

Balkanization and Assimilation: Examining the Effects of State-Created Homogeneity*

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Abstract

This paper investigates the effects of state-created homogeneity on the ability of socially distant individuals to trade. I show that where the state is absent, socially distant agents adopt the customs, practices and institutions of outsiders they desire to interact with. By creating a degree of homogeneity, agents signal their credibility to each other. These signals in turn enable inter-group exchange. Formal institutions provided by government can create noise in these signals. This noise incapacitates the information mechanism employed by heterogeneous agents to enable trade. (*JEL*: Z0, D82)

1 Introduction

Explaining social group balkanization is one of the most important tasks for economics to undertake. Individuals who interact predominantly inside of small homogeneous social networks because of group polarization forego the gains from inter-group exchange. Given that the overwhelming majority of gains available from exchange lie outside these bounds, this poses a significant obstacle to economic growth.

An expansive body of empirical work documents extensive social group balkanization. For instance, Massey and Denton (1993) provide evidence of residential racial segregation. Similarly, Woodrum (1981) and Gerber (1982) find heavy ethnic group reliance on members of their homogeneous community for access to credit and commercial financing.

Evidence of disproportionate business (Anderson 1990; Wilson 1996) and social (Alesina and La Ferrara 2000) interaction between members of the same group abounds as well. Indeed, a vast sociological literature identifies the prominence of “enclave economies” in America—widespread pockets of homogeneous social groups that engage in economic relations predominantly among their own members (see for example, Logan, Alba, and McNulty 1994; Portes and Manning 1986; Portes and Bach 1985; Portes and Stepick 1985). Bisin and Verdier (2000), Hechter (1975), Beer (1980) and Nielsson (1980) document social group balkanization in countries outside the U.S. too. This expansive evidence fundamentally undermines the hypothesis of domestic group assimilation (Sanders and Nee 1987: 746).

In contrast, heterogeneous agents in the international sphere interact frequently and without problem. This stylized fact is counterintuitive: We *expect more* inter-group

interaction where governments provide a common institutional and cultural framework that binds agents together, but we *observe less*. Conversely, we *expect less* interaction internationally where no formal institutional or cultural framework exists, but we *observe more*. How do we account for this peculiar result? In this paper I offer a potential answer to this question by considering the institutional differences that separate national and international political economies.

My thesis is as follows: State-created rules and institutions that conflict with those agents use to facilitate interaction can balkanize heterogeneous social groups instead of bringing them together. On the other hand, where government does not create rules and institutions at odds with individuals' informal practices, self-enforcing arrangements emerge, permitting heterogeneous agents to exchange peacefully.

In the absence of formal rules and institutions that conflict with informal practices, socially heterogeneous agents create a degree of homogeneity between each other by adopting the behaviors and customs of the outsiders they desire to interact with. By creating a degree of homogeneity with outsiders, agents signal their credibility. These signals in turn enable exchange. State created rules and institutions can introduce noise into these signals. This noise incapacitates the mechanism employed by heterogeneous agents to enable trade. As a result, social groups are polarized.

My argument is most closely connected to Hayek's (1960; 1973-1979), which emphasized the importance of spontaneously evolved rules, norms and customs of interaction created from the "bottom up," and pointed to the potentially disastrous effects that state-created rules, given from the "top down," could have for interpersonal interactions. As Hayek highlighted, and I try to do as well, formal rule creation that does

not dovetail with existing informal social practices may not only be ineffective, but actually destroy the private mechanisms individuals use to facilitate cooperation.

It is important to point out that I do not intend to claim that this reasoning explains all observed cases of assimilation/polarization. It surely does not. Inter-group interactions are vast and complicated phenomena, sensitive to many factors including the one I highlight here. Thomas Schelling (1978), for instance, has described how without any external impetus, racial enclaves may develop endogenously, creating segregated pockets within certain populations. My analysis is not inconsistent with Schelling's argument, but instead seeks to isolate and examine the role that exogenous factors—in this case state involvement—might play in creating the diverse patterns of group assimilation and polarization that we observe internationally and domestically.

Although the absence of systematic data prevents me from drawing definitive conclusions, the case study analysis presented here constitutes an important first step in explaining the differing abilities of heterogeneous individuals to realize the gains from inter-group trade in the international and domestic spheres. The remainder of this paper is organized as follows. Section 2 elaborates the mechanism used by heterogeneous agents to enable exchange where government is absent. Section 3 considers empirical evidence from international trade to corroborate the effectiveness of this mechanism. Section 4 examines how the formal institutions imposed by government can balkanize social groups. Section 5 considers evidence of balkanization where formal institutions are prominent. Section 6 concludes.

2 Overcoming the Problem of Social Heterogeneity: Inter-Group Exchange without the State

A substantial sociological and experimental literature suggests that individuals are most comfortable interacting with others who are like themselves and in fact display preferential behavior towards those in their in-groups (see for instance, Lazarsfeld and Merton 1954; Thibaut and Kelly 1959; Homans 1961; Berscheid and Walster 1969; Cohen 1977; Kandel 1978; Tajfel et al 1971; Kramer and Brewer 1984; Obot 1988). However, to capture the substantial gains from inter-group trade, agents must interact and exchange with individuals *outside* their homogeneous social networks.¹ A problem emerges here because as agents venture beyond these bounds, uncertainty regarding the credibility of others rises.

Inside small homogeneous groups, informal mechanisms of multilateral punishment secure cooperation between individuals (see for instance, Greif 1993; Ellickson 1991; Bernstein 1992, 1996, 2001; Clay 1997; Landa 1994; and Zerbe and Anderson 2001 to list only a few).² Such mechanisms do not function effectively, however, when they are extended to include a larger population of individuals covering multiple social groups. The information transmission mechanism that enables multilateral punishment to work inside small homogeneous group breaks down outside of them. Large populations make communicating information about the history of individuals prohibitively costly or outright impossible. Increased social distance between actors makes this problem even worse. Heterogeneity makes communication more costly and makes it more difficult to coordinate on social norms about what constitutes cheating and how cheating is to be punished. For these reasons, informal mechanisms of

multilateral punishment cannot secure cooperation for inter-group exchanges (Greif 1994, 2002; Zerbe and Anderson 2001).

Large population size and significant population heterogeneity, however, do not impinge the use of *bilateral* punishment. To bilaterally punish a cheater by refusing her future trade, only the cheated party needs to know the cheater's identity. Although bilateral punishment cannot create the same level of cooperation as multilateral punishment, it can secure some. Sufficiently patient agents who value the discounted stream of indefinite future trades with their partners more than the one-shot payoff of cheating will cooperate. Sufficiently impatient agents will not. My concern is not with this standard application of the folk theorem, but rather with how socially distant individuals confronted with this limited punishment capability (owing to the size and diversity of the population) can overcome the uncertainty inherent in interacting with anonymous outsiders who may be patient but may also be impatient, and thus prone to one-off cheating.³

To overcome the uncertainty that plagues inter-group interactions, heterogeneous agents must therefore employ some mechanism to prevent being cheated by screening potential trading partners *ex ante*. Unlike multilateral punishment, successful screening does not depend upon group size or social distance to function effectively. It does, however, require two things: easily observable attributes or activities—signals—that individuals may adopt or undertake to indicate their credibility to outsiders, and signals with an appropriate cost structure—namely signals that are cheap for cooperative types to send but expensive for cheaters to send—to effectively convey the sender's credibility to

the receiver. In other words, the cost function for sending some signal must satisfy the “single-crossing property.”

Degrees of homogeneity—i.e., shared practices, customs, behaviors, etc.—satisfy both of these conditions. Agents create degrees of homogeneity with the outsiders they desire to interact with by adopting some of the practices, behaviors and customs of these individuals. For instance, agents might learn the language of outsiders they desire to trade with, adopt their style of dress, participate in their religious ceremonies, arrange their contracts similarly, employ the same method of settling disputes, use the same medium of exchange, or adopt any number of other potential dimensions of commonality with outsiders. The presence of homogeneity over these dimensions is easily observable, making degrees of homogeneity good signals. More importantly, however, it costs cheaters more to create homogeneity with outsiders over such dimensions than it costs cooperators to do so.

The reason for this is straightforward. The payoff from creating some degree of homogeneity with an outsider is long term. In other words, the costs of investing in “homogeneity capital” with an outsider are only recouped through repeated play over time. Cheaters, however, have higher discount rates than cooperators. Because they discount the gains from future exchange more heavily than cooperators, cheaters find it relatively more costly to invest in creating some degree of homogeneity with an outsider, the value of which will only be recouped sometime down the road. Following this logic, the more impatient the cheater, the more costly he finds the investment.

If the cost of creating some degree of homogeneity is high enough (specifically, if this cost is greater than the one-period payoff from cheating), cheaters will not do so.

Only cooperators will adopt this degree of homogeneity, thus this signal can be used to successfully determine a sender's credibility. If an agent observes a certain degree of homogeneity with some other individual, say H , he knows that this individual is a cooperator so he trades with him. If he does not observe H , he knows that this individual is a cheater and so refrains from trading with him. In equilibrium, only cooperators exchange and interaction with cheaters is avoided.

To clarify why this is the case, consider the following example. Imagine that you require me to join your arbitration association in order to signal my credibility so that you will trade with me. If I join your association, it is because my expected benefit of exchange with you outweighs my expected cost of joining your association. Since my investment in joining your arbitration association will only be recouped over time, I will only find the expected benefit of trade with you higher than the expected cost of joining your association if I have a sufficiently low discount rate. If I choose to join your association, the degree of homogeneity created between us is therefore consistent with my signal of credibility. In other words, your observed degree of homogeneity with me accurately reflects my underlying type as a trustworthy (patient) exchange partner.

Importantly, this results only because my decision to join your association is voluntary. Because I have a choice in the matter, my decision to join (or not join) carries meaning—i.e., communicates information—about my type to outside observers. If I had no choice in the matter, my decision to join your association (or not join) would not communicate information about my type. This critical point is the basis of my discussion in Section 4, which contrasts this process of endogenously-created homogeneity with state-created homogeneity. For now, however, the important item to notice is that the

practices, customs and norms that form the basis for successful signaling along the lines described above must be voluntarily adopted by individuals, and are thus rooted in informal, endogenously-created rules and practices that individuals choose to follow.

In this context, heterogeneous potential trading partners can rely upon observed homogeneity between themselves and outsiders as accurate signals about outsiders' credibility. These signals convey correct information about outsiders' underlying types. Armed with good information about the credibility of outsiders, agents can confidently engage in inter-group exchange despite the absence of formal enforcement.

3 Evidence of Heterogeneous Trade in the International Arena: The Law Merchant as a Degree of Homogeneity

The international arena is an excellent place to look for evidence corroborating my claim about interaction between heterogeneous agents where government is absent. Recent evidence from international trade points to both the considerable volume of these interactions and the significant heterogeneity of the parties to them.

Modern international trade is based on a system of customary practice and private arbitration called the *lex mercatoria* or law merchant.⁴ In lieu of government, private international commerce organizations like the London Court of International Arbitration (LCIA), the Arbitration Institute of the Stockholm Chamber of Commerce, the American Arbitration Association's International Center for Dispute Resolution, and the International Chamber of Commerce (ICC) oversee relations and arbitrate disputes when they arise between international traders. The largest and most significant of these

institutions is the ICC. Today, at least 90 percent of all international trade contracts contain arbitration clauses (Volckart and Mangles 1999; Casella 1996).

Voluntarily submitting to the norms of the *lex mercatoria* creates a significant degree of homogeneity between otherwise heterogeneous agents. For instance, by constructing agreements in the same fashion as their potential trading partners, agreeing to use the same private arbitrator in the event of a disagreement, using the same medium of exchange, and joining the same commercial association, heterogeneous agents participating in trade via the law merchant establish homogeneity between each other over important dimensions.⁵ The degree of homogeneity created by these adoptions signals credibility, enabling heterogeneous agents to peacefully interact in the international sphere.

Looking at the parties to private international arbitration conveys a good sense of the extent of heterogeneity between agents interacting in the international arena. For instance, in 2001 nearly 1,500 parties to arbitration from over 115 nations across the globe utilized the arbitration services of the International Chamber of Commerce (ICC) alone. Table 1 statistically breaks down of the regional origins of ICC parties to arbitration in 2000.

--Table 1 about here--

As the “absolute percentage of total parties” column indicates, just below 40 percent of all ICC users in 2000 came from outside North America and North and Western Europe. The raw figures indicate a considerable degree of heterogeneity among parties to international arbitration. However, these numbers tend to overstate the number of parties from North America and North and West Europe, which constitute fairly

homogeneous interactions, and understate the number of parties from everywhere else, which constitute fairly heterogeneous interactions. The proportion of total arbitration parties originating from North America and North and West Europe is larger than it is elsewhere because the volume of exchange in these two regions is significantly larger than it is in the rest of the world.

To get a better picture of the diversity of ICC users, I adjust for the volume of exchange in their respective regions of the world. I use 1999 regional GDP in U.S. dollars calculated using World Bank data to proxy the volume of exchange (World Development Indicators 2001). The GDP-adjusted percentages in column two better indicate the true composition of international arbitration parties. After adjusting, the percentage of parties from North America and North and Western Europe drops substantially to only 18 percent—about the same as the percentage of parties from the other regions of the world. One notable exception is Africa, a region well known for its extreme internal heterogeneity. After adjusting for the volume of exchange, its proportion of total parties to international arbitration rises to 38 percent.

Evidence from another of the world's largest private international arbitration associations illustrates a similar pattern. Table 2 breaks down the origins of parties to arbitration through the London Court of International Arbitration (LCIA) in 2001, both in absolute and in region GDP-adjusted terms.

--Table 2 about here--

Perhaps the strongest evidence regarding the extent to which heterogeneous agents commercially interact in the international sphere is presented in Table 3. Table 3 identifies the actual regional distribution of disputes brought for international arbitration

through the ICC between 1974 and 1997, yielding an explicit measure of the proportion of commercial interactions between heterogeneous agents in the international arena. As the table indicates, the overwhelming majority of these cases—about 75 percent over the period—are between agents from different regions.

--Table 3 about here—

This data establishes the heterogeneity of the agents exchanging in the international arena. But what about sizes of these exchanges? Table 4, which identifies the amounts in dispute in international arbitration through the ICC from 1988-1998 and 2001, suggests they are considerable.

--Table 4 about here--

This table actually understates the value of these disputes because the amounts contended typically rise throughout the arbitration process. Furthermore those cases that come before international arbitration forums without specified amounts in dispute are often the largest cases, some in excess of \$1 billion.⁶

These numbers reflect but a small slice of the total amount of heterogeneous trade occurring without state enforcement in modern international commerce. According to the World Trade Organization, in 2003, world exports of merchandise and commercial services exceeded \$9 trillion (WTO 2004). This figure indicates the immense scale of heterogeneous exchange where government is absent. Between 1960 and 2000, the volume of international trade worldwide, measured as a percentage of world GDP, more than doubled (World Bank 2005). Figure 1 depicts this massive growth in inter-group exchange.

--Figure 1 about here--

Even more striking, this tremendous growth in international exchange occurred alongside tremendous growth in worldwide diversity. For instance, since 1960 the number of member states in the UN has nearly doubled from 99 to 191 (United Nations 2002). The creation of these new states occurred as social groups decided that they were significantly different to warrant their own territories. Among members of the UN, “multiethnicity is the rule” (Williams 1994: 50), and today there are an estimated 1600 distinct cultural groups (Levinson 1991-1993) and over 600 languages worldwide (Grimes 1988). Thus, despite the growing heterogeneity of agents in the international sphere, interaction between these agents is flourishing.⁷

4 State-Created Homogeneity

In contrast to the international arena, domestically, nation-states create common institutional and to some extent cultural frameworks for their citizens.⁸ For instance, government provides common laws, allowable business practices, media of exchange, education, policing and means of settling disputes. These formal rules and institutions create a type of homogeneity among otherwise heterogeneous agents under their domain.

Some of these common formal rules and institutions merely codify existing informal rules and practices already in use by citizens. For instance, in a country that overwhelmingly speaks English, a declaration by the state that English will be the official national language does not create a new custom or rule so much as it enshrines a pre-existing one. However, such a declaration by government is fundamentally different from one that not only declares English the national language, but also *forbids* citizens from conducting business in a language other than English. In this case, the effect of the

law is to eliminate potential options for citizens in conducting business with others by compelling homogeneity over the dimension of language in commerce.

Government actions that merely codify pre-existing common customs and practices pose no threat to the viability of the signaling mechanism that socially distant agents use to facilitate interaction examined in Section 2. These formal rules dovetail with informal ones, and simply formalize homogeneity that emerged endogenously per the process already described. They do not “create” any new homogeneity. Even more importantly, these rules and institutions do not mandate homogeneity over some dimension(s), and thus leave decisions about the extent to which individuals share commonalities with outsiders to individuals themselves. Thus, it is not the case that all government actions are problematic for inter-group trade. Some, for instance prohibitions against physical violence, which do not conflict with pre-existing practices or prohibit those used as signals of credibility, may even promote inter-group interaction.⁹ It is unlikely that criminalizing murder, for example, removes a relevant dimension of commonality that would otherwise be adopted by individuals for the purpose of signaling credibility and facilitating trade.

On the other hand, government actions that mandate homogeneity over some dimension(s) are destructive to the signaling mechanism described in Section 2. Here the state formally prohibits individuals from employing certain customs and practices and instead imposes rules that conflict with informal norms in their place. This imposed commonality need not always conflict with pre-existing practices, but to the extent that a formal mandate is needed to achieve compliance, there is good reason to think that the custom or practice prescribed (or denied) by government is at odds with the decisions

individuals would have voluntarily undertaken in the absence of the mandate. This is, after all, why government creates the mandate in the first place.

Only when government goes beyond merely codifying pre-existing common rules and practices does it therefore “create” homogeneity. However, this homogeneity is *not* the result of individuals voluntarily adopting the customs, practices and institutions of outsiders, as it is in the international sphere where government does not create common rules and institutions. As such, this type of homogeneity does not emerge endogenously per the process described in Section 2. Rather, it is imposed on agents exogenously by the state. To distinguish this type of homogeneity from the type that emerges endogenously (whether it is codified by government or not), I call this “state-created homogeneity.”

Intuitively, it would seem that by formally creating shared practices and institutions for their citizens, governments would facilitate inter-group interaction. This intuition, however, is wrong. State-created homogeneity tends to polarize social groups rather than bringing them together.

Recall that when homogeneity emerges endogenously it is consistent with agents’ signals of credibility. In this case, the observed degree of homogeneity created between outsiders accurately reflects their underlying types. I noted previously that this was the result of individuals voluntarily adopting the practices, customs and institutions of outsiders because they believed the expected benefits from doing so outweighed the expected costs. Let us call the rate exchange between heterogeneous agents that is enabled when the observed degree of homogeneity between individuals is voluntarily adopted and accurately reflects agents’ underlying types the *natural rate of exchange*.

In contrast, state-created homogeneity need not coincide with agents' underlying types. For instance, imagine you and I are heterogeneous individuals living under the same government. Also, assume that our government mandates some common practices, like what medium of exchange agents may employ. In this case, the fact that I use the same medium of exchange as you may simply be the result of the state's mandate that I do so. In other words, the observed degree of homogeneity between us over this practice need not signal my credibility.

On the other hand I may have adopted the same medium of exchange as you without the state's mandate. I might have voluntarily adopted this degree of homogeneity with you because I believe the expected benefits of doing so outweigh the expected costs. In this case the observed degree of homogeneity between us would accurately reflect my credibility. The crucial point is this—in either event, you have no way of knowing which situation you face.¹⁰

State-created homogeneity thus generates false signals regarding the trustworthiness of particular individuals in exchange. More specifically, state-created homogeneity generates a *signal extraction problem* for heterogeneous agents. Genuine signals of credibility sent between heterogeneous agents interact with and become indistinguishable from false signals generated by state-created homogeneity. Agents are unsure how much of the credibility signaled by observed homogeneity is genuine and how much is artificial.

In this way, state-created homogeneity introduces noise in the signaling mechanism used by heterogeneous agents to enable exchange. This noise reduces the

signaling mechanism's informational efficiency. As a result, some exchanges take place that would not have otherwise, while others do not take place that would have otherwise.

In the face of the signal extraction problem that state-created homogeneity generates, two types of errors are possible. *Errors of overoptimism* involve being cheated and result from mistakenly interpreting some observed degree of homogeneity as genuine when in fact it is artificial. For instance, using the example from above, if I only use the same medium of exchange as you because of the state's mandate, but you believe that I would have voluntarily adopted this practice without the state's mandate, you have made an error of overoptimism. You thought I was credible so you trade with me, but I am not, so I cheat you.

These errors are "automatically" revealed in the sense that individuals who commit them are immediately confronted with their mistake. The moment that I cheat you, you know you have erred. Errors of overoptimism are therefore quickly and easily corrected. Traders who find themselves cheated adjust their level of exchange downward, correcting their errors of overoptimism.

Errors of overpessimism involve foregone profit opportunities from a failure to exchange based on mistakenly interpreting some observed degree of homogeneity as artificial when in fact it is genuine. For instance, again using the example from above, if you believe that the only reason I use the same medium of exchange as you is because of government's mandate, but I would have voluntarily adopted this practice without such a mandate, you have committed an error of overpessimism. You did not think I was credible so you do not trade with me, but in fact I was credible and you could have. We

consequently lose out on the gains from what would have been a mutually advantageous exchange relationship.

Unlike errors of overoptimism, errors of overpessimism may go largely uncorrected. These errors are not “automatically” revealed to the traders who commit them. In contrast with errors of overoptimism, errors of overpessimism are unobservable. While you know you made a mistake if I cheat you, you do not know that you forewent a mutually advantageous trading opportunity if we never exchange.

It is possible for an individual to indirectly learn that he made an error of overpessimism by observing the success of some other individual who did exchange. However, there is a positive cost associated with searching for others to learn from. Traders committing errors of overpessimism are therefore less likely to correct them. Figure 2 illustrates the two possibilities of corrective overoptimism and uncorrective overpessimism in relation to the natural rate of exchange.

--Figure 2 about here--

Errors of overoptimism that occur in the face of the signal extraction problem lead to a temporary deviation above the natural rate of exchange, with an ultimate return to the natural rate. These are exchanges that took place but should not have. This fact is revealed quickly as erring agents are cheated and correct their mistakes.

However, because individuals are less likely to correct their errors of overpessimism, these errors constitute a stochastic move downward. These are exchanges that did not take place but should have. Because they are costly and difficult to detect, many errors of overpessimism go uncorrected, leading to a permanently lower rate of exchange than that dictated by the natural rate, which carries forward in time. In

other words, the long-run natural rate of exchange falls. Corrected errors of overoptimism thus adjust to a new, lower natural rate. Figure 3 depicts this process.

--Figure 3 about here--

The lower natural rate of exchange generated by state-created homogeneity produces hysteresis effects that operate to depress the long-run natural rate even further. The signal extraction problem generated by state-created homogeneity renders the signals normally used by heterogeneous agents to convey their credibility ineffective. To overcome this problem, agents must adopt more costly practices and institutions to enable the same volume of exchange. In other words, agents must send more costly signals to redeem the effectiveness of signaling credibility through adopting dimensions of homogeneity.

By making it more costly for heterogeneous individuals to engage in trade, state-created homogeneity shrinks the number of profitable exchanges. This in turn reduces the number of transactions between heterogeneous traders. In short, state-created homogeneity diminishes the ability of heterogeneous individuals to interact for mutual benefit. In response, individuals revert to interaction inside their small homogeneous social groups where they do not have to rely on observed homogeneity as signals of credibility to exchange.

Elsewhere (Leeson 2005), I have empirically documented this deleterious effect of state-created homogeneity in the context of African colonization. Prior to European colonization, interaction and exchange between diverse and numerous African communities was relatively common and peaceful. These Africans adopted a number of dimensions of homogeneity with the outsiders they desired to interact with, as a means of

signaling their credibility, per the process described in Section 2. In the pre-colonial period, the institutions of the village headman, indigenous land arrangements, and religious ceremonies and associations, were among the important practices and institutions that individuals voluntarily adopted to signal trustworthiness and facilitate inter-group cooperation. Colonial powers, which codified and mandated previously voluntary, informal institutions such as village headmen and specific land arrangements, and legally prohibited others, such as certain religious practices and associations, created a signal extraction problem for Africans along the lines described above. This signal extraction problem incapacitated the signaling mechanism that made interaction and exchange among socially heterogeneous Africans possible. In the wake of these colonial rule changes, group isolation resulted, preventing the ability of individuals to realize many of the gains from inter-group exchange, and in some cases violent conflict between groups erupted.

5 Evidence of Social Group Balkanization

Social group balkanization generated by state-created homogeneity in this fashion manifests itself in two primary forms. First, members of polarized social groups interact overwhelmingly with members of their in-groups commercially. Second, they interact overwhelmingly with members of their in-groups in non-commercial settings as well. This section considers only a small part of the vast empirical literature documenting both of these manifestations where formal institutions are prominent. Rather than offering an exhaustive presentation of this evidence, the goal here is to review only a small sample that captures the essential characteristics of both outcomes of state-created homogeneity.

Unfortunately, there is no way to determine for sure to what extent this balkanization is caused by state-created homogeneity, or results from some other polarizing force (endogenous or exogenous). Nevertheless, at the very least, it is possible to identify a strong congruity between social group balkanization as we actually observe it, and the outcomes that my framework predicts. It is in this spirit that I analyze the evidence below.

With the signaling mechanism used by heterogeneous agents to enable inter-group trade destroyed, agents revert to commercial interactions inside their homogeneous groups where signaling is unnecessary. As Aldrich and Waldinger point out, where agents are balkanized they interact primarily through “personal networks and . . . ties that are specifically linked to their ethnic communities” (1990: 127-128). On the one hand this means that individuals will overwhelmingly rely on members of their in-group on the “input side” of their businesses. For instance, a recent survey of Chinese businessmen in Canada conducted by Brenner et al (2000)¹¹ finds that 44 percent of business owners purchased their business from someone inside their ethnic group. Additionally, 60 percent of those surveyed financed their enterprises with funds from a member of their in-group.

In the U.S. there is also evidence of predominant reliance on in-group members for business inputs. For example, Anderson (1990) and Wilson (1996) find that many black communities are limited to business opportunities within their close social networks. Evidence also indicates that ethnic group members in the U.S. overwhelmingly rely on members of their homogeneous community for access to credit and commercial financing (Woodrum 1981; Gerber 1982).

On the input side of commercial activity are also laborers agents hire to operate their enterprises. Because of social group balkanization, “co-ethnic labor is critical to most . . . ethnic businesses” (Aldrich and Waldinger 1990: 130). Thus, individuals in balkanized social groups overwhelmingly hire inside their homogeneous networks. For instance, Brenner et al (2000) find that in Canada 85 percent of the average Chinese businessman’s full-time employees, and over 81 percent of his part-time employees, are members of his ethnic group. Furthermore, over 86 percent of those surveyed indicate that they prefer to recruit new employees from their homogeneous network.

Polarized agents commercially interact primarily with in-group members on the “output side” of their businesses as well. Confronted with a signal extraction problem generated by state-created homogeneity, agents are forced to do most of their buying and selling inside their social groups. For instance, 55 percent of respondents surveyed by Brenner et al (2000) sell between 60 and 100 percent of their total sales to members of their ethnic group. A study conducted by Filion et al (2001) that included both Italian and Chinese merchants in Canada found similar results. Nearly 53 percent of all respondent’s sales are to members of their respective in-group, and one third of their business purchases are from members of this group.

Because most transactions are with in-group members, polarized individuals find it advantageous to locate their businesses in areas dominated by insiders. For example, over 64 percent of those surveyed by Brenner et al (2000) locate their business in such areas. This fact helps explain the phenomenon of “ethnic enclaves” as well. Ethnic enclaves are balkanized pockets of separate social groups. These pockets are centers of in-group exchange, so in-group business owners set up shop in these locations. Far from

infrequent occurrences, Logan, Alba, and McNulty (1994) have identified ethnic enclaves in the majority of seventeen major U.S. cities studied.

Balkanization generated by state-created homogeneity also manifests itself among agents in non-commercial settings. Since many of individuals' non-commercial social interactions are influenced and conditioned by their commercial interactions, infrequent commercial contact between polarized individuals impacts their non-commercial relations as well. Individuals who locate their businesses in in-group dominated regions because most of their exchanges are with in-group members are also likely to live in in-group dominated regions. For example, 62 percent of subjects considered by Brenner et al (2000) live in such regions. In the U.S., Massey and Denton (1993) find similar evidence of residential segregation along social group lines.

Where agents are polarized but cannot escape each other residentially, mistrust emerges between them. For instance, Alesina and LaFerarra (2002) find low levels of trust in communities that are ethnically fragmented. Similarly, agents who commercially interact overwhelmingly with in-group members are likely to have non-commercial contact with fellow group members as well. Among those surveyed by Brenner et al (2000), for example, 65 percent identify in-group members as their primary contacts.

When agents overwhelmingly interact with other in-group members, they find it unnecessary to communicate with outsiders. As a result, they come to rely heavily on group-specific languages, distancing themselves from outsiders yet further. For instance, linguists find evidence of reliance upon group-specific languages emerging in urban centers throughout America (Labov 1982). In the extreme, balkanized agents who have little interaction with one another and cannot communicate, resort to violence. Mistrust

between socially heterogeneous agents grows to such an extent what little interaction they do have erupts into inter-group conflict (see for example: Whyte 1943; Gans 1962; Suttles 1968; Nee and Nee 1986).

6 Conclusion

This analysis has counterintuitive implications for policy. Government best promotes the ability of heterogeneous agents to interact for mutual benefit by restricting its range of formal institutions and rules to those already in use informally by private individuals. In particular, government should refrain from prohibiting or mandating certain practices over dimensions of potential commonality that are used by individuals for signaling as a means of enhancing cooperation.

If the practices and institutions used by heterogeneous agents to signal credibility in the international sphere are any indication of those agents generally find most useful in enabling inter-group trade, then the analysis presented here has particularly radical policy implications. Internationally, trade flourishes between heterogeneous agents because decisions to join the arbitration associations, adopt the dispute settlement practices, and abide by the informal commercial law of outsiders under the law merchant are purely voluntary. There is no external force compelling agents to do so.

Precisely because of this, observed homogeneity between agents in the international sphere accurately conveys agent credibility. This suggests that leaving things like courts and even law to the private sector where they remain informal and voluntary arrangements may be necessary to preserve the signaling capacity of these institutions for heterogeneous individuals.

The analysis presented here also offers potentially fruitful new avenues for future research. Owing to data limitations, the empirical discussions in this paper can only provide evidence for the outcomes predicted by my theoretical framework. Direct evidence of the causal link identified by my theory to these outcomes is unfortunately absent. The absence of better data, however, does not preclude the possibility of testing this paper's proposition in an alternative fashion. Future work, for example, could test my thesis through the use of agent-based modeling.

Additionally, further research should examine what particular practices and institutions heterogeneous agents rely on for signaling in different times and places, and how various governments' policies have either helped or hampered individuals' abilities to use them for this purpose. Such an examination would yield important insights in the areas of law and economics and economic growth. In particular, an application of this framework to transitioning countries formerly ruled by socialist governments that explicitly pursued programs of national homogenization would be especially valuable.

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Table 1. The Heterogeneity of the Law Merchant: Evidence from the ICC

Party Origin (by region)	Absolute % of Total Parties*	Region GDP Adjusted % of Total Parties**
Africa	6.4	38
North America	14.5	4
Latin America and the Caribbean	8.7	12
Asia	15.2	6
Australasia	0.9	12
North and West Europe	46.8	14
Central and East Europe	7.5	18

*Based on figures provided in ICC Bulletin Vol.12/No.1-Spring 2001.

**Calculated using 1999 GDP data of countries composing the relevant regions from World Development Indicators (2001).

Table 2. The Heterogeneity of the Law Merchant: Evidence from the LCIA

Party Origin (by region)	Absolute % of Total Parties*	Region GDP Adjusted % of Total Parties**
Africa	6	16
North America	10	1
Latin America and the Caribbean	11	7
Asia	11	2
Australasia	11	62
North and West Europe	42	6
Central and East Europe	6	6

*Based on figures from LCIA, "Director-General's Review of 2002."

•The figures in this column do not add to 100% because a 3% "other" category from the LCIA breakdown was excluded.

**Calculated using 1999 GDP data of countries composing the relevant regions from World Development Indicators (2001).

Table 3. Regional Distribution of ICC Arbitration Cases
 (average per period based on available samples)

	1974-1985 (37 cases)	1986-1990 (36 cases)	1991-1995 (19 cases)	1996-1997 (140 cases)
Intraregional Disputes	30%	11%	26%	32%
Interregional Disputes	70%	89%	74%	68%

Source: Mattli (2001)

Table 4. Amounts in Dispute Through the ICC
(average per period)

	1988-1991	1992-1995	1996-1998	2001
< \$50K	4.9%	4.5%	3.2%	1.1%
\$50K-\$200K	13.1%	11.1%	12.1%	9.8%
\$200K-\$1M	25.3%	24.0%	23.1%	22.0%
\$1M-\$10M	33.1%	36.7%	34.6%	31.4%
> \$10M	11.3%	14.7%	16.0%	22.6%
Amount not indicated	12.3%	9.1%	11.0%	13.1%

Source: Craig et al (2000) and the *ICC Bulletin* (2002)

Figure 1. The Growth of Inter-Group Exchange in the International Sphere

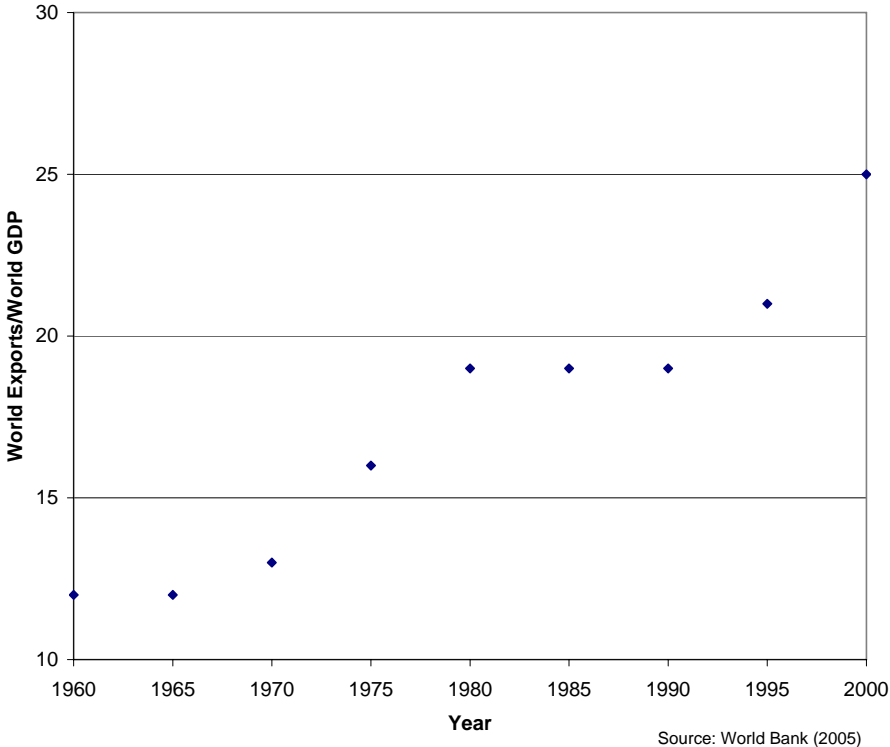


Figure 2. Corrective Overoptimism and Uncorrective Overpessimism

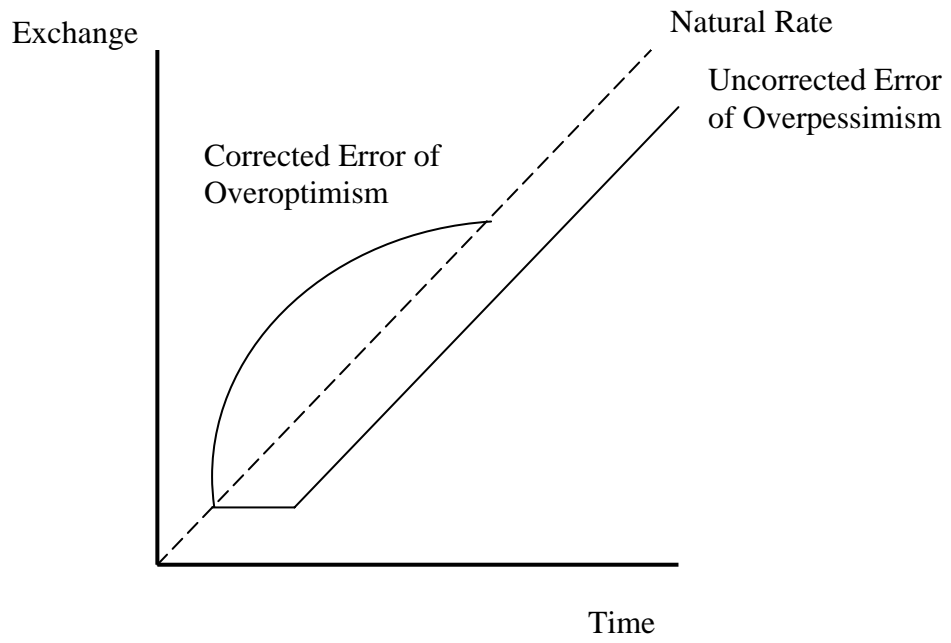
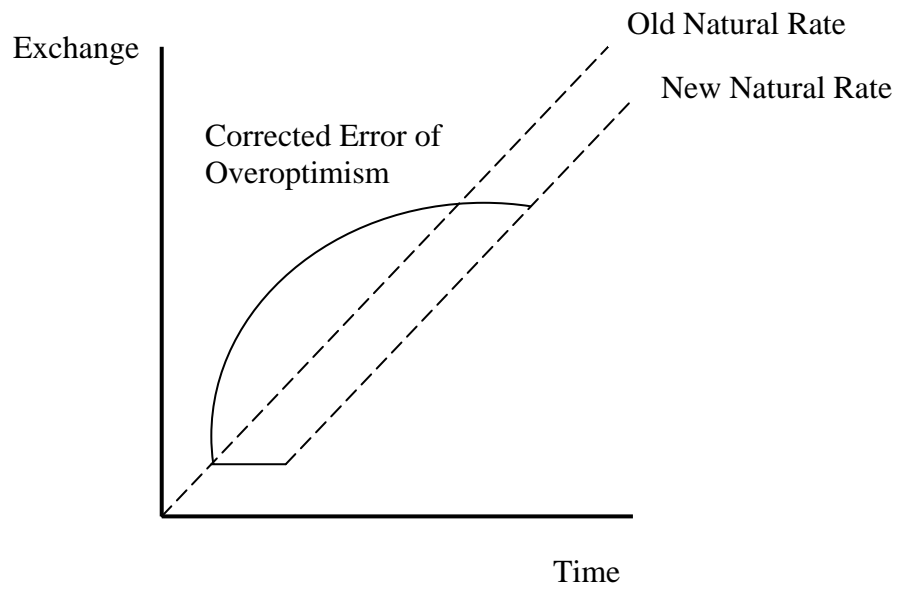


Figure 3. New Natural Rate



Notes

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¹ For an analysis of the trade-off that agents face between the ability to enforcement agreements at low cost inside small homogeneous groups and the gains from trade foregone by not interacting with those outside their in-groups, see Bowles and Gintis (2004).

² On the theory of collective enforcement see, for example, Kandori (1992a) and Bendor and Mookherjee (1990).

³ For a consideration of the folk theorem under imperfect monitoring see, for instance, Abreu, Pearce and Stacchetti (1990), Abreu, Milgrom and Pearce (1991), and Kandori (1992b).

⁴ The modern *lex mercatoria* is an outgrowth of the *lex mercatoria* that originated in 11th century Europe and dominated nearly all European exchange until the 16th century. It is interesting to note that even in the medieval period traders were plagued by the problems generated by state-created homogeneity (Pirenne 1937: 180) and sought to exchange in the international arena where the presence of formal institutions was felt much less. Thus, “Strange as though it may seem, medieval commerce developed from the beginning under the influence of not local but export trade” (Pirenne 1937: 140). This, in fact, is how the *lex mercatoria* emerged.

⁵ For instance, Rose and Engel (2002) find that even after controlling for other relevant factors (such as geographic proximity, relationship as former colonies, etc.), sharing a common language causes international trade to increase by a factor of four. They find a similar effect for agents sharing the same medium of exchange. Adoption of a common medium of exchange was also used by stateless tribal societies to create a degree of homogeneity that in turn facilitated intersocietal exchange (Launay 1978).

⁶ This pattern holds for the other major international arbitration institutions as well. For instance, the ICDR, a much smaller international arbitration forum than say the ICC or the LCIA arbitrated a caseload worth more than \$10 billion involving parties from 63 countries across the globe (ICDR 2002). See also, LCIA (1998, 1999, 2000, 2001, 2002).

⁷ Cowen (2002) points out that globalization can actually simultaneously increase both homogeneity and heterogeneity between people from differing regions of the world. On the one hand, with more and more contact through trade, some homogenization of cultures occurs. On the other hand, this increased interaction introduces new and different customs and practices to regions throughout the world, and in this sense increases heterogeneity.

⁸ For example, the laws/traditional trappings associated with a particular government often condition many social attitudes and beliefs, both towards government and other members of society. Similarly, government indirectly determines attitudes about race, sexuality, and what is considered appropriate behavior in all kinds of differing social circumstances through public education.

⁹ The problem, which has been identified by Hayek (1960), James Buchanan (1975) and Doug North (1990) among others, is thus empowering government sufficiently to create these useful rules, without giving government so much power that it is able to create rules that inhibit exchange—in this case, rules that destroy the signaling mechanism used by heterogeneous traders to facilitate inter-group cooperation.

¹⁰ To use an even simpler example, imagine that government required all its citizens to wear cross necklaces. Christians who formerly identified with one another through this dimension of homogeneity are no longer able to do so. By formalizing this practice, government eliminates the signaling effectiveness of this degree of homogeneity.

¹¹ For additional evidence documenting the rather severe balkanization in Canada see: Fenwick 1981; Makabe 1981; Darroch and Marston 1971; Olzak 1983; Ardener 1964.