

Goldberg, Dror

Working Paper
Legal tender

Working Paper, No. 2009-04

Provided in Cooperation with:
Department of Economics, Bar-Ilan University

Suggested Citation: Goldberg, Dror (2009) : Legal tender, Working Paper, No. 2009-04, Bar-Ilan University, Department of Economics, Ramat-Gan

This Version is available at:
<https://hdl.handle.net/10419/96051>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Legal Tender

Dror Goldberg

Department of Economics

Bar Ilan University

Abstract

The legal foundation of the monetary system is the law of legal tender. The “legal tender” concept is used in models to describe almost anything except for what it really means in actual laws. Such errors prevent an accurate evaluation of the importance of this legal status. This note explains in simple terms what “legal tender” really means.

JEL classification: E42, K12

Keywords: Legal tender; Contract law; Taxes

* I thank Jessica Myers and Paula Hernandez-Verme for valuable comments.

1. Introduction

Monetary theorists have recently started labeling the money they model as “legal tender.” The meaning of this concept changes from paper to paper. In Lotz (2004), p. 967, it is the only money that sellers are allowed to accept. In Selgin (2003), p. 160, buyers can force sellers to accept it (but they can agree on another medium of payment). In Lotz and Rocheteau (2002), p. 568, money is accepted if and only if it is legal tender. Shy and Tarkka (2002) agree with Selgin (p. 303), but add that sellers can also force buyers to use it (p. 308). Alternatively, they claim that it must be used by default if the buyer and seller do not agree on the medium of payment during negotiations (p. 308). In Sargent and Velde (2002), p. 368, the cash-in-advance constraints seem to imply that legal tender money is the only medium of payment that buyers are allowed to offer. The same goes for the money in the utility function of Sussman and Zeira (2003), p. 1777.

All these papers are wrong in relating the money they model to the legal tender concept. Thus, applying their results to real legal tender currencies can be misleading. Some textbooks are also in error¹. In fact, the legal tender concept has *nothing* to do with the spot transactions that dominate economic theory. Its practical importance as the legal foundation of the monetary system, if there is one, comes from its implication on tax payments. The goal of this note is to explain to those not trained in law why this is the case. Section 2 provides the legal explanation. Section 3 answers Frequently Asked Questions. Section 4 comments on the relevance to economics and explains why a model of legal tender is beyond the scope of this note.

¹ See Lipsey, Courant and Ragan (1999), p. 581. Barro (1993), p. 96, mentions “legal tender” but does not explain what it means. Case and Fair (2003), p. 481, exclude tax payments from the legal tender law. Mankiw (2000), p. 156, only mentions an unspecified “government decree” (also see Auerbach and Kotlikoff, 1998, p. 175).

2. What is Legal Tender?

In law, a commercial contract is born when the parties agree on some necessary terms. In a contract to sell goods the quantity is a necessary term. For example, an agreement to “sell apples at the price of one dollar per pound, tomorrow, in my store,” is not a contract and cannot be enforced in court, because the quantity is undetermined. Legislatures worldwide resolved long ago that specifying the medium of payment is *not* a necessary term. Thus, if the above example is modified by adding the quantity term “ten pounds of apples,” then it is a valid contract, even though the medium of payment (as opposed to the unit of account) is undetermined.

However, this raises a potential problem. A contract has been created, and each side now has an obligation. How should the buyer’s obligation to pay ten dollars be discharged? Actually, almost anything on which the parties mutually agree is acceptable (Bank of England, 2008, Bank of Canada, 2008, Williston, 2003, vol. 28, pp. 752-3, 778). Examples include: Ten one-dollar bills, a check, peso bills according to some exchange rate, or a watch which the seller estimates as worth at least ten dollars. This is just one aspect of the freedom of contracts, which is a fundamental building block of capitalism. Legislatures have outlawed very few media of payment, such as gold (in post Great Depression legislation), or illegal drugs (which could conflict with the public interest). It does not matter if the agreement regarding the medium of payment is part of the contract, or made separately after the contract is created.

The main goal of contract law is to solve disagreements *after* a contract is created (for instance, where the terms are vague and give rise to a dispute). Suppose that the buyer in my example, where no medium of payment was specified, offers to pay in a ten dollar bill, but the seller rejects it because he wants pesos. Given that a contract was formed and payment was

tendered but rejected, can the seller sue the buyer in court for breach of contract due to this non-payment? What if the buyer offers one thousand one-cent coins, or a ten-dollar watch?

“Legal tender” is an object that confers a right on the payer. If the buyer in my example offers the correct quantity of anything that has been declared by law to be legal tender, then the seller’s lawsuit fails. The buyer may be asked to deliver the proffered payment to court, which the court would offer to the seller. The buyer is then off the hook, having fully performed his contractual obligation of making payment (Williston, 2003, vol. 28, pp. 746, 805-14, Bank of England, 2008, Reserve Bank of Australia, 2008). On the other hand, any object that is *not* legal tender will not give the buyer such peace of mind. Judgment will be entered against the buyer for breach of contract if the seller delivered the goods and rejected a proffered payment from the buyer that did not constitute legal tender. For this very practical purpose, every country specifies which objects are considered legal tender for debts that are subject to its contract law. Typically, the government gives this status to currency it issues itself, but this is not necessary.

Since legal tender laws protect buyers, sellers may want to protect themselves from these laws. Usually, it is remarkably easy to do so. *Before* the necessary details of the contract are finalized (that is, before contract formation), the seller can specify the medium of payment. If the parties agree to a specific medium of payment, then this term will become part of their contract (Board of Governors of the Federal Reserve System, 2008, Reserve Bank of Australia, 2008). If that medium of payment is not outlawed by *other* laws (for example, voided as a matter of public policy, as in the illegal drug example above), then legal tender laws will not apply. If, on the other hand, there is disagreement about the medium of payment, then a contract fails to come into existence. Going back to my example, suppose that *before* agreeing on the quantity of apples to be delivered, the seller states (e.g., by posting a sign near the cash register) that he must be

paid in pesos. If the buyer refuses and this medium of payment is not acceptable to both parties, then a contract is not formed, and nobody has any contractual obligation at all.

Another easy way to avoid legal tender laws is to use a different unit of account. The legal tender law of the United States, which gives a legal tender status to dollars in the form of coins and bills, cannot apply to contracts that specify payments in pesos or potatoes.

The conclusion is that sellers are not really forced to accept legal tender money if they are slightly cautious. They only need to state in advance that they want to be paid in a different object, or use a different unit of account. The websites of some central banks are honest about this limited legal status of their money (e.g., Board of Governors of the Federal Reserve System, 2008, Bank of England, 2008, Bank of Canada, 2008, Reserve Bank of Australia, 2008). The role of the state, after declaring what is legal tender, can be described as passive and negative: To dismiss a creditor's lawsuit if the debtor offers the right quantity of legal tender. A legal tender law *never* results in the state affirmatively prosecuting a buyer or a seller for using another currency or for rejecting the legal tender in a spot transaction. Other laws might do that, but they mostly exist in totalitarian regimes.

Certain monetary obligations are created not by contract, but by statutory or common law. These obligations invoke some of the practical issues of contractual obligations. If a would-be taxpayer delivers her used car (valued at the outstanding amount of taxes owed) to the Internal Revenue Service as her tax payment, what can the IRS do? Must it accept the car, or can it sue the taxpayer for not paying the tax?² What about paying a parking ticket with foreign currency, or vengefully paying alimony with small change?

² This actually happened (United States, 2003, 31 § 5103, p. 27, note 17).

For this reason, although the legal tender concept originates in contract law, it has been universally extended to include all non-contractual obligations as well.³ As with contracts, the legal tender law is irrelevant if the tax authority and the taxpayer agree on another medium of payment, such as a check or a credit card.

3. Frequently Asked Questions

1. How can the legal status of money in the U.S. be summarized in one paragraph?

Taking into account other relevant laws, I suggest the following: First, all Federal Reserve notes and U.S. coins are legal tender for all dollar-denominated obligations. This means that contractual creditors who do not specify another medium of payment in their contracts, as well as all tax authorities and courts (federal, state and local), cannot reject a payment made using these objects. In addition, many banks (national banks and members of the Federal Reserve System) must accept Federal Reserve notes in all transactions. Anyone else can reject these notes and coins. Practically nothing else is legal tender, and thus anything else can be rejected by anyone in any transaction. These notes and coins are redeemable by their issuers only for other notes and coins, possibly of different denominations.

2. Is there any other legal tender in the U.S.?

Answer: Not really. According to United States Code 31 § 5103, “United States coins and currency (including Federal Reserve notes and circulating notes of Federal Reserve Banks and national banks) are legal tender for all debts, public charges, taxes, and dues.” The notes of banks are too rare today to be seriously considered.

3. Why must banks accept legal tender?

³ The word “debt” in most legal tender laws includes any tax, while “creditor” includes any tax-collecting agency (Nussbaum, 1950, p. 49, 58, 139, Mann, 1982, p. 52, 80-100, European Union, 1998, 2005, especially Articles 1, 8).

Answer: A bank is not a regular business. It is carefully chartered and regulated by the government, and generally it has special privileges as well as special obligations.

4. The writing on Federal Reserve notes mentions only “debts” but not taxes. Which is the correct one?

Answer: The writing on the notes is a relic from a time when courts interpreted “debt” as any obligation (United States, 2003, 31 § 5103, p. 21). Nobody bothered fixing it, but it is the United States Code that legally matters.

5. Federal tax forms order taxpayers: “Do not send cash.” Doesn’t this contradict the legal tender law?

Answer: It obviously does, although virtually all taxpayers obey this request anyway for their own benefit (if you send your tax payment in cash, the mailman might steal it without a trace). For the IRS, this order is a weakly dominant strategy: That is, it benefits the IRS if taxpayers obey, and in the unlikely case that a taxpayer does send cash, the IRS can simply accept it upon arrival, with no harm done.

6. Can I pay a large debt in small change?

Answer: That is what the United States Code implies. Legal tender laws of some other countries allow creditors to reject such payments (European Union, 1998, [UK] Ministry of Justice, 2008, Reserve Bank of Australia, 2008).

4. Conclusion

Since it is so easy to avoid the applicability of legal tender laws in trade, do they matter at all for helping the government’s currency to circulate? The answer is possibly yes, because of taxes. When the law confers legal tender status only on the government’s currency, it implicitly allows the government to reject any other medium of payment. Indeed, the government almost always

rejects anything other than its issued cash or financial instruments that are redeemable in this cash (i.e., checks and credit cards). By doing so, the government artificially creates a demand for the legal tender objects and makes them valuable (Smith, 1776). Taxpayers must obtain legal tender objects in order to pay their taxes. While denominating a contract in foreign currency makes the legal tender law irrelevant for your contract, receiving your entire income in foreign currency will not exempt you from paying your taxes *in dollars*. Taxpayers are therefore willing to provide goods and services for the legal tender objects. This can result in their circulation as media of exchange (Lerner, 1947).

A similar, temporary demand for a new currency can be created by applying a legal tender law retroactively to pre-existing contracts. This happened with the Civil War greenbacks, and invoked a constitutional firestorm. Creditors who did not expect this first U.S. paper money failed to specify “gold” in their contracts. Debtors were happy to pay debts with paper greenbacks instead of gold, and their demand for the greenbacks gave the greenbacks value.

A correct model of legal tender and comparison to an incorrect model are beyond the scope of this note. One reason is the plethora of incorrect interpretations offered in the literature. No single incorrect interpretation is significantly more common than others. Another reason is that legal tender laws themselves refer to many types of obligations (contractual debts, taxes, fees, fines, alimony, damages, etc.). Finally, correct models of the important types of obligations already exist. Although they did not use the label “legal tender,” Starr (1974, 2003) correctly modeled legal tender for taxes, while Freeman (1996) modeled legal tender for contractual debts.

References

- Auerbach, A.J., Kotlikoff, L.J. 1998. *Macroeconomics: An Integrated Approach*. Second edition. Cambridge: MIT Press.
- Bank of Canada. 2008. "Bank Notes: Law enforcement." Available at <http://www.bankofcanada.ca/en/banknotes/law.html>
- Bank of England. 2008. "Frequently Asked Questions." Available at <http://www.bankofengland.co.uk/banknotes/about/faqs.htm>
- Barro, R.J. 1993. *Macroeconomics*. Fourth edition. New York: John Wiley and Sons.
- Board of Governors of the Federal Reserve System. 2008. "Frequently Asked Questions." Available at <http://www.federalreserve.gov/generalinfo/faq/faqcur.htm#2>
- Case K.E., Fair, R.C. 2003. *Principles of Economics*. Upper Saddle River: Prentice Hall.
- European Union. 1998. *Council Regulation No. 974/98*. Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998R0974:EN:HTML>
- European Union. 2005. *Council Regulation No. 2169/2005*. Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:346:0001:01:EN:HTML>
- Freeman, S. 1996. "Clearinghouse Banks and Banknote Overissue." *Journal of Monetary Economics* 38: 101-115.
- Lerner, A.P. 1947. "Money as a Creature of the State." *American Economic Review* 37: 312-7.
- Lipsey, R.G., Courant, P.N., Ragan, C.T.S. 1999. *Economics*. Reading: Addison-Wesley.
- Lotz, S. 2004. "Introducing a New Currency: Government Policy and Prices." *European Economic Review* 48: 959-982.
- Lotz, S., Rocheteau, G. 2002. "On the Launching of a New Currency." *Journal of Money, Credit, and Banking* 34: 563-588.

- Mankiw, N.G. 2000. *Macroeconomics*. Fourth edition. New York: Worth Publishers.
- Mann, F.A. 1982. *The Legal Aspect of Money*. Fourth edition. Oxford: Clarendon Press.
- Ministry of Justice. 2008. *Currency Act 1983*. Available at <http://www.statutelaw.gov.uk>
- Nussbaum, A. 1950. *Money in the Law: National and International*. Brooklyn: Foundation Press.
- Reserve Bank of Australia. 2008. "Legal Tender." Available at http://www.rba.gov.au/CurrencyNotes/LegalFramework/legal_tender.html
- Sargent, T.J., Velde, F.R. 2002. *The Big Problem of Small Change*. Princeton University Press, Princeton.
- Selgin, G. 2003. "Adaptive Learning and the Transition to Fiat Money." *Economic Journal* 113: 147-165.
- Shy, O., Tarkka, J. 2002. "The Market for Electronic Cash Cards." *Journal of Money, Credit, and Banking* 34: 299-314.
- Smith, A. 1776. *The Wealth of Nations*. 1952 edition. Chicago: William Benton.
- Starr, R.M. 1974. "The Price of Money in a Pure Exchange Monetary Economy with Taxation." *Econometrica* 42: 45-54.
- Starr, R.M. 2003. "Why is There Money? Endogenous Derivation of 'Money' as the Most Liquid Asset: A Class of Examples." *Economic Theory* 21: 455-474.
- Sussman, N., Zeira, J. 2003. "Commodity Money Inflation: Theory and Evidence from France 1350-1436." *Journal of Monetary Economics* 50: 1769-1793.
- United States. 2003. *United States Code Annotated*. St. Paul: West Publishing.
- Williston, S. 2003. *A Treatise on the Law of Contracts*. Fourth edition, by R.A. Lord. Rochester: Lawyers Cooperative.

Bar-Ilan University
Department of Economics
WORKING PAPERS

- 1-01 **The Optimal Size for a Minority**
Hillel Rapoport and Avi Weiss, January 2001.
- 2-01 **An Application of a Switching Regimes Regression to the Study of Urban Structure**
Gershon Alperovich and Joseph Deutsch, January 2001.
- 3-01 **The Kuznets Curve and the Impact of Various Income Sources on the Link Between Inequality and Development**
Joseph Deutsch and Jacques Silber, February 2001.
- 4-01 **International Asset Allocation: A New Perspective**
Abraham Lioui and Patrice Poncet, February 2001.
- 5-01 **מודל המועדון והקהילה החרדית**
יעקב רוזנברג, פברואר 2001.
- 6-01 **Multi-Generation Model of Immigrant Earnings: Theory and Application**
Gil S. Epstein and Tikva Lecker, February 2001.
- 7-01 **Shattered Rails, Ruined Credit: Financial Fragility and Railroad Operations in the Great Depression**
Daniel A. Schiffman, February 2001.
- 8-01 **Cooperation and Competition in a Duopoly R&D Market**
Damiano Bruno Silipo and Avi Weiss, March 2001.
- 9-01 **A Theory of Immigration Amnesties**
Gil S. Epstein and Avi Weiss, April 2001.
- 10-01 **Dynamic Asset Pricing With Non-Redundant Forwards**
Abraham Lioui and Patrice Poncet, May 2001.
- 11-01 **Macroeconomic and Labor Market Impact of Russian Immigration in Israel**
Sarit Cohen and Chang-Tai Hsieh, May 2001.

Electronic versions of the papers are available at
http://www.biu.ac.il/soc/ec/wp/working_papers.html

- 12-01 **Network Topology and the Efficiency of Equilibrium**
Igal Milchtaich, June 2001.
- 13-01 **General Equilibrium Pricing of Trading Strategy Risk**
Abraham Lioui and Patrice Poncet, July 2001.
- 14-01 **Social Conformity and Child Labor**
Shirit Katav-Herz, July 2001.
- 15-01 **Determinants of Railroad Capital Structure, 1830–1885**
Daniel A. Schiffman, July 2001.
- 16-01 **Political-Legal Institutions and the Railroad Financing Mix, 1885–1929**
Daniel A. Schiffman, September 2001.
- 17-01 **Macroeconomic Instability, Migration, and the Option Value of Education**
Eliakim Katz and Hillel Rapoport, October 2001.
- 18-01 **Property Rights, Theft, and Efficiency: The Biblical Waiver of Fines in the Case of Confessed Theft**
Eliakim Katz and Jacob Rosenberg, November 2001.
- 19-01 **Ethnic Discrimination and the Migration of Skilled Labor**
Frédéric Docquier and Hillel Rapoport, December 2001.
- 1-02 **Can Vocational Education Improve the Wages of Minorities and Disadvantaged Groups? The Case of Israel**
Shoshana Neuman and Adrian Ziderman, February 2002.
- 2-02 **What Can the Price Gap between Branded and Private Label Products Tell Us about Markups?**
Robert Barsky, Mark Bergen, Shantanu Dutta, and Daniel Levy, March 2002.
- 3-02 **Holiday Price Rigidity and Cost of Price Adjustment**
Daniel Levy, Georg Müller, Shantanu Dutta, and Mark Bergen, March 2002.
- 4-02 **Computation of Completely Mixed Equilibrium Payoffs**
Igal Milchtaich, March 2002.
- 5-02 **Coordination and Critical Mass in a Network Market – An Experimental Evaluation**
Amir Etziony and Avi Weiss, March 2002.

- 6-02 **Inviting Competition to Achieve Critical Mass**
Amir Etziony and Avi Weiss, April 2002.
- 7-02 **Credibility, Pre-Production and Inviting Competition in a Network Market**
Amir Etziony and Avi Weiss, April 2002.
- 8-02 **Brain Drain and LDCs' Growth: Winners and Losers**
Michel Beine, Frédéric Docquier, and Hillel Rapoport, April 2002.
- 9-02 **Heterogeneity in Price Rigidity: Evidence from a Case Study Using Micro-Level Data**
Daniel Levy, Shantanu Dutta, and Mark Bergen, April 2002.
- 10-02 **Price Flexibility in Channels of Distribution: Evidence from Scanner Data**
Shantanu Dutta, Mark Bergen, and Daniel Levy, April 2002.
- 11-02 **Acquired Cooperation in Finite-Horizon Dynamic Games**
Igal Milchtaich and Avi Weiss, April 2002.
- 12-02 **Cointegration in Frequency Domain**
Daniel Levy, May 2002.
- 13-02 **Which Voting Rules Elicit Informative Voting?**
Ruth Ben-Yashar and Igal Milchtaich, May 2002.
- 14-02 **Fertility, Non-Altruism and Economic Growth: Industrialization in the Nineteenth Century**
Elise S. Brezis, October 2002.
- 15-02 **Changes in the Recruitment and Education of the Power Elites in Twentieth Century Western Democracies**
Elise S. Brezis and François Crouzet, November 2002.
- 16-02 **On the Typical Spectral Shape of an Economic Variable**
Daniel Levy and Hashem Dezhbakhsh, December 2002.
- 17-02 **International Evidence on Output Fluctuation and Shock Persistence**
Daniel Levy and Hashem Dezhbakhsh, December 2002.
- 1-03 **Topological Conditions for Uniqueness of Equilibrium in Networks**
Igal Milchtaich, March 2003.
- 2-03 **Is the Feldstein-Horioka Puzzle Really a Puzzle?**
Daniel Levy, June 2003.

- 3-03 **Growth and Convergence across the US: Evidence from County-Level Data**
Matthew Higgins, Daniel Levy, and Andrew Young, June 2003.
- 4-03 **Economic Growth and Endogenous Intergenerational Altruism**
Hillel Rapoport and Jean-Pierre Vidal, June 2003.
- 5-03 **Remittances and Inequality: A Dynamic Migration Model**
Frédéric Docquier and Hillel Rapoport, June 2003.
- 6-03 **Sigma Convergence Versus Beta Convergence: Evidence from U.S. County-Level Data**
Andrew T. Young, Matthew J. Higgins, and Daniel Levy, September 2003.
- 7-03 **Managerial and Customer Costs of Price Adjustment: Direct Evidence from Industrial Markets**
Mark J. Zbaracki, Mark Ritson, Daniel Levy, Shantanu Dutta, and Mark Bergen, September 2003.
- 8-03 **First and Second Best Voting Rules in Committees**
Ruth Ben-Yashar and Igal Milchtaich, October 2003.
- 9-03 **Shattering the Myth of Costless Price Changes: Emerging Perspectives on Dynamic Pricing**
Mark Bergen, Shantanu Dutta, Daniel Levy, Mark Ritson, and Mark J. Zbaracki, November 2003.
- 1-04 **Heterogeneity in Convergence Rates and Income Determination across U.S. States: Evidence from County-Level Data**
Andrew T. Young, Matthew J. Higgins, and Daniel Levy, January 2004.
- 2-04 **"The Real Thing:" Nominal Price Rigidity of the Nickel Coke, 1886-1959**
Daniel Levy and Andrew T. Young, February 2004.
- 3-04 **Network Effects and the Dynamics of Migration and Inequality: Theory and Evidence from Mexico**
David McKenzie and Hillel Rapoport, March 2004.
- 4-04 **Migration Selectivity and the Evolution of Spatial Inequality**
Ravi Kanbur and Hillel Rapoport, March 2004.
- 5-04 **Many Types of Human Capital and Many Roles in U.S. Growth: Evidence from County-Level Educational Attainment Data**
Andrew T. Young, Daniel Levy and Matthew J. Higgins, March 2004.

- 6-04 **When Little Things Mean a Lot: On the Inefficiency of Item Pricing Laws**
Mark Bergen, Daniel Levy, Sourav Ray, Paul H. Rubin and Benjamin Zeligler,
May 2004.
- 7-04 **Comparative Statics of Altruism and Spite**
Igal Milchtaich, June 2004.
- 8-04 **Asymmetric Price Adjustment in the Small: An Implication of Rational Inattention**
Daniel Levy, Haipeng (Allan) Chen, Sourav Ray and Mark Bergen, July 2004.
- 1-05 **Private Label Price Rigidity during Holiday Periods**
Georg Müller, Mark Bergen, Shantanu Dutta and Daniel Levy, March 2005.
- 2-05 **Asymmetric Wholesale Pricing: Theory and Evidence**
Sourav Ray, Haipeng (Allan) Chen, Mark Bergen and Daniel Levy,
March 2005.
- 3-05 **Beyond the Cost of Price Adjustment: Investments in Pricing Capital**
Mark Zbaracki, Mark Bergen, Shantanu Dutta, Daniel Levy and Mark Ritson,
May 2005.
- 4-05 **Explicit Evidence on an Implicit Contract**
Andrew T. Young and Daniel Levy, June 2005.
- 5-05 **Popular Perceptions and Political Economy in the Contrived World of Harry Potter**
Avichai Snir and Daniel Levy, September 2005.
- 6-05 **Growth and Convergence across the US: Evidence from County-Level Data (revised version)**
Matthew J. Higgins, Daniel Levy, and Andrew T. Young , September 2005.
- 1-06 **Sigma Convergence Versus Beta Convergence: Evidence from U.S. County-Level Data (revised version)**
Andrew T. Young, Matthew J. Higgins, and Daniel Levy, June 2006.
- 2-06 **Price Rigidity and Flexibility: Recent Theoretical Developments**
Daniel Levy, September 2006.
- 3-06 **The Anatomy of a Price Cut: Discovering Organizational Sources of the Costs of Price Adjustment**
Mark J. Zbaracki, Mark Bergen, and Daniel Levy, September 2006.

- 4-06 **Holiday Non-Price Rigidity and Cost of Adjustment**
Georg Müller, Mark Bergen, Shantanu Dutta, and Daniel Levy.
September 2006.
- 2008-01 **Weighted Congestion Games With Separable Preferences**
Igal Milchtaich, October 2008.
- 2008-02 **Federal, State, and Local Governments: Evaluating their Separate Roles in US Growth**
Andrew T. Young, Daniel Levy, and Matthew J. Higgins, December 2008.
- 2008-03 **Political Profit and the Invention of Modern Currency**
Dror Goldberg, December 2008.
- 2008-04 **Static Stability in Games**
Igal Milchtaich, December 2008.
- 2008-05 **Comparative Statics of Altruism and Spite**
Igal Milchtaich, December 2008.
- 2008-06 **Abortion and Human Capital Accumulation: A Contribution to the Understanding of the Gender Gap in Education**
Leonid V. Azarnert, December 2008.
- 2008-07 **Involuntary Integration in Public Education, Fertility and Human Capital**
Leonid V. Azarnert, December 2008.
- 2009-01 **Inter-Ethnic Redistribution and Human Capital Investments**
Leonid V. Azarnert, January 2009.
- 2009-02 **Group Specific Public Goods, Orchestration of Interest Groups and Free Riding**
Gil S. Epstein and Yosef Mealem, January 2009.
- 2009-03 **Holiday Price Rigidity and Cost of Price Adjustment**
Daniel Levy, Haipeng Chen, Georg Müller, Shantanu Dutta, and Mark Bergen,
February 2009.
- 2009-04 **Legal Tender**
Dror Goldberg, April 2009.
- 2009-05 **The Tax-Foundation Theory of Fiat Money**
Dror Goldberg, April 2009.

- 2009-06 **The Inventions and Diffusion of Hyperinflatable Currency**
Dror Goldberg, April 2009.
- 2009-07 **The Rise and Fall of America's First Bank**
Dror Goldberg, April 2009.
- 2009-08 **Judicial Independence and the Validity of Controverted Elections**
Raphaël Franck, April 2009.
- 2009-09 **A General Index of Inherent Risk**
Adi Schnytzer and Sara Westreich, April 2009.
- 2009-10 **Measuring the Extent of Inside Trading in Horse Betting Markets**
Adi Schnytzer, Martien Lamers and Vasiliki Makropoulou, April 2009.
- 2009-11 **The Impact of Insider Trading on Forecasting in a Bookmakers' Horse Betting Market**
Adi Schnytzer, Martien Lamers and Vasiliki Makropoulou, April 2009.