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THE REDUCTION OF REGULATORY UNCERTAINTY: EVIDENCE FROM TRANSFER PRICING POLICY

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INTRODUCTION

A number of recent studies have centered on regulatory uncertainty as a concern for those worried about how government intervenes in the economy.[1] Likewise, studies in finance and economics show that firms and investors do (or that they should) account for regulatory uncertainty when maximizing gains or managing share value in markets.[2] Both streams of research see the regulatory state as part of the firms' external environment for which firms must account when making capital investments or deciding whether to enter markets.[3] A long literature in management studies presumes that firms strategically adapt to regulatory uncertainty and that they try to use public policy to shape that environment.[4] Recently, business leaders have focused on

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1. Leisha DeHart-Davis & Barry Bozeman, *Regulatory Compliance and Air Quality Permitting: Why Do Firms Overcomply?*, 11 J. PUB. ADMIN. RES. & THEORY 471 (2001); Chris Koski & Peter J. May, *Interests and Implementation: Fostering Voluntary Regulatory Actions*, 16 J. PUB. ADMIN. RES. & THEORY 329 (2005); Alan L. Olmstead & Paul W. Rhode, *The "Tuberculosis Cattle Trust": Disease Contagion in an Era of Regulatory Uncertainty*, 64 J. ECON. HIST. 929 (2004).

2. George Bittlingmayer, *Regulatory Uncertainty and Investment: Evidence from Antitrust Enforcement*, 20 CATO J. 295 (2001); Roger Buckland & Patricia Fraser, *Political and Regulatory Risk: Beta Sensitivity in U.K. Electricity Distribution*, 19 J. REG. ECON. 5 (2001); E.R. Larsen & D.W. Bunn, *Deregulation in Electricity: Understanding Strategic and Regulatory Risk*, 50 J. OPERATIONAL RES. SOC'Y 337 (1999); Claudio Morana & John W. Sawkins, *Regulatory Uncertainty and Share Price Volatility: the English and Welsh Water Industry's Periodic Price Review*, 17 J. REG. ECON. 87 (2000).

3. *See* sources cited *supra* notes 1–2.

4. Philip H. Birnbaum, *The Choice of Strategic Alternatives Under Increasing Regulation in High Technology Companies*, 27 ACAD. MGMT. J. 489 (1984); Nancy M. Carter, *Small Firm Adaptation: Responses of Physicians' Organizations to Regulatory and Competitive Uncertainty*, 33 ACAD. MGMT. J. 307 (1990); Brian Shaffer, *Firm-level Responses to Government Regulation: Theoretical and Research Approaches*, 21 J. MGMT. 495 (1995).

regulatory uncertainty and risk as a key decision environment—one that can make or break both companies and their leaders.[5]

One reason that firms focus on regulatory uncertainty or risk is that capital investment decisions are long-term decisions.[6] Firms seek to evaluate the size, timing, and risk of future cash flows.[7] In the end, efficient investment depends on the manager's ability to distinguish between investment opportunities and the manager's investment incentives.[8] While having developed financial markets seems to improve the allocation of capital,[9] business investment is unpredictable and difficult to explain.[10] In practice, many of the key financial factors still leave a great deal of variation in investment unexplained.[11] Studies in economics and finance see regulatory uncertainty and risk as a major source of that variation.[12]

I focus in this paper on the conditions under which governments seek to reduce regulatory uncertainty. Regulatory uncertainty and regulatory risk are states of the world that governments might seek to mitigate. This paper concentrates on multinational companies (MNCs) that seek to transfer goods and services across international borders. Multidivisional firms often use pricing systems for the transfer of such goods and services; this coordination mechanism can be problematic when divisions engage in cross-border transactions, if governments regulate the flow of taxable revenue across borders.[13] As a recent report of PricewaterhouseCoopers noted:

> A major and growing problem for the directors of multinationals is the issue of preparing documentation to demonstrate compliance with transfer pricing rules. More and more countries have established documentation rules that

5. ECONOMIST INTELLIGENCE UNIT, THE ECONOMIST, REGULATORY RISK: TRENDS AND STRATEGIES FOR THE CRO 2 (2005), *available at* http://www.aceeuropeangroup.com/NR/rdonlyres/9602658F-7C1C-4169-AEA5-E207EEA2CA21/0/CRO_RISK_REPORT.pdf.

6. *See* Elizabeth Olmsted Teisberg, *Capital Investment Strategies Under Uncertain Regulation*, 24 RAND J. ECON. 591, 593 (1993).

7. *See generally* STEPHEN A. ROSS ET AL., ESSENTIALS OF CORPORATE FINANCE (1996) (outlining procedures for evaluating future cash flows).

8. *See* Jeffrey Wurgler, *Financial Markets and the Allocation of Capital*, 58 J. FIN. ECON. 187, 187–89 (2000) (arguing that agency theories suggest "pressures from external investors, as well as managerial ownership, encourage managers to pursue value-maximizing investment policies," but that when the resources are owned by the state, political motivations and infrequent checks in the system do not encourage managers to work towards efficiency).

9. *Id.* at 198.

10. Murray Z. Frank & Vidhan K. Goyal, *Capital Structure Decisions: Which Factors Are Reliably Important?*, 38 FIN. MGMT. 1, 2–5 (2009).

11. Bittlingmayer, *supra* note 2, at 295.

12. Donald P. Morgan, *Rating Banks: Risk and Uncertainty in an Opaque Industry*, 92 AM. ECON. REV. 874, 881 (2002).

13. PRICEWATERHOUSECOOPERS, INTERNATIONAL TRANSFER PRICING 2008 1 (2008), *available at* http://pwccn.com/webmedia/doc/633542361212701566_tp_intl_2008.pdf.

> require companies to state clearly and with supporting evidence why their transfer pricing policies comply with the arm's-length standard.[14]

Predictably, firms face significant uncertainty about how governments view these transactions, a typical standard being whether the price is consistent with an arm's length transaction (with the price that would be consistent left unstated).[15] The economics literature on transfer pricing is usually technical in nature,[16] yet the applied literature (written from the perspective of top accounting firms) mostly concerns how firms can reduce regulatory risk.[17]

Specifically, I address the conditions under which countries reduce firm uncertainty over how tax authorities regulate future transactions. Some countries adopt "Advance Pricing Agreements" or "Advance Pricing Arrangements" (APAs) providing for agreements between a taxpayer and the tax authority that a range of prices will be recognized as "arm's length";[18] APAs reduce the risks that firms will be assessed future payments.[19] This paper empirically assesses the choice by countries to limit this type of regulatory uncertainty, and thus, fills a gap in the literature from political science, economics, and management. No known study addresses the conditions under which countries will reduce regulatory uncertainty; this paper is the first to address the underlying mechanisms that support government choices to limit this uncertainty.

Using data from 2005, I observe the dependent variable of whether a country's tax authority is authorized to negotiate binding APAs.[20] I model this policy adoption as a function of the country's legal origins, the structure of the tax regime and its impact on government revenues, the country's participation in the international Organisation for Economic Co-operation and Development (OECD), and the flow of foreign direct investment (FDI) both into and out of the country. I account for limitations in my sample and the limited nature of my dependent variable by first estimating a logit model and then assessing the

14. *Id.* at ii.

15. *Id.* at 1, 4.

16. *See* Harry Grubert & John Mutti, *Taxes, Tariffs and Transfer Pricing in Multinational Corporate Decision Making*, 73 REV. ECON. & STAT. 285, 285 (1991) (addressing corporate decision making by examining 1982 data from thirty-three countries); Jack Hirshleifer, *On the Economics of Transfer Pricing*, 29 J. BUS. 172, 172 (1956) (arguing that market price is the correct transfer price only where the product being transferred is produced in a competitive environment).

17. *See* PRICEWATERHOUSECOOPERS, *supra* note 13, at 1.

18. *Id.* at viii.

19. Diane M. Ring, *On the Frontier of Procedural Innovation: Advance Pricing Agreements and the Struggle to Allocate Income for Cross Border Taxation*, 21 MICH. J. INT'L L. 143, 165–66 (2000).

20. GLOBAL TRANSFER PRICING SERVICES, KMPG INT'L, GLOBAL TRANSFER PRICING REVIEW 2–4 (2005), *available at* http://finance.wharton.upenn.edu/~bodnarg/courses/readings/KPMGGlobalTransferPricingReview_2005.pdf.

model's robustness using a trimming estimator for the linear probability model.[21]

The analysis first demonstrates that both inward and outward FDI flows increase the likelihood of a country adopting an APA and thus reducing regulatory uncertainty. However, I also find that the impact of FDI flows out of the country is substantially greater than those into the country. Second, I find that countries are more likely to reduce regulatory uncertainty by adopting an APA mechanism when they have high corporate tax rates; the impact of corporate tax rates is also substantially higher than that for inward FDI flows. While my results initially appear to support the finding that OECD countries are less likely to offer the APA mechanism, the trimming estimator shows that this result is not robust. In contrast to the broad literature on endogenous growth theory and new political economy,[22] I find no evidence that countries with English legal origins are more likely to offer the APA mechanism to countries facing regulation of their transfer pricing practices.

In the next section, I offer a short description of the causal story about why countries try to reduce regulatory uncertainty through the use of APA-like mechanisms. In the third section, I provide a longer description of how transfer pricing and APAs solve specific problems for firms trying to manage their taxes. I then present my hypotheses and model specification. After that, I discuss the estimation strategy and the results from the statistical analysis. Finally, I discuss the implications of my findings for the study of regulatory uncertainty, case, and test.

I. REGULATORY UNCERTAINTY AS A CONCERN OF FIRMS

One broadly overlooked aspect of the modern regulatory state is its ability to limit or expand the uncertainty that firms face when they compete in market environments. The modern state has evolved to the point where its institutions can shape fundamental decisions[23]—not just how to produce goods and services or how to employ labor and distribute the benefits of production, but even whether to produce at all. Firms make fundamental capital investment decisions, such as where to invest, how much to invest, and where to locate facilities. These capital investment decisions are often made on the basis of

21. William C. Horrace & Ronald L. Oaxaca, *Results on the Bias and Inconsistency of Ordinary Least Squares for the Linear Probability Model*, 90 ECON. LETTERS 321, 321–22 (2006).

22. Rafael La Porta et al., *Legal Determinants of External Finance*, 52 J. FIN. 1131, 1131 (1997) [hereinafter Rafael La Porta et al., *Legal Determinants*]; Rafael La Porta et al., *The Quality of Government*, 15 J.L. ECON. & ORG. 222, 222–24 (1999) [hereinafter Rafael La Porta et al., *Quality of Government*].

23. DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE 3 (James Alt & Douglass C. North eds., Cambridge Ser., Political Econ. of Institutions & Decisions, 1991).

sound business fundamentals: the cost of investment, the demand for their goods, and investors' demand for assets. For example, firms may expand capital investment if low interest rates indicate a lower cost of investment and, thus, higher expected returns, if strong demand suggests greater profits or if investors have a greater taste for particular sectors' investment opportunities.[24] Sound fundamentals (or at least the broader business environment) help determine whether businesses go down this road.

At the same time, firms worldwide regularly make decisions under varying conditions of political uncertainty: How secure are property rights? Are contracts enforceable? How difficult is it to repatriate profits or shift currency given changes in national monetary policy? The credibility of these political institutions fundamentally shapes the ability of firms to make capital investment decisions, and accordingly, for developing economies to grow and flourish.[25]

Similarly, firms face significant regulatory uncertainty when aspects of regulatory or taxation policy lower investment returns, or at least make it difficult to set expectations about what those returns will be.[26] Regulatory uncertainty may come in the form of variations in antitrust policy with changes in administration[27] or environmental policy due to changes in social tastes for protection.[28] This paper centers on a second type of regulatory uncertainty: when the state, through taxation policy, tries to shape how firms distribute their profits. Firms make capital investment decisions based in part on profit expectations; states construct tax policies in part on their expectations of how those profits will be distributed. With this knowledge, firms can make choices to reduce that tax burden. In turn, states can adapt their policies to reflect firms' minimization efforts. In the end, regulatory uncertainty comes to rank with other business factors in shaping how firms allocate goods and services across multiple markets.

Political uncertainty poses significant risk to business investments on many levels. "In extreme cases, a shift in the political climate will threaten property rights, the enforceability of contracts, the repatriation of profits, and the integrity of the monetary standard."[29] While the political environment in the

24. Bittlingmayer, *supra* note 2, at 295.

25. *See* NORTH, *supra* note 23, at 8 (arguing that the structure created by the Constitution and the Northwest Ordinance encouraged investment in early America); Douglass C. North & Barry R. Weingast, *Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England*, 49 J. ECON. HIST. 803, 810–11 (1989) (describing how the monarchy's system of forced loans, uncertain repayment schedules, and grants of monopoly discouraged new investment in the late 1600s).

26. *See* Bittlingmayer, *supra* note 2, at 312.

27. *Id.* at 298.

28. Koski & May, *supra* note 1, at 332.

29. Bittlingmayer, *supra* note 2, at 295–96.

United States has been relatively stable, shifts in the regulatory framework and environmental and labor law have affected investments.[30]

Although the idea of political uncertainty affecting the business climate is highly intriguing, it has been largely ignored in business cycle literature.[31] Mainly because of the difficulty in measuring uncertainty, the concept of uncertainty affecting investment has generated very little empirical work.[32] One significant example of a paper in this area is George Bittlingmayer's "Regulatory Uncertainty and Investment: Evidence from Antitrust Enforcement."[33] This paper uses antitrust enforcement as a measure of policy uncertainty by focusing on the background of United States antitrust enforcement in the twentieth century.[34] Antitrust enforcement often has a significant political component, so it offers a possible measure of uncertainty-causing economic policy.[35] Bittlingmayer presents the links between investment and antitrust at three levels: certainty, a stable switch in antitrust policy, and the effects of increased enforcement on uncertainty.[36] Antitrust is a relatively easily measured signal for a broader spectrum of business regulation. He uses data for twenty-one major industry groups over the period 1947–1991 with plant and equipment investment, GDP, and case filings against exchange-listed firms.[37] Bittlingmayer's "statistical results are based on a version of widely used investment models, augmented with measures of antitrust enforcement."[38] "[T]he results support the view that major changes in [antitrust] policy provide a laboratory to study its effects."[39] One actual effect of antitrust in practice is to limit investment.[40] However, since periods of antitrust enforcement often coincide with increases in government and business conflict, antitrust enforcement acts as a signal rather than an isolated variable.[41]

Few research studies have assessed the importance of regulatory uncertainty, although it is key to understanding today's global business environment. It may be desirable to restrict regulatory commitment power to prevent a dishonest regulator from causing long-term harm, but that does not tell us how variations in expectations about honest behavior by regulators

30. *Id.* at 296
31. *Id.* at 295–96.
32. *Id.* at 296.
33. *Id.* at 295.
34. Bittlingmayer, *supra* note 2, at 296–97.
35. *Id.* at 295.
36. *Id.* at 309.
37. *Id.* at 298.
38. *Id.*
39. Bittlingmayer, *supra* note 2, at 322.
40. *Id.*
41. *See id.* at 297.

affect firm decisions and performance.[42] It is possible to address regulatory uncertainty from a comparative institutional analysis perspective by focusing on the means for restraining regulatory discretion in the context of particular countries' political systems,[43] but that does not help us understand the conditions under which most political systems try to reduce uncertainty. For instance, while one important study uses regulatory decision data to infer the regulator's implicit preferences,[44] we have little understanding about how uncertainty about those preferences can affect the behavior of firms. Likewise, while a real-options model of investment by a regulated firm shows that regulatory uncertainty has a considerable impact on investment decisions, that type of evidence is largely drawn from a theoretical model about the behavior of firms in markets.[45] Finally, while even in the United States there are reputational spillovers within a given regulatory jurisdiction,[46] we still lack detailed knowledge about rules that reduce uncertainty and the conditions under which they emerge.[47]

In contrast, while there is relatively little literature on regulatory uncertainty, there is a vast array of regulatory literature on regulatory capture, regulatory opportunism, and multiple firm regulation. It is clear that one primary source of regulatory uncertainty is the possibility of regulators using their positions of authority to favor one firm over another.[48] Future employment opportunities within the regulated industry may influence

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42. *See* Jean-Jacques Laffont & Jean Tirole, *Should Governments Commit?*, 36 EUR. ECON. REV. 345, 347, 352–53 (1992) (empirically examining the role of corrupt versus non-corrupt government officials as corporate regulators and evaluating how that affects government incentives).

43. *See* DAVID G. NEWBERY, PRIVATIZATION, RESTRUCTURING, AND REGULATION OF NETWORK UTILITIES: THE WALRAS-PARETO LECTURES 22–23 (2d prtg. 2000) (comparing regulation of public utilities in Britain and the United States in the latter half of the twentieth century and speculating on the political causes of the differences between the two countries).

44. *See* Daniel McFadden, *The Revealed Preferences of a Government Bureaucracy: Empirical Evidence*, 7 BELL J. ECON. 55, 56 (1976); Daniel McFadden, *The Revealed Preferences of a Government Bureaucracy: Theory*, 6 BELL J. ECON. 401, 402 (1975).

45. *See* Teisberg, *supra* note 6, at 592 (theorizing about factors that go into utilities' decision-making process).

46. *See* Thomas P. Lyon & John W. Mayo, *Regulatory Opportunism and Investment Behavior: Evidence from the U.S. Electric Utility Industry*, 36 RAND J. ECON. 628, 629–30 (2005) (describing conflicting reports of reputational spillovers as a response to hindsight regulation in energy utilities).

47. Thomas P. Lyon & Jing Li, Regulatory Uncertainty and Regulatory Scope 1, 3 (July 11, 2003) (unpublished manuscript) (on file with University of Michigan), *available at* http://webuser.bus.umich.edu/tplyon/Lyon%20and%20Li%20Regulatory%20Uncertainty.pdf.

48. *See* David Martimort, *The Life Cycle of Regulatory Agencies: Dynamic Capture and Transaction Costs*, 66 REV. ECON. STUD. 929, 930–31 (1999).

regulators' decisions.[49] The regulator tends to become more fully captured over time,[50] although competition between two regulators with overlapping responsibilities can deter regulatory capture.[51] Even so, firms are uncertain of the regulators' preferences and focus on the danger of regulators catering to consumer interests,[52] mostly because regulators may emphasize consumer interests, and this "regulatory opportunism may undermine investment by regulated firms over time."[53] Individual regulatory bodies may vary in relative allegiance to consumer interests compared to those in the regulated industry.[54]

In summary, the purpose of this paper is to assess the way in which governments try to limit a specific type of broad political uncertainty. Broad political uncertainty could involve the existence and enforcement of property rights and contracts, the repatriation of profits, or even monetary policy.[55] This paper centers on how governments might limit different types of regulatory uncertainty, which might be experienced by firms in the taxation of corporate income, assets, or profits, and how that taxation could lower investment returns. Knowing that this can occur, firms can make choices to reduce that tax burden. Governments may adopt rules to reduce that uncertainty. One type of rule is a credible commitment to not act in ways that are detrimental to firms—essentially a tying of one's hands.[56] In the next section, I turn to a discussion of transfer pricing as a specific legal environment in which governments might seek to reduce the concern firms have about regulatory uncertainty.

II. TRANSFER PRICING AND MULTINATIONAL CORPORATIONS

The purpose of this section is to describe transfer pricing and its place in a system of international commerce populated by MNCs. The literature in this area is detailed and complex, so I limit the description here to discussions of transfer pricing as a general business strategy, the consequences of that

49. Yeon-Koo Che, *Revolving Doors and Optimal Tolerance for Agency Collusion*, 26 RAND J. ECON. 378, 379 (1995).

50. Martimort, *supra* note 48, at 930–31.

51. *See* Jean-Jacques Laffont & David Martimort, *Separation of Regulators Against Collusive Behavior*, 30 RAND J. ECON. 232, 233–35, 257 (1999).

52. Lyon & Li, *supra* note 47, at 30.

53. *Id. See also* Richard J. Gilbert & David M. Newbery, *The Dynamic Efficiency of Regulatory Constitutions*, 25 RAND J. ECON. 538, 538–39 (1994) (discussing the efficacy of 'used and useful' standard in determining whether consumers should pay for capital investment for utilities); David J. Salant & Glenn A. Woroch, *Trigger Price Regulation*, 23 RAND J. ECON. 29, 29 (1992) (examining the notion that returns on regulatory investments are subject to opportunistic behavior).

54. Lyon & Li, *supra* note 47, at 31.

55. Bittlingmayer, *supra* note 2, at 295–96.

56. *See* Laffont & Tirole, *supra* note 42, at 346.

strategy for tax revenue collection, the debate over various methods of pricing, and the evolution of APAs as a way to reduce regulatory uncertainty about the tax treatment of future transactions within a MNC.

Generally, transfer pricing is a core business procedure for MNCs that operate across borders. Transfer pricing has economic, accounting, and structural aspects. The esoteric issue of transfer pricing policies of foreign MNCs was an important issue during the 1992 presidential campaign as candidates debated whether foreign MNCs pay their fair share of taxes.[57] Yet, such sentiment is not limited to the presidential sphere. In July 1992, Dan Bucks of the Multistate Tax Commission (MTC) testified that the practice of transfer pricing costs the states and the federal government roughly $37 billion per year in lost revenue.[58] J.J. Pickle, as Chairman of the House Ways and Means Oversight Subcommittee, argued that transfer pricing abuses led to seventy percent of foreign MNCs paying no tax in the United States.[59] While countries often use a specific method based on the arm's length principle, many services and intangible assets are difficult to estimate, which leaves a lot of room for tax manipulation;[60] some think transfer pricing manipulation problems are growing larger and becoming more prevalent.[61]

It is important to see how transfer pricing is a consequence of the evolution of an organizational form that spans international borders. Early forms of the European MNC operated in the United States prior to 1914; United States MNCs began producing in Europe in the late 1950s and 1960s.[62] It is now common to talk about the effect of MNCs on the culture and operation of international commerce, but we want to recognize that the kinds of organizational cultures represented in these organizations result from the employees' professional backgrounds and values developed over time in such organizations.[63] Moreover, there is not just one operating organizational

57. *See* Claudio M. Radaelli, *Game Theory and Institutional Entrepreneurship: Transfer Pricing and the Search for Coordination in International Tax Policy*, 26 POL'Y STUD. J. 603, 610 (1998).

58. Catherine Hubbard, *Transfer Pricing Siphons Billions in Revenues, MTC Official Charges*, 56 TAX NOTES 546, 546 (1992).

59. John Turro, *Treasury Blasted Over Alleged Transfer Pricing Shenanigans*, 55 TAX NOTES 150, 150–51 (1992).

60. *See* Robert A. Green, *The Future of Source-Based Taxation of the Income of Multinational Enterprises*, 79 CORNELL L. REV. 18, 18 (1993).

61. Yura Sakurai, *Comparing Cross-Cultural Regulatory Styles and Processes in Dealing with Transfer Pricing*, 30 INT'L J. SOC. L. 173, 174 (2002).

62. *See* John Cantwell, *The Changing Form of Multinational Enterprise Expansion in the Twentieth Century*, *in* HISTORICAL STUDIES IN INTERNATIONAL CORPORATE BUSINESS 15, 24 (Alice Teichova et al. eds., 1989).

63. B. GUY PETERS, THE POLITICS OF TAXATION: A COMPARATIVE PERSPECTIVE 17 (1991).

culture for all MNCs, because culture is itself not a unitary concept.[64] Essentially, the operation of these companies is diverse and varied, so the following discussion necessarily speaks in general terms.

At one time, MNCs sought to internalize core resource or marketing constraints, but they have moved toward new strategies for maintaining market share in individual countries; one tactic for doing so is intra-firm trade.[65] Historically, these debates over MNCs have manifested as discussions about customs control regulation.[66] Nations have historically maintained some control over the flow of goods across their borders through the use of customs, taxation rules, or individual tax assessments; customs duties can be a major revenue source, so they have remained an important source of control for countries with significant international trade.[67] When tax administration is designed to make point-of-entry collection efficient, controls allow regulation of the flow of goods; however, over time, transfer pricing has come to represent a source of destabilization in such countries.[68]

For the past three decades though, "a growing proportion of international trade is not really trade at all but transfers within single multinational corporations."[69] These transfers are "administered," meaning that the prices assigned for accounting purposes are not usually set in the marketplace between two unrelated companies.[70] That administered price may be different from transactions that were not conducted within an MNC for the simple reason that intra-firm or inter-company (transfer) pricing is the most important and complex variable in orchestrating marketing and production strategies.[71]

Generally speaking, tax authorities tax firms based on the principles of taxation of entire worldwide income (for residents) and taxation of income

64. *See id.* at 7 (discussing how there can be numerous cultures within a society).

65. Sanjaya Lall, *The Pattern of Intra-Firm Exports by U.S. Multinationals*, 40 OXFORD BULL. ECON. & STAT. 209, 212 (1978) (comparing the reasons for undertaking vertical integration to those for undertaking intra-firm trade).

66. *See, e.g.*, PETERS, *supra* note 63, at 39 (noting that customs duties are a major revenue source for countries); Lall, *supra* note 65, at 211 (noting that some studies do not differentiate among the underlying rationale for intra-firm trade).

67. *See* PETERS, *supra* note 63, at 39–40.

68. *See* G.K. Helleiner, *Intrafirm Trade and the Developing Countries: An Assessment of the Data*, 6 J. DEV. ECON. 391, 391–92 (1979) (stating that transfer pricing is of great concern to developing nations because it interferes with their ability to control the pricing flow of goods).

69. Robin Murray, *Introduction* to MULTINATIONALS BEYOND THE MARKET: INTRA-FIRM TRADE AND THE CONTROL OF TRANSFER PRICING 1, 2 (Robin Murray ed., 1981) (emphasis omitted).

70. *Id.* at 2–3. *See generally* DAVID SOLOMONS, DIVISIONAL PERFORMANCE: MEASUREMENT AND CONTROL 160–211 (2d prtg. 1969) (exploring interdivisional product and market relationships from various perspectives including theoretical).

71. WAGDY M. ABDALLAH, INTERNATIONAL TRANSFER PRICING POLICIES: DECISION-MAKING GUIDELINES FOR MULTINATIONAL COMPANIES 29 (1989).

produced within the country (for residents and non-residents).[72] Governments often treat corporations the same as other taxable entities.[73] MNCs are therefore exposed to taxation on both sides, so they often establish separate legal entities in each tax jurisdiction.[74] While MNCs might rely on bilateral taxation treaties between countries to provide rules that eliminate double taxation,[75] they might also engage in tax management across regimes through the use of transfer pricing.[76]

Stated corporate tax rates vary greatly across countries: In 2002, the rate was 24.5% in Switzerland, 40.0% in the United States, and 42.0% in Japan.[77] Of course, effective tax rates may differ from stated rates.[78] Tax authorities want to make sure they get their "fair share" of MNC tax take,[79] and they know that firms can use transfer pricing to minimize their overall tax burden (maximize profit).[80] Of course, tax administrators have plenty of opportunities to address efficiency and efficacy through implementation.[81] In the case of corporate taxation with regard to transfer pricing, "the actual meeting of taxpayer and tax official will determine what the law, in practice, is for that individual."[82] Authorities help to create a body of rulings that can be used to enforce tax legislation and specific statutes.[83] One alternative to this system for MNCs is recourse to supranational arbitrations.[84]

72. Green, *supra* note 60, at 23.

73. *See id.* (noting that the definition of "person" under the Internal Revenue Code includes corporations and similar entities).

74. Masahiro Max Yoshimura, Comment, *The "Tax War" Between the United States and Japan Under Internal Revenue Code § 482: Is There a Solution?*, 12 WIS. INT'L L.J. 401, 406 (1993–1994).

75. *See* Bruce A. Blonigen & Ronald B. Davies, *Do Bilateral Tax Treaties Promote Foreign Direct Investment?*, *in* THE EFFECT OF TREATIES ON FOREIGN DIRECT INVESTMENT: BILATERAL INVESTMENT TREATIES, DOUBLE TAXATION TREATIES, AND INVESTMENT FLOWS 461, 463 (Karl P. Sauvant & Lisa E. Sachs eds., 2009).

76. ABDALLAH, *supra* note 71, at 30.

77. KPMG INT'L, KPMG'S CORPORATE TAX RATE SURVEY: AN INTERNATIONAL ANALYSIS OF CORPORATE TAX RATES FROM 1993 TO 2006 13, 15 (2006).

78. *See* Don Fullerton, *Which Effective Tax Rate?*, 37 NAT'L TAX J. 23, 23–24 (1984).

79. John Neighbour, *Transfer Pricing: Keeping it at Arm's Length*, OECD OBSERVER, Jan. 2002, at 29, 30.

80. *See* ABDALLAH, supra note 71, at 29–30.

81. *See* PETERS, *supra* note 63, at 248 (stating that tax administrators can address the effects of tax laws in two ways: by issuing regulations and by taking entities with questionable liabilities to court).

82. *Id.* at 248–49.

83. *Id.* at 248.

84. COMM. ON FISCAL AFFAIRS, ORG. FOR ECON. CO-OPERATION & DEV., TRANSFER PRICING AND MULTINATIONAL ENTERPRISES: THREE TAXATION ISSUES 20 (1984) (outlining advantages and disadvantages to instituting an inter-governmental arbitration system for transfer pricing disputes).

In the situation discussed in this paper, transfer pricing is the pricing of goods and services within an MNC. It occurs when part of a corporation in one country sells (transfers) goods or services to another part of the same corporation in another country. The practice of transfer pricing and the procedures by which it is carried out affects how profits are allocated within a corporation for tax and other purposes.[85] Essentially, transfer pricing attempts to allocate profits and losses for each division in a company in a way that will benefit the corporation's overall strategy.[86] For example, corporations also utilize transfer pricing to measure the efficiency and effectiveness of different divisions within the company; this aspect of transfer pricing is helpful for business decisions such as corporate expansion.[87] As such, the two divisions of a hypothetical MNC can administer prices with several objectives in mind. The MNC has multiple objectives such as risk pooling, improving its domestic and international positions, exploring new markets, meeting tariff/quota restrictions in importing countries, securing otherwise unobtainable raw materials, exploring economic resources, manufacturing at lowest cost, and selling in the best markets.[88]

Again, transfer pricing is the assignment of a non-market derived price, usually for accounting purposes, to internal transfers of goods, services, royalties, et cetera, within a firm. In economics, the transfer of such goods within a corporation is still a trade.[89] Internalization of such transfers helps avoid submarkets for inputs, pool risk from the unavailability of such inputs, and appropriate rents or profits that would have been otherwise inaccessible.[90] It is important to note here that transfer pricing is not solely a MNC practice.[91] Many domestic transfers within firms fall under a price-setting approach.[92] Transfer pricing includes practices that assign "manipulated prices on trade flows between units which have a common center of control (usually via a majority shareholding)."[93]

A primary objective can be reducing the MNC's overall international corporate income tax burden. The firm can consolidate losses and profits and administer its overall tax burden.[94] This happens because MNCs operate in

85. Neighbour, *supra* note 79, at 29.

86. Sakurai, *supra* note 61, at 176.

87. Neighbour, *supra* note 79, at 30.

88. *See* ABDALLAH, *supra* note 71, at 29–30 (outlining some of the financial concerns of MNCs).

89. Radaelli, *supra* note 57, at 605.

90. *See* ABDALLAH, *supra* note 71, at 29, 40–41.

91. Roger Y.W. Tang, *Transfer Pricing in the 1990s: The Emphasis is on Multinational and Tax Issues*, MGMT. ACCT., Feb. 1992, at 22, 24.

92. *Id.*

93. Murray, *supra* note 69, at 5.

94. *Id.* at 6.

numerous countries simultaneously, and their overall corporate tax burden varies across countries.[95] It is often advantageous for MNCs to move profits into a country with low taxes.[96] Since various parts of the corporation within different countries are under a common head of control, their profit allocation is not entirely the result of market forces when transfer pricing comes into play.[97] A parent company can choose to pay one of its subsidiaries below-market prices, so the subsidiary company looks like it has a lower profit.[98] Thus, there is the danger of affiliated companies within different countries over-pricing or under-pricing their internal imports/exports to evade taxes.[99] Within transfer pricing, firms must balance efficiency in generating profit and equity in distribution.[100] Transfer pricing allows a company to avoid the problem of double taxation.[101] If such trades were not internalized, that trade would be liable to taxation.[102] The taxation must assess taxes on trades that are internal to the workings of a company, rather than internal to the market.

Because MNCs use transfer pricing to achieve profitability and profit repatriation and avoid tax differentials, the right transfer price will help a company penetrate a market or establish a more global market position.[103] It helps if there are markets for similar goods, but in practice MNCs distinguish between market, cost-oriented, and non-cost-oriented transfer prices.[104] Of course, these factors are considered secondary or even ignored when the taxation authority attempts to determine the "correct" transfer price.[105]

While evidence about transfer pricing remains spotty, a 1990 survey found that 132 out of 143 Fortune 500 firms used transfer pricing for domestic interdivisional transfers; 90 used transfer pricing for international transfers.[106] A survey of the heads of thirty-nine United States-based MNCs found that avoiding exchange controls was an important objective for a decision-

95. *Id.*

96. ABDALLAH, *supra* note 71, at 30.

97. Neighbour, *supra* note 79, at 30.

98. *See id.* at 29 (describing an example where a British company shows a profit but its Korean supplier does not).

99. *Id.* at 29–30.

100. *See id.* at 29.

101. *Id.* at 30.

102. Neighbour, *supra* note 79, at 29–30.

103. *See* ROGER Y.W. TANG, TRANSFER PRICING PRACTICES IN THE UNITED STATES AND JAPAN 106–07 (1979); Lawson A.W. Hunter, Q.C. & Susan M. Hutton, *Where There is a Will, There is a Way; Cooperation in Canada-U.S. Antitrust Relations*, 20 CAN.-U.S. L.J. 101, 110 (1994).

104. TANG, *supra* note 103, at 2–3.

105. *See* Richard L. Kaplan, *International Tax Enforcement and the Special Challenge of Transfer Pricing*, 1990 U. ILL. L. REV. 299, 300–01 (explaining that as far as tax authorities go, "corporate pretensions about a global entity are simply beside the point").

106. Tang, *supra* note 91, at 22, 24.

maker.[107] Evidence about the practice also comes from MNCs based outside the United States.[108] While Japanese firms often center their focus on growing market share over maximizing short-term profits, pricing management has become central to implementing that goal.[109] However, a detailed survey of empirical research shows that the research has failed to suggest a single strategy for transfer pricing due to the diversity of companies' needs.[110]

How should they design their own regimes to increase their take? To avoid tax avoidance and other transfer pricing problems, the OECD developed the "arm's length principle," which is found in Article 9 of the 1997 Model Tax Convention on Income and on Capital.[111] The arm's length principle states that instead of treating two company entities as part of a large corporate structure, transfer pricing should treat the two companies involved as two independent unrelated companies.[112] Parties to the transaction are expected to be independent and on equal footing.[113] The arm's length principle asks corporations to find comparable market transactions so that they can set an acceptable transfer price.[114] The purpose of arm's length regulation is to prevent transfer price distortion.[115] However, considerable regulatory uncertainty remains since countries, firms, and industries prefer different applications of the arm's length principle.[116]

Specifically, firms must choose one of a number of different ways of implementing the arm's length principle, or at least something that approximates it. The discussion of these decisions can naturally become technical since it describes methods of incorporating diverse allocable principles from economics, accounting, and law. A short description of the range of decisions helps paint a picture of the layering of these choices for firms, tax authorities, and legal analysts. For example, in October 1988, the Treasury Department and the Internal Revenue Service (IRS) jointly released "A Study of Intercompany Pricing" (also known as the Section 482 White

107. SIDNEY M. ROBBINS & ROBERT B. STOBAUGH, MONEY IN THE MULTINATIONAL ENTERPRISE: A STUDY OF FINANCIAL POLICY 17, 92 (Raymond Vernon ed., Harvard Multinational Enter. Ser., 1973).

108. *See generally* Kenneth A. Grossberg, *The Ins and Outs of Japanese Pricing Strategy*, J. PRICING MGMT., Summer 1990, at 6, 6 (discussing transfer pricing by Japanese MNCs).

109. *See id.*

110. TANG, *supra* note 103, at 21.

111. Neighbour, *supra* note 79, at 30.

112. *Id.*

113. *See id.*

114. *See id.* (using an example to say that transactions that allocate all the costs or all the profits to different divisions are problematic).

115. *See id.* (explaining that no country wants its tax base unfairly diminished by transfer pricing).

116. Neighbour, *supra* note 79, at 30.

Paper) to provide guidance about the proper allocation of income.[117] The problem of deciding on a method came down, in many instances, to the "basic arm's length return method" (BALRM).[118] Debates about BALRM and its place as a method (as well as more broadly in international law) followed the release of the White Paper,[119] but what is instructive about the events and the history that followed is how difficult it is to find a single method that works in all instances for all companies.

The problem faced under systems like BALRM (the so-called "profit split" method) is determining:

> [W]hether uncontrolled taxpayers would have agreed to the same terms, given the actual circumstances under which the controlled taxpayers dealt. . . . [U]ncontrolled taxpayers are deemed to exercise sound business judgment on the basis of reasonable levels of experience . . . within the relevant industry and with full knowledge of the facts.[120]

Within four years after BALRM, the IRS essentially used four methods for calculating the transfer price allowable under the arm's length principle: a comparable uncontrolled price (a market price); a resale price (a selling price, less markup); a cost-plus price (the "unfinished" good or service, plus markup); and a fourth set of methods (which might include profit-split, reasonable rates of return, functional analysis, an IRS Section 482 audit, et cetera).[121] This meant that in practice firms set transfer prices in four different ways: market-based approaches, negotiated prices, cost-based prices, and through the use of mathematical programming models.[122]

The methods themselves add a layer of uncertainty. While firms have increased use of arm's length prices over cost-based approaches,[123] and evidence shows that approaches like BALRM tend to explain historical prices,[124] MNCs still tend to prefer methods like cost-plus or the resale

117. Daniel J. Frisch, *The BALRM Approach to Transfer Pricing*, 42 NAT'L TAX J. 261, 261 (1989).

118. *See id.*

119. *See* REUVEN S. AVI-YONAH, INTERNATIONAL TAX AS INTERNATIONAL LAW: AN ANALYSIS OF THE INTERNATIONAL TAX REGIME 6–7 (2007) (arguing that once you stop looking for comparables, you are no longer engaged in an arm's length method).

120. Alan W. Granwell & Kenneth Klein, *"Objective" Tests of Transfer Pricing Prop. Regs. Require Subjective Determinations*, 76 J. TAX'N 308, 308 (1992).

121. Susan C. Borkowski, *Section 482, Revenue Procedure 91-22, and the Realities of Multinational Transfer Pricing*, INT'L TAX J., Spring 1992, at 59, 60–61.

122. *See id.* at 60.

123. Tang, *supra* note 91, at 24.

124. *See* Jean-Thomas Bernard & Robert J. Weiner, *Transfer Prices and the Excess Cost of Canadian Oil Imports: New Evidence on Bertrand Versus Rugman*, 25 CAN. J. ECON. 22, 40 (1992) (analyzing Canadian crude oil prices in light of multinational oil companies' transfer-pricing practices).

method.[125] A majority of companies have found tools like BALRM difficult to apply in practice, and so they often resort to alternative methods to resolve disputed issues.[126]

These are natural ways the choice of method adds to the regulatory uncertainty firms face. In addition, there are four other types of uncertainty. First, the IRS must navigate an implementation environment for which Congress lays a groundwork that may not be entirely structured. For example, in the case of a profits-based approach to transfers of tangible property, "The source of the Service's authority to apply the commensurate with income standard to tangibles is not clear."[127] As such, in general, firms must interpret the taxation authority's approach and how that approach fits into the bigger political picture.

Second, the different trade frameworks value different approaches. The position of the European Economic Community on transfer pricing is important, as is how that framework fits into broader frameworks such as those vetted by the OECD.[128] Difficulties come when there are different prices, differences between national laws, and different procedures.[129]

Third, taxation law does not move in lockstep with either international trade laws and policies or the economics of international trade and transfers. Notably, "[t]he nature of international trade has changed since Section 482 was adopted, and the tax law has not kept up with changes in economic reality."[130] At the same time, international frameworks such as the OECD's have come closer to interpretations of the arm's length criterion that have been offered in the United States,[131] although other countries have moved in other directions.[132]

125. Anita M. Benvignati, *An Empirical Investigation of International Transfer Pricing by U.S. Manufacturing Firms*, *in* MULTINATIONALS AND TRANSFER PRICING 193, 201–02 (Alan M. Rugman & Lorraine Eden eds., 1985).

126. Guenter Schindler & David Henderson, *Intercorporate Transfer Pricing: 1985 Survey of Section 482 Audits*, 29 TAX NOTES 1171, 1171 (1985).

127. Granwell & Klein, *supra* at note 120, at 314.

128. *See* JOHN ROBINSON, MULTINATIONALS AND POLITICAL CONTROL 9–10 (1983) (discussing the European Economic Community's Code of Conduct in the early 1980s).

129. *See* COMM. ON FISCAL AFFAIRS, ORG. FOR ECON. CO-OPERATION & DEV., MODEL TAX CONVENTION ON INCOME AND ON CAPITAL (CONDENSED VERSION) § 9 (2008) (discussing differences in domestic laws, with particular emphasis on the fact that some countries "treat partnerships as taxable units (sometimes even as companies) whereas other countries adopt what may be referred to as the fiscally transparent approach").

130. Robert W. McGee, *Intercompany Transfer Pricing Under Section 482*, J. PRICING MGMT., Winter 1991, at 37, 39.

131. AVI-YONAH, *supra* note 119, at 7.

132. *See* Nathan Boidman, *The Effect of the APA and Other U.S. Transfer-Pricing Initiatives in Canada and Other Countries*, 44 TAX EXECUTIVE 254, 257–59 (1992) (reviewing transfer-

Fourth, there is always debate within the professional tax community over the appropriate taxation scheme: on the treatment of intangibles,[133] comparables,[134] source rules,[135] methods for comparisons,[136] analytic complexity,[137] and subnational rules.[138] The complexity of these opinions and their implementation create a fourth source of uncertainty.

In summary, a taxation authority can adjust the declared taxable profits of associated companies if they think those profits have been distorted because of transactions with associated companies in other territories. Two entities are associated in two simple cases: An enterprise directly or indirectly manages, controls, or provides capital to another; or, the same people directly or indirectly manage, control, or provide capital to both enterprises.[139] The arm's length principle treats different parts of a MNC as separate entities.[140] The authority may rewrite the associated enterprises' accounts if they do not show the true taxable profits occurring in that country.

The firm has to find two unrelated companies that carry out comparable transactions in the open market and use the same price as that charged between them. There are many methods for comparing the uncontrolled transactions between independent parties with the controlled transactions between associated parties. Different countries have different preferences for one method over another.[141] Different firms and industries (and even different divisions of the same firm) prefer different methods.[142] This variety is a form

pricing developments in Canada, Australia, France, Germany, Italy, Japan, the Netherlands, and the United Kingdom).

133. *See, e.g.*, Barbara L. Rollinson & Rom P. Watson, *The New Intercompany Pricing Regulations*, 45 NAT'L TAX J. 225, 225 (1992) (discussing intangibles in transfer pricing).

134. *See, e.g.*, Laurie J. Dicker & George N. Carlson, *The Proposed Transfer Pricing Regulations: Comments and Concerns*, 45 NAT'L TAX J. 233, 234–35 (1992) (questioning an earlier paper's assumption that simple and complex comparables are easily categorized).

135. *See, e.g.*, Dale W. Wickham & Charles J. Kerester, *New Directions Needed for Solution of the International Transfer Pricing Tax Puzzle: Internationally Agreed Rules or Tax Warfare?*, 56 TAX NOTES 339, 342–43 (1992).

136. *See, e.g.*, John Turro, *Witnesses Criticize "Other" CPI At Hearing on Transfer Pricing Regs*, 56 TAX NOTES 1244, 1244 (1992) (describing multiple witnesses at an IRS hearing disagreeing with the comparable profit interval as used in proposed section 482 regulations).

137. *See, e.g.*, Ronald D. Marcuson, *Lively Debate Marks First Section 482 Seminar*, 54 TAX NOTES 856, 857 (1992) (discussing Richard Cooper's use of applied quantitative analysis to question the adjustments required by section 482 regulations).

138. *See, e.g.*, Granwell & Klein, *supra* note 120, at 315 (arguing that unless the United States' trading partners come to the same consensus on how to deal with transfer pricing, debate and consequential double-taxation will only intensify).

139. *See* Neighbour, *supra* note 79, at 30 (posing a hypothetical of a French bicycle manufacturer and its subsidiary, a distributor in the Netherlands).

140. *Id.*

141. *See* PRICEWATERHOUSECOOPERS, *supra* note 13, at i.

142. *See* Tang, *supra* note 91, at 24.

of regulatory uncertainty: uncertainty as to whether decisions made now (based on a particular method) will produce the expected outcome later in time (when it may be evaluated using a different method).

Advance Pricing Agreements (APAs) help reduce this uncertainty. An APA "determines, in advance of controlled transactions, an appropriate set of criteria (e.g., method, comparables and appropriate adjustments thereto, critical assumptions as to future events) for the determination of the transfer pricing for those transactions over a fixed period of time."[143] APAs clarify factual issues surrounding the proposed activities (not legal uncertainty). They are efficient for resolving issues in one, two, or more countries simultaneously. Firms may obtain both favorable treatment and (at least) certainty of treatment.

Governments attempt to address transfer pricing tax avoidance issues through policy adjustments that coordinate systematic tax discrepancies across countries.[144] As outlined above, APAs are written agreements between a firm and a tax authority that select a way to resolve transfer pricing issues in advance of the transaction occurring.[145] The APA selects the pricing methods that will establish the arm's length prices in future transactions. Under the APA, pricing sources are classified as independent transactions, comparable transactions, or similar transactions.[146] A unilateral APA involves one tax authority and a taxpayer; a bilateral or multilateral APA involves two or more tax authorities.[147] Of course, unilateral APAs place the taxpayer at risk of transfer pricing risk in the other country since it only applies to one country.

Advantages of APAs include better prediction of costs and tax liability, increased certainty in international tax issues, potentially reduced audit costs,[148] and reduced risk of double taxation and litigation.[149] However, APAs can be expensive and time consuming because of documentation requirements, pre-filing conferences, and fees.[150] Along with this comes the inevitable change in how the MNC would do business without considering any transfer pricing implications.

143. CTR. FOR TAX POLICY & ADMIN., ORG. FOR ECON. CO-OPERATION & DEV., MANUAL ON EFFECTIVE MUTUAL AGREEMENT PROCEDURES 48 (2007), *available at* http://www.oecd.org/dataoecd/19/35/38061910.pdf.

144. Akinori Tomohara, *Inefficiencies of Bilateral Advanced Pricing Agreements (BAPA) in Taxing Multinational Companies*, 57 NAT'L TAX J. 863, 863 (2004).

145. *See supra* note 143 and accompanying text.

146. Robert Feinschreiber, *Advance Pricing Agreements: Advantageous or Not?*, CPA J., June 1992, at 58, 59.

147. CTR. FOR TAX POLICY & ADMIN, *supra* note 143, at 48.

148. *Id.* at 43.

149. Dylan D. Damon, *To What Extent do APAs Confer Greater Certainty With Respect to Transfer Pricing Issues?*, 15 REVENUE L.J. 111, 112 (2005).

150. *See* PRICEWATERHOUSECOOPERS, *supra* note 13, at i; Feinschreiber, *supra* note 146, at 58, 61.

For instance, consider the effects of domestic tax policies under a bilateral APA on a MNC's production decisions: While bilateral APAs prohibit income shifting, there is still the inefficiency of distorted production.[151] With this kind of APA, the MNC and two governments agree on the same arm's length price.[152] Given this price and tax rates, the MNC maximizes its after-tax profits.[153] But two governments that share a tax base still face a coordination problem, which leads to a level of inefficiency.[154] In this case, the MNC must choose between this inefficiency and eliminating the segmentation between parts of the firm and internalizing the cost of the intra-firm transaction. Essentially, "[r]educing . . . uncertainty may require negotiated contracts where price, volume, and terms of trade are defined."[155] Firms necessarily compare these negotiated relationships with the choice of internal production within a single country.

Overall, the purpose of APAs is to reduce a kind of regulatory uncertainty that flows in the environment in which MNCs do business. In this environment, transactions within a single firm that occur across international borders require the construction of artificial prices so that tax authorities can allocate profit to different parts of the company. In general, the construction of these prices creates uncertainty for firms—unless firms can anticipate the way in which those prices will be decided. APAs provide a measure of certainty, because they reduce the future impact of regulation (in the form of tax judgments) by deciding on methods and procedures in advance of financial transactions. The next question is why some countries have decided to allow APAs while others have not. Answering that question is the purpose of the next section of this paper.

III. SIX EXPLANATIONS FOR WHEN COUNTRIES ALLOW APAS

Quantitative statistical research about whether and why countries adopt policies governing these types of firm decisions is notably scarce. To date, no statistical analysis of the rules governing the taxation of transfer pricing has been completed. My data are drawn from how the OECD categorizes various rules governing transfer pricing. APAs are agreements about the correct pricing of goods and services before the firm chooses to transfer them across national borders but within the framework of the overall multinational firm. My core hypothesis in this study is that the adoption of such rules, which are not uniform across countries (or even within the OECD), depends on

151. *See* Tomohara, *supra* note 144, at 871.
152. *Id.*
153. *Id.*
154. *Id.* at 869.
155. Robert J. Corey & David T. Wilson, *Negotiating Price for Long Term Relationships*, J. PRICING MGMT., Fall 1990, at 11.

countries' relative placement in the network of activity by MNCs and how the state commits itself to limiting the role of the state in the activities of the market. Together with a set of tests of alternative hypotheses, including the broad regulatory regime, the structure of corporate tax rates, the national dependence on corporate taxation, and the impact of the OECD, this analysis shows that the reduction of regulatory uncertainty within the tax code is a function of the flows of foreign direct investment (FDI) into and out of the country, along with the country's corporate income tax rate. This has strong implications for the long-term performance of countries in markets marked by the presence of multinational firms, as well as the tax performance of countries competing in the global marketplace.

In this section, I describe the variables collected for the countries included in this study. In this study, I looked at variables that could affect (directly or indirectly) the chance that a country adopts an APA regime. My data include evidence from forty-seven countries representing a wide variety of geographic, social, and development attributes.[156]

My choice of 2005 data for adoption of an APA regime is dictated by data availability for my other variables to ensure the causal sequencing of dependent and independent variables. The main question here is why do some nations allow APAs, while others do not? The data are on the existence of formal rules allowing and governing the negotiation of APAs. These data are obtained from a report produced by the consultancy KPMG in 2005.[157] Consultancies like KPMG produce documents like the Global Transfer Pricing Review to aid MNCs as they attempt to understand changes in transfer pricing legislation that occur around the world.[158] The consultancy's Global Transfer Pricing Services unit compiled data from an array of professionals employed in the analysis of transfer pricing.[159] The purpose of the review is to describe requirements for transfer pricing compliance in a wide array of countries.[160] There are forty-seven countries included in the overall analysis.[161] This includes countries from the OECD, but also extends outside that select list to include countries from Asia and Latin America.[162] Table A2, *infra*, shows the full list of countries included from that document for the statistical analysis presented below.

156. *See* Table A2 in Appendix A.

157. GLOBAL TRANSFER PRICING SERVICES, *supra* note 20, at 2. Any country that KPMG listed as allowing these agreements, even in limited situations, or allowing equivalent agreements, was considered a country that allowed transfer pricing agreements for purposes of this study.

158. *Id.*

159. *Id.*

160. *Id.*

161. *Id.*

162. GLOBAL TRANSFER PRICING SERVICES, *supra* note 20, at 2.

Of course, the purpose of the KPMG report is to relay a specific consultancy's expertise to a set of potential clients. KPMG sells the services of over 600 professionals and their information, access, expertise, and analysis for MNCs who are attempting to solve specific transfer pricing problems or to develop broader strategies for investment.[163] Such tactics require participation by professionals from diverse fields, including economists, tax advisors, and financial analysts.[164] As KPMG notes, they use "knowledge of local rules and how they interact to help member firm clients find tax-efficient pricing routes through an increasingly complex international web of transfer pricing rules."[165] A wide array of other consultancies also provide such data, including PricewaterhouseCoopers, who note, "A major and growing problem for the directors of multinationals is the issue of preparing documentation to demonstrate compliance with transfer pricing rules."[166] While there are potential problems with the use of data from consultancies, such as errors of omission, these data are the best available because they cover a much wider range than those often provided by international organizations like the OECD.

In the data, 22 out of 46 countries surveyed had APAs.[167] Recall that countries with APAs have made significant efforts to reduce the uncertainty of firms about the handling of multinational movements of goods, services and profits. Three example countries with APA provisions are Belgium, Mexico, and Taiwan; countries without English legal origins include Finland, Malaysia, and Romania.[168]

While a full discussion of the statistical approaches used here is beyond the scope of this paper, certain details about the data and the implications for our inferences are important for understanding the nature of the analysis that follows. First, in statistical terms, this is a fairly small dataset. The countries that have APA provisions have an advantage because there, the adoption of an APA is common. However, the size of the dataset can be a concern for statistical analysis.[169] Second, the traditional approach here is to assess the impact of the explanations detailed below by a technique built for "either/or" outcomes called "logit."[170] This approach can often perform poorly in the case

163. *Id.*

164. *Id.*

165. *Id.*

166. PRICEWATERHOUSECOOPERS, *supra* note 13, at ii.

167. GLOBAL TRANSFER PRICING SERVICES, *supra* note 20, at 3–16.

168. *Id.* As of the date of data collection, Malaysia was considering adopting some regulations, but lacked experience in APA formation. *Id.* at 9–10. Additionally, Finland and Romania have a heavily-qualified process similar to the APAs, but not named as such. *Id.* at 5–6, 11–12.

169. J. SCOTT LONG, REGRESSION MODELS FOR CATEGORICAL AND LIMITED DEPENDENT VARIABLES 53 (Advanced Quantitative Techniques in the Soc. Scis. Ser. No. 7, 1997).

170. *See id.* at 51.

of small datasets, so it is important to assess the overall impact of the analysis tool on the inferences being drawn.[171] Third, I account for limitations in my sample and the limited nature of my dependent variable by first estimating a logit model, and then assessing the model's robustness using a trimming estimator for the linear probability model.[172] Together, these issues may impact some of the key inferences being drawn below. I next turn to a discussion of the six explanations explored in this paper for whether countries have APA provisions.

A. Legal Development

The first explanation I explore centers on the country's broad legal development path. My measure of this development path is a dummy variable for the origin of a country's legal system. English origin dummies are generated to reflect legal attributes such as judicial vs. legislative precedent, rights to private property, and the general rights of the individual relative to the state. In general English legal systems are coded as "1" for former colonies, and all others are coded as "0." Studies of the impact of English legal origins suggest that those systems are more likely to protect the rights of capital and to reduce regulatory uncertainty about expropriation of market rents.[173] Three example countries with English origins are Australia, Canada, and the United Kingdom; countries without English legal origins include Argentina, Finland, and Venezuela.[174]

Are countries with English legal origins more likely to adopt APAs? In the KPMG data analyzed here, 34 countries do not have English origins; 17 of those countries also allow APAs.[175] Twelve countries have English origins; 5 of those also allow APAs.[176] At a rough glance there seems to be little evidence that English legal origins affect whether a given country will adopt an APA provision.

B. Corporate Tax Rates

The second explanation centers on the impact of corporate tax rates. My measure of corporate tax rates is the percentage tax rate, as constructed by

171. *See id.* at 34–35 (discussing the varieties of studies that look at binary dependant variables and reviewing four different methods of conducting statistical analysis under those circumstances).

172. *See generally* Horrace & Oaxaca, *supra* note 21 (discussing limitations of linear probability models and how to account for such problems, including use of a trimmed sample estimator).

173. La Porta et al., *Legal Determinants*, *supra* note 22, at 1131–32, 1137–39; La Porta et al., *Quality of Government*, *supra* note 22, at 261–62.

174. La Porta et al., *Legal Determinants*, *supra* note 22, at 1138.

175. GLOBAL TRANSFER PRICING SERVICES, *supra* note 20, at 3–16.

176. *Id.*

KPMG.[177] Specifically, tax rates are measured on a scale of 0 to 100, as measured in January 2002; the lowest rate in the data is 16, and the highest is 42.[178] The three countries with the highest corporate tax rates in the data are Sri Lanka, Japan, and Italy; the countries in the data with the lowest corporate tax rates are Chile, Ireland, and Hong Kong.[179] There is some evidence that countries compete with one another over corporate tax rates.[180]

Are countries with higher corporate tax rates more likely to adopt APAs? Figure 1, *infra*, shows two boxes that represent the distributions of the tax rates for the two groups of countries: those that have APAs and those that do not. The middle line of each represents the median tax rate for countries in that group; the left and right lines represent (respectively) the lowest and highest tax rates in that group. These side-by-side "box plots" show that, on average, countries with higher corporate tax rates are more likely to have adopted APAs. This presents a measure of evidence about this explanation, but the statistical analysis below will show whether this evidence holds up once we have accounted for the other five explanations.

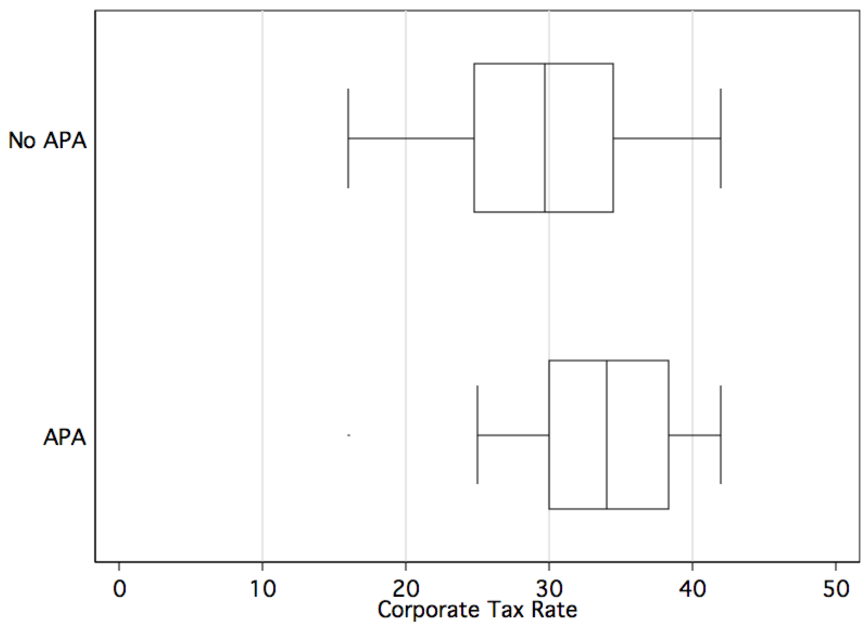

Figure 1. Corporate Tax Rate

177. KPMG INT'L, *supra* note 77, at 13, 15.
178. *Id.*
179. *Id.*
180. Michael P. Devereux et al., *Do Countries Compete Over Corporate Tax Rates?*, 92 J. PUB. ECON. 1210, 1231 (2008). *See also* KPMG INT'L, *supra* note 77, at 4.

C. Tax Dependence

The third explanation centers on the impact of tax dependence: the degree to which the central government depends on corporate taxes to fulfill budgetary obligations. My measure of corporate tax dependence is the percentage of all government revenue for the central government that is due to taxes on corporations and other enterprises, as constructed by the International Monetary Fund.[181] Specifically, corporate tax dependence was measured in 2002; the data for dependence are highly skewed, which can complicate estimation of the statistical model below, so I computed a zero-skewness log transformation of the underlying variable.[182] The three countries in the KPMG report with the greatest corporate tax dependence in the data are Malaysia, Colombia, and Venezuela; the three countries with the lowest dependence on corporate taxes are Singapore, Chile, and Mexico.[183] There is some evidence that countries change their development of rule packages for managing the economy based on their dependence on specific revenue streams, such as those from corporations.[184]

Are countries with greater dependence on corporate taxes more likely to adopt APAs? Like Figure 1, Figure 2, *infra*, shows two boxes that represent distributions for those countries that have APAs and those that do not; in this case, the distributions are for the measure of tax dependence for the two groups of countries. As above, the middle line of each represents the median dependence level rate for countries in each group; the left and right lines represent the lowest and highest tax dependence levels in each group. The side-by-side box plots reveal no differences between countries with different corporate tax dependence levels. Countries with high levels do not appear more likely to have adopted APAs. Again, the statistical analysis below will show whether this pattern continues once we have accounted for the other five explanations.

181. *See generally* 26 INT'L. MONETARY FUND, GOVERNMENT FINANCE STATISTICS YEARBOOK (2002) (compiling international financial data, including total revenue, tax revenue, and corporate taxes for each country in Table A2).

182. *See* G.E.P. Box & D.R. Cox, *An Analysis of Transformations*, 26 J. ROYAL STAT. SOC'Y, SERIES B 211, 213 (1964) (discussing statistical issues with a dependant variable prone to transformation).

183. *See* INT'L MONETARY FUND, *supra* note 181, at 95, 103, 267, 280, 378, 462.

184. *See* Duane Swank, *Politics and the Structural Dependence of the State in Democratic Capitalist Nations*, 86 AM. POL. SCI. REV. 38, 50 (1992) (discussing the structural dependence thesis, which says that the "the social and economic policies of all governments are fundamentally conditioned by their dependence on the willingness of capitalists to continue to invest").

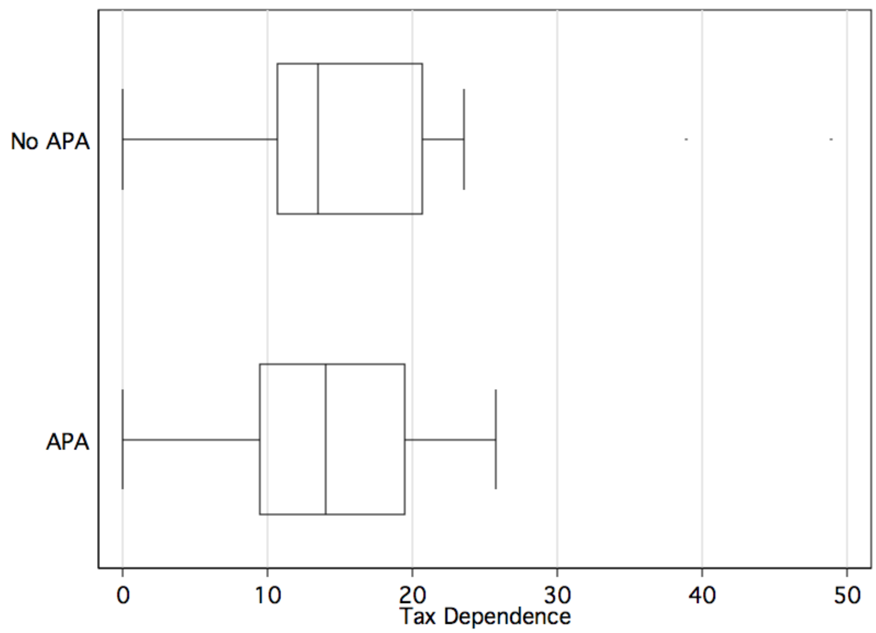

Figure 2. Tax Dependence

D. Foreign Direct Investment

The fourth and fifth explanations center on the degree to which the country's economy is embedded in a network of activity by MNCs. There are two primary explanations here. The first is that incoming flows of foreign direct investment (FDI) increase the chance that a country will adopt APA provisions. The second is that outbound flows of FDI increase the likelihood that a country will adopt APA provisions. In the first case, FDI represents the benefits brought by MNCs to a country; APAs are a way of sustaining inbound FDI flows. In the second case, outbound FDI measures the network effects of MNCs located within a country; APAs are a way of sustaining those MNCs, and also of increasing the chances that those MNCs will repatriate profits from another country. Theories in the study of network economics indicate that rules like APAs sustain or dampen the likelihood of interactions in networks like those defined by MNCs operating across national borders.[185] A number of important studies have shown the relationships between FDI and taxation levels or policies generally.[186] Are countries with greater inward-bound FDI

185. *See* ANNA NAGURNEY & STAVROS SIOKOS, FINANCIAL NETWORKS: STATICS AND DYNAMICS 4–5 (Advances in Spatial Sci. Ser., 1997) (describing network theory as applied to economics and noting that such tools can be useful in examining individual factors).

186. Mihir A. Desai et al., *Foreign Direct Investment in a World of Multiple Taxes*, 88 J. PUB. ECON. 2727, 2729–30 (2004).

flows more likely to adopt APAs? Are countries with greater outward-bound FDI flows more likely to adopt APAs?

My first measure of FDI flows is the size of inbound FDI in a nation, as obtained from the United Nations Conference on Trade and Development (UNCTAD).[187] My second measure of flows is the size of outbound FDI, also obtained from UNCTAD.[188] Both inflow and outflow are measured originally in millions of dollars per annum, for the year 2002. Because the measures are both skewed, I again calculated a zero-skewness log transformation. The three countries with the greatest inward FDI in the data are the United States, Germany, and China; the countries in the data with the lowest inward FDI are Greece, Iceland, and Sri Lanka.[189] For outward FDI flows, the three countries with the greatest in the data are the United States, France, and the United Kingdom; the countries in the data with the lowest outward FDI are Argentina, South Africa, and Portugal.[190]

Are countries with greater inward-bound FDI flows more likely to adopt APAs than countries with lower inward-bound flows? Are countries with greater outward-bound FDI flows more likely to adopt? Figure 3, *infra*, shows box plots for inward flows, while Figure 4 shows plots for outward flows. Figure 3 suggests that countries with higher inward flows are more likely to adopt APAs; Figure 4, *infra*, suggests the same for countries with higher outward flows. The analysis below will test the robustness of this initial finding.

187. *Foreign Direct Investment Database*, UNCTADSTAT (Sept. 17, 2010, 2:08 PM), http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx.

188. *Id.*

189. *Id.*

190. *Id.*

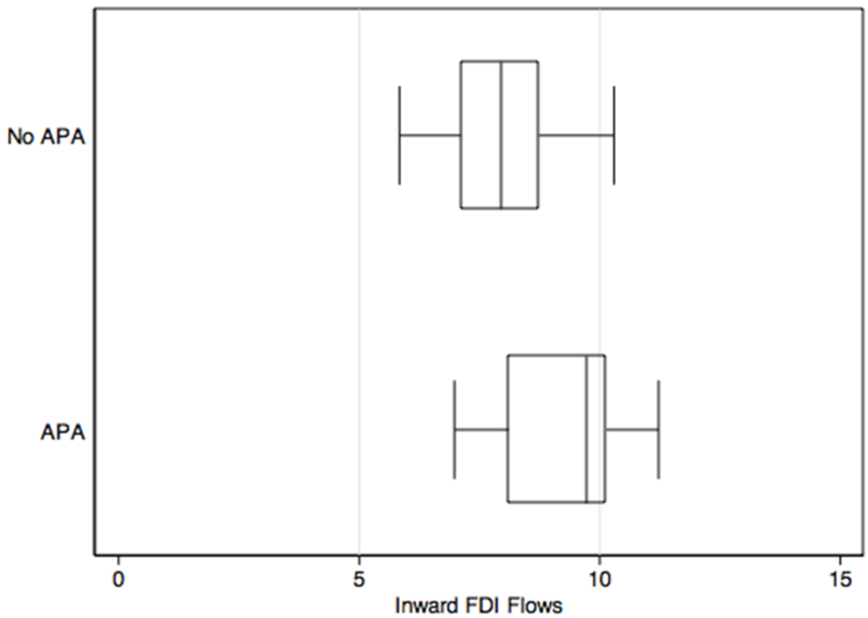

Figure 3. Inward FDI Flows

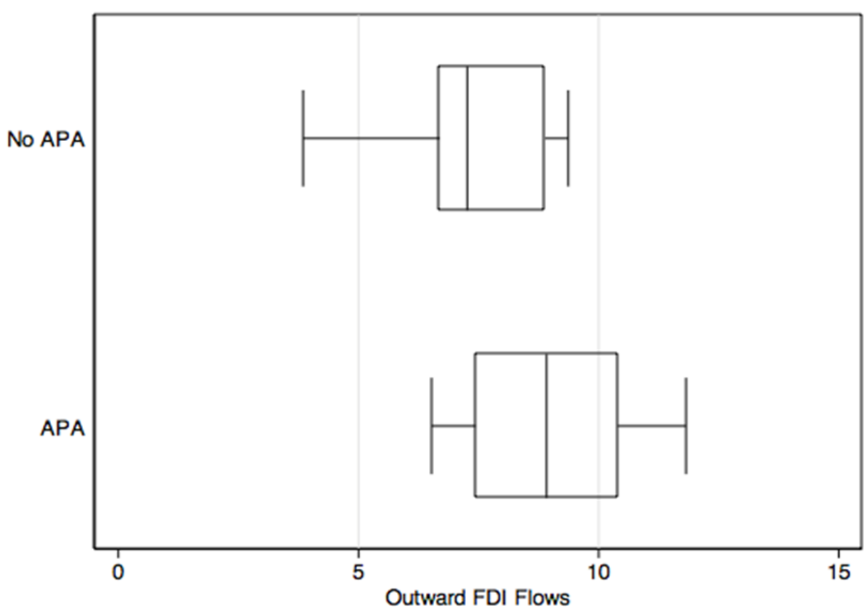

Figure 4. Outward FDI Flows

D. OECD Membership

Finally, I account for OECD membership of the countries under study here. Are OECD countries more likely to adopt APAs? The data show that 7 out of 17 states that are not OECD members also allow APAs. Fifteen out of 29 states that are OECD members also allow APAs. As in the case of English legal origins, the data at this point do not point to a specific effect of OECD membership, even though (as noted above) the OECD contributed important model rules for the treatment of transfer pricing and the choice to use APAs to mitigate regulatory uncertainty.

Descriptive statistics for all measures are located in Appendix A in Table A1. The list of included countries is in Table A2 in Appendix A.

IV. RESULTS

Table 1, in Appendix A, shows the results from my estimation of the three different models' equations, one each for the different ways of understanding and assessing the evidence represented in the data. The fit statistics indicate that we should accept the models as explaining more than would a naïve guess about whether a country has or does not have APA provisions. The R^2 statistic serves as an imperfect descriptor of the percent of variance explained by the predictors, but there is moderate explanatory power in each of the three models.

The first important finding is that neither English legal origins nor dependence on corporate taxes appears to be a significant predictor of the incidence of APAs. The coefficient for English legal origins is not significant at conventional levels in any of the three equations, nor is the coefficient for corporate tax dependence. This is instructive: while the studies recounted above have found varying levels of association between English legal origins and the reduction of economic uncertainty, my analysis, using a very specific measure of uncertainty reduction in the form of APAs, finds no association. Similarly, while studies find varying associations between corporate tax dependence and other tax rules, my study finds no connection. Simple reasons for this difference are that other scholars have concentrated on single country studies, studies of only industrialized countries, or studies of very specific outcomes. In this sense, other studies are bound in their findings by sampling choices, either for units of analysis or for choice of dependent variables. My findings indicate no clear support for a direct role for English legal origins in this case.

In contrast, I find a remarkable pattern of relationships between FDI flows and the incidence of APAs. First, I find that inward FDI flows are associated with greater incidence of APAs. Second, I find that outward FDI flows are associated with greater incidence of APAs. Figure 5, *infra*, shows the estimated response function for changes in the likelihood that a country has adopted APAs based on changes in inward-bound flows of FDI. Figure 6, *infra*, shows the estimated likelihood that a country has adopted APAs based on changes in outward-bound flows. In a nutshell, the figures show that even though inward-bound flows have a strong effect on the chance a country has adopted APAs, the effect of inward-bound FDI is still not strong enough to push a country across the threshold—to move it from not having an APA to having an APA provision. This is shown because the estimated probability (shown on the left side of the figure) never exceeds 0.50. In contrast, outward-bound flows increase the chance that a given country will adopt APAs from less than 0.20 (when FDI flows are low) to over 0.80 (when FDI flows are their highest). This means that the countries that are most likely to adopt APAs are those whose native MNCs make significant investments in other countries' economies.

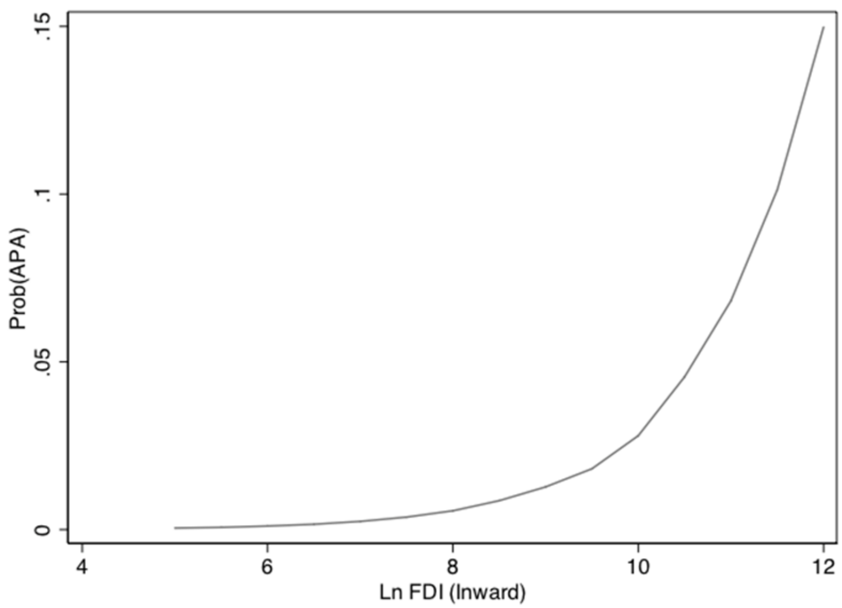

Figure 5. Effect of FDI Flows (Inward) on the
Probability of Having an APA Provision.

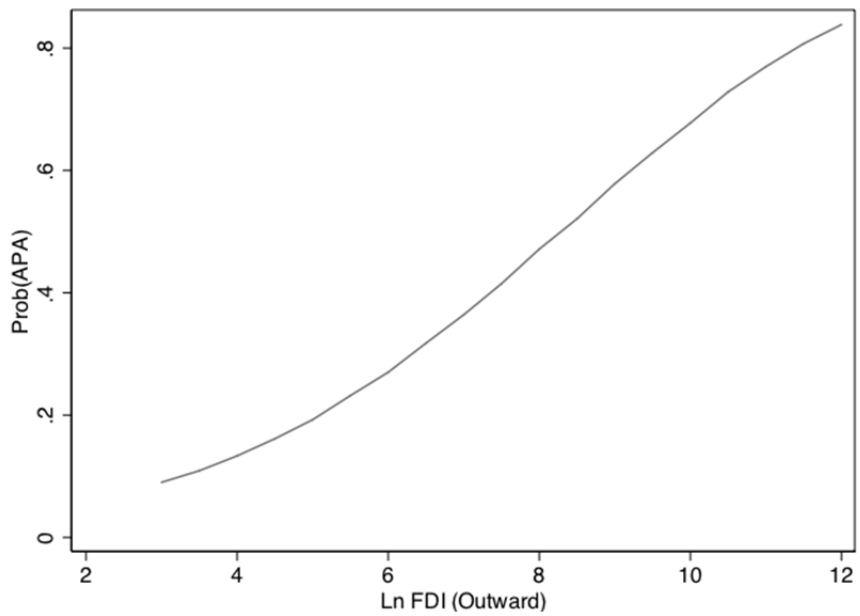

Figure 6. Effect of FDI Flows (Outward)
on the Probability of Having an APA Provision

I also find that corporate tax rates are positively related to the incidence of APAs, which indicates that higher tax rates translate into greater reduction of regulatory uncertainty. Figure 7, *infra*, shows that corporate tax rates increase the chance that a given country will adopt APAs from around 0.20 (when rates are low) to over 0.70 (when corporate tax rates are their highest). This means that the countries that are most likely to adopt APAs are those whose tax rates are high, so the rates increase the likelihood that a measure of protection will be provided to MNCs and other companies who may fear regulatory uncertainty that comes with the transfer pricing process.

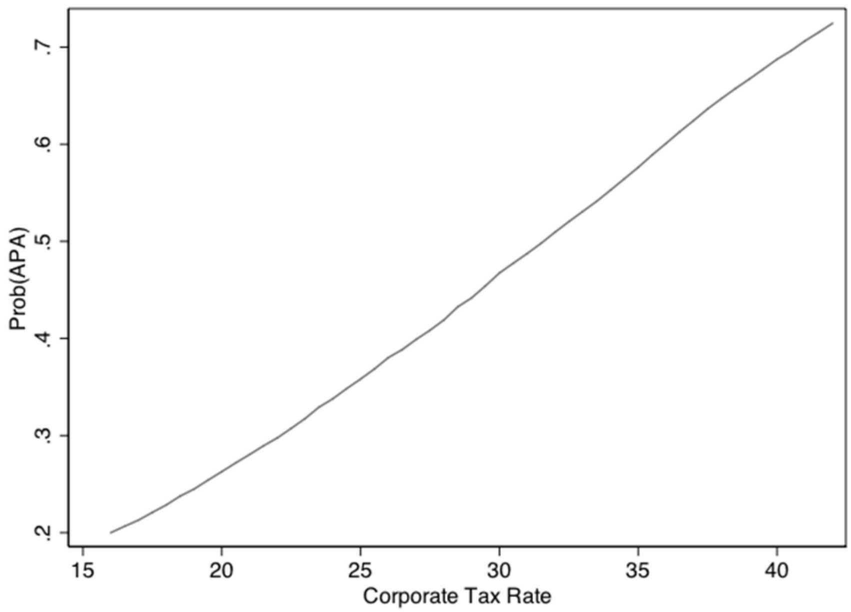

Figure 7. Effect of Corporate Tax Rate on the
Probability of Having an APA Provision

My last set of findings represent a mixture of intuitive and counterintuitive results.[191] I first find that OECD status reduces the likelihood that a country will have an APA regime; this goes against the presumption that the OECD's production of model policy for transfer pricing increases the chances that its members will have adopted it. However, this finding is not robust. The last column, which includes the trimming estimator, shows that once we account for potential problems with the statistical analysis, the estimated negative effect of OECD status disappears. However, all of the other estimated relationships are robust to this choice. The intuitive result here is that OECD status is at best neutral on the likelihood a given country will have adopted APA provisions.

In summary, there is strong evidence that countries with high FDI outflows are more likely to adopt (by a lot); weaker evidence that countries with high corporate tax rates are more likely to adopt (but a little less); and weak evidence that countries with high FDI inflows are more likely to adopt (but not by much). How good is the prediction model for explaining why specific countries choose to adopt APA provisions? In fact, the model misses a few countries. For example, the model predicts the following countries will have APA provisions: Finland, India, Russia, Singapore, and Sweden. Those

191. *See supra* Table 1.

countries did not allow APAs at the time KPMG gathered the data in 2005.[192] The following countries should not have the APA if the inferences above hold true, but KPMG recorded that they do: Australia, Peru, Slovakia, South Korea, Taiwan, Thailand, and Venezuela.[193]

Two example countries that the prediction model really misses are Sweden and Thailand. Sweden did not have APA provisions at the time of the data collection.[194] It does not have English legal origins.[195] Its corporate tax rate is lower than average, as is its dependency on corporate taxes.[196] It is a member of the OECD. However, its FDI inflows and outflows are both higher than average. What compensates for high FDI inflows and still fairly high corporate tax rates in the case of Sweden? The answer is data. Recall that the data here are from 2005, although time has moved forward since that period. In fact, in 2009, Sweden's government moved forward to allow for APAs, and those APA provisions are now in force.[197] Essentially, the model predicted that Sweden should have APAs; although it did not allow for them by 2005, the model's prediction still held. The data "caught up" with the prediction.

In contrast, Thailand has an APA provision.[198] It has English legal origins.[199] Its corporate tax rate is lower than average, although its dependency on corporate taxes is higher than average.[200] It is not a member of the OECD. Its FDI flows (in and out) are both lower than average. In Thailand, what compensates for low FDI inflows? A preliminary explanation is that Thailand had APAs in name only. While Thailand adopted APA provisions in 2002, they were not enforced until May 2010.[201] Essentially, the model predicted that Thailand should not have had APAs, and in effect, Thailand did not have APAs. Of course, one feature of statistical analysis is the quality of data, and in this case, the coarse "has/does not have" distinction does not account for

192. GLOBAL TRANSFER PRICING SERVICES, *supra* note 20, at 3–16.

193. *Id.*

194. *Id.* at 13–14.

195. La Porta et al., *Legal Determinants*, *supra* note 22, at 1138.

196. KPMG INT'L, *supra* note 77, at 15.

197. *Advance Pricing Agreement: New Bill*, KPMG.SE (Oct. 9, 2009), http://www.kpmg.se/pages/108914.html.

198. GLOBAL TRANSFER PRICING SERVICES, *supra* note 20, at 13–14.

199. La Porta et al., *Legal Determinants*, *supra* note 22, at 1138.

200. KPMG INT'L, *supra* note 77, at 15.

201. PORNAPA L. THAICHAROEN & PANYA SITTISAKONSIN, BAKER & MCKENZIE, 2003 ASIA PACIFIC TAX UPDATE: THAILAND (2003), *available at* http://www.bakernet.com/NR/rdonlyres/EDB7F45C-3141-4CB8-9291-53E81180654D/33074/2003ThailandTaxUpdate.pdf (noting that Thai revenue pricing guidelines are not being strictly enforced as of 2003); *Thailand: Revenue Department Issues Guidance on APA Process*, KPMG (May 17, 2010), http://www.us.kpmg.com/microsite/taxnewsflash/tp/2010/TNFTP10_29Thailand.html (noting that the Thai Revenue Department was promoting APAs as of April 2010).

differences in enforcement. Indeed, any of the countries represented in this paper as having APA provisions may in fact enforce them in a variety of ways.

The general point here is that this type of prediction model is a useful starting point for training research sights on different countries' systems. As this exercise indicates, two countries that the model does not correctly predict should receive greater empirical attention. Knowing why Sweden delayed adoption or Thailand rushed it, are useful ways of moving our knowledge of legal innovation forward.

CONCLUSION

This paper focuses on the conditions under which governments seek to reduce regulatory uncertainty and regulatory risk. This paper concentrates on MNCs that seek to transfer goods and services across international borders. Multidivisional firms often use pricing systems for the transfer of such goods and services. The use of transfer pricing as a coordination mechanism can be problematic when divisions engage in cross-border transactions if governments regulate the flow of taxable revenue across borders. The typical standard is whether the price is consistent with an "arms length" transaction.

I address the conditions under which countries adopt APAs that allow for agreements between a taxpayer and the tax authority that a range of prices will be recognized as "arm's length." The statistical model in this paper assesses this choice using data from 2005 about whether a country's tax authority is authorized to negotiate binding APAs. Both inward and outward FDI flows increase the likelihood of a country adopting an APA and, thus, reducing regulatory uncertainty. However, the impact of FDI flows out of the country is substantially greater than those into the country. Countries are more likely to reduce regulatory uncertainty by adopting an APA mechanism when they have high corporate tax rates; the impact of corporate tax rates is also substantially higher than that for inward FDI flows.

Two themes warrant emphasis. First, the use of this kind of prediction model supplements a broad literature that concentrates on the details of these proposals. Those approaches are like the use of microscopes, whereas this approach is like cartography. The usefulness of the approach shown in this paper is that it concentrates investigatory resources on useful and interesting cases that might have escaped targeting in the past. In the current paper, Sweden and Thailand emerge as useful cases for additional "microscopic" investigation.

Second, this paper returns our attention to the issue of regulatory uncertainty. This topic has received almost cursory treatment in academic literature, while it has spawned entire consultative careers for those who can help firms understand and respond to changes in regulation that occur across countries and time. Tax treatment of business processes like transfer pricing falls into this category, although as a field, taxation policy remains distant from more traditional studies of regulation like those of antitrust and market concentration. Regardless, regulatory uncertainty remains a concern, and transfer pricing grows as a component of those views.

APPENDIX A

Table A1: Models of Reduction of Regulatory Uncertainty

	Logit			OLS			Trimmed		
Variable	Est.	SE		Est.	SE		Est.	SE	
English Origins	-1.108	0.939		-0.174	0.154		-0.180	0.168	
Corporate Tax Rate	0.091	0.053	**	0.015	0.009	*	0.016	0.010	*
Dependence	-0.031	0.038		-0.006	0.007		-0.006	0.008	
OECD	-1.453	1.010	*	-0.230	0.181		-0.248	0.194	
FDI: Inward	0.841	0.301	***	0.130	0.048	***	0.145	0.056	***
FDI: Outward	0.436	0.313	*	0.084	0.057	*	0.083	0.060	*
Constant	-11.962	3.212	***	-1.497	0.368	***	-1.660	0.518	***
N	46			46			41		
RMSE				0.433			0.463		
Wald χ^2/F	17.61	**		10.79	***		5.02	***	
Pseudo-R^2/R^2	0.31			0.36			0.28		

* indicates significance at better than 0.10 (two-tailed test).
** indicates significance at better than 0.05 (two-tailed test).
*** indicates significance at better than 0.01 (two-tailed test).

Table A2: Descriptive Statistics

Variable	Mean	Std. Dev.
APA	0.478	0.505
English Origins	0.261	0.443
Corporate Tax Rate	31.075	6.481
Dependence	14.962	8.938
OECD	0.630	0.488
FDI: Inward	8.576	1.404
FDI: Outward	8.179	1.628

Table A3: Included Countries

Argentina	Mexico
Australia	Netherlands
Austria	New Zealand
Belgium	Norway
Brazil	Peru
Canada	Philippines
Chile	Poland
China	Portugal
Colombia	Romania
Czech Republic	Russia
Denmark	Singapore
Finland	Slovakia
France	South Africa
Germany	South Korea
Greece	Spain
Hungary	Sri Lanka
Iceland	Sweden
India	Switzerland
Ireland	Taiwan
Italy	Thailand
Japan	United Kingdom
Luxembourg	United States
Malaysia	Venezuela