves as a benchmark mechanism, below.

Deferred Acceptance (DA):

Step 1: Every family applies to its most-preferred surname. Let F_s^1 be the set of families applying to surname s in this step. Then, each $s \in S$ tentatively accepts families in $C_s(F_s^1)$ and rejects families in $F_s^1 \setminus C_s(F_s^1)$.

In general;

Step $k > 1$**:** Every family applies to its most-preferred surname that has not rejected it yet. Let F_s^k be the set of families applying to surname s in this step. Then, each $s \in S$ tentatively accepts families in $C_s(F_s^k)$ and rejects families in $F_s^k \setminus C_s(F_s^k)$.

The procedure ends when no further rejections occur; all tentative assignments become final.

In the following example, we illustrate how these two mechanisms work.

Example 2. *Let the families be* $F = \{f_1, f_2, f_3, f_4, f_5\}$*, and the surnames* $S = \{s_1, s_2, s_3, s_4, s_5\}$*. Family* f_2 *has genealogical entitlement to* s_1 *and* f_4 *has genealogical entitlement to* s_3*:* $G_{s_1 f_2} = 1$*,* $G_{s_3 f_4} = 1$*, and* $G_{sf} = 0$ *for all other* s *and* f *pairs. Only* f_5 *has relatives in other localities with surname* s_2*:* $K_{s_2 f_5} = 1$*, and* $K_{sf} = 0$ *for all other* s *and* f *pairs. Let* $t_{f_1} < t_{f_2} < t_{f_3} < t_{f_4} < t_{f_5}$*.*

Preferences of the families are:

P_{f_1}	P_{f_2}	P_{f_3}	P_{f_4}	P_{f_5}
s_1	s_1	s_2	s_3	s_2
s_3	s_2	s_3	s_2	s_3
s_2	s_3	s_1	s_1	s_5
s_4	s_4	s_4	s_4	s_4
s_5	s_5	s_5	s_5	s_1

TSM selects its outcome in the following steps:

Step	***Action and outcome***
1	*f_1 is asigned to s_1.*
2	*f_2 (genealogy at s_1) displaces f_1 and is assigned to s_1.*
3	*Displaced f_1 now chooses again and is assigned to s_3.*
4	*f_3 is assigned to s_2.*
5	*f_4 (genealogy at s_3) displaces f_1 and is assigned to s_3.*
6	*Displaced f_1 is assigned to s_4.*
7	*f_5 is assigned to s_2 without replacing f_3.*

At the end of Step 7, the selection procedure terminates. Thus,

$$\mu^{TSM} = \{(f_1, s_4), (f_2, s_1), (f_3, s_2), (f_4, s_3), (f_5, s_2)\}.$$

DA mechanism selects its outcome in the following steps:

Step	***Applications and tentative assignments***
1	f_1 *and* f_2 *apply to* s_1*;* f_3 *and* f_5 *apply to* s_2*;* f_4 *applies to* s_3*.* s_1 *keeps* f_2 *and rejects* f_1*;* s_2 *keeps* f_3 *and* f_5*;* s_3 *keeps* f_4*.*
2	f_1 *and* f_4 *apply to* s_3*;* f_2 *applies to* s_1*;* f_3 *and* f_5 *apply to* s_2*.* s_1 *keeps* f_2*;* s_2 *keeps* f_3 *and* f_5*;* s_3 *keeps* f_4 *and rejects* f_1*.*
3	f_1*,* f_3 *and* f_5 *apply to* s_2*;* f_2 *applies to* s_1*;* f_4 *applies to* s_3*.* s_1 *keeps* f_2*;* s_2 *keeps* f_1 *and* f_5 *and rejects* f_3*;* s_3 *keeps* f_4*.*
4	f_1 *and* f_5 *apply to* s_2*;* f_2 *applies to* s_1*;* f_3 *and* f_4 *apply to* s_3*.* s_1 *keeps* f_2*;* s_2 *keeps* f_1 *and* f_5*;* s_3 *keeps* f_4 *and rejects* f_3*.*
5	f_1 *and* f_5 *apply to* s_2*;* f_2 *applies to* s_1*;* f_3 *applies to* s_4*;* f_4 *applies to* s_3*.* s_1 *keeps* f_2*;* s_2 *keeps* f_1 *and* f_5*;* s_3 *keeps* f_4*;* s_4 *keeps* f_3*.*

At the end of Step 5, the selection procedure terminates. Thus,

$$\mu^{DA} = \{(f_1, s_2), (f_2, s_1), (f_3, s_4), (f_4, s_3), (f_5, s_2)\}.$$

As an immediate observation from Example 2, the TSM and the DA mechanisms are not outcome equivalent. This observation will play an important role in the results we will present in the next section.

5 Results

In this section, we establish the main theoretical properties of the surname allocation mechanisms described above. We analyze the TSM focusing on its stability, strategy-proofness, and efficiency properties. We provide counterexamples to show where the TSM fails, and we highlight how DA recovers desirable properties except efficiency. Then, we modify TSM to fix its deficiencies and at the same time to keep it as a viable mechanism to use in 1930s.

We now establish that the TSM may fail to satisfy three key desiderata of matching theory: stability, strategy-proofness, and Pareto efficiency. Intuitively, genealogical overrides can create blocking pairs, early applicants may have incentives to misreport their preferences to avoid displacement, and rejection chains due to the displacement of families via genealogical overrides may result in inefficient outcomes. We state this formally below.

Proposition 1. *The TSM is neither stable nor strategy-proof nor Pareto efficient.*

Proof. Consider Example 2. Under TSM,

$$\mu^{TSM} = \{(f_1, s_4), (f_2, s_1), (f_3, s_2), (f_4, s_3), (f_5, s_2)\}.$$

First, μ^{TSM} is not stable: the pair (f_1, s_2) blocks this matching, since f_1 strictly prefers s_2 to s_4 and has higher priority at s_2 than f_3.

Second, TSM is not strategy-proof. If f_1 misreports s_2 as its top choice, then under TSM, it gets s_2, which it prefers to s_4. Thus, f_1 benefits from misreporting.

Therefore, Example 2 shows that TSM fails both stability and strategy-proofness. To show that TSM is Pareto inefficient, we construct another example.

Example 3. *Let the families be $F = \{f_1, f_2, f_3\}$, and the surnames $S = \{s_1, s_2, s_3\}$. Suppose f_k has genealogical entitlement at s_k for all $k \in \{1, \ldots, k\}$: $G_{s_1 f_1} = 1$, $G_{s_2 f_2} = 1$, $G_{s_3 f_3} = 1$, and $G_{sf} = 0$ for all other s and f pairs. Let $t_{f_1} < t_{f_2} < t_{f_3}$.*

Preferences of the families are:

P_{f_1}	P_{f_2}	P_{f_3}
s_3	s_1	s_1
s_1	s_2	s_3
s_2	s_3	s_2

TSM selects its outcome in the following steps:

Step	Action and outcome
1	f_1 is assigned to s_3.
2	f_2 is assigned to s_1.
3	f_3 by genealogy at s_3 it displaces f_1 and is assigned to s_3.
4	Displaced f_1, by genealogy at s_1, displaces f_2 and is assigned to s_1.
5	Displaced f_2 is assigned to s_2.

At the end of Step 5, the selection procedure terminates. Thus,

$$\mu^{TSM} = \{(f_1, s_1), (f_2, s_2), (f_3, s_3)\}.$$

Consider an alternative matching

$$\mu' = \{(f_1, s_3), (f_2, s_2), (f_3, s_1)\}.$$

Relative to μ^{TSM}, under μ', f_1 and f_3 are strictly better off, and f_2 is indifferent. Hence μ' is a Pareto improvement *over μ^{TSM} for the families.*[12]

□

We now turn to the benchmark mechanism, i.e., the DA mechanism. Unlike TSM, DA embedded with our choice rule always produces a stable outcome and guarantees that truth-telling is optimal. As the TSM, the DA embedded with our choice rule fails Pareto efficiency.[13] We state this formally next.

Proposition 2. *DA is stable and strategy-proof. However, DA is not Pareto efficient.*

Proof. Recall that we define the DA mechanism by embedding choice rules. It is well-known that if the surname choice rules satisfy the substitutes and the law of aggregate demand (LAD) conditions, then the DA mechanism is stable with respect to the choice rule and

[12]Note that μ' violates the priority at s_1 (it assigns s_1 to f_3 while a higher-priority claimant f_2 exists), so μ' is *unstable*. In fact, μ^{TSM} is the unique stable matching in this problem.

[13]For the sake of exposition, in the rest of the paper, we will use DA instead of DA embedded with our choice rule.

strategy-proof (Hatfield and Milgrom, 2005). We first define what we mean by stability with respect to the choice rule, and the substitutes and the LAD conditions.

A matching μ is **stable with respect to choice rule** $C = (C_s)_{s \in S}$ if (i) $C_s(\mu) = \mu^{-1}(s)$ for all $s \in S$ and (ii) there does not exist a family-surname pair (f, s) such that $s \; P_f \; \mu(f)$ and $f \in C_s(\mu^{-1}(s) \cup \{f\})$. A choice rule C_s satisfies **substitutes** condition if $f' \notin C_s(\bar{F})$ implies $f' \notin C_s(\bar{F} \cup \{f\})$ for all $\bar{F} \subseteq F$ and $f \in F \setminus \bar{F}$. A choice rule C_s satisfies **LAD** condition if $|C_s(\bar{F})| \leq |C_s(\bar{F} \cup \{f\})|$ for all $\bar{F} \subseteq F$ and $f \in F \setminus \bar{F}$.

Now, we focus on our choice rule as defined above. Consider an arbitrary $\bar{F}$ and $f' \in \bar{F}$ such that $f' \notin C_s(\bar{F})$. By definition, $f' \neq \text{argmax}_{\succ_s} \bar{F}$ and $K_{sf} = 0$. Hence, we have $f' \neq \text{argmax}_{\succ_s} \bar{F} \cup \{f\}$ for any $f \notin \bar{F}$. As a result, $f' \notin C_s(\bar{F} \cup \{f\})$. Moreover, since $\{f' \in \bar{F} \; : \; K_{sf'} = 1\} \subseteq \{f' \in \bar{F} \cup \{f\} \; : \; K_{sf'} = 1\}$ and $\text{argmax}_{\succ_s} \bar{F} \cup \{f\} \in \{\text{argmax}_{\succ_s} \bar{F}, f\}$, we have $|C_s(\bar{F})| \leq |C_s(\bar{F} \cup \{f\})|$. As a result, our choice rule satisfies both conditions, and the DA mechanism embedded with our choice rule is stable with respect to the choice rule and strategy-proof. Moreover, by definition, stability with respect to our choice rule eliminates non-wastefulness and existence of blocking pairs. On the contrary, suppose μ is the outcome of DA and it is not stable. Then, μ is either wasteful or has justified envy. Suppose μ is wasteful through family f and surname s. Then, by definition of choice rule, $f \in C_s(\mu^{-1}(s) \cup \{f\})$. This violates stability of μ with respect to the choice rule. Similarly, suppose f has justified envy for s. Then, by definition of choice rule, $f \in C_s(\mu^{-1}(s) \cup \{f\})$. This violates stability of μ with respect to the choice rule.

In Example 3, there is a unique stable matching that is not Pareto efficient. Hence, DA is not Pareto efficient in this setting. □

In the following proposition, we investigate whether claiming genealogical rights, applying early, or having relatives in other localities assigned a surname helps families obtain a better surname.

Proposition 3. *Under the DA mechanism, a family always becomes (weakly) better off claiming genealogical rights, having a relative assigned a surname in another locality, and*

applying early. Under TSM, a family always becomes (weakly) better off claiming genealogical rights and having a relative assigned a surname in another locality. However, under TSM, a family might be worse off by applying early.

Proof. We start by showing the claim for the DA mechanism. Consider a problem (F, S, P, G, K, t) and a family f. Let μ be the outcome of DA mechanism under this problem. Suppose $\mu(f)$ is not the first choice of f under P_f. Now consider problem (F, S, P, G', K', t') such that for all $f' \neq f$ there is no change from the problem (F, S, P, G, K, t) but at least one of the following changes hold for f:

(i) Initially, f does not have genealogical rights at any surname, but f has genealogical rights at some surname s' afterwards.[14]

(ii) Initially, f has relatives in another locality with assigned surnames in $\bar{S}$, but f has relatives in another locality with assigned surnames in $\hat{S} \supset \bar{S}$ afterwards.

iii. Initially, f applies at t_f, but f applies at $t'_f < t_f$ afterwards.

Let μ' be the outcome of DA mechanism under the updated problem. Suppose change (i) occurs and $s' \; P_f \; \mu(f)$. Then, since f will never be rejected by s' when DA is applied to (F, S, P, G', K', t'), $\mu'(f) \; P_f \; \mu(f)$. Now suppose change (ii) occurs and $s' \; P_f \; \mu(f)$ for some $s' \in \hat{S}$. Then, since f will never be rejected by s' when DA is applied to (F, S, P, G', K', t'), $\mu'(f) \; P_f \; \mu(f)$. Now suppose, $t'_f = t_f$ and the cases explained for change (i) and (ii) do not occur. In that case, since the changes will not be affect the dynamics of DA mechanism in which f applies to weakly better surnames than $\mu(f)$, we have $\mu = \mu'$. Hence, without loss of generality, we assume changes (i) and (ii) do not occur but $t_f > t'_f$. On the contrary, suppose $\mu(f) \; P_f \; \mu'(f)$. Then, consider preference profile P'_f such that $\mu(f)$ is ranked first. By strategy-proofness, when DA is applied to $(F, S, (P'_f, P_{-f}), G, K, t)$, f is assigned to $\mu(f)$. However, when DA is applied to $(F, S, (P'_f, P_{-f}), G', K', t')$ f is not assigned to $\mu(f)$. We consider a sequential implementation of the DA mechanism in which, in each step, only

[14] By our construction, $G_{sf'} = 0$ for all $f' \in F$.

one family without a tentative assignment applies, and f applies after all other families are tentatively assigned. Then, when it is f's turn under both problems, f will apply to $\mu(f)$. Then, by our construction the same set of families will be rejected from $\mu(f)$ and f will be tentatively assigned to $\mu(f)$ under both problems. Hence, in every following step, we have the same rejections and tentative assignments. This is a contradiction. Notice that any changes we consider, a family (weakly) improves its priority rank for all surnames. Then, one can think that we can just refer to Balinski and Sönmez (1999) who show that DA mechanism respects the improvement in priorities. However, we want to highlight that in this paper, we consider the DA mechanism with embedded choice rules.

Suppose a family f claims genealogical rights for surname s. If TSM assigns family f to a weakly better surname than s without claim, by definition of the mechanism, it will assign f to the same surname with claim. However, with the claim, f will never be assigned to a surname worse than s. Hence, under TSM, a family always become (weakly) better off by claiming genealogical rights. Similarly, suppose a family f has a relative in another locality with assigned surname s. If TSM assigns family f to a weakly better surname than s without claim, by definition of the mechanism, it will assign f to the same surname with claim. However, with the claim, f will never be assigned to a surname worse than s. Hence, under TSM, a family always become (weakly) better off by having relatives in other authorities with assigned surnames.

We show that a family might be worse off under TSM by arriving early via an example.

Example 4. *Let the families be* $F = \{f_1, f_2, f_3\}$*, and the surnames* $S = \{s_1, s_2, s_3\}$*. Suppose* f_3 *has genealogical entitlement to* s_1*:* $G_{s_1 f_3} = 1$*, and* $G_{sf} = 0$ *for all other* s *and* f *pairs. Let* $t_{f_1} < t_{f_2} < t_{f_3} < t_{f_4}$*.*

Preferences of the families are:

P_{f_1}	P_{f_2}	P_{f_3}
s_1	s_1	s_1
s_2	s_2	s_3
s_3	s_3	s_2

TSM selects its outcome in the following steps:

Step	***Action and outcome***
1	f_1 *is assigned to* s_1.
2	f_2 *is assigned to* s_2.
3	f_3 *(genealogy at* s_1*) displaces* f_1 *and is assigned to* s_1.
4	*Displaced* f_1 *now chooses again and is assigned to* s_3.

Thus,

$$\mu = \{(f_1, s_3), (f_2, s_2), (f_3, s_1)\}.$$

Now suppose the application order is $f_2 - f_1 - f_3$. *Then, TSM selects its outcome in the following steps:*

Step	***Action and outcome***
1	f_2 *is assigned to* s_1.
2	f_1 *is assigned to* s_2.
3	f_3 *(genealogy at* s_1*) displaces* f_2 *and is assigned to* s_1.
4	*Displaced* f_2 *is assigned* s_3.

Thus,

$$\mu' = \{(f_1, s_2), (f_2, s_3), (f_3, s_1)\}.$$

Hence, f_1 *benefits from applying later.*

□

These results indicate that the TSM has serious drawbacks compared to the DA mechanism, which is benchmarked in two-sided matching markets. However, the implementation of the DA mechanism back in the 1930s may not be practical. To this end, we next investigate whether we can simply modify the surname allocation procedure in practice and provide a mechanism that fixes the drawbacks of TSM.

First, notice that under TSM, failure of stability and strategy-proofness stems from a family f losing its priority after it is bumped out due to an application of another family f' with genealogical rights. In particular, even if we allow f to choose just after f' gets the surname that it has genealogical rights, some preferred surnames that f would like to be assigned might have been taken by other families who applied between f and f'. Also, notice that the first family applying for the surname for which it has genealogical rights cannot be assigned to a more preferred surname under any stable matching. Given these observations, we modify the TSM as follows:

Modified Turkish Surname Mechanism (MTSM):

We apply TSM until the first step in which a family f applies to its genealogical surname s, i.e., $G_{sf} = 1$. In that case, family f is assigned to s, and we f from the market. We update the preferences of each remaining family f' with $K_{sf'} = 0$ by removing s. Then, we reapply TSM with the remaining families and updated preferences.

We repeat this procedure until we complete the TSM by assigning all remaining families.

In the following proposition, we show that MTSM is outcome equivalent to the DA mechanism.

Proposition 4. *For any P, $MTSM(P) = DA(P)$.*

Proof. If no family has a genealogical surname, then under TSM, families will be assigned to their most preferred available surname, and the outcome will be stable. It is easy to verify that when there is no family with genealogical entitlement, there exists a unique stable matching. Since DA is stable, the equivalence follows.

Now, suppose at least one family has a genealogical surname. Let f be a family with genealogical surname s and the first family to apply to its genealogical surname under MTSM. It is clear that under any stable matching, f cannot be assigned to a surname more preferred than s. Moreover, the surnames f ranks above s does not affect the outcome of the MTSM. Hence, removing f from the market after assigning it to s will not create any priority violation for f. Moreover, any family whose preferences are updated by removing s cannot be assigned to s in a stable matching. As a result, we can repeat this step over and over again. In each repeat, the removed family is assigned to the best surname that it can be assigned to in a stable matching.

Hence, in the last iteration of MTSM, we are left with a market in which no family applies to its genealogical surname. And the result follows from the reasoning in the first paragraph of the proof. □

Propositions 2, 3, and 4 imply that MTSM satisfies stability and strategy-proofness, and families benefit from genealogical rights, having relatives in other localities, and applying early. Moreover, we would like to emphasize that, whenever we remove a family that applied to its genealogical surname, it is sufficient to rerun the procedure if that surname was previously taken by another family without a relative in another locality assigned to that surname, and even in that case, we can restart from that family without changing the assignments of the earlier families.

MTSM has similarities with the NH4 mechanism (Abdulkadiroğlu and Sönmez, 1999; Guillén and Kesten, 2012). In particular, when there is no family with relatives assigned surnames in other localities, MTSM will be equivalent to the NH4 mechanism that has been used in MIT since the early 1980s. This equivalence is also good news for the potential im-

plementability of the MTSM mechanism. In fact, the NH4 mechanism has been implemented by asking all students to be in the same meeting room and verbally asking their preferred choices one by one and repeating the procedure whenever there is a squatter's right conflict.

We also want to further discuss the possible implementation of MTSM in the allocation of surnames. In populated localities, one practical way to implement MTSM is to require families to report lists of surnames. Whereas in small localities such as villages, whenever TSM needs to be repeated, the authorities may call out the corresponding families to come and select a new surname (if necessary). In either case, the families would be asked to give consent to the authorities to change the assigned surname with minor modifications (e.g., by adding Buyuk or Kucuk in front of the surname). This will allow us to apply the mechanism by decreasing the number of repetitions.

6 Conclusion

The 1934 Turkish Surname Law was more than a symbolic nation-building reform; it created one of the earliest real-world applications of structured allocation rules. By requiring surnames to be exclusive within each locality, prioritizing first applicants, and allowing genealogical overrides, the law effectively implemented a priority matching system decades before the formal development of matching theory.

Our formalization of the historical procedure as the Turkish Surname Mechanism (TSM) shows that it could fail stability, strategy-proofness, and Pareto efficiency, leaving room for disputes and manipulation. In contrast, a Deferred Acceptance (DA) implementation using the same priorities would have delivered stable, strategy-proof, and family-optimal outcomes. We then provide a simple modification of TSM that is outcome equivalent to DA. We also identified conditions under which TSM and DA coincide, as well as constructed examples illustrating inefficiency under TSM. These findings highlight the importance of institutional design choices, even in early policy contexts not explicitly informed by economic theory.

Seen through this lens, the Surname Law provides a natural historical experiment in allocation with priorities and entitlements. Its study sheds light on how rules designed for identity and nation-building resonate with mechanisms now used in school choice, college admissions, housing, and medical matching. By connecting an overlooked historical episode to the intellectual foundations of market design, this paper demonstrates the value of applying economic theory to interpret institutional reforms and extract lessons for contemporary allocation problems.

Appendix: Comparative Summary Table

Table 1: Surname reform design across countries

Country (date)	**Exclusivity**	**Genealogical entitlement**	**Priority rule**
Turkey (1934)	Local exclusivity (one family per surname per locality)	Yes—genealogy overrides filing order	First-come priority, subject to genealogy
Iran (1919)	No (duplication permitted)	None	None
Japan (Meiji era)	No (duplication permitted)	None	None
France (1803)	No (duplication permitted)	None	None
Thailand (1913)	Nationwide exclusivity	None	None (no genealogy/filing time)
Sweden (1901)	No general exclusivity; noble names protected	Narrow (noble names only)	None
Norway (1923)	No general exclusivity	None	None

References

Abdulkadiroğlu, Atila, and Tayfun Sönmez. 1999. "House Allocation with Existing Tenants." *Journal of Economic Theory* 88 (2): 233–260.

Abdulkadiroğlu, Atila, and Tayfun Sönmez. 2003. "School Choice: A Mechanism Design Approach." *American Economic Review* 93 (3): 729–747.

Alcalde, José, and Salvador Barbera. 1994. "Top dominance and the possibility of strategy-proof stable solutions to matching problems." *Economic Theory* 4 (3): 417–435.

Balinski, Michel, and Tayfun Sönmez. 1999. "A Tale of Two Mechanisms: Student Placement." *Journal of Economic Theory* 84 (1): 73–94.

Batson, Benjamin A. 1984. *The End of the Absolute Monarchy in Siam*. In , Southeast Asia Publications Series (10): , Singapore; Kuala Lumpur: Oxford University Press.

Chapman, David, and Karl Jakob Krogness. 2014. *Japan's household registration system and citizenship*. New York: Routledge.

Chehabi, Houchang E. 2020. *Onomastic Reforms: Family Names and State-Building in Iran*. Cambridge, MA: Ilex Foundation / Harvard University Press.

Gale, David, and Lloyd S. Shapley. 1962. "College Admissions and the Stability of Marriage." *American Mathematical Monthly* 69 (1): 9–15.

Greenberg, Kyle, Parag A. Pathak, and Tayfun Sönmez. 2024. "Redesigning the U.S. Army's Branching Process: A Case Study in Minimalist Market Design." *American Economic Review* 114 (4): 1070–1106.

Guillén, Pablo, and Onur Kesten. 2012. "Matching Markets with Mixed Ownership: The Case for a Real-Life Assignment Mechanism." *International Economic Review* 53 (3): 1027–1046.

Hatfield, John William, and Paul R Milgrom. 2005. "Matching with Contracts." *American Economic Review* 95 (4): 913–935.

Högman, Hans. 2023. "Name Laws in Sweden." https://www.hhogman.se/name-laws-sweden.htm, Accessed October 14, 2025.

Powell, Kimberly. 2025. "Swedish Patronymics and Surnames Explained." https://www.thoughtco.com/swedish-patronymics-naming-system-1422722, Accessed October 14, 2025.

Roth, Alvin E. 1984. "The Evolution of the Labor Market for Medical Interns and Residents: A Case Study in Game Theory." *Journal of Political Economy* 92 (6): 991–1016. 10.1086/261272.

Roth, Alvin E., Tayfun Sönmez, and M. Utku Ünver. 2004. "Kidney Exchange." *Quarterly Journal of Economics* 119 (2): 457–488.

Roth, Alvin E., Tayfun Sönmez, and M. Utku Ünver. 2007. "Efficient Kidney Exchange: Coincidence of Wants in Markets with Compatibility-Based Preferences." *American Economic Review* 97 (3): 828–851.

Shapley, Lloyd, and Herbert Scarf. 1974. "On cores and indivisibility." *Journal of mathematical economics* 1 (1): 23–37.

Sönmez, Tayfun, and M Utku Ünver. 2010. "House allocation with existing tenants: A characterization." *Games and Economic Behavior* 69 (2): 425–445.

Thailand Foundation. 2020. "The Origin of Thai Surnames." https://www.thailandfoundation.or.th, Accessed October 14, 2025.

Türköz, Meltem. 2017. *Naming and Nation-Building in Turkey: The 1934 Surname Law.* Palgrave Macmillan.

Utne, Ivar. 2023. "100 years ago, all Norwegians had to get surnames." https://www.sciencenorway.no/100-years-ago-all-norwegians-had-to-get-surnames/2174383, Accessed October 14, 2025.