**Экономика. Текст 1.**

**Stochastic stability in monotone economies**

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This paper extends a family of well known stability theorems for monotone

economies to a significantly larger class of models. We provide a set of general

conditions for existence, uniqueness, and stability of stationary distributions

when monotonicity holds. The conditions in our main result are both necessary

and sufficient for global stability of monotone economies that satisfy a weak mixing

condition introduced in the paper. Through our analysis, we develop new

insights into the nature and causes of stability and instability.

Keywords. Stability, monotonicity, stationary equilibria.

JEL classification. C62, C63.

1. Introduction

The stability results for monotone economies developed in Hopenhayn and Prescott

(1992, Theorem 2) have become a standard tool for analysis of dynamics and stationary

equilibria. For example, Huggett (1993) used their results to study asset distributions

in incomplete-market economies with infinitely lived agents. The same results

were applied to variants of Huggett’s model with features such as habit formation, endogenous

labor supply, capital accumulation, and international trade (Díaz et al. 2003,

Joseph and Weitzenblum 2003, Pijoan-Mas 2006, Marcet et al. 2007). They were used to

study the classical one-sector optimal growth model by Hopenhayn and Prescott (1992),

a stochastic endogenous growth model by de Hek (1999), and a small open economy by

Chatterjee and Shukayev (2012). They have been used in a wide range of overlapping

generations (OLG) models with features such as credit rationing (Aghion and Bolton

1997, Piketty 1997), human capital (Owen and Weil 1998, Lloyd-Ellis 2000, Cardak 2004,

Couch and Morand 2005, Hidalgo-Cabrillana 2009), international trade (Ranjan 2001,

Das 2006), nonconcave production (Morand and Reffett 2007), and occupational choice(Lloyd-Ellis and Bernhardt 2000, Antunes and Cavalcanti 2007). Other well known applications

include variants of Hopenhayn and Rogerson’s (1993) model of job turnover

(Cabrales and Hopenhayn 1997, Samaniego 2008) and Hopenhayn’s (1992) model of entry

and exit (Cooley and Quadrini 2001, Samaniego 2006).

**Экономика. Текст 2.**

**Rhetoric in legislative bargaining with asymmetric information**

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We analyze a three-player legislative bargaining game over an ideological and a

distributive decision. Legislators are privately informed about their ideological

intensities, i.e., theweight placed on the ideological decision relative to theweight

placed on the distributive decision. Communication takes place before a proposal

is offered and majority rule voting determines the outcome. We show that it is

not possible for all legislators to communicate informatively. In particular, the

legislator who is ideologically more distant from the proposer cannot communicate

informatively, but the closer legislator may communicate whether he would

“compromise” or “fight” on ideology. Surprisingly, the proposer may be worse off

when bargaining with two legislators (under majority rule) than with one (who has

veto power), because competition between the legislators may result in less information

conveyed in equilibrium. Despite separable preferences, the proposer is

always better off making proposals for the two dimensions together.

Keywords. Legislative bargaining, rhetoric, cheap talk, private information,

bundling.

JEL classification. C78, D72, D82, D83.

1. Introduction

Legislative policy-making typically involves speeches and demands by legislators that

may shape the proposals made by the leadership. For example, in the 2010 health care

overhaul in the United States, one version of the Senate bill included $100 million in

Medicaid funding forNebraska and restrictions on abortion coverage in exchange for the

vote of Nebraska Senator Ben Nelson. As another example, consider the threat in 2009

by seven members of the U.S. Senate Budget Committee to withhold their support for

legislation to raise the debt ceiling unless a commission to recommend cuts toMedicare

and Social Security was approved.1 Would these senators indeed have let the UnitedStates default on its debt or was their demand just a bluff? More generally, what are

the patterns of demands in legislative policy-making? How much information do they

convey? Do they influence the nature of the proposed bills? Who gets private benefits

and what kind of policies are chosen under the ultimately accepted bills?

**Экономика. Текст 3.**

**ONE-SIDED UNCERTAINTY AND DELAY**

**IN REPUTATIONAL BARGAINING**

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June 4, 2014

Abstract. A two-person in\_nite-horizon bargaining model where one of the players may

have either of two discount factors, has a multiplicity of perfect Bayesian equilibria. Intro-

ducing the slightest possibility that either player may be one of a rich variety of stationary

behavioral types singles out a particular solution and appears to support some axiomatic

treatments in the early literature in their conclusion that there is a negligible delay to agree-

ment. Perturbing the model with a slightly broader class of behavioral types that allows the

informed player to delay making his initial demand still achieves powerful equilibrium re\_ne-

ment. But there is substantial delay to agreement, and predictions depend continuously on

the ex ante probabilities of the patient and impatient types of the informed player, counter

to what the literature suggests.

REPUTATIONAL BARGAINING

1. Introduction

Rubinstein (1982) delighted economists by establishing uniqueness of perfect equi-

librium in an in\_nite horizon bargaining model. Once the surprise wore o\_, attention

moved to another intriguing feature of the model: in the unique equilibrium, agreement

is reached immediately. While this does not square well with some real-world phenomena

(protracted haggling over prices, strikes in labor negotiations and so on), it was expected

that introducing asymmetric information into the model would easily produce delay to

agreement. If the purpose of holding out for a better deal is to signal the strength of one's

bargaining position, then the existence of asymmetric information (without which there

would be nothing to signal) might naturally be expected to go hand in hand with delay to

agreement.

The asymmetric information bargaining literature did not unfold exactly as hoped.

The early papers revealed a vast multiplicity of perfect Bayesian equilibria, even for one-

sided asymmetric information (Rubinstein (1985)) or for only two periods in the case of

bilateral informational asymmetry (Fudenberg and Tirole (1983)). More speci\_c results

relied on severely limited strategy spaces (Chatterjee and Samuelson (1987)), appeals to

\reasonable" selections from the equilibrium correspondences (Sobel and Takahashi (1983),

Cramton (1984), Chatterjee and Samuelson (1988)) or axiomatic restrictions of equilib-

rium (Rubinstein (1985) and Gul and Sonnenschein (1988)). The latter two papers study

one-sided asymmetric information and produce solutions displaying virtually *no delay to*

*agreement*. Gul and Sonnenschein's solutions have a further \Coasean" feature1: the un-

informed player, facing an opponent drawn from a distribution of payo\_ types, does as

badly as she would if she instead faced, with certainty, the strongest possible opponent

from that distribution. (Both these results apply to situations where o\_ers can be made

frequently.)

**Экономика. Текст 4.**

Communication and influence

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July 5, 2014z

Abstract

We study the information flows that arise among a set of agents with local knowledge

and directed payoff interactions, which differ among pairs of agents. First, we study

the equilibrium of a game where, before making decisions, agents can invest in pairwise

active communication (speaking) and pairwise passive communication (listening). This

leads to a full characterization of information and influence flows. Second, we show

that, when the coordination motive dominates the adaptation motive, the influence of

an agent on all his peers is approximately proportional to his eigenvector centrality.

Third, we use our results to explain organizational phenomena such as: the emergence

of work cliques; the adoption of human resources practices that foster communication

(especially active communication); and the discrepancy between formal hierarchy and

actual influence.

1 Introduction

Communication is one of the defining characteristics of humans. A large part of our day

is spent on various media, ranging from having informal conversations to writing formal

reports, from exchanging email messages to participating in social media. This is true in

social contexts as well as in the workplace. Corporate leaders spend upwards of 80 percent

of their work time on communication-centered activities (Mintzberg 1973, Bandiera et al.

2009).

The endogeneity of communication patterns should lie at the center of a theory of

organization (Arrow 1974). We have some control on whom we decide to speak to, email, or

telephone. As communication requires time, we are selective and instrumental in how much

we invest in communicating with different agents. As Simon (1986) noted: .If we record the

frequency of communication between different nodes, we [will] find that the pattern is not

uniform but highly structured. In fact, the pattern of communication frequencies [should]

re.ect, approximately, the pattern of authority..The objective of this paper is to develop a

model of endogenous costly communication and to use it to understand influence patterns.

The model can be sketched as follows. There are a number of agents who face local

uncertainty (for simplicity, local states are assumed to be mutually independent). Each

agent observes the realization of his local state and must take an action. The payoff of each

agent depends on his local state, his own action, and the action of other agents. For every

pair of agents, action interdependence is measured as a continuous intensity and it can be

asymmetric (agent A places more importance in coordinating with B than with C) and

directed (agent A wants to coordinate with B more than B wants to coordinate with A).

Before choosing his action, an agent can engage in communication. He can inform other

agents about his own state of the world and he can gather information about other agents.

state of the world.1 Formally, the agent selects a vector of active communication intensities

and a vector of passive communication intensities. The precision of the communication of

one agent to another is then determined by how much the sender invests in active commu-

nication (talking) and how much the receiver invests in passive communication (listening).

Both types of communication are costly, and the cost is an increasing and convex function

of communication intensity. In this model, the intensity of communication and influence

(how much an agents state influences another agents action) is represented by continuous

variables. This allows us to study varying degrees of interpersonal ties, as suggested by the

sociological literature (Granovetter, 1973).

**Экономика. Текст 5.**

Characterizing the Limit Set of PPE Payoffs with

Unequal Discounting

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June 30, 2014

Abstract

We study repeated games with imperfect public monitoring and unequal discount-

ing. We characterize the limit set of perfect and public equilibrium payoffs as discount

factors converge to 1 with the relative patience between players fixed. We show that

the pairwise and individual full rank conditions are sufficient for the folk theorem.

1 Introduction

In this paper, we characterize the equilibrium payoffs in repeated games with imperfect

public monitoring and unequal discounting as discount factors converge to one with relative

patience fixed. In particular, we show that the pairwise and individual full rank conditions

are sufficient for the folk theorem.

Lehrer and Pauzner (1999) (henceforth LP) analyze two-player repeated games with per-

fect monitoring and unequal discounting. They de.ne the set of feasible and sequentially

individually rational (henceforth SIR) payoffs and show that, in two-player games with per-

fect monitoring, the limit set of subgame perfect equilibrium payoffs coincides with that of

SIR payoffs as discount factors converges to one with the relative patience fixed (the folk

theorem). Recently, Chen and Takahashi (2012) extend the result to n-player games with

perfect monitoring.

This paper extends their results to imperfect public monitoring. While the proofs of

both Lehrer and Pauzner (1999) and Chen and Takahashi (2012) are constructive, we em-

ploy a non-constructive approach using the recursive structure of the perfect and public

equilibrium (henceforth PPE). Specifically, we attain a characterization of the set of PPE

payoffs as discount factors converge to one. In addition, we characterize SIR payoffs. Given

these characterizations, we show that, if the pairwise and individual fullrank conditions are

satisfied, these two sets coincide, that is, the folk theorem holds.

The characterization of limit PPE payoffs with equal discounting is provided by Fuden-

berg and Levine (1994) (henceforth FL). Using this characterization, we can prove the folk

theorem in repeated games with equal discounting and imperfect public monitoring, which

is first shown by Fudenberg, Levine and Maskin (1994) (henceforth FLM). That is, if the

pairwise and individual full rank conditions are satisfied, then the set characterized by FL

coincides with the set of feasible and individually rational payoffs.1

**Экономика. Текст 6.**

Price discrimination through communication\_

Itai Shery Rakesh Vohraz

May 26, 2014

Abstract

We study a seller's optimal mechanism for maximizing revenue when a buyer may present evidence

relevant to her value. We show that a condition very close to transparency of buyer

segments is necessary and sufficient for the optimal mechanism to be deterministic{hence akin

to classic third degree price discrimination{independently of non-evidence characteristics. We

also find another sufficient condition depending on both evidence and valuations, whose content

is that evidence is hierarchical. When these conditions are violated, the optimal mechanism

contains a mixture of second and third degree price discrimination, where the former is implemented

via sale of lotteries. We interpret such randomization in terms of the probability of

negotiation breakdown in a bargaining protocol whose sequential equilibrium implements the

optimal mechanism.

JEL Classification: C78, D82, D83.

Keywords: price discrimination, communication, bargaining, commitment, evidence, network

flows.

1 Introduction

This paper examines the problem of selling a single good to a buyer whose value for the good is

private information. The buyer, however, is sometimes able to support a claim about her value with evidence. Evidence can take different forms. For example, evidence may consist of an advertisement

showing the price at which the consumer could buy a substitute for the seller's product elsewhere.

It is not essential that a buyer present a physical document; a buyer who knows the market{and

hence knows of attractive outside opportunities{may demonstrate this knowledge through her words

alone, whereas an ignorant buyer could not produce those words.

Our model is relevant whenever a monopolist would like to price discriminate on the basis of

membership in different consumer segments but disclosure of membership in a segment is voluntary.

This is the case with students, senior citizens, AAA members, and many other groups. Moreover,

consumer segments often overlap (e.g., many AAA members are senior citizens). If the seller naively

sets the optimal price within each segment without considering that consumers in the overlap will

select the cheapest available price, she implements a suboptimal policy. So an optimal pricing

policy must generally account for the voluntary disclosures that pricing induces.

**Экономика. Текст 7.**

A Theory of School-Choice Lotteries

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First Draft: December, 2011

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Abstract

We introduce a new notion of ex-ante stability (or fairness) that would be desirable for a

school-choice mechanism to satisfy. Our criterion stipulates that a mechanism must be stable

based solely on the probabilities that each student will be assigned to different schools, i.e., the

assignment must be viewed as stable even before students know which school they will end up

going to. This is in contrast to much of the existing literature, which has instead focused on ex-

post stability, meaning that assignments be deemed stable after students are assigned to schools.

Armed with this criterion for evaluating mechanisms, we show that one of the mechanisms

that has attracted the most attention—deferred acceptance with random tie-breaking— is not

ex-ante stable and under some circumstances can lead to ex-ante discrimination among some

students. We then propose two new mechanisms, that satisfy two notions of ex-ante stability we

introduce—a strong one and a weak one—and show that these mechanisms are optimal within

the class of mechanisms that satisfy these respective criteria.

1 Introduction

Following the 1987 decision of the U.S. Court of Appeals, the Boston school district introduced

a possibility of “choice” for public schools by relaxing the mandatory zoning policy. In 1989, a

centralized clearinghouse, now commonly referred to as the *Boston mechanism* (Abdulkadiroglu and Sönmez, 2003b) was adopted by the district. The Boston mechanism remains the most widely used student assignment mechanism in the U.S. and is currently employed by numerous centralized clearinghouses worldwide.

Beginning with Abdulkadiroglu and Sönmez (2003b), the literature emphasized serious flaws

associated with the Boston mechanism mainly rooted in its obvious manipulability. An attractive

alternative to the Boston mechanism, the Gale-Shapley student-optimal stable mechanism, was eventually adopted by the Boston and New York City public school systems via the collaborative effort of economists (see Abdulkadiroglu, Pathak, Roth, and Sönmez, 2005 and Abdulkadiroglu, Pathak, Roth, and Sönmez, 2006).

In school choice problem, schools’ priorities over students constitute the basis for fairness considerations, which the newly adopted Boston/NYC mechanism achieves through a property of “ex-post stability.” At a *stable* matching, there does not exist any student *i* who prefers a seat at a different school *c* than the one he is assigned to such that either (1) school *c* has not filled its quota, or (2)

school *c* has an enrolled student who has strictly lower priority than *i* (Gale and Shapley, 1962).

In practice, there are typically several students that fall in the same priority class at schools and

a common method in dealing with ties within priorities is to use an explicit tie-breaking lottery.

A mechanism is *ex-post stable* if it induces a lottery over stable matchings (i.e., an ex-post stable

lottery). Thus, the newly adopted Boston/NYC mechanism is ex-post stable.

**Экономика. Текст 8.**

**An algorithm for two-player repeated games**

**with perfect monitoring**

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Consider repeated two-player games with perfect monitoring and discounting.

We provide an algorithm that computes the set V ∗ of payoff pairs of all purestrategy

subgame-perfect equilibria with public randomization. The algorithm

provides significant efficiency gains over the existing implementations of the algorithm

from Abreu et al. (1990). These efficiency gains arise from a better understanding

of the manner in which *extreme points* of the equilibrium payoff set are

generated. An important theoretical implication of our algorithm is that the set of

extreme points E of V ∗ is *finite.* Indeed, |E| ≤ 3|A|, where A is the set of action

profiles of the stage game.

Keywords. Repeated games, perfect monitoring, computation.

JEL classification. C63, C72, C73.

1. Introduction

The paper develops a new algorithm for computing the set of subgame-perfect equilibrium

payoff vectors in repeated games with finitely many actions, perfect monitoring,

discounting, and public randomization. This is a very classical setting, which serves as a

basis for many applications. Nevertheless, our results suggest that significant improvements

in existing computational procedures can be obtained from a better understanding

of the structure of equilibria, especially the generation of extreme equilibrium payoff

vectors. Besides describing a faster computational algorithm, we also provide a publicly

available implementation of our algorithm, which should be useful both to researchers

trying to understand the impact of changes in underlying parameters on equilibrium

possibilities and to students seeking to develop an understanding of dynamic games

and how they “work.”

Prior work on this topic has as its starting point the algorithm suggested by Abreu

et al. (1990), hereafter APS. This is true of the approach presented here also. The APS

algorithm works iteratively, starting with the set of feasible payoffs of the stage game

W 0. The set of subgame-perfect equilibrium payoffs V ∗ is found by applying a set operator

B to W 0 iteratively until the resulting sequence of sets W 0\_W 1\_ \_ \_ \_ \_ W n+1 = B(W n)

converges. For a payoff set W , the operator B(W ) gives the set of payoffs that can be

generated through some action profile a in the current period and using continuation

values from W in the next period, while respecting all incentive constraints.

**Экономика. Текст 9.**

**Bargaining over an endogenous agenda**

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We present a model of bargaining in which a committee searches over the policy

space, successively amending the default by voting over proposals. Bargaining

ends when proposers are unable or unwilling to amend the existing default,

which is then implemented. Our main goal is to study the policies that can be

implemented from any initial default in a pure-strategy stationary Markov perfect

equilibrium for an interesting class of environments including multidimensional

and infinite policy spaces. It is convenient to start by characterizing the set of

immovable policies that are implemented, once reached as default. These policies

form a weakly stable set and, conversely, any weakly stable set is supported

by some equilibrium. Using these results, we show that minimum-winning coalitions

may not form and that a player who does not propose may nevertheless earn

all of the surplus from agreement. We then consider how equilibrium outcomes

change as we vary the order in which players propose, the identity of proposers,

and the set of winning coalitions. First, if the policy space is well ordered, then the

committee implements the ideal policy of the last proposer in a subset of a weakly

stable set, but this result does not generalize to other cases. We also show, surprisingly,

that a player may prefer not to be given the opportunity to propose and that

the set of immovable policies may shrink as the quota increases. Finally, we derive

conditions under which immovable policies in semi-Markovian equilibria form a

consistent choice set.

Keywords. Bargaining, committee voting, evolving default, stable set.

JEL classification. C78, D71, D72.

1. Introduction

The task of a committee is to select a policy to implement from some policy space.

As Compte and Jehiel (2010) note, committees in effect search over the policy space

by endogenously drawing policies/proposals and then implement a proposal according

to a stopping rule. Congress and the Federal Open Market Committee (FOMC)

instate committees that stop deliberating as soon as some proposal wins a final vote,

while the European Union’s (EU’s) Council of Ministers reaches a decision by final vote

when the issue must be addressed urgently or some government wants to signal to its domestic audience (see Heisenberg 2005).

**Экономика. Текст 10.**

**The transfer problem: A complete characterization**

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The transfer problem refers to the possibility that a donor country could end up

better off after giving away some resources to another country. The simplest version

of that problem can be formulated in a two consumer exchange economy

with fixed total resources. The existence of a transfer problem at some equilibrium

is known to be equivalent to instability in the case of two goods. This characterization

is extended to an arbitrary number of goods by showing that a transfer

problem exists at a (regular) equilibrium if and only if this equilibrium has an index

value equal to −1. Samuelson’s conjecture that there is no transfer problem at

tatonnement stable equilibria is therefore true for any number of goods.

Keywords. Transfer problem, regular equilibrium, index value.

JEL classification. D51, F20.

1. Introduction

Does a country’s utility necessarily decrease when that country gives away some resources

to another country? This problem is known in trade theory as the transfer problem

and has led to a substantial literature. One aspect of the transfer problem is the

characterization under simple assumptions (no trade impediments such as transportation

costs and tariffs in particular) of those equilibria at which the donor country can

improve its utility when giving away resources. The simplest model in which the transfer

problem can be studied in the case of an arbitrary number of goods is the exchange

model with two consumers and fixed total resources.1 In the case of multiple equilibria,

any one of the equilibria that do not give the highest utility level to consumer 1 can be

improved by selecting one of those that yields a higher utility level. This trivial solution

makes sense only if the equilibrium selection map is permitted to be discontinuous.

This formulation of the transfer problem requires that the equilibrium be regular

with an associated locally continuous (in fact smooth) equilibrium selection map. The

following results are then known: there are examples of economies that have regular

equilibria with a transfer problem, i.e., such that a consumer (country) can be better off

by giving away some resources (Leontief 1936); there is no transfer problem at tatonnement

stable equilibria (Samuelson 1947, footnote p. 29, and Samuelson 1952); tatonnement

stability is not only sufficient but also necessary to prevent a transfer problem in

the case of two goods (Balasko 1978).