

THE POLITICS OF RESTRUCTURING NTT

HISTORICALLY ROOTED TRAJECTORIES FROM THE ACTORS,
INSTITUTIONS AND INTERESTS

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In “The Politics of Restructuring NTT: Historically Rooted Trajectories from the Actors, Institutions and Interests,” Kenji Kushida examines the development of Nippon Telegraph and Telephone in terms of the institutions and market dynamics that drive actors to make political bargains that, in turn, shape the institutional landscape for the next set of interactions between actors. He concludes that the development of telecommunications sectors is highly path-dependent and that the tasks of understanding the complexity of a national telecom sector and of critically comparing such sectors across countries are predicated on an analysis of political dynamics, which mediate economic forces.

The telecommunications industry makes up an increasingly critical sector of global business for at least three reasons. First, different network architectures across countries can act as a platform for different types of value-added activities. This is especially the case in the current digital era, where value can be embedded in standards and applications rather than simply in the final assembly of goods.¹

One example of this is in Japan’s high-speed broadband environment, where both landline and wireless services may facilitate the development of particular types of applications, such as those related to ubiquitous computing. Likewise, South Korea’s high percentage of DSL (digital subscriber line) users and its proliferation of lead users in gaming may affect the direction of hardware evolution, and the choices of investment in China’s emerging market may allow it to set *de facto* global standards.

Second, telecommunications play a key role in determining transaction costs for firms and individuals. As firms modularize, outsource, and offshore their activities, differences in communication costs can significantly affect operational costs and overall efficiency. The availability of flat-rate telephone systems within a country and the level of projected costs for international communications may affect decisions about geographically reorganizing production.

Finally, investments in telecommunications infrastructure and manufacturing can have a substantial impact on a nation’s gross national output and aggregate demand. This is well illustrated

by the case of Japan, where government figures indicated that in 2002 the telecom sector comprised approximately 12 percent of the nation’s GDP.²

The telecommunications industry has also been profoundly affected by technological developments of the past two decades. The Internet and related technologies, the rapid increase of processing power and storage capacity, and the convergence of the information technology and communications sectors have all fundamentally changed the nature of competition within this market. In terms of network infrastructure, single signal, analog voice, and data transfers over copper lines have ceded center stage to technologies such as DSL, which sends a high frequency signal over existing copper lines, and fiber optic infrastructure – both of which transmit data using the Internet Protocol (IP).

Despite the common technological forces facing telecom industries and the importance of the telecom sector in international business, the structures of telecom sectors across the globe retain a considerable level of diversity. In a wave of worldwide privatization that began with the breakup of AT&T in the US, many European and Asian countries have privatized their incumbent carriers. The resulting policy regimes and market structures have not been convergent, however. Thus at the most general level, our task is to explain the forces driving this diversity in outcomes.

By analyzing the development of Japan’s incumbent carrier, Nippon Telegraph and Telephone (NTT), this paper finds the following logic to be driving changes in Japan’s telecom sector: political bargains create actors, institutions, and particular market

configurations. The institutions and market configurations shape the actors' interests. The interaction of these actors, institutions, and interests shapes subsequent political bargains. Development is path-dependent in the sense that outcomes at one juncture affect the spectrum of possible outcomes at the next, in a historically rooted trajectory of development.³

This finding implies that unless configurations of actors, institutions, and interests converge, we should not expect a parallel convergence of market structures or governance systems in telecom sectors across countries, despite the seemingly powerful homogenizing forces of technology and international competition. This implication highlights the importance of understanding the political dynamics and institutions of telecom sectors in a country to understand the consequent market dynamics.⁴ As John Zysman has argued,

Globalization is a story of national innovations played out on a larger stage. A sequence of new competitors, new and often unexpected loci of innovation and production, bring new processes, new products, and new business models to the larger marketplace. The dramatic marketplace developments have usually been cooking inside of national systems of innovation and competition, largely unobserved by the outside. Consequently, they are startling when they burst on the global marketplace.⁵

Since the logic of international competition in the digital era allows innovations and competitive strengths to arise from particular national market dynamics, it is critical to have a broad framework of political analyses with which to assess the global competitive landscape.

Finally, in broader debates over how forces of globalization affect domestic institutions and economies, this paper's analysis bolsters the claim that domestic politics and institutions mediate common economic forces facing different countries, and that different institutional configurations drive divergences in national responses.⁶

The Corporate Governance Structure of NTT

Eclipsing all other carriers in size, NTT is organized as a holding company, and wholly owns regional carriers NTT East and NTT West, as well as long distance and international carrier NTT Communications. It owns a majority stake in several other

companies, including NTT Data, a systems integration and network systems services company, and NTT DoCoMo, Japan's chief cellular carrier. Lately, regional NTT companies have been losing money, recording the largest losses in Japan's history for non-financial institutions.⁷ Earnings of NTT DoCoMo, however, make up most of the profits recorded in the consolidated financial earnings statements of the NTT holding company, and attempts to reduce numbers of employees at NTT East and West have often been simply transfers of personnel to DoCoMo. DoCoMo itself is a listed company, and had the highest market capitalization of all Japanese companies for several years around 2000.

In terms of ownership, the Ministry of Finance (MoF) controls a majority of NTT holding company shares, though it considers NTT fully privatized. Large institutional investors such as trust banks and life insurance companies hold most of the remaining NTT shares.⁸ MoF claims to be waiting until NTT's share price is sufficiently high in order to sell its remaining shares, since Japan faces a monumental fiscal debt. In the meantime however, it is quite clear that no other actor can own a majority stake of NTT, placing the company securely in the government's hands and preventing a buyout similar to that of AT&T in the US.

In terms of formal legal governance, the Ministry of Internal Affairs and Communications (MIC – known as the Ministry of Posts and Telecommunications, MPT, before a bureaucratic reorganization) has jurisdiction over the telecommunications sector. Interestingly, MIC has the final say in appointing board members as well as the president and vice president of the NTT holding company, regardless of shareholder opinion. Thus while the company is listed on the stock exchange, the government controls top management appointments.

In spite of being “privatized,” NTT is firmly in the hands of government ownership. This complicated picture gives ample weight to the claim that we must examine historically rooted trajectories of development to understand current circumstances.

Origins to 1949: Direct Government Ownership and Operation

Japan's telecommunications industry began in the late nineteenth century as part of a state-driven effort to catch up with the west. Perceiving the need to modernize rapidly in the face of security threats from industrialized European powers and the US, the Japanese government invested heavily in industries it

deemed crucial to state development, such as mining, railroads, and electric power, initially establishing these sectors as state-owned monopolies. In 1889 the Ministry of Communications became the monopoly operator of the telecommunications industry, responsible for all infrastructure, manufacturing, and operations.⁹

Japan's initial state-driven development contrasts with that of the US, Great Britain, France, and Germany. When telephone technology was in its inception in these countries, private entrepreneurs first established private lines and networks. Only as the technological potential of the industry was realized did the state later assert control. Though private companies in Japan were interested in entering the telecommunications business, the government's position was that Western countries had already established government monopolies, and that a government monopoly best served the nation's interests in terms of security and expansion of services to rural areas.¹⁰

After creating government monopolies in various sectors, the state soon discovered that corruption and inefficiency were severe. In the telecommunications industry, this led the government to encourage the establishment of private companies to supply communications equipment. Until the early postwar period, Japan's telecommunications industry structure was therefore one in which the state was the monopoly operator, with an oligopoly of private manufacturing firms supplying equipment.¹¹

This was the first set of critical junctures in the development of Japan's telecommunications industry, and the creation of the Ministry of Communications as a government bureaucracy monopoly operator and the oligopoly of private enterprises influenced subsequent developments.

1949-1952: Incorporation – Political Struggles

In the immediate postwar period, a political settlement led to the establishment of NTT as a public corporation. First, the Supreme Command for the Allied Forces (SCAP) externally imposed a structural shift on the government. SCAP broke apart the Ministry of Communications into the Ministry of Posts and the Ministry Telecommunications, on the grounds that the Ministry of Communications posed a potential threat. The Ministry of Communications was considered a source of ultra-nationalism, since it had acquired control of all media such as newspapers and

radio in the run-up to the war, and had been at the center of wartime propaganda. The Ministry of Telecommunications was consequently given the task of running the communications industry.

General Douglas MacArthur, head of SCAP, envisioned a private telephone monopoly modeled after AT&T. However, other occupation officials who were influenced by New Deal ideas pushed for a Tennessee Valley Authority model of a public corporation, which allowed for the flexibility and initiative of private firms.¹² The Japanese leadership was split. Prime Minister Yoshida Shigeru's camp pushed for private telecommunications carriers while the camp of Minister of Telecommunications Sato Eisaku took the position that the ministry should continue to operate all telecommunications services. A compromise was reached in 1952, just before the occupation drew to an end, transforming the Ministry of Telecommunications into a public corporation – NTT.¹³ At the same time, the Ministry of Posts became the Ministry of Posts and Telecommunications (MPT), gaining the primary supervisory role over NTT. Another government-regulated corporation, Kokusai Denshin Denwa (KDD), was given a monopoly over international services.¹⁴

This was the second critical juncture in the development of Japan's telecommunications industry. The policy process directly created MPT, NTT's designation as a public corporation, and NTT's governance structure, which in turn created new interest group dynamics in the subsequent policy process. Other interests such as the NTT "family" firms, and the Japan Telecommunications Workers Union (JTWU) – which later became significant political actors as well – were also a result of these policy outcomes.

1952-1985: NTT's Dominance and the Creation of New Interests

From 1952 until 1985, while NTT was a public-corporation monopoly wholly owned by the state, regulatory power was concentrated in NTT itself and in the National Diet. NTT accordingly became a powerful political actor while MPT remained weak. The concentration of resources in NTT also strengthened its oligopoly of equipment providers, and its sheer size created a large union.

In terms of formal legal governance, the National Diet possessed the authority to approve investment plans and price changes, and was given veto power over NTT's major business

decisions. The prime minister appointed NTT's president and vice president, and the Ministry of Finance was responsible for approving NTT's budget, which was then ratified in the Diet.¹⁵ MPT was assigned the primary supervisory role of NTT to oversee and approve its daily activities. Much of MPT's formal power lay in its role as a liaison between NTT and the other actors, in areas such as discussing rate hikes with the Diet and explaining the budget to MOF. However, in practice NTT officials dealt with political relations themselves, frequently testifying directly in front of the Diet and circumventing MPT.¹⁶

MPT's powers of supervision over matters such as technical standards were rendered mostly nominal. The ministry lacked staff with the expertise to effectively monitor NTT. When the prewar Ministry of Communications was disbanded, people with technical skills were all moved to the Ministry of Telecommunications. Since MPT had been created directly from the Ministry of Postal Affairs, it was staffed entirely by people with experience and expertise in the postal service. In fact, the approximately thirty staff members of the telecommunications office in MPT were all dispatched from NTT.¹⁷ Therefore, when NTT applied for licenses, the officials within MPT inspecting the application were none other than former NTT employees.¹⁸

NTT leaders and employees tended not to accept leadership from MPT officials. Since NTT was originally the Ministry of Telecommunications – initially on equal bureaucratic footing with the Ministry of Postal Affairs – NTT employees resented the supervisory role assigned to MPT officials. Furthermore, NTT employees looked down upon MPT officials as postal workers, since from the 1950s to 1970s, career bureaucrat MPT leaders all came from the postal business.¹⁹

The regulatory framework governing the financing of NTT strengthened it as an organization at the same time that it provided capital to fund its oligopoly of suppliers. NTT extracted much of its investments and operations funds directly from the populace through special legal tools and monopoly rent. First, telephone service subscribers were forced to buy special bonds from the government for 100,000 yen, which NTT returned after ten years. This subscriber bond system was instituted through law, and no other country has had comparable revenue-raising measures, with over 5.56 trillion yen (approximately \$15 billion)²⁰ raised through these bonds until their discontinuance in

1982 in preparation for the privatization of NTT.²¹ Second, NTT charged installation fees, and, given that they held a monopoly in installation, fees were disproportionately high vis-à-vis the labor and capital costs involved. Third, telephones were leased rather than sold outright, and NTT had a monopoly on leasing. Finally, telephone service and calling rates were higher in Japan compared to other industrialized countries, reflecting NTT's comparatively high levels of monopoly rent extraction.²²

In terms of government financing, NTT enjoyed various special rights and privileges. First as a public company, NTT received budget allocations from the government. These were essentially direct transfers from the government and were considered to be part of budgeted government expenses. Second, NTT had access to special bonds and low-interest loans through the Fiscal Investment and Loan Program (FILP), a pool of funds controlled by the state through the national postal savings system.²³ NTT was able to rely on these funding sources during downturns, especially from the early to mid-1970s when it had difficulty obtaining other funds, and after subscriber bonds were phased out in the early 1980s.²⁴ Third, NTT was allowed temporary use of treasury surpluses, and the government also guaranteed NTT's domestic and foreign currency debts. Finally, NTT was exempt from corporate, local and business taxes, as well as local property taxes.²⁵ Once NTT was privatized, the magnitude of benefits derived from its tax exemption became clear, as the amount of remittances from NTT to the government increased tenfold.²⁶

Soft budget constraints, combined with the fact that NTT pushed to redevelop Japan's national telephone infrastructure after its wartime decimation, meant that NTT equipment procurement budgets were substantial. NTT offered generous procurement prices to its equipment supplier firms – NEC, Fujitsu, Oki, and Hitachi – which in turn became known as NTT's "family" of suppliers. These firms cooperated in R&D with NTT while competing with each other to manufacture equipment for NTT. However, this competition was within the context of a stable market provided by NTT as it rebuilt Japan's telephone infrastructure.²⁷ Marie Ancho doguy shows how these firms subsidized their R&D activities through procurement from NTT, and owed their development largely to NTT procurements.²⁸

The NTT union, the Japan Telecommunications Workers Union (JTWU), became one of the largest unions in Japan, with

over 300,000 NTT employee members. It cultivated ties with the Social Democratic Party of Japan (SDPJ), the main opposition party in Japan until the 1990s. Its strike fund could be used for political purposes. More importantly, its influence over NTT made it a political player.²⁹

Thus, the political process incorporating NTT as a public firm and creating its governance structure resulted in a new set of political interest groups. MPT, NTT, NTT's "family" firms, and JTWU all became major actors in the NTT privatization struggle of the early 1980s.

1984-1996: Privatization and the Rise of MPT as a "Policy Bureaucracy"

Technological developments in telecommunications, such as microwave technology, switches capable of facilitating the leasing of networks, and the possibility of sending data over telephone lines led industrialized states across the world to conclude that telecommunications could no longer justifiably be considered a "natural monopoly." International events, such as the US sanctioning of domestic long distance competition and the breakup of AT&T, combined with Japanese domestic political forces calling for the privatization of NTT to create an extremely politicized and complex struggle over how to reform Japan's telecom sector. The interests created in the previous critical juncture became the principle actors in the political struggle. As before, the outcomes were not predetermined in any way.

The main results of the political struggle were threefold. First, NTT was partially privatized. Second, the telecommunications market was partially liberalized. Third, MPT scored a major coup by gaining vast regulatory powers and broad discretionary authority. Vogel and Johnson provide detailed analyses of this complex political process. A simplified account runs as follows. First, during the heyday of NTT's self-regulation, MPT had not enjoyed the prestige of MOF or the Ministry of International Trade and Industry (MITI). It was considered a "regulatory bureaucracy" rather than a "policy bureaucracy" capable of making industrial policy, with only NTT and KDD under its jurisdiction and NTT dominating its own regulation.³⁰

While separate reports in the late 1970s by MPT officials and a government advisory council report raised the possibility of elevating MPT to a policy bureaucracy and privatizing NTT,

reform got underway with the launch of the Second Provisional Commission for Administrative Reform (Rinji Gyosei Chosa Kai – or Rincho) in 1981. Rincho was a pet project of Prime Ministers Suzuki and Nakasone to restructure the government,³¹ and the Rincho report in 1982 proposed that NTT be privatized and broken up, with competition introduced to all sectors of telecommunications.³² Both Johnson and Vogel document an enterprising group of MPT officials envisioning MPT as a "policy bureaucracy" on par with MOF and MITI, acting strategically to realize this goal.³³

An intense political and bureaucratic struggle involved MPT, MITI, MOF, LDP telecom *zoku* politicians,³⁴ NTT, NTT's family of equipment suppliers, JTWU, the Socialist Party, the *zaikai*, consisting mainly of large Japanese firms, and Rincho. Some principal debates concerned the regulation and liberalization of Value-Added-Networks (VANs), and methods of privatization and breakup of NTT. Debates over VANs were essentially turf wars between MITI and MPT, both of which were interested in gaining power by acquiring jurisdiction over the new growth sector. Both mobilized their political support, trading blow for blow until MPT ended up victorious. Ultimately, a series of compromises and bargains led to a partially privatized NTT, an MPT with vastly increased powers and jurisdiction, and postponement of the issue concerning breakup of NTT. The Diet lost most of its regulatory powers over NTT, as did MOF.

The government-industry structure resulting from this political process was very similar to that of most other Japanese industries – a lead agency armed with an array of regulatory policy tools and discretionary authority was in a position to engage in industrial policy. However, key differences between telecommunications and other industries were in the identity of the lead agency being MPT rather than MITI, and the disproportionate industrial might of NTT.

Again, these outcomes were not predetermined. It was not inconceivable for MITI to have gained jurisdiction over the sector, and a different political settlement might have broken up NTT. Furthermore, this political process shows that the previous political settlement incorporating NTT created a set of interests that became significant political players in this round of reforms.

The privatization struggle over NTT in Japan also shows how domestic political institutions mediated forces common to all

countries. The technological developments in telecommunications were not unique to Japan, but the timing of privatization and liberalization, the nature and interests involved in the political struggle, and the outcomes differed from those in other countries. The US and UK privatized and liberalized their sectors before Japan, while France and Germany did not do so until later, and the resulting sectors and state actors were each configured differently than in Japan.

*From 1996 On: Restructuring NTT and the
Rise of Cabinet Involvement*

While MPT was unquestionably the dominant player shaping the telecommunications sector after 1985, by the late 1990s, Japan's political leadership became increasingly involved in telecom policymaking. Their increased participation in shaping the sector began with another political struggle over the breakup of NTT.

This struggle was in some sense a continuation of the previous privatization debate, which had postponed the issue of how to break up NTT. However, the previous political outcome had greatly strengthened MPT. While all the same interests involved in the NTT privatization debate were initially involved in the fight over reorganizing NTT, in the end this struggle was resolved through a politically brokered settlement between NTT and MPT. It is doubtful that MPT would have been in a position where it could have reached a settlement with NTT if the balance of power had not shifted between the two actors. As seen earlier, the contempt with which NTT leaders held MPT in the earlier round of debates is likely to have led to NTT officials refusing to negotiate with MPT alone, preferring to involve a larger number of actors.

As part of the 1985 settlement, the issue of breaking NTT apart came up for discussion in 1990. MPT favored a breakup, while MITI, NTT, and JTWU opposed the proposal.³⁵ At this stage, MOF also opposed the breakup, and the LDP's electoral situation made the political leadership amenable to postponing the debate until 1995.³⁶ MOF had become a powerful interest in the debate over NTT through the privatization process. Since NTT was only partially privatized, the NTT Law stipulated that the government hold a minimum of one third of NTT stock. MOF was in charge of placing NTT shares on stock exchanges, which it did on three occasions before 1995, with proceedings totaling

approximately 10 trillion yen (\$80 billion) that then reduced the government's share to approximately two thirds.³⁷ Proceeds from these public offerings went straight to government coffers overseen by the MOF. However, after the third release in October 1989, NTT's stock plummeted, partly due to the bursting of the "bubble economy," and partly due to scandals involving NTT's leadership.³⁸ After the drop in NTT share prices, MOF did not place shares again until 1998, when the issue of NTT's breakup was finally settled. In 1990, MOF's concern about threatening NTT's stock price by breaking it up was also of direct interest to the incumbent LDP party, which had just lost the upper house election for the first time since 1955.

The LDP also recognized the difficulty of reaching an agreement over the breakup in the Diet, since the Socialist party, opposed to the breakup due to its strong ties with *zendantsu*, had gained a majority in these 1989 Upper House elections.³⁹ Thus MOF's opposition to the breakup of NTT carried the day for the political leadership, and the issue was postponed until 1995.

In 1995, another debate raged with MPT, NCCs, and the *zaikai* pushing for a breakup, and with NTT, JTWU, the Socialist Party, and NTT family firms opposing. This time, the electoral situation of the ruling coalition led to Prime Minister Hashimoto's postponing the issue for another year until March 1996. At the time, the LDP was in coalition with the Socialist party as Lower House elections loomed. The Socialist Party was heavily supported by the JTWU, and the LDP was interested in financial support from NTT family firms.⁴⁰

Later in 1996, it was MPT and NTT themselves who came to an agreement that NTT could be divided as an organization, but retain unified control through a holding company. The holding company was a new policy option, since only at this juncture did other parts of the government hold discussions concerning legalization of holding company structures, which had been banned since the Occupation. By late 1996, Prime Minister Hashimoto and other LDP leaders were also concerned about NTT's inability to operate internationally – MPT had not been interested in allowing NTT's entrance into the international service market for fears that its size would annihilate KDD.⁴¹ The political leaders were well aware that large international mergers were taking place in the telecommunications market, while Japan continued to be a relatively isolated market, and as a consequence

Japan would irrevocably lose any chance to become internationally competitive.⁴²

The final settlement reached between MPT and NTT entailed NTT's division into two regional local carriers and a long distance and international carrier under the holding company structure. The settlement was brokered by Hashimoto and political leaders, agreed upon in secrecy and announced suddenly to avoid politicized public debates. Even participants of the Telecommunications Deliberation Council, whose final recommendation had been for a complete breakup were unaware of the process, learning of the settlement in newspapers.⁴³ After this political settlement, the prime minister's Cabinet Office became more active in telecom policymaking, with a concentrated thrust toward deploying broadband infrastructure.⁴⁴

Conclusion: Towards Another Critical Juncture in Japan's Telecommunications Sector

As analyzed, the development of Japan's telecommunications sector reveals a specific instance of path dependence in which actors, institutions, and interests created in one critical juncture affect political processes in the next.⁴⁵ The next critical juncture in Japan's telecom sector is close at hand. The sudden and growing popularity of VoIP (Voice over Internet Protocol) services is beginning to rewrite the rules of landline telephony competition.⁴⁶ Not only are NTT's landline revenues threatened, but NTT East and West are regional carriers, prohibited from long distance services, and VoIP makes this geographic distinction irrelevant. NTT's leadership has been calling for reforms of NTT's governance structure, claiming that its current structure does not allow it to compete adequately.

Though Prime Minister Koizumi may be occupied with the privatization of the postal services, postal savings, and postal insurance systems until the end of his current term in the fall of 2005, another politically critical juncture over restructuring NTT is close at hand. From what we have learned by examining Japan's historical trajectory of development, the actors likely to be involved in the next political struggle are not hard to guess. We can also expect that whatever the outcome of the next political struggle, the structure of Japan's telecom sector is unlikely to converge to that of the US, or other countries.

Endnotes

- 1 For the logic of competition in the digital era, see scholarship such as: Stephen J. Cohen, Bradford DeLong, and John Zysman, *Tools for Thought: What Is New and Important About the "E-Economy"* (Berkeley, CA: University of California at Berkeley Press, 2000). Also, Clarkiss Y. Baldwin and Kim B. Clark, *Design Rules* (Cambridge: MIT Press, 2000). Robert Cole analyzes how Japan's telecom sector was blindsided by these new rules of competition, leading to a decline in international competitiveness. See Robert Cole, "Telecommunications Competition in World Markets: Understanding Japan's Decline," in Abraham Newman, and John Zysman, ed., *The Digital Era: National Responses, Market Transitions, and Global Technology* (Stanford, CA: Stanford University Press, forthcoming).
- 2 Soumusho, (Ministry of Home Affairs) white paper, "Information and Communications in Japan 2004."
- 3 On path dependence, see Paul A. David, "Understanding the Economics of QWERTY: the Necessity of History" in William N. Parker, ed., *Economic History and the Modern Economist* (Oxford: Blackwell, 1986), 332-337. Zysman analyzes how institutions can play a significant role in path dependent processes in John Zysman, "How Institutions Create Historically Rooted Trajectories of Growth," *Industrial and Corporate Change* vol. 3, no. 1 (1994): 243-83.
- 4 This falls in line with Karl Polanyi's view that institutions and sustained government support are needed for functional markets. Karl Polanyi, *Great Transformation: The Political and Economic Origins of Our Time* (Boston: Beacon Press, 1944).
- 5 John Zysman, "Creating Value in a Digital Era: How Do Wealthy Nations Stay Wealthy?" *BRIE Working Paper #165* (2005), 9.
- 6 This falls in line with the view of Helen Milner and Robert Keohane, contrasting with that of Jeffrey Frieden and Rogowski, who do not take the view that domestic institutions play the role of an intermediary. Jeffrey Frieden and Ronald Rogowski, "The Impact of the International Economy on National Policies: An Analytic Overview," in Helen Milner, and Robert Keohane, ed., *Internationalization and Domestic Politics* (New York: Cambridge University Press, 1996). Also, Helen Milner and Robert Keohane, "Internationalization and Domestic Politics: An Introduction," in Helen Milner and Robert Keohane, ed., *Internationalization and Domestic Politics* (New York: Cambridge University Press, 1996).
- 7 "NTT of Japan Says Losses to Mount to \$6.5 Billion," *Wall Street Journal*, April 5, 2002, 7.
- 8 "NTT Homepage, <www.ntt.co.jp>.
- 9 For an account of the historical development of Japan's telecommunications industry, see Marie Anchoroguy, "Nippon Telegraph and Telephone Company (NTT) and the Building of a Telecommunications Industry in Japan," *Business History Review*, Autumn 2001, 507-541. See also, Steven Vogel, *Freer Markets, More Rules: Regulatory Reform in Advanced Industrial Countries* (Ithaca, NY: Cornell University Press, 1996).
- 10 Steven Vogel, *Freer Markets, More Rules: Regulatory Reform in Advanced Industrial Countries* (Ithaca, NY: Cornell University Press, 1996), 139. It is worth noting that this is the first instance where the government was concerned with providing a telecommunications network on a nationwide scale. At this stage, the state's interest was in nation building, conceptualized as creating modern nationwide infrastructure, but as we will see later, the political and bureaucratic concern for nationwide infrastructure drove particular network build-outs.
- 11 Anchoroguy, 509.
- 12 Ibid., 515.
- 13 The Nippon Telegraph and Telephone Public Company was known as "Denden Kosha" in Japanese, though the official English name was NTT, rather than NTTPC – an occasional source of confusion.
- 14 Vogel, 139. Anchoroguy's account does not include the political struggle within the Japanese leadership.
- 15 Anchoroguy, 518.
- 16 Vogel, 139, 141.
- 17 For a detailed explanation of the practice of dispatched workers, or *shukko shain*, see Jennifer Ann Amyx, "Banking Policy Breakdown and the Declining Institutional Effectiveness of Japan's Ministry of Finance: Unintended Consequences of the Network Relations" (Stanford University: PhD Dissertation, 1998). Also, Yves Tiberghien, "Political Mediation of Global

Economic Forces: The Politics of Corporate Restructuring in Japan, France, and South Korea" (Stanford University: PhD Dissertation, Stanford University, 2002).

18 Vogel, 142.

19 Anchordoguy, 516.

20 Calculated at an exchange rate of \$1 = ¥360 USD, the average exchange rate until the 1980s.

21 Anchordoguy, 521.

22 Yearly call charges per subscriber fell 92% between 1985 and 1990, according to data provided by Yoshihiro Takano using NTT sources. The figures do not account for the increase in telephone use, but in either case, it is clear that rate reductions were dramatic. See Yoshihiro Takano, "Nippon Telegraph and Telephone Privatization Study: Experience of Japan and Lessons for Developing Countries," *World Bank Discussion Papers* 179, 1992, 51.

23 The national postal savings system gave the government massive amounts of capital to invest, since interest rates in postal savings were higher than bank rates, which were regulated by MOF. In 1985, the postal savings assets topped 100 trillion yen, or \$555 billion, with exchange rates at the time. Postal savings were also often the only available place to deposit savings in remote areas, and the unanimity of post offices made postal savings attractive for people requiring the ability to withdraw money in multiple areas. See Chalmers Johnson, "MITI, MPT, and the Telecom Wars: How Japan Makes Policy in High Technology," in Johnson et. al. eds., *Politics and Productivity: the Real Story of Why Japan Works* (USA: Ballinger Publishing Co., 1989), 208.

24 Anchordoguy, 520-522.

25 Takano, 80.

26 According to Takano, using sources from NTT, in 1979 and 1980, NTT's contributions to the government were slightly less than \$259 million in 1979 and rose to approximately \$3.5 billion in 1990.

27 Vogel, 140.

28 Anchordoguy, 522-529.

29 Vogel, 142.

30 NTT was not alone in looking down on MPT, as officials of other bureaucracies and businessmen around Kasumigaseki noted that they wore sandals within the ministry and out to lunch. Oonishi, Katsuaki et al. *Joho Tsushin: Nihon no Biggu Ban Indasutori* (Tokyo: Otsuki Shoten, 2000), 157.

31 Other major issues addressed by Rincho included the privatization of Japan National Railroads. Vogel, *Freer Markets*, 143-144. Johnson, 194.

32 Vogel, 145.

33 *Ibid.*, 143. Johnson, 217.

34 "Zoku politicians" is an informal label for professional politicians who have served in one or more politically appointed posts at a given ministry. Not to be confused with career bureaucrats-turned politicians, *zoku* politicians add valuable expertise to factions within the LDP, which try to gain a broad range of *zoku* Johnson, 203.

35 Chuji Itoh, *Tsushin Biggu Ban: Communications Big Bang* (Tokyo: NTT Shuppan, 1998), 134.

36 Steven Vogel, "Creating Competition in Japan's Telecommunications Market," Japan Information Access Project Working Paper, presented at the Japan Friendship Commission Public Policy Series, 2000, 7.

37 For details on the first three initial public offerings of NTT shares, see Takano, 27-37.

38 Chairman Shindo of NTT was arrested in the fallout of the Recruit Scandal in March 1989. Takano, 35.

39 Oonishi, et. al., 161.

40 Vogel, "Creating Competition," 7.

41 *Ibid.*

42 Itoh, 141.

43 Personal Interview, former member of Telecommunications Deliberation Council, March 2002, Stanford University.

44 For more on recent developments in the sector, including the regime shift, see Kenji Kushida, "Japan's Telecommunications Regime Shift: The Unexpected Development of Telecom Services and the Implications for Japan's Comparative Institutional Advantage," *Stanford Japan Center Discussion Paper DP-2005-002-E*, 2005.

45 However, the author does recognize that punctuated equilibrium models may not capture changes that occur between critical junctures. See Kathleen Thelen, "How Institutions Evolve: Insights from Comparative Historical Analysis," in James Mahoney and Dietrich Rueschemeyer, eds., *Comparative Historical Analysis in the Social Sciences* (Cambridge: Cambridge University Press, 2003), 208-240.

46 The government estimates that by the end of 2004, Japan had close to 8 million such subscriptions. Estimates vary, but a Nikkei survey found that about 40% of major firms had installed IP telephony, and another 40 percent were seriously considering doing so. "IP Denwa, Katei Nimo Shintou" *Nihon Keizai Shimbun*, March 29, 2005, 35. Also, "IP Denwa 'Dounyu' 9 Wari," *Nihon Keizai Shimbun*, March 3, 2005, 1.

For more on the development of IP telephony in Japan, see Kushida (2005).