

## Administered Prices in Japan: Institutional Comparisons with Europe and the United States

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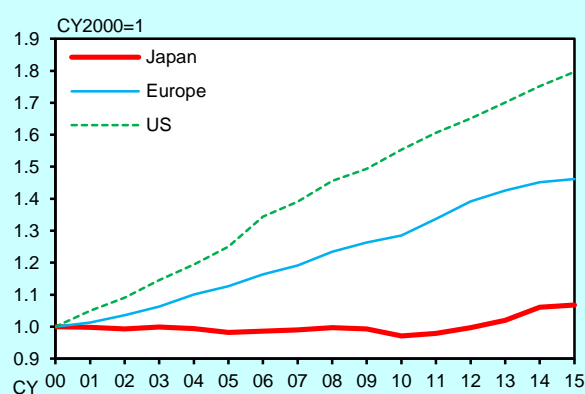
Although the underlying trend in consumer prices has been rising steadily in recent years, administered prices in Japan have stayed more or less flat. In contrast, administered prices in Europe and the United States have consistently moved upward. Differences in the institutional systems of administered prices can be pointed out as one reason for this sharp contrast. Since the 1980s, European countries and the United States have taken measures to (i) enhance management discipline of publicly owned businesses, and (ii) create independent regulatory commissions and enhance independence from the government mainly in terms of price-setting. As a result, administered prices have been set in accordance with labor and investment costs. In the case of Japan, on the other hand, the government has been heavily and directly involved in the price-setting process, and government subsidies have been granted to many public enterprises. This mechanism may act to affect administered prices in our country.

### Introduction

Administered prices in Japan have long stayed more or less flat, which is a clear contrast with the fact that administered prices in Europe and the United States have consistently moved upward (Chart 1).<sup>1</sup> This is partly because, in Japan, overall price levels have stayed more or less flat for many years.<sup>2</sup> However, although the underlying trend in consumer prices has been rising in recent years, prices of many items in the public sector have continued to be more or less flat. Public services, including water and electricity as well as education and medical services, account for a fairly large weight of economic activity in every country, and consequently moves of administered prices have a profound impact on the CPI (Chart 2).<sup>3</sup>

Against this backdrop, in this paper we examine the characteristics of administered prices in Japan largely on the basis of institutional comparisons with Europe and the United States. We present below the outline and underlying concept of public-sector pricing in Europe and the United States, and then explore the differences in the decision-making process of administered prices between Japan and these countries.

[Chart 1] Comparison of Administered Prices among Advanced Economies



Note: Figures for Japan are aggregates of "public services" and "electricity, manufactured & piped gas & water charges" in the CPI. Figures for Europe are weighted averages of administered prices in the harmonized index of consumer prices (HICP) of OECD member countries in EU. Sources: Ministry of Internal Affairs and Communications, "Consumer Price Index"; BLS; Eurostat.

### Outline of Public-Sector Pricing in Europe and the United States

#### Overview

Up until the 1980s, in Europe and the United States, management discipline of publicly owned businesses was weak and government intervention in their business management was significant. It has been

[Chart 2] Weights of Administered Prices in the CPI

Weight per 10,000

	Japan	U.S.	U.K.	Germany	France
Administered prices (total)	1,712	1,961 [2,101]	800 [2,390]	1,370 [2,826]	1,629 [2,468]
Electricity and gas	413	359 [359]	400 [400]	0 [582]	447 [447]
Water and sewerage charges	162	87 [87]	120 [120]	189 [189]	107 [107]
Transportation services	184	114 [114]	240 [300]	157 [285]	28 [265]
Medical services	196	734 [734]	20 [200]	408 [408]	349 [349]
Educational services	75	299 [299]	0 [260]	98 [98]	46 [46]

Notes: 1. Weights for Japan are from the 2010-based CPI. Weights for other countries are from the 2015-based CPI or HICP.

2. Medical services include pharmaceutical products and other related items.

Sources: Ministry of Internal Affairs and Communications, "Consumer Price Index"; BLS; Eurostat.

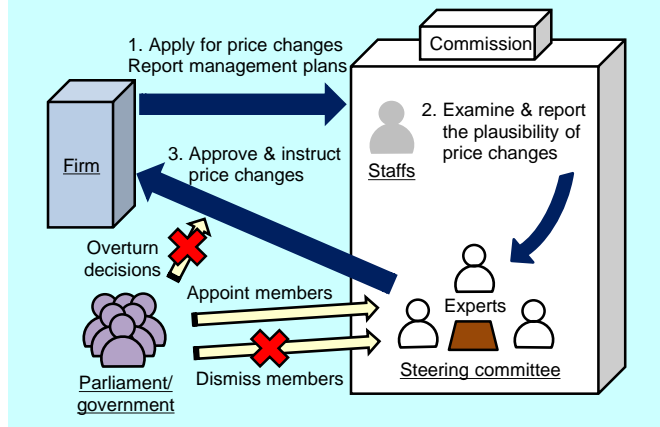
argued that administered prices were kept low and fiscal deterioration became serious as a result of these factors. As for publicly owned businesses in these countries, administered prices were set at low rates, premised on receiving subsidies as a means to cover losses. In addition, price increases -- a measure unpopular among the public -- tended to be avoided to cater to electoral votes, thereby creating a situation for public services to register persistent losses.<sup>4</sup>

From the 1980s onward, fiscal restructuring became a major issue among these countries and various management reforms took place in public services. As part of this procedure, two important reforms were made on administered prices: (i) privatizing some public services and enhancing governance of public enterprises for the purpose of alleviating the fiscal burden brought on as a result of granting subsidies and other factors and (ii) shifting the authority over pricing from the government to independent regulatory commissions (IRCs) as a means to prevent the government from imposing lower rates in the pricing process.

The system of public-sector pricing via IRCs is constructed so that government intervention can be excluded as much as possible (Chart 3). Prices are changed through the following three steps: (i) a firm applies for a price change to the IRC, then (ii) commission staffs examine the content and report its plausibility to the steering committee, and finally (iii) the steering committee discusses and decides whether or not a price change is acceptable. Here, the parliament and government are only authorized to

appoint members of the steering committee, while the right to dismiss committee members and the authority to overturn decisions made by the steering committee are not allowed in many cases.

[Chart 3] Outline of IRCs



In the following, we describe measures regarding administered prices taken in Europe and the United States in somewhat more detail.

#### (1) European cases

In the United Kingdom, since state-owned enterprises with their low profitability were placing a huge burden on the country's finance during the 1980s, privatization took place in a wide array of public services such as electricity, gas, water supply, transportation, and telecommunications. Additionally, IRCs were set up in these sectors with the authority over pricing being passed on to these commissions from the government (Chart 4).

Other European countries also faced the issue of financial restructuring, not only because of the economic recession in the early 1990s but also due to the requirements for adopting the euro; as a result, rapid privatization took place for state-owned enterprises showing low profitability. Many of these countries employed measures used for privatization in the United Kingdom since the 1980s. Moreover, since the 2000s, from the viewpoint of retaining and promoting intra-regional competitiveness, EU member countries have been required to take step-by-step actions for deregulation of publicly owned businesses and the founding of IRCs. Consequently, moves to set up IRCs have spread chiefly among major member countries.<sup>5</sup>

[Chart 4] IRCs in Major European Countries and the United States

Industry		Electricity	Gas	Transportation	Postal services	Telecommunications	Water & sewerage
Country							
U.K.		OfGem		ORR	OfCom		OfWat
Germany				BNetzA			
France			CRE		ARCEP		
U.S.	Federal	FERC			PRC	FCC	
	State	PSC				PSC	

Note: IRCs shown in this chart have the right to decide prices.

Sources: Thatcher, M. (2002), "Regulation after Delegation: Independent Regulatory Agencies in Europe," *Journal of European Public Policy*, 9(6), pp.954-972, etc.

## (2) The U.S. Case

In the United States, regulations based on IRCs were established at the beginning of the 20<sup>th</sup> century. At that time, private enterprises were the main providers of public services, notwithstanding the fact that politicians intervened in their management quite frequently and service providers were often forced to accept low prices that cannot compensate for the costs. When business situations took a turn for the worse due to unsustainable price-setting and other factors, capital investment was restrained and the quality of services became poor. A typical example was seen in the water supply business. Deterioration of water quality caused the spread of pandemic diseases, which became a social problem. As a result, the importance of creating regulations to prevent government intervention was brought to the fore and led to founding IRCs in each state.

During the 1980s, for the purpose of reducing fiscal spending, the federal government cut back on subsidies to states, and this measure exacerbated local government finance. In the 1990s, each state government enhanced its governance on public enterprises and also reduced their fiscal spending and subsidies to reconstruct local government finance. A series of reforms were made, such as (i) outsourcing public services to private enterprises and enhancing their managerial independence, (ii) introducing market-based principles in terms of fund-raising, (iii) capturing customers' needs and improving services, and (iv) raising awareness and changing the minds of bureaucrats, who tended to over-conform to regulations.<sup>6</sup>

## *Public-Sector Business Reform and Its Impact*

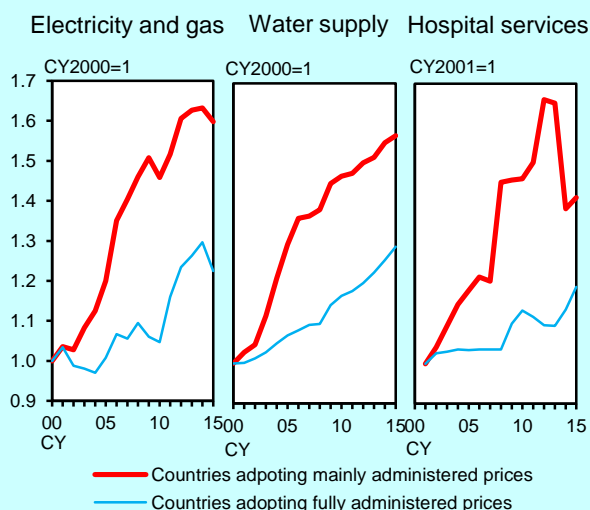
A clear consensus has not been reached on whether the privatization of publicly owned businesses or enhanced governance of public enterprises leads to a rise or fall in administered prices. For instance, some economists point out that telephone charges in France declined because business efficiency was improved after privatization.<sup>7</sup> However others argue that Germany saw a rise in water charges as firms strongly pursued profits in the wake of privatization, while water charges in Italy were more or less unchanged even after privatization.<sup>8</sup> These examples show that the effects of privatization and enhanced governance on administered prices are attributable to several factors, including the nature of business, the balance between income and expenditure prior to reforms, and the competitiveness after reforms, meaning that their effects depend largely on the case.

Nevertheless, it has been pointed out that administered prices tend to be raised when privatization of publicly owned businesses and the establishment of IRCs occur concurrently. According to previous research, for ten years after the foundation of IRCs, there was an average increase of (i) about 0.5 percentage points per annum for administered prices including electricity, gas, and water, and (ii) approximately 9 percent in the capital investment level.<sup>9</sup> The main purposes for the establishment of IRCs are to set prices by factoring in costs and quality of services, and to encourage capital investment where necessary by preventing political intervention in business management. Thus these studies demonstrate that IRCs have exerted their intended effects.<sup>10</sup>

In this regard, we compare administered prices between countries adopting "fully administered prices," which are directly controlled by the government, and those adopting "mainly administered prices," which are indirectly controlled. We can see from Chart 5 that movements of "fully administered prices" have been sluggish, whereas "mainly administered prices" -- typically based on the IRC system -- have tended to show large fluctuations.

The above findings show that a series of reforms on publicly owned businesses in Europe and the United States facilitated price increases necessary for financial sustainability, and further provided grounds for maintaining or improving fiscal discipline. Therefore, it can be said that these reforms had a certain positive effect. However, it should also be mentioned that sharp increases in administered prices as a result of enhanced independence in the price-setting process sometimes caused negative

[Chart 5] Administered Prices in Europe



Notes: 1. Figures are relative prices to the overall index and derived from simple averages of OECD member countries in EU.  
2. Fully and mainly administered prices are classified based on the HICP definition.

Source: Eurostat.

reactions, mainly from consumers. Indeed, a handful of businesses in Europe were re-nationalized because price increases after privatizations were too large.<sup>11</sup> This implies that Europe and the United States are still seeking ways in which the government, enterprises, and households should share the costs of public services.

### Implications for Administered Prices in Japan

As seen in the previous section, in Europe and the United States, privatization and enhanced governance of publicly owned businesses as well as the enhancement of managerial independence, mainly in the price-setting process, have been promoted to maintain or improve fiscal discipline. Against this backdrop, in this section we discuss the underlying factors for the differences between movements of administered prices in Japan and those of Europe and the United States focusing on the two aspects of (i) decision-making/authorizing entities for prices, and (ii) operational entities and management discipline of publicly owned businesses.

#### Decision-Making and Authorizing Entities for Prices

Administered prices in Japan can be classified into four types: (i) legal prices, (ii) ordinance-based prices, (iii) licensed prices, and (iv) notified prices (Chart 6). Among them, legal prices and ordinance-based prices -- regulated either by the central or local governments

-- are categorized as "fully administered prices." Licensed prices, which require the approval of the central government for price changes, and notified prices, whose changes are reported to the government, are identified as "mainly administered prices."

[Chart 6] Classification of Administered Prices in Japan

Classification	Regulation	Decision-making/authorizing entity	Decision-making mechanism	Main items
Legal prices	Fully administered	Central government	Regulate prices mainly by laws	Medical treatment, charges for nursing care
Ordinance-based prices		Local governments	Regulate prices by ordinances	Water & sewerage charges, other various charges
Licensed prices	Mainly administered	Central government	1. Application by firms 2. Examination by ministries 3. Approval	Electricity, manufactured & piped gas, various insurance premia
Notified prices		Firms	Report prices to the government	Airplane fares, forwarding charges, recycle fees

In Japan, the central and local governments have a relatively strong influence on public-sector pricing compared with Europe and the United States. For example, a wide range of administered prices in Japan are classified into "fully administered prices." In addition, the weight of "fully administered prices" in Japan's CPI is relatively large compared to weights of "fully administered prices" in major European countries' HICP (Charts 7 and 8). Furthermore, "mainly administered prices (licensed prices)" in Japan are authorized by central government ministries; unlike in Europe and the United States, IRCs do not exist in Japan.

[Chart 7] Regulations on Administered Prices

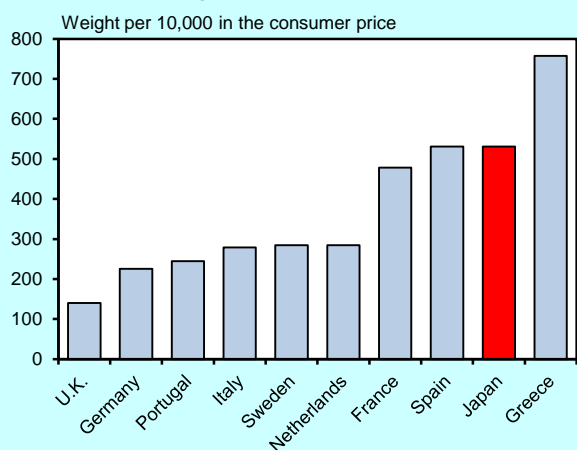
	Administrative and other services	Education	Cultural services	Services for dwellings	Telecommunications	Passenger transport	Postal services	Railway transport	Road transport	Social protection	Hospital services	Dental services	Medical services	Pharmaceutical products	Refuse collection	Sewerage collection	Water supply	Gas	Electricity	
U.K.																				
Germany																				
France																				
Japan																				

Notes: 1. Dark and light shadows represent fully and mainly administered prices, respectively. White boxes represent market prices and others.  
2. Fully and mainly administered prices for the United Kingdom, Germany, and France are classified based on the HICP definition.  
3. "Social protection" includes day care and rehabilitation services.

Sources: Eurostat, etc.



[Chart 8] Weights of Fully Administered Prices

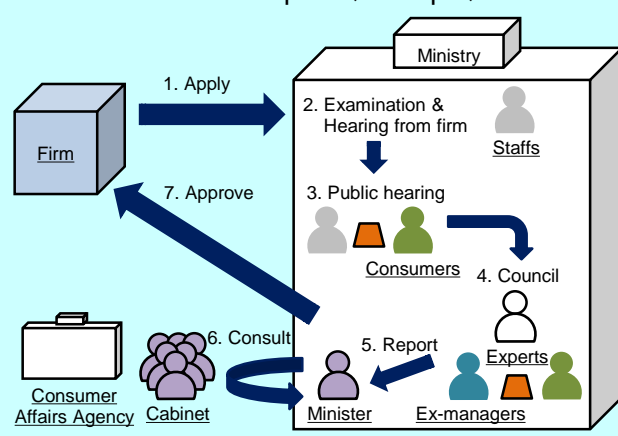


Note: The Weight for Japan is from the 2010-based CPI. Weights for European countries are from the 2015-based HICP.

Sources: Ministry of Internal Affairs and Communications, "Consumer Price Index"; Eurostat.

The decision-making process of administered prices in Japan involves negotiations with many parties concerned, as opposed to the process in Europe and the United States, which takes place mainly via IRCs (Chart 9). This type of decision-making process has its merits in the sense that price changes are democratically made by drawing a rich set of opinions from various fields, whereas its weakness is that the process of price changes needed for business operations is slow.<sup>12</sup>

[Chart 9] Decision-Making Process of Licensed Prices in Japan (Example)



### Operational Entities and Management Discipline of Publicly Owned Businesses

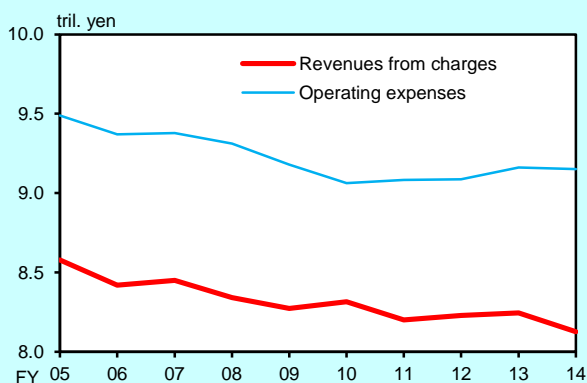
As mentioned earlier on, the system to enhance governance on operational entities of publicly owned businesses and to enhance their management discipline has been introduced in Europe and the United States. Japan also saw the privatization of many publicly owned entities, including those in the

railway and aviation industries, and enhanced governance on business operations. Meanwhile, it is quite a task to figure out the "acceptable degree of profitability by enhancing governance and appropriate pricing-setting" in industries where the government acts as the main operational entity. This is because levels deemed appropriate for administered prices depend on public consensus and decisions about who should pay the costs of public services and how they should be paid. In addition, if providers of public services improve their business efficiency and costs are reduced, it is desirable in the sense that lowered administered prices reflecting such cost reductions will increase consumers' utility.

Operational entities of public services in Japan can be classified into three categories: (i) private enterprises, (ii) government-involved business entities such as public enterprises (special accounts of local governments), independent administrative institutions, and joint public-private ventures, and (iii) general accounts of the central and local governments. Among public services, the educational sector is affected by the government in many ways, and it is difficult to find the right ways for the government to contribute to raising human capital and fiscal involvement in it. However, in principle, public enterprises in Japan should cover expenses necessary for business continuity by revenues from charges, and this can be a certain criteria for price-setting.<sup>13</sup>

In principle public enterprises are required to run on a stand-alone basis, but, in reality, it has been pointed out that a large number of these enterprises have kept administered prices at low levels, and subsidies for supplementing revenues have been constantly injected into them.<sup>14</sup> One example is that in many public enterprises of industries related to administered prices in the CPI, revenues from charges are persistently below operating expenses (Chart 10).<sup>15</sup> As a result, subsidies for supplementing revenues of these public enterprises stay at high levels, which is in sharp contrast with the fact that subsidies for capital investment have decreased because of the severe fiscal situation of the government (Chart 11).

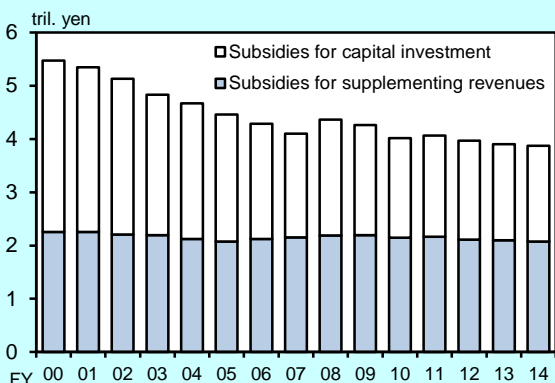
[Chart 10] Revenues from Charges and Operating Expenses of Public Enterprises



Note: Public enterprises here consist of local public enterprises operating water and sewerage services, hospitals, nursing care services, and transportation.

Source: Ministry of Internal Affairs and Communications, "Chihou kouei kigyuu nenkan (Annual report on local public enterprises; available in Japanese only)."

[Chart 11] Subsidies to Public Enterprises



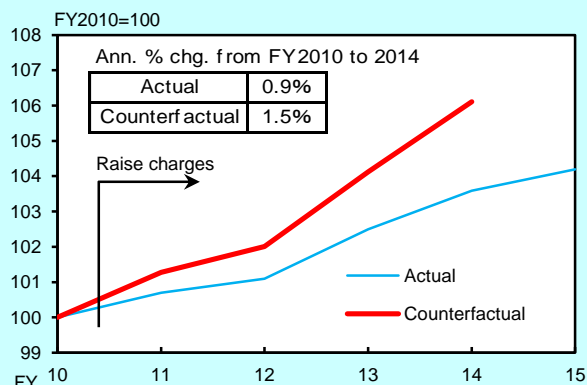
Note: Subsidies are aggregates of "takaikei kuriirekin (transferred money from other accounts)" and subsidies from the central and local governments. In the accounting of local public enterprises, subsidies for capital investment are listed in "shihon teki shunyu," which represents revenues mainly related to capital investment, while subsidies for supplementing revenues are listed in "shueki teki shunyu," which represents revenues from their main businesses, such as revenues from charges.

Source: Ministry of Internal Affairs and Communications, "Chihou kouei kigyuu nenkan (Annual report on local public enterprises; available in Japanese only)."

According to our calculation on the price level necessary for wiping out operating losses by fiscal 2020 in the case where subsidies for supplementing revenues had not been provided, it would have been necessary for administered prices in the CPI to rise by 1.5 percent per annum (Chart 12). This estimate is about 1.5 times more than the actual rate in recent years (the annual rate of increase for the period of FY2010 to FY2014 was 0.9 percent). We make this estimation, with fiscal 2011 as the starting point, to obtain the growth in administered prices that is necessary to achieve revenues from charges in accordance with operating expenses in fiscal 2020.<sup>16</sup> We assume the price elasticity of the sales volume to

be zero (i.e. the sales volume remains unchanged even with a price change). Here, prices are presumed to be based on a kind of "average cost pricing."

[Chart 12] Administered Prices in the Counterfactual Assuming Public Enterprises Had Started to Raise Charges to Balance Their Budgets by FY2020



Note: Administered prices exclude "expressway tolls charges," "public high school fees," "electricity," and "manufactured & piped gas," which have large idiosyncratic fluctuations. Figures are adjusted to exclude the estimated effects of changes in the consumption tax rate.

Sources: Ministry of Internal Affairs and Communications, "Consumer Price Index," etc.

This estimation is an extreme one in the sense that price increases are the only measure to achieve a balanced budget, but, in practice, it is obvious that various measures -- including the improvement of business efficiency -- can be taken to improve profitability. In addition, as already mentioned, whether the current price level is appropriate or not depends on public consensus and decisions on who should pay the costs of public services and how they should be paid. Therefore, the profitability of publicly owned businesses is not the only criteria for a price increase or decrease. However as seen in the aforementioned European and U.S. cases, excessive suppression of administered prices not only increases the fiscal burden, but also has its drawbacks with reduced capital investment weighing down on the quality of services. Since the aging of some social infrastructure has been pointed out in Japan, many factors, including the quality of services, should be considered for setting administered prices.

## Concluding Remarks

This paper examined the characteristics of administered prices in Japan mainly by focusing on their institutional differences from those of Europe and the United States. In Japan, a large number of administered prices have stayed more or less flat, even though the underlying trend in consumer prices has

been rising steadily in recent years. One institutional background may be that, in Japan, subsidies for supplementing revenues are constantly injected and administered prices do not sufficiently reflect operating expenses and depreciation costs of investment. In contrast, administered prices in Europe and the United States are set by IRCs, largely on the basis of the cost structure.

There are various differences in the institutional systems of administered prices between Japan and these countries. Against this backdrop, even if the time comes when Japan's economy overcomes deflation and the overall price level starts moving consistently upward, some administered prices may still stay more or less flat. We need to carefully monitor how environmental changes surrounding prices will be reflected in administered prices when considering consumer price movements.

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<sup>1</sup> Administered prices are technically defined as prices whose decision-making process involves public institutions, including central and local governments, in some way or other. U.S. data in Chart 1 are compiled by aggregating items categorized as regulated components of the consumer price index (CPI) in the following literature:

Dexter, A.S., Levi, M.D., and Nault, B.R. (2002), "Sticky Prices: The Impact of Regulation," *Journal of Monetary Economics*, 49(4), pp.797-821.

However, since these items are categorized roughly, they may include some market prices that are not administered prices. The same applies for the weights of U.S. administered prices in Chart 2.

<sup>2</sup> In the 6<sup>th</sup> joint conference held by the Research and Statistics Department of the Bank of Japan and the Center for Advanced Research in Finance (CARF) of the University of Tokyo in November 2015, it was argued that keeping nominal prices unchanged was the "norm" during the deflation era in Japan. For details, see the conference minutes titled "Japan's Inflation Dynamics and Agents' Behavior" at:

[http://www.boj.or.jp/en/research/brp/ron\\_2016/ron160427a.htm](http://www.boj.or.jp/en/research/brp/ron_2016/ron160427a.htm)

<sup>3</sup> Although classified as administered prices in Japan, there are a certain number of services transacted at market prices in Europe and the United States that are not administered by the government. Figures in parentheses in Chart 2 represent the weights of administered prices including market prices. Figures in parentheses of total administered prices indicate the total weights including market prices for services categorized as administered prices in Japan.

<sup>4</sup> The following literature describes how politicians behave to maximize votes during elections and its effects on pushing down administered prices.

Bös, D. (1985), "Public Sector Pricing," In Auerbach, A.J., and Feldstein, M. (eds.): *Handbook of Public Economics*, pp.129-211.

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Anderson, S.C. (1983), "The Effect of Government Ownership and Subsidy on Performance: Evidence from the Bus Transit Industry," *Transportation Research Part A: General*, 17(3), pp.191-200.

<sup>5</sup> For example, the European Union's Third Energy Package, adopted in 2009, requires EU member countries to set up IRCs in the electricity market.

<sup>6</sup> This type of administrative reform is now called "New public management (NPM)." A Japanese example of this NPM reform is said to be the reform of independent administrative institutions that took place from the second half of the 1990s to the early 2000s. The privatization of state-owned enterprises in Europe can also be classed as one type of NPM reform.

<sup>7</sup> Refer to the following literature:

Berne, M., and Pogorel, G. (2005), "Privatisation Experiences in France," CESifo DICE Report, January.

<sup>8</sup> For details on water charges in Germany, see:

Ruester, S., and Zschille, M. (2010), "The Impact of Governance Structure on Firm Performance: An Application to the German Water Distribution Sector," *Utilities Policy*, 18(3), pp.154-162.

For Italy, see:

Romano, G., Masserini, L., and Guerrini A. (2015), "Does Water Utilities' Ownership Matter in Water Pricing Policy? An Analysis of Endogenous and Environmental Determinants of Water Tariffs in Italy," *Water Policy*, 17(5), pp.918-931.

<sup>9</sup> For details, see:

Bortolotti, B., Cambini, C., Rondi, L., and Spiegel, Y. (2011), "Capital Structure and Regulation: Do Ownership and Regulatory Independence matter?," *Journal of Economics & Management Strategy*, 20(2), pp.517-564.

Cambini, C., and Rondi, L. (2011), "Regulatory Independence, Investment and Political Interference: Evidence from the European Union," Working paper, European University Institute.

<sup>10</sup> The following is a typical case of how IRCs manage the traditional price cap regulation (a system in which prices are allowed to change freely within the range below the price ceiling). Conventionally, under the price cap regulation, the ceiling rate of a price increase was set by subtracting the expected rate of productivity improvement from the overall rate of inflation, but it has been argued that this price-setting mechanism tends to induce underinvestment. Against this backdrop, many IRCs have begun to adopt the modified price cap regulation in recent years since it allows capital investment costs to be passed on to prices.

<sup>11</sup> Re-nationalizations of firms happened mainly in the water supply industry such as in the cities of Berlin (Germany) and Paris (France), and, in some cases, administered prices were lowered after re-nationalizations.

<sup>12</sup> For example, according to a survey conducted in 2008 by the Ministry of Land, Infrastructure, Transport and Tourism, bus transportation businesses with running deficits did not increase their bus fares because the administrative work that came with raising fares was unlikely to outweigh the benefits. In addition, the following literature introduces cases in which the rate of a price increase in water supply tends to be restrained in local governments due to political concerns.

Toyama, Y. (1994), "*Suidou ryoukin kaitei ni okeru seijiteki youso* (Political elements of increases in water charges)," *Koukyo sentaku no kenkyu (Public choice studies)*, 23, pp.5-20; available in Japanese only.

<sup>13</sup> For instance, Article 21 of the Local Public Enterprise Act

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states that "fees should be both fairly plausible and based on appropriate input costs under efficient management, and also should be set so that local public enterprises can retain sound business operations."

<sup>14</sup> For instance, see "*Kouei kigyou no keiei senryaku no sakuteitou ni kansuru kenkyukai houkokusho* (Report from the council on making business strategies of public enterprises)" (2014) and "*Kouei kigyou no keiei senryaku no sakutei shien to katsuyou tou ni kansuru kenkyukai houkokusho* (Report from the council on the support of making business strategies of public enterprises and their usage)" (2015) both released by the Ministry of Internal Affairs and Communications and available in Japanese only.

<sup>15</sup> Public enterprises covered here represent business entities whose items are included in "fees for public services" of the CPI, and who receive subsidies for supplementing revenues, and whose financial results are disclosed at the industry level, namely business entities in the water and sewerage, hospital, nursing care, and transportation (trains, buses, etc.) industries.

<sup>16</sup> In this estimation we do not include any revenues other than revenues from charges. We subtract operating expenses from revenues from charges to derive deficits.

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