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## Credit Guarantees and Zombie Firms

Scott Wilbur

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# Credit Guarantees and Zombie Firms

## A Case Study of Small and Medium-Sized Enterprises in Japan

**Scott Wilbur**

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2018 FFJ/Banque de France Fellow

**November 2019**

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Scott Wilbur

### **Abstract**

In recent years and particularly since the global financial crisis, zombie firms—unprofitable businesses supported by financial relief—have generated widespread concern due to their purported harm to economic vitality. Economic studies hold that zombie firms impede the normal flow of capital and human resources to healthy businesses, and thereby defy creative destruction and hurt investment and employment growth. But what causes zombie firms to occur? Addressing this question from a political economy perspective, this paper investigates a novel hypothesis about the role of credit guarantees in supporting weak firms. The results of a case study of small and medium-sized enterprises (SME) in Japan in the 1990s and 2000s suggest that Japan's credit guarantee system may indeed have contributed to numerous zombies among this firm category. However, evidence also suggests that these firms tended to quickly escape from zombie status, calling into question the negative connotation of the zombie firm concept.

### **Keywords**

Economic performance, institutional change, Japan, political economy, public policy, social policy.

JEL Classification: M210, H420, H530

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# 1. Introduction

This paper examines the case of zombie firms among small and medium-sized enterprises (SME) in Japan since the banking crisis in the 1990s. Though SME—a corporate category comprised of manufacturing firms with no more than 300 employees and ¥300 million in capital, and wholesale, service and retail firms with no more than 100 employees and ¥100 million in capital—generally attract less attention than listed firms which have higher individual employee numbers and capitalization and more famous products and services, they are commonly considered the “backbone” of Japan’s economy for their importance in terms of overall firm numbers and contribution to national employment. In recent years, SME have represented more than 99 percent of Japanese companies and 70 percent of Japanese employment, as well as 50 percent of added value in the manufacturing industry (Small and Medium Enterprise Agency 2008, 24–25). Therefore, the zombie presence in this corporate group carries broad significance for the overall Japanese economy as well as the wider debate about zombie firms.

The paper begins with the surprising finding that the zombie ratio among Japanese SME remained high throughout the 2000s. The substantial zombie SME presence in this period differs from the situation among stock exchange-listed (“large”) firms where the zombie ratio declined in the early 2000s, and potentially signifies that a different mechanism undergirded zombie SME which endured longer than the factors which produced zombies among large firms. Furthermore, it implies that this form of protectionism toward SME persisted well into the 2000s, in defiance of conventional theory expecting that electoral system reform in the mid-1990s would usher in neoliberal policies and pro-market competition.

The paper proceeds in three parts. First, it presents descriptive statistics on zombie SME in Japan’s lost decades. These statistics depict the zombie ratio among SME—the outcome variable of interest—as well as certain attributes of the zombie SME, including the zombie presence among SME of different sizes and the time duration that zombie SME stay in zombie status. These statistics are partly based on a recent analysis by Goto and Wilbur (2019) of data in the Ministry of Economy, Trade and Industry (METI) Basic Survey of Japanese Business Structure and Activities (BSJBSA), making them broadly representative of Japanese SME with 50 or more employees and whose paid-up capital and investment are higher than ¥30 million. They are also drawn from a forthcoming study of credit guarantee-using SME by Goto and Wilbur which utilizes data from Japan’s Credit Risk Database showing the zombie firm ratio among SME which have actually taken credit guarantees.

Next, the paper discusses the role of Japan’s credit guarantee system for SME in relationship to the notably high zombie ratio evident in these statistics. It first describes how government guarantees that systematically increase the availability of credit may lead to higher incidence of zombie firms. It then explains how Japan’s credit guarantee system expanded the credit available to SME throughout the 1990s and 2000s, and how the system’s substantial size and complete and nearly-complete coverage ratios facilitated widespread lending to firms with lower creditworthiness and higher potential to take financial relief associated with zombie status.

Third, the paper explains the political underpinnings of Japan's credit guarantee system, clarifying how and why the system's high-level guarantees lasted throughout the 2000s despite their effect on giving life support to many weak firms, a sizeable percentage of which took zombie status. In accounting for how the system endured mostly unchanged during this period, the paper assembles evidence that key features of the system experienced policy drift through a combination of factors including limited public access to policymaking, uncertainty about the possible consequences of policy adjustment, and collective action barriers for the pro-reform coalition. These factors outweighed opposition by economists concerned about the system's cost and by public sentiment which favored neoliberal structural reforms, enabling the continuation of a policy arrangement which sustained a substantial number of zombie SME.

## 2. Statistics on Zombie Firms among Japan's SME

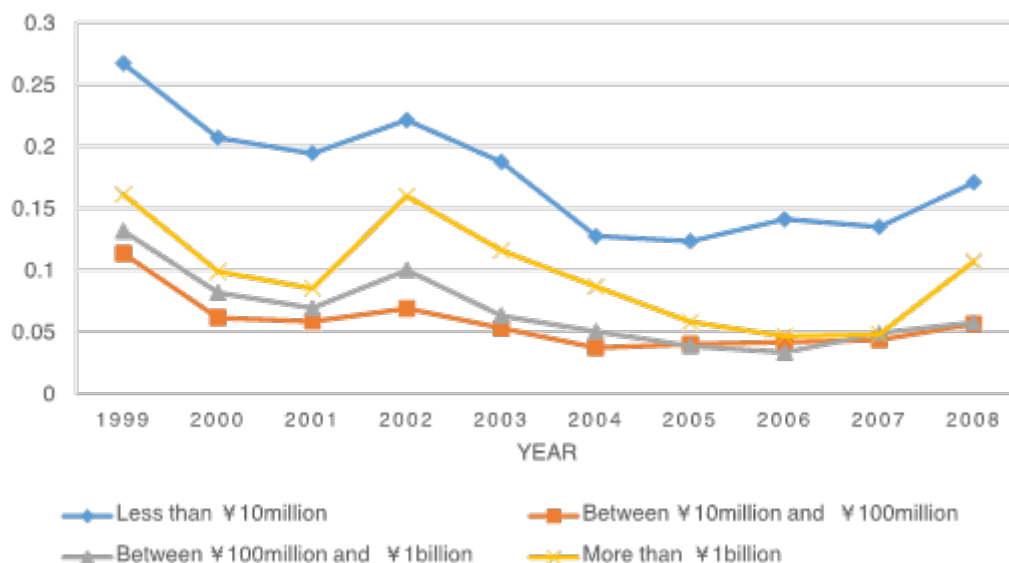
Until recently, research on zombie firms in Japan neglected their occurrence among SME despite the category's inclusion of the vast majority of Japanese firms (Caballero, Hoshi, and Kashyap 2008; Fukuda and Nakamura 2011). The first known analysis of zombie SME is by Imai (2016), who identifies the zombie ratio among a sample of unlisted firms from the Tokyo Shoko Research database.<sup>1</sup> Imai observes that the zombie firm ratio in his SME sample annually ranges between 5 and 14 percent and averages 8 percent in the period 1999-2008 (Imai 2016, 94–95), a finding which differs from earlier studies suggesting that Japanese banks rarely evergreened their loans to SME and therefore produced few zombies among this firm category (Fukuda, Kasuya, and Nakajima 2006; Sakai, Uesugi, and Watanabe 2010). Imai's zombie ratio for SME is also notably higher than the ratio for listed firms found by Fukuda and Nakamura (henceforth "FN"), which rises to a high of nearly 10 percent of firms in 2001 and then remains near 5 percent between 2003 and 2007 until the start of the global financial crisis (Fukuda and Nakamura 2011, 1128; Nakamura and Fukuda 2013, 6).

Imai further shows that different SME size categories have different zombie firm ratios. The ratio for the smallest size class of SME with less than ¥10 million (approximately \$100,000) in equity capital peaks at more than 25 percent in 1999 and remains above 12 percent in the period 1999-2008. During the same period, the ratio for the largest size category of SME with more than ¥1 billion (roughly \$10 million) in equity capital is at least 5 percent lower in every year except 2004 (Imai 2016, 95–96) (Figure 1). In short, the zombie firm ratio for SME is significantly higher than the ratio for listed firms for much of the 2000s, and smaller-size SME have a particularly high tendency to undergo zombification (Imai 2016, 97–98).

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1. Both Imai and the two works by Goto and Wilbur use the Fukuda and Nakamura (2011) definition of zombie firms. Fukuda and Nakamura define zombie firms as firms whose earnings before interest and taxes (EBIT) are less than the firms' hypothetical risk-free interest payments, and who receive financial support in the form of either 1) having interest payments which are lower than the calculated hypothetical risk-free interest payments ("discounted interest payments"); or 2) evergreening lending.

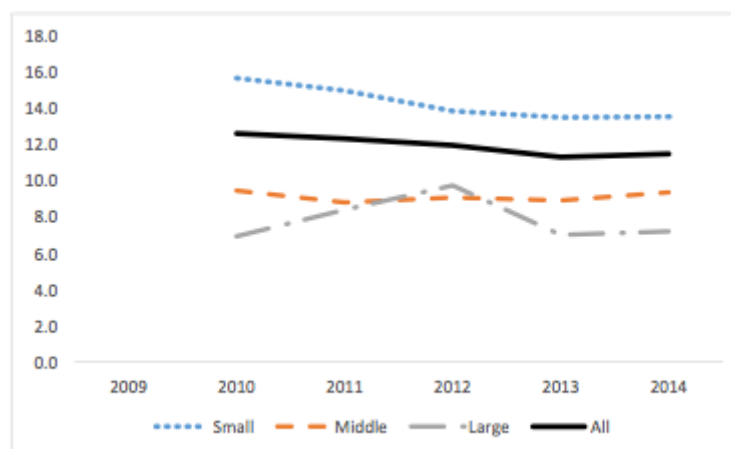
**Figure 1. Zombie Firm Ratio among Japanese SME by Equity Capital, 1999-2008**



Source: Imai (2016, 96)

One limitation in Imai’s study is the small sample size of 2,357 firms, which reduces the scale of inference about zombie firms among SME. To amend this deficiency and explore additional issues surrounding zombie SME including average time spent in zombie status, Goto and Wilbur (2019) use a larger sample that includes more than 30,000 firms with between 50 and 499 employees and at least ¥30 million in equity capital from the METI BSJBSA. Their estimate of the zombie SME ratio with this enlarged sample is limited to the period 2010-2014, since the BSJBSA only contains data on short-term and long-term bank borrowing and corporate bond issuance from the year 2009, and the FN definition requires the calculation of differences in bank borrowing amount from the previous year. However, even in this short period, they observe a zombie ratio of at least 14 percent for SME with less than ¥100 million in equity capital, a non-negligible percentage (Figure 2). Similar to Imai’s earlier finding, the smaller the firm size, the higher is its zombie ratio.

**Figure 2. Zombie Firm Ratio among Japanese SME, 2010-2014**



Source: Goto and Wilbur (2019)

Note 1: Unit is percentage

Note 2: Small = Firms with less than ¥100 million in equity capital; Middle = Firms with between ¥100 million and ¥1 billion in equity capital; Large = Firms with more than ¥1 billion in equity capital

**Table 1. FE Panel Logit Model for Exit and FN Definition-Zombie:  
Zombie Firms Are Likely to Exit Especially Among SME**

dep. var./ exit dummy (+1)	sample period: 2009–2013								
	(a) all			(b) SME			(c) large		
	Coef.	S.E.	p-value	Coef.	S.E.	p-value	Coef.	S.E.	p-value
roa	-2.5559 (-0.0156)	0.8262	0.0020	-3.3087 (-0.0228)	1.0212	0.0010	-1.5092 (-0.0482)	1.3587	0.2670
FN-zombie dummy	0.2310 (0.0014)	0.1553	0.1370	0.4824 (0.0033)	0.1780	0.0070	0.1891 (0.0060)	0.4572	0.6790
capital (log)	-0.8587 (-0.0052)	0.3386	0.0110	-4.3776 (-0.0302)	1.0400	0.0000	-0.7896 (-0.0252)	1.2220	0.5180
age	1.3398 (0.0082)	0.0400	0.0000	1.3011 (0.0090)	0.0502	0.0000	0.4392 (0.0140)	0.0765	0.0000
year dummies	Yes			Yes			Yes		
log likelihood	-1289.4			-734.5			-219.7		
p-value, LR chi2	0.000			0.000			0.000		
# of obs.	7,862			4,836			762		
# of groups	2,600			2,350			250		

*Note: BSJBSA data allows estimation for the period 2009-2014. Since the dependent variable is as an exit dummy for the next term, the estimation period here is 2009-2013.*

*Source: Goto and Wilbur (2019)*

Goto and Wilbur (2019) also investigate the question of how long zombie firms endure in zombie status (Table 1). Using a regression model with exit from zombie status as the dependent variable (a dummy variable which takes “1” if the firm exits), they find that when a SME becomes a zombie, the probability of its exit significantly increases, while the same is not true for large firms. This finding implies that SME with zombie status tend to shed such status quickly, meaning that they do not perpetually congest the market as the “zombie firm” concept denotes, but rather return to health. In other words, while SME and especially smaller-size SME have a greater tendency to become zombies than do their large firm counterparts, they tend not remain in zombie status for long. Instead, they may hover tenuously close the edge of becoming zombies while still operating as going concerns, and only dip into zombie status during temporary downturns before swiftly returning to viability, however marginal.

Finally, in a forthcoming work, Goto and Wilbur use firm-level data from Japan’s Credit Risk Database (CRD), which covers financial information of SME using Japan’s credit guarantee system, to assess the zombie ratio among Japanese SME taking credit guarantees. In the period 1998-2015, they preliminarily find that after 1999 the zombie ratio is consistently above 20 percent of guarantee-receiving firms, and often notably higher. This tentative finding closely implies that credit guarantees have been associated with widespread zombie SME creation, given that the annual average number of firms in the CRD in the sample period runs in the hundreds of thousands of firms.



### 3. Zombie SME and Japan's Credit Guarantee System

Descriptive statistics show that zombie firms existed at a notably higher rate among SME than among listed firms in Japan, particularly in the second “lost” decade in the 2000s. This finding suggests that a different mechanism possibly supported the creation of zombie SME, given that the factors which produced zombies among Japan's listed firms were largely tackled by bank supervision and accounting reforms starting in the late 1990s, and that the zombie ratio among listed firms peaked in 2001 and fell to a low level shortly thereafter (Fukuda and Nakamura 2011). Moreover, Japan's economy expanded in the mid-2000s, posting average annual real GDP growth of 2 percent between 2003 and 2007 that was twice the 1 percent average between 1992 and 2002 (Lincoln 2011, 357). Aggregate economic recovery lessened the “unnatural selection” rationale for banks to evergreen loans to distressed firms to hide the banks' own debt (Peek and Rosengren 2005), since growth propelled many firms to financial health and decreased the level of nonperforming loans in Japanese banks from 8.4 percent of total lending in March 2002 to 4.7 percent in September 2004 (OECD 2005, 14).

Additionally, the resiliently high zombie SME ratio in the 2000s defies the expectation by prominent theory that electoral reform in the mid-1990s would shift Japan's political economy from particularism toward neoliberalism. According to this theory, electoral rule change in Japan's lower house in 1994 from multi-member districts with a single nontransferable vote to a combination of single member districts and proportional blocs would shake “the hidden ballast undergirding the ‘Japanese variety of capitalism’ by lessening political incentives to cultivate personal sources of campaign capital,” thereby advancing economic policies less beholden to narrow interests and more responsive to urban voters concerned about curbing wasteful spending and lowering budget deficits (Rosenbluth and Thies 2010, 125, 134). Nonetheless, the descriptive statistics above suggest that many SME, including numerous zombie SME, received protection well into the 21st century, calling into question the theorized outcome that “capital has become more mobile in Japan's new political economy” after electoral reform (Rosenbluth and Thies 2010, 126).

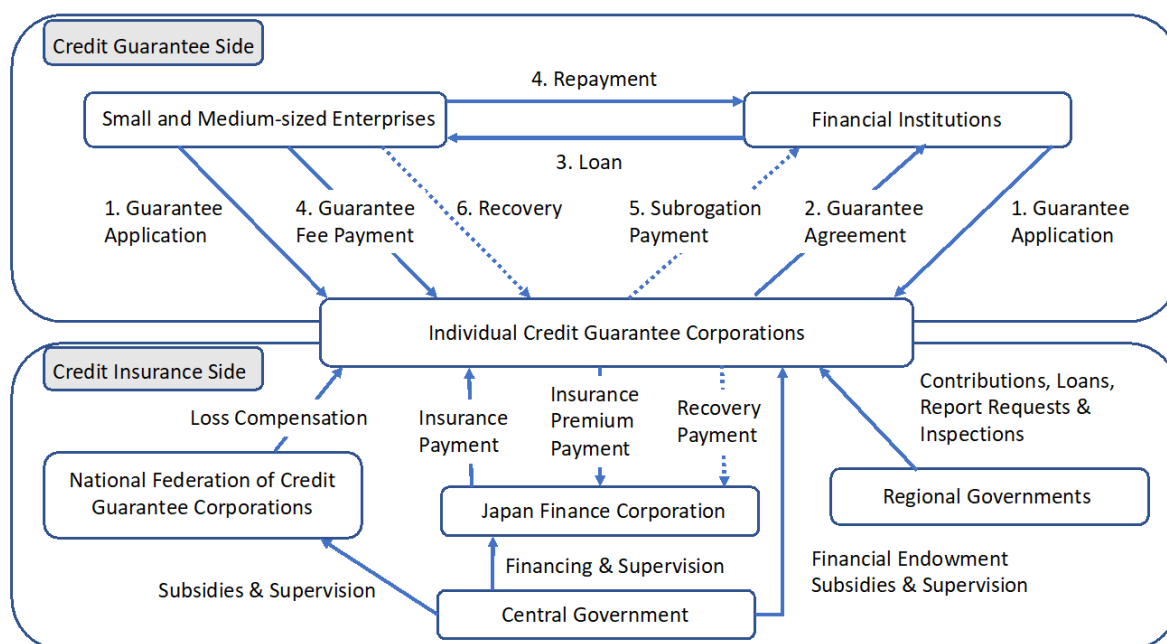
How did many zombie SME continue to exist in the early 21st century despite financial reforms, a positive macroeconomic climate, and changes in electoral rules? One possibility is that zombie SME were supported by policies that systematically enhanced the availability of loans to firms whose financial conditions were fundamentally tenuous and thus prone to repayment difficulty. To recall, banks have an incentive to extend financial leniency toward distressed firms when they believe that the firms can ultimately return to profitability and viability (Peek 2009). This motivation may be heightened (or “perverted”) in serious recessions when banks hold large amounts of debt and view refinancing to potentially defaulting firms as a way to disguise nonperforming loans and avoid fire sales of collateral to cover debt write-offs (Peek and Rosengren 2005; Jaskowski 2015). But there is no theoretical reason to believe that it only exists during crises. Rather, the key factor remains banks' assessment of default risk. If banks have grounds to believe that they can recover their loans, they have an incentive to expand lending to more firms, including firms that may appear weaker, since the banks should both reclaim their loan principal and earn interest payments.

Consequently, one potential cause of zombie firms would be a policy arrangement that systematically induces banks to provide financing to firms with flimsier financial health, which should increase the number of instances when banks choose to support distress-prone borrowers as zombies. To be clear, such a credit-enhancing arrangement would not have creating zombie firms as its direct intention, since banks profit more when loans are repaid on-time and at non-discounted interest rates. However, it would heighten the probability that banks are confronted with scenarios where they may decide to assist firms in arrears and turn them into zombies, because it would expand the banks' potential customer base to include businesses whose financial conditions might otherwise exclude them as borrowers, or at least rank them lower among the banks' desired clientele.

### 3.1. Japan's Credit Guarantee System as a Credit Enhancement Arrangement

Japan has possessed precisely such a credit enhancement arrangement in the form of its credit guarantee system (*Shin'yo hosho seido*) for SME, a system through which the Japanese government guarantees loans to SME issued by private banks. This system dates to 1937, when the Tokyo metropolitan government first established the Tokyo Credit Guarantee Corporation based on a model that existed in Germany. Following the inclusion of the system as a key measure in the SME Financial Measures Summary by the cabinet of Prime Minister Ashida Hitoshi's Democratic and Socialist coalition government in August 1948 (Bank of Japan Financial Research Institute 1989, 602–3), other local governments founded their own credit guarantee corporations, and the SME Credit Insurance Law and Credit Guarantee Corporation Law were respectively enacted in December 1950 and August 1953 to codify the system's emerging financial structure. Since 1961, Japan's 47 prefectures and the five cities of Osaka, Nagoya, Yokohama, Kawasaki, and Gifu have each had their own credit guarantee corporation, which collectively constitute Japan's credit guarantee system (SME Policy Council Finance Working Group 2015, 8).

**Figure 3. Schematic Map of Japan's Credit Guarantee System**



Source: Author, based on Ito (2011, 4)

As its name implies, the credit guarantee system enhances the credit available to SME by offering government guarantees on private bank financing, which mitigates banks' default risk and encourages them to lend to SME borrowers. Figure 3 illustrates how the system fulfills this function. First, a small firm that wants to obtain a guaranteed loan applies for a credit guarantee either at the counter of a credit guarantee corporation, or through a financial institution that applies to the corporation on the firm's behalf (1.). The corporation then conducts a credit investigation of the firm, and if the guarantee is approved (2.), the bank issues a guaranteed loan to the firm (3.). After the loan is issued, the firm begins repaying the bank and pays a separate guarantee fee to the corporation (4.). If the bank does not receive loan repayment by a certain time, the corporation assumes the principal and interest obligations of the bank, a process called subrogation (5.). After the corporation makes its subrogation payment to the bank, it collects outstanding funds from the firm while looking at its business conditions (6.) (Ito 2011, 3–4).

While the credit guarantee system engages SME insofar as it helps them acquire private financing at the small additional cost of the guarantee fee, it also insures individual credit guarantee corporations when they make subrogation payments to banks. The corporations' primary insurer is the Japan Finance Corporation (JFC), a government finance institution (GFI) which also provides direct loans to SME.<sup>2</sup> Credit guarantee corporations currently pay between 0.45 and 1.9 percent in insurance premiums to the JFC according to the type of subrogation insurance (Yamori 2015, 8). They also pay the JFC any funds that the corporations collect from defaulting firms after the subrogation payment, though the collection rate tends to be very low (Ito 2011, 5).<sup>3</sup>

Beside the JFC, three other actors operate on the insurance side of the system where the system's costs are primarily located. In terms of financial support for the system, two of these actors have lesser importance—the National Federation of Credit Guarantee Corporations, which is the peak organization for the 52 individual credit guarantee corporations; and regional governments, including prefectural governments and municipal governments for the five cities with credit guarantee corporations. These two actors primarily assist with individual credit guarantee corporations' loss compensation. The third actor which carries much more weight is Japan's central government. The central government provides compensation and contributions to the JFC, while also giving smaller direct subsidies to individual corporations.

A comparison of these actors' spending reveals their relative economic significance for maintaining the system. In fiscal year 2011, regional governments paid a combined total of ¥75.5 billion in loss compensation to credit guarantee corporations. In the same year, the JFC paid ¥660.1 billion in insurance payments to the corporations and received only ¥146.5 billion

2. The credit guarantee system's original insurer was the SME Credit Insurance Corporation, a public corporation founded in 1958. In July 1999, this corporation merged with the Japan Small Business Corporation and the Textile Industry Restructuring Agency to form a new organization called the Japan Small and Medium Enterprise Corporation (JASMEC). In July 2004, JASMEC transferred its credit insurance operations to the Japan Finance Corporation for Small and Medium Enterprise (JASME). In October 2008, JASME, the National Life Finance Corporation (NLFC), the Agriculture, Forestry and Fisheries Finance Corporation, and the International Financing Operations of Japan Bank for International Cooperation (JBIC) integrated and became the Japan Finance Corporation (JFC), which currently insures the credit guarantee system (National Federation of Credit Guarantee Corporations 2011, 2–3).

3. A credit guarantee corporation director corroborated this point (Interview 64).

in insurance premiums from the corporations, leaving the JFC with an insurance deficit of ¥397.9 billion (approximately \$4 billion in US dollars). To enable the JFC to absorb this sizable insurance loss and continue its main backstop function for the credit guarantee system, the central government apportioned ¥1.04 trillion to the JFC (Yamori 2015, 14–15). Though these figures vary slightly by year, this example clearly shows that the central government bears the largest cost for enabling the credit guarantee system for SME.

### 3.2. The Credit Guarantee System’s Role in SME Finance during the Lost Decades

Japan’s credit guarantee system was established in the early postwar period to enhance financial access for all SME. But part of the system’s function has also been to boost credit availability to targeted classes of firms through specific guarantee programs designed to meet current policy objectives. Since 1955, the system has had over 50 specific programs in addition to its regular guarantee program. For example, several specific programs have aimed at facilitating business creation and expansion, such as programs in new technology development, overseas investment financing, and new business development during the 1980s. Other targeted programs have increased the availability of credit to SME affected by natural disasters, such as the 1994 Kobe earthquake. Among the system’s specific programs, the largest have typically served firms affected by economic change, such as its management stabilization programs to support SME after the oil crisis in the 1970s and during the period of yen appreciation following the 1985 Plaza Accord (Nitani and Riding 2005, 59–62).

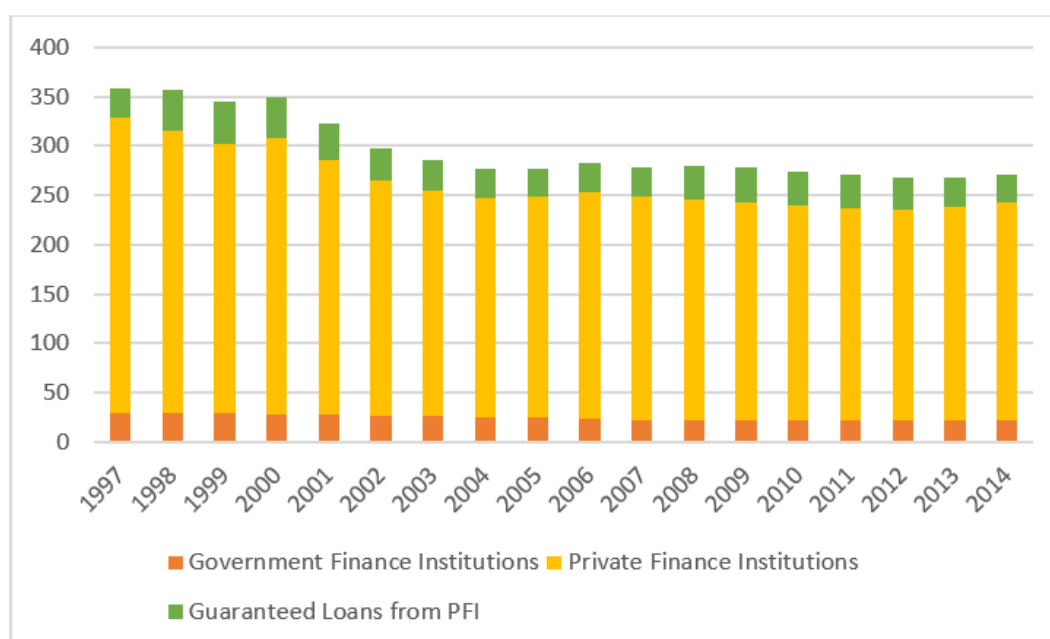
The biggest ever specific guarantee program was enacted as a response to Japan’s banking crisis in the 1990s. In August 1998, the cabinet of newly inaugurated Prime Minister Obuchi Keizo decided on an outline of countermeasures for Japan’s tight credit market and included a ¥30 trillion increase in the credit guarantee system’s budget to expand the number of loans issued through the system. Two months after this announcement, at the same time as the Diet passed the Financial Revitalization Act and the Financial Function Early Strengthening Act to recapitalize major banks, it pushed through a specific guarantee program called the “Special Guarantee for the Financial Stabilization of SME” (*Chusho kigyo kin’yu anteika tokubetsu shin’yo hosho*) (henceforth “Special Guarantee Program”), which offered 100 percent credit guarantees to SME whose lending institutions could show that the firms’ business conditions had deteriorated since the previous year. Between October 1998 and termination in March 2001, the Special Guarantee Program was used in 1.7 million loans totaling ¥28.9 trillion (\$270 billion) in guaranteed loans, making it the biggest ever expansion of Japan’s credit guarantee system (Uesugi and Sakai 2005, 6).<sup>4</sup> In 2000 alone, 455,959 loans were approved through the program with a total loan value of ¥7.4 trillion, which were, respectively, 30 percent of the loans and 41.1 percent of the total loan value issued through the entire credit guarantee system (Nitani and Riding 2005, 61).<sup>5</sup>

4. Part of the reason for the Special Guarantee Program’s huge uptake was the ease with which SME could succeed in their guarantee applications through the program. Credit guarantee corporations had a negative list of conditions to reject applicants, including default and window dressing of balance sheets. However, these conditions were notoriously hard to satisfy (Interview 32).

5. The METI Small and Medium Enterprise Agency (SMEA) claimed that the Special Guarantee Program’s massive scale and utilization saved some 9,600 small firms from bankruptcy compared to the more than 28,000 firms that went bankrupt in the program’s two-year period (SME Policy Council

While the Special Guarantee Program encouraged enormous numbers of SME to take advantage of the credit guarantee system, a shift simultaneously underway in the government's relationship with SME financing also heightened the system's significance at the turn of the 21st century. Since the early postwar period, the Japanese government was directly involved in lending to SME through several GFI including the National Life Finance Corporation (NLFC) (1949- ), the Japan Finance Corporation for Small and Medium Enterprise (JASME) (1953- ) and the Shoko Chukin Bank (1936- ). Loans by these three GFI, especially the first two, served as a form of redistribution to SME dealing with economic turbulence during the early postwar years, and were a preferred policy tool of the government because they did not require additional budgetary outlays and thus enabled the government to concentrate its limited fiscal resources on reindustrialization (Park 2011, 74). Successive LDP governments gradually increased the amount of policy finance available to these GFI through the Fiscal Investment and Loan Program (FILP) in the 1950s and 1960s, so that they could continue to provide for the social security of SME and appeal to them as a political constituency while maintaining budget restraint (Park 2011, 97–111). However, after the LDP's poor showing in the December 1972 general election, the government significantly expanded GFI loans, increasing them sevenfold to ¥28.6 billion in 1979 and ultimately to ¥30.9 trillion in 1992 (Calder 1988, 346; Shimizu 2013, 161).

**Figure 4. Outstanding Loans and Outstanding Guaranteed Loans for Japanese SME and Microenterprises, 1997-2014**



Source: SME Policy Council Finance Working Group (2015, 11)  
Unit: ¥1 trillion

Finance Working Group 2015, 9). On the other hand, outside observers countered that the program merely delayed, rather than stopped, a wave of bankruptcies which occurred after the program's end (OECD 2000, 46–47).

As Japan's economic situation deteriorated during the banking crisis in the 1990s, a combination of mounting fiscal pressures and enhanced Cabinet Office powers enabled Prime Minister Hashimoto Ryutaro initiate the long-held goal of FILP reform (Toyoda 2011, 162). One outcome of FILP reform was a decline in the government's ability to provide SME loans through the GFI. At the same time, because the credit guarantee system relied on private banks, it became a crucial platform for continuing the government's support of small firms. Figure 4 shows the contrasting trends of public loans and guaranteed private loans within overall SME lending

in the period 1997-2014. While the amounts of these two loan types were similar in 1997, from the time of the introduction of the Special Guarantee Program in 1998, the credit guarantee system came to support a much larger amount of loans to SME than the GFI. The share of GFI loans within Japan's overall SME finance stayed between 8.7 and 10.3 percent between 1998 and 2014, but the absolute amount fell from ¥29 trillion in 1998 to ¥21.9 trillion in 2014, a 25 percent decline. By contrast, the credit guarantee system's weight among SME finance remained between 11.4 and 14.8 percent during these years. In fiscal year 2014, 911,000 SME borrowed from the NLFC, 47,000 SME borrowed from the JASME, and 76,000 SME borrowed from Shoko Chukin Bank. By comparison, 1.4 million SME used credit guarantees, meaning that the system served approximately one-third of Japan's 3.85 million SME (SME Policy Council Finance Working Group 2015, 9).

With the implementation of the Special Guarantee Program in 1998 and the government's concurrent shift from direct financing through GFI to indirect financing through private banks, Japan's credit guarantee system became the largest credit guarantee system in the world (Christensen et al. 1999). The amount of loans guaranteed through the system declined after the Special Guarantee Program ended in 2001, but rose again following the global financial crisis, when the Japanese government instituted another large-scale specific loan program called the "Emergency Guarantee System" (*Kinkyu hoshō seido*) that provided 100 percent guarantees between October 2008 and March 2011. In 2014, outstanding guarantee obligations in Japan's credit guarantee system reached ¥27.7 trillion (Table 1). This figure was almost four times higher than the next largest credit guarantee system in America despite the two economies' vast size difference, and bigger than other major foreign credit guarantee systems combined.

Aside from unparalleled size, two other points are notable about Japan's credit guarantee system in the 21<sup>st</sup> century. The first is the system's high coverage ratios. Whereas credit guarantee systems in other major countries have offered loan guarantees in a range between 40 and 75 percent of loan values—levels at which banks still assume substantial risk in case of loan default—Japan's system has provided guarantees between 80 and 100 percent of loan values, with a large majority of the system users receiving 100 percent guarantees (Small and Medium Enterprise Agency 2016, 5) (Table 2). As will be elaborated in the following section, Japan's high coverage ratios free banks to loosen lending standards and provide loans to firms with weaker creditworthiness, making Japan's credit guarantee system more likely to sustain zombie firms among its SME users.

Table 2. International Comparison of Credit Guarantee Systems in 2014

Country	Guarantee Acceptances		Outstanding Guarantee Obligation (Flow)
	Cases	Amount Guaranteed (Stock)	
America	63,460	2,603.4	7,959.1
Germany	6,472	130.4	701.2
France	86,207	428.2	1,662.9
UK	2,718	50.6	133.5
Korea	659,390	503.6	681.8
Japan	714,340	8,939.4	27,701.7

Source: *Small and Medium Enterprise Agency (2016, 3)*<sup>6</sup>  
Financial Unit: ¥1 billion

The second point relates to the timing when Japan's credit guarantee system has provided high-level guarantees. As Table 3 shows, many countries temporarily increase their systems' coverage ratios in response to economic downturns, which reflects how governments can adjust credit guarantee systems to increase the availability of financing which otherwise might not exist, a property of credit guarantee systems commonly known as "additionality" or "incrementality" (Riding, Madill, and Haines 2007). By contrast, Japan's provision of complete and nearly- complete coverage has occurred not only in crisis times, but even in positive macroeconomic conditions. For example, Japan's system has consistently given 100 percent guarantees to microenterprises with 5 or less employees—a corporate category which constitutes 87 percent of SME in Japan and more than 70 percent of the system's 1.4 million users (SME Policy Council Finance Working Group 2015, 9, 13)—and to SME in declining industries which qualify for safety-net guarantees. The continuing reliance of large numbers of Japanese SME on credit guarantees implies that the system has been of vital importance to many firms whose precarious financial positions fundamentally challenge their obtainment of credit.

6. Figures from America are from 2015.

Table 3. International Comparison of Credit Guarantee Systems in Normal and Crisis Times

	Normal Time			Crisis Time (After the GFC)	
	Target Firms	Coverage Percentage	Range of 100 Percent Coverage	Measures to Raise the Guarantee Ratio	Implementation Period
<b>America</b>	SME whom financial institutions have difficulty financing without guarantees, etc.  Startup period, expansion period, etc.	75, 85%	--	Raised from 75, 85% in normal time to 90% uniformly	2009.2~ 2011.3
<b>Germany</b>	All SME in principle  Startup period, business succession period, etc.	60~80%	--	Raised to a maximum of 90%	2008.12~ 2010.12
<b>France</b>	All SME in principle  Startup period, innovation period, expansion period, business transfer & acquisition period	40~60%	--	Raised to a maximum of 90%	2008.12~ 2010.12
<b>UK</b>	SME who have difficulty borrowing due to collateral shortage, etc.  Startup period, expansion period, stable period, etc.	75%	--	--	2008.12~ 2010.12
<b>Korea</b>	All SME in principle  Startup period, expansion period, stable period, regeneration period, etc.	50~100%	Young entrepreneur startups, small sum funds, policy objectives (promotion projects, etc.)	Raised to 90~100%	--
<b>Japan</b>	All SME in principle  Startup period, expansion period, stable period, regeneration period, etc.	80, 100%	Microbusinesses, startup-stage firms, safety net guarantee, etc.	Target firms under Safety Net Assurance No. 5 expanded sequentially to cover all industries	2008.10~ 2012.10  Designation of all industries from 2010.2~

Source: Small and Medium Enterprise Agency (2016, 5)



### 3.3. Japan's Credit Guarantee System as a Facilitator of Zombie Firms

Japan's credit guarantee system, like other countries' credit guarantee systems, has primarily functioned to enhance users' access to credit. Yet, by existing on a massive scale and providing perfect or near-perfect guarantee ratios to millions of SME, it has also been responsible for facilitating lending relationships between banks and many weak firms, some of which have undergone zombie status. A key reason why Japan's system may contribute to zombie formation is that its guarantee ratios entirely or substantially reduce banks' default risk, which enables banks to lend to SME with less concern about the possibility of nonpayment. Lower risk allows banks to overcome the information asymmetries which typically reduce banks' desire for SME customers, increasing their willingness to finance this category of borrower.

The certainty that Japan's credit guarantee system affords banks in avoiding default risk—which increases the banks' willingness to lend to all firms, including weak firms more likely to default and need refinancing which turns them into zombies—has widely been discussed by Japanese economists as a moral hazard, since the insurance side of the system reduces banks' potential for incurring financial loss and their corresponding motivation to distinguish between viable and nonviable borrowers when screening loan applications (Ito 2011; Ono, Uesugi, and Yasuda 2013; Saito and Tsuruta 2014). The system's 100 percent guarantee, widely used by entire categories of SME like microenterprises but also by some firms qualifying for specific loan programs such as the Safety Net Number 5 program for SME in declining industries, is the clearest example of how the system enables adverse selection, since it fully covers banks in the case of repayment failure—thereby removing banks' need to minimize loan defaults by monitoring borrowers or advocating improved business planning—while giving borrowers no incentive to restructure (Yamori 2011, 24). But even the system's 80 percent guarantee, which was first instituted in October 2007 through the so-called “responsibility-sharing system” (*Sekinin kyoyu seido*), has been insufficient at eliminating moral hazard, though it lessened it to a degree (Saito and Tsuruta 2014).

While moral hazard is important in explaining the credit guarantee system's effect on increasing bank lending, it is only capable of creating large numbers of zombie firms to the extent that many of the system's users are prone to failing in their loan repayments and needing banks to practice forbearance. Available evidence suggests that the financial health of many SME receiving credit guarantees is indeed tenuous. According to data from the credit guarantee system's Credit Risk Database (CRD), the average system user in fiscal year 2003 had 6 employees, ¥125 million (\$1.25 million) in sales, ¥84 million (\$840,000) in total assets, and ¥10 million (\$100,000) in capital stock (Shikano 2008, 25). The CRD data further show that the average user's operating profit and net income were ¥1 million (\$10,000) and ¥400,000 (\$4,000). These statistics reveal the very small size of most system users as well as their typically thin operational margins, a pattern that occurs because much of the firms' operational expenses like human resources are fixed. Consequently, these firms are highly dependent on sales to survive, and sales fluctuations can easily threaten their solvency (Shikano 2008, 52).

Beside the fragile business conditions of many credit guarantee system users, their financial structure also makes them more likely to become zombie firms. The CRD data indicate that most system users have low equity capital ratios—on average, 11 percent—which leaves them highly dependent on long-term borrowing and reinforces the significance of their relationships with banks. Also, since more than half of system users with less than 20 employees have operational loss carryovers, it is apparent that many users are only able to survive because of the financial life support they receive from bank loans (Shikano 2008, 85). These findings are less true of large SME users with more than 100 employees, implying that the bigger a SME grows, the less likely it is to have tenuous business conditions and rely on borrowing, and thus possibly need this form of financing associated with zombie status.

The descriptive statistics cited above depict a corresponding picture of the zombie firm ratio among Japanese SME during the “lost” decades, especially after 2000. Strong direct evidence appears in the forthcoming work by Goto and Wilbur, whose analysis reveals a zombie ratio among guarantee-using firms of roughly 15 percent or higher during the period 1996-2007. Indirect evidence also appears in Imai (2016), who shows that the smallest size category of SME in his sample—firms with less than ¥10 million (\$100,000) in capital stock—has an extremely high zombie ratio exceeding 25 percent in 1999, the peak year of Japan’s credit guarantee system in terms of absolute amount of guaranteed loans under the Special Guarantee Program. Imai also shows that the zombie ratio for this SME category remains above 12 percent through 2008, an outcome which reflects the frail business conditions of many microenterprises, large amounts of which are dependent on credit guarantees for financing.

## 4. Drift in Japan’s Credit Guarantee System

Given the negative connotations and criticism surrounding zombie firms, the evidence implicating Japan’s credit guarantee system in the creation of zombie SME in the early 21<sup>st</sup> century begs the question: *How could the system’s role in zombie formation among SME persist mostly unchanged after Japan’s broader economic recovery?* One hypothesis is that the system’s high level of protection, namely its large scale and generous guarantee ratios, underwent drift. Conceptually, drift occurs when decision-makers do not revise formal rules when shifting developments change the social effects of the rules in ways that are recognized by at least some political actors. In the case of Japan’s credit guarantee system, drift could explain why the system’s substantial size and high guarantee ratios persisted through the 2000s, despite a positive macroeconomic climate and concern that the system allowed moral hazard by encouraging banks to give financial life support to firms with fundamentally poor business prospects.

For the hypothesis of drift to be supported, evidence would need to show that its causal mechanisms existed in the politics surrounding credit guarantee system and contributed to a status quo bias in the system. Possible mechanisms for drift include the interaction between decision-making institutions such the separation of powers that gives rise to veto players (Tsebelis 1995), limited public access to policymaking which may indirectly bolster the influence of well-organized interests in shaping legislative proposals (Hacker, Pierson, and

Thelen 2015), policy feedback effects that create vested interests who subsequently rally to block change (Pierson 1996; Levinson and Sachs 2015; Starr 2015), uncertainty about the possible consequences of policy adjustment (Shepsle 1986), and collective action barriers to building pro-reform coalitions (Hardin 1989).

Evidence suggests that many of these mechanisms were indeed present in the politics of the credit guarantee system, hampering system reform and reinforcing the system's contribution to zombie SME creation in the 2000s. The only of these mechanisms that was absent was the separation of powers. In Japan's parliamentary system, the executive is responsible to the legislature, especially the lower house of the Diet, and is not separately elected. Moreover, the upper house has few powers to check the lower house's decisions. Though the upper house can vote down bills passed by the lower house and force the lower house to overcome a two-thirds vote to pass the vetoed legislation, it has no power to block the lower house on budgetary matters. Thus, even though Japan's Diet was "twisted" (*nejire*) and had different political parties controlling its upper and lower houses on multiple occasions between 1994 and 2014—1997-1998, 1998-1999, 2007-2009, 2010-2012, and 2012-2013—there was only modest potential for the separation of powers to stymie credit guarantee system reform.

Instead, other barriers obstructed potential change to the system. For one, limited public access to the policymaking behind the system afforded a few well-organized interests with stakes in system's high guarantee ratios a substantial degree of influence over the system's structure. Government officials' uncertainty about the potential effect of system modification, as well as collective action challenges for those who wanted to pare down the system, also played roles in mitigating credit guarantee system reform. This combination of factors enabled the system to continue serving large numbers of financially fragile firms, and likely contributed to zombie SME creation throughout the 2000s well after Japan's banking crisis had ended.

Concern about the ill effects of the credit guarantee system emerged soon after the Special Guarantee Program's implementation in October 1998. In January 1999, the widely-read *Nikkei* business newspaper reported that some program users filed for bankruptcy less than one month after receiving guaranteed loans or took loans with no purpose simply because they were available. In February 2000, the *Nikkei* Financial newspaper also reported that program users made stock investments with guaranteed loans intended for company operations (Uesugi and Sakai 2005, 6). Then, in November 2000, the Tokyo District Attorney's Special Investigation Department announced that several secretaries belonging to sitting Diet members from the Komeito, Democratic Party, and New Conservative Party had illegally taken commissions on guaranteed loans for ineligible borrowers, and that at least 450 Diet members and local assemblymen had intervened as brokers in more than 10,000 cases of guaranteed loans issued by the Tokyo Credit Guarantee Corporation. At the time, the large-scale abuse of the system was considered indicative of a "social problem" (*shakai mondai*) (Yamazaki Tai 2017).

Japanese economists were also quick to critique the credit guarantee system after the implementation of the Special Guarantee Program. Matsuura and Takezawa (2001) argued that the program's guarantees did not actually increase the supply of loans to SME, while Takezawa, Matsuura and Hori (2004) contended that, after 1998, the widespread use of the credit guarantee system and especially the Special Guarantee Program led to increasing defaults

which in turn reduced the loan supply for SME because of higher credit risk. Doubts about the system's impact on SME with healthy business conditions, as well as acknowledgement that the system required substantial government outlays to cover the annual deficits of individual credit guarantee corporations—which ranged between ¥200 billion and ¥600 billion in the period 1999-2004—eventually spurred the SME Agency (SMEA), the government agency in charge of Japan's SME policy and the credit guarantee system, to convene a deliberative council (*shingikai*) about the future of the system in late 2004 (Uesugi and Sakai 2005, 7).<sup>7</sup>

On the surface, the deliberative council may have seemed like an opportunity for public concern to effect change in the credit guarantee system's structure and rein in its protectionism toward weak firms. However, despite the council's semblance of openness to outside opinion, the most vocal attendees at the seven council meetings between December 2004 and June 2005 were the system's primary stakeholders. Of the 80 opinions about the system formally recorded by the SMEA at the conclusion of the council, 30 came from credit guarantee corporations, 20 came from associations representing SME, 11 came from financial institutions, and 10 came from regional governments. Only 9 opinions came from individual SME, scholars and citizens (Small and Medium Enterprise Agency 2005, 1). Thus, SMEA officials heard mostly insiders' ideas about the credit guarantee system at the council as the officials weighed how to reform the system. Weak public representation was not peculiar to this particular deliberative council, but consistent with the common operation of such councils throughout postwar Japan as venues for interest groups to directly shape policymaking (Schwartz 1998).

Evidence suggests that SMEA officials were at least partly amenable to downsizing the credit guarantee system's largess when they initiated the council. One official who then worked for the SMEA finance department remarked, "METI knew that we needed to change the 100 percent guarantee system to the partial guarantee system maybe for 20 years—maybe from the 1980s, METI wanted to change the market-skewing guarantee system," indicating that key political actors behind the system had considered possible alternatives to the system, and desired that a different arrangement be set in motion. However, the same official emphasized that agency officials were simultaneously reluctant to reform the system because of the possible effects on SME, saying, "METI has a responsibility to maintain the economy, to grow the economy. But they don't want to have a huge, drastic impact to one of the specific sectors. So we had that kind of system. We didn't, we couldn't want to change drastically. Maybe you can say that it is kind of an ambivalent feeling, but it's true. We would like to change the system gradually, but we don't want to have a huge impact on the SME" (Interview 59).

Aside from uncertainty about system reform's possible impact on SME, SMEA officials' views on adjusting the credit guarantee system were also tempered by their interest in amassing bureaucratic power for themselves. In particular, within the agency's finance department, influence and esteem were partly defined by the ability to secure large annual budgets from the Ministry of Finance (MOF) to pay for the system. Therefore, department officials typically strove to obtain as much funding as possible from MOF in the short term to

7. One researcher specializing in SME research at the official think tank for Japan's Ministry of Economy, Trade and Industry suggested that SMEA officials began worrying about the system after the inception of the Special Guarantee Program, when they questioned, "Was it was really okay?" (*Hontou ni daijoubu ka?*) (Interview 32).

enhance the department's standing vis-à-vis other departments in the SMEA and METI—even coining a term for “plundering” funds from MOF (*bundoriai*)—despite that their long-term goal of downscaling was aligned with MOF's vision for the system (Interview 59).

Given SMEA officials' ambivalence about system adjustment and internal power motivations, key stakeholders in the credit guarantee system did not face opposition when they voiced their status quo preferences for the system at the deliberative council. The two main beneficiaries from the system, SME and financial institutions, were particularly cautious about system reform and expressed conservatism about the degree of change they could accept. On the council's main issue of whether to reduce the system's 100 percent guarantees, associations representing SME criticized the council's proposed introduction of a “responsibility-sharing system” that would lower certain guarantee ratios to levels where banks would face loan loss risk, with one association saying, “While public sentiment that financial institutions bear no risk is not incomprehensible, the influence [of the responsibility-sharing system] on banks' lending behavior will be clear, and we cannot support it” (Small and Medium Enterprise Agency 2005, 14). Financial institutions also resisted the proposed change, with one commenting that Japan should not introduce such a system just because other foreign countries had done so, and another asking for more time—“at least two years”—for banks to prepare for the details of such a system should it be realized (Small and Medium Enterprise Agency 2005, 15).

These stakeholders' reluctance toward change reflected their vested interests in the credit guarantee system as it was then designed. As mentioned above, for many SME with fundamentally precarious business conditions, particularly but not only microenterprises, the system represented one of the few existing ways to obtain financing. Reduction in the system's guarantee ratio thus threatened to extinguish a key credit source, since heightened possibility for loan loss might discourage banks from lending to weak customers. Because SME associations attending the council like the National Federation of Small Business Associations (NFSBA) and the Central Federation of Societies of Commerce and Industry (CFSCI) were pyramid organizations covering tens of thousands of local associations and chambers at the prefectural and sub-prefectural levels and collectively represented millions of SME, their opinions against credit guarantee system reform at the council could not easily be ignored by SMEA officials (Interviews 35, 36).

Financial institutions were also beneficiaries of the credit guarantee system's high coverage ratios and thus disinclined toward change. Regional banks and smaller financial institutions like credit cooperatives and credit unions were particularly strong backers of the system, since their operations in the Japanese countryside meant that their loan portfolios consisted largely of loans to SME, and loans to SME carried higher interest rates.<sup>8</sup> Furthermore, regional markets faced significant demographic decline and stagnant economic growth relative

8. Data from after the deliberative council suggest the critical importance of SME to regional banks' business operations. In the fiscal year ending in March 2012, only three out of 116 Japanese banks had less than 50 percent of their loan portfolios filled by loans to SME—Mizuho Corporate Bank (37.3 percent), Mitsubishi UFJ (46.8 percent), and Sumitomo Trust Bank (47.4 percent)—and these were all large banks. By contrast, for regional banks such as Suruga Bank (95.2 percent), Taisho Bank (93.1 percent), Kinki Osaka Bank (92.7 percent), Shizuoka Chuo Bank (92.2 percent), Minami Nihon Bank (92.2 percent), Kansai Urban Bank (92.0 percent) and Awa Bank (90.1 percent), SME constituted more than 90 percent of their loan portfolios (Tokyo Shoko Research 2012).

to Japan's urban centers, which intensified competition over the dwindling pool of remaining SME borrowers and created profit pressures that made loan guarantees an attractive device for maintaining if not improving lenders' bottom lines (Shimizu 2008, 128–31). Surveys conducted by the FSA showed that 70 percent of SME using credit guarantees had been recommended to do so by their banks (Interview 28), showing that banks valued the system's mitigation of risk and thus had an interest in preserving the status quo.

While these two key stakeholders officially communicated their preferences about system reform to the SMEA through opinions formally issued at the deliberative council, there is reason to believe that they also advocated to agency officials in ways that were less observable to other council attendees and the wider Japanese public. For example, when asked about how the CFSCI gave policy recommendations to the SMEA, a representative from the association said that, besides making paper reports, “on detailed matters, it makes a phone call or sends an email. Basically, it talks to them directly” (Interview 36). A NFSBA representative also mentioned having “close information exchange” (*missetsu na jouhou koukan*) with METI, implying that the association's leadership was familiar with ministry officials to a personal degree that transcended contact at the deliberative council meetings (Interview 35). In other words, while SMEA records show that central players in the credit guarantee system advocated conservative positions about adjusting the system, the records do not necessarily convey the full extent to which these powerful players lobbied SMEA officials to maintain the status quo.

Deliberative council records also omit a key group of actors who likely influenced officials' thinking about amending the system behind the scenes—elected politicians. Though politicians' election campaign manifestos did not mention the credit guarantee system and few if any politicians took strong public stances on SME policy (Interviews 36, 35), politicians were still uniform in their underlying support for SME, irrespective of political party (Interviews 32, 59). This was particularly true of politicians at the prefectural and municipal levels, where multimember electoral districts with narrower electoral margins heightened the significance of SME as a reliable voting bloc that could be mobilized on politicians' behalf (Shimizu 2013, 155).

While there is no indication that politicians directly influenced the deliberative council, other evidence suggests how politicians lobbied SMEA officials to benefit SME. For example, at the time of the deliberative council in 2005, one of the main tasks inside the SMEA finance department was reportedly an activity called “window introduction” (*madoguchi shokai*) whereby department personnel would receive phone calls from politicians who wanted the agency to help certain SME in the politicians' home districts. Ostensibly, the politicians' calls were to request the location of nearest GFI, but in truth the calls were intended to make agency officials subsequently contact the GFI and suggest that the SME could use favorable treatment in their loan applications. Politicians' appeals for window introductions were so frequent that the SMEA finance department assigned a dedicated chief clerk to handle them (Interview 59). It is not unreasonable to assume that politicians making these frequent calls also impressed upon agency officials the importance of the credit guarantee system to their local SME, thus affecting officials' thinking about how far system revision could go.

A more telling indicator of politicians' support for the credit guarantee system was the formation of the system's budgets. Since MOF opposed the system's 100 percent guarantee

under the belief that it undermined banks monitoring toward borrowers, MOF strongly pushed back against SMEA officials when they made their annual budget request to compensate for the system's deficits, which caused the system's primary budgets to be small. However, the system was also allocated a supplementary budget each year, and the process for making this latter budget was notably more lenient. Because the supplementary budget was made according to a shorter schedule and often timed to immediately follow the installation of a new cabinet to maximize political appeal, MOF found it hard to deny large outlays for the credit guarantee system through this second budget. Moreover, because MOF knew that it would encounter politicians' anger if it disallowed substantial funding for the system, it reportedly asked SMEA officials to "bring [budget] balls" (*tama o motte koi*) for the supplementary budget which MOF would summarily authorize. Agency officials were fully aware of these constraints on MOF around the time of the supplementary budget and were confident that they could exploit them to obtain as much funding as necessary to cover for the credit guarantee system. If MOF did not comply, the officials would simply ask politicians to pressure the ministry until it conceded (Interview 59). Table 4 shows that the annual supplementary budget for the credit guarantee system was regularly larger than the primary budget until 2012, suggesting the constancy of politicians' support for the system as a means to help SME.

**Table 4. Central Government Budget Allocations to the Credit Guarantee System, 1999-2015**

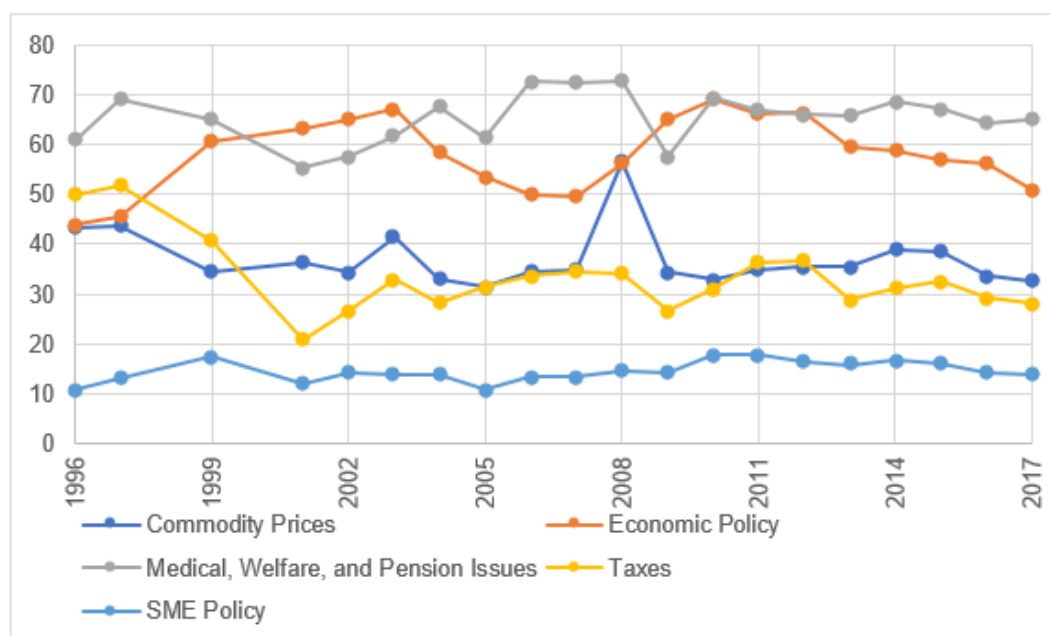
Year	Primary Budget	Additional Budget	Supplementary Budget 1	Supplementary Budget 2	Supplementary Budget 3	Supplementary Budget 4	Total Budget Allocation
1999	225			4205			4430
2000	221		6066				6287
2001	301		1625				1926
2002	332		4195				4527
2003	434		592				1026
2004	434		3279				3713
2005	434		522				956
2006	419		580				999
2007	378		2207				2585
2008	454		4000	3891			8345
2009	579		11236	9783			21598
2010	698	330	5335				6363
2011	852		3209		3703	4011	11775
2012	1066	951	500				2517
2013	678		452				1130
2014	678		597				1275
2015	681						681

Source: SME Policy Council Finance Working Group (2015, 27)  
Unit: ¥100 million

Against this combination of ambivalent SMEA officials and status quo-favoring interest groups and politicians, the voices who plainly opposed the system's high-level guarantees were the minority at the deliberative council. One individual opinion referred to the cost of the system from the public's perspective, saying, "The issue of conserving tax money is an extremely important subject given the current situation in which there is overbanking toward SME and reducing the national debt is an urgent duty," while another individual opinion drew attention to the opacity of the council's own assessment of the system, saying, "It is a problem of the system that there is no transparency around who is evaluating the system or how it is being evaluated. If it is ultimately supposed to be the peoples' decision, one would think that opinion would overwhelmingly favor substantial downsizing of the system" (Small and Medium Enterprise Agency 2005, 19, 18). However, such critical views were the exception at what was mostly a forum for system insiders to reaffirm their interest in minimizing potential change.

Ironically, there were some grounds for believing that ordinary citizens might have spoken up against the scale of the credit guarantee system had they attended the deliberative council. Annual public opinion surveys conducted by the Cabinet Office indicate that the Japanese populace put low priority on government action on SME policy throughout the 2000 (Figure 5), suggesting that the public had little interest in keeping the system's substantial scale and guarantee ratios. Public opinion polls by the Asahi Shimbun newspaper during the Koizumi administration (2001-2006) also found that popular support for structural reforms remained above 50 percent (Kume 2009, 245), further implying that citizens may have favored credit guarantee system downsizing as they did Koizumi's other neoliberal reforms.

**Figure 5. Public Opinion on Issues Needing Government Action**



Source: Government of Japan Cabinet Office (n.d.)

Unit: Percentage of Respondents Saying Issue Needs Government Action



On the other hand, it is questionable whether the Japanese public really knew enough about the credit guarantee system to want modification. One possible explanation for weak public demand for government action on SME policy may have been that the system's insurance structure diffused potential local opposition. Because losses by individual credit guarantee corporations were insured by the central government through the JFC, their cost was diffused across taxpayers nationwide, rather than concentrated among the citizens in the jurisdictions where the losses occurred (Shimizu 2008, 76). A related explanation is that the system's overall structure was simply too complex for many people to understand, with the government's role masked by the subrogation process that, on the surface, made it seem like the system consisted of banks and individual credit guarantee corporations, despite the central government's core role in underwriting the system (Interviews 34, 59).

Given that Japanese citizens showed little enthusiasm for protectionism toward SME but were not outspoken about downsizing the credit guarantee system, the handful of academic economists who criticized the system's high guarantee ratios in the early 2000s had few allies in pushing for substantial system modification at the deliberative council. It thus fell to SMEA officials to decide what kind of reform would address the troubling questions about the system—the same officials who wanted to avoid thrusting drastic change upon SME, felt strong pressure from system stakeholders and politicians supportive of the status quo, and themselves held internal bureaucratic power motivations. Balancing these conflicting imperatives which leaned mostly towards system stasis, agency officials finally announced that a responsibility-sharing system lowering the system's primary guarantee ratio from 100 to 80 percent would be enacted in October 2007—a date that was two years after the deliberative council, in alignment with the request from one of the financial institutions present at the council.

While the responsibility-sharing system portended to sharpen banks' incentive to monitor guarantee users and screen out SME prone to default on loan repayment—and thus possibly reduce the number of zombie SME in the system—100 percent guarantees were still granted to several large categories of system users, thereby dulling the reform's effect on excising moral hazard. These categories included microenterprises (the majority of system users), SME that were affected by natural disasters, SME that were startups, and SME that qualified for the system's various specific safety-net programs. One of these safety-net guarantees in particular, Safety Net 5 for firms in declining industries, continued to have conspicuously high subscription in future years, with more than 2 million SME users between 2006 and 2015 (SME Policy Council Finance Working Group 2016, 12). In short, though responsibility-sharing signified a shift toward introducing risk into banks' lending practices with SME, numerous exemption categories perpetuated the system's agency problem. Later studies showed that the 80 percent guarantee in the responsibility-sharing system did not entirely remove moral hazard either (Saito and Tsuruta 2014), meaning that the reform's impact was modest at best.

Less than a year after the unveiling of the responsibility-sharing system, Japan was hit by the global financial crisis. As one would expect, Japanese politicians responded to the crisis by rallying to the cause of SME with various assistance measures, including enhancements to the credit guarantee system. On October 31, 2008, an "Emergency Guarantee System" (*Kinkyu hoshō seido*) was established to provide 100 percent guarantees to SME in designated

industries where average sales had declined by 3 percent from the previous year. Under this new program and the existing Safety Net Number 5 program, new loan guarantees surged in fiscal year 2008, climbing to approximately ¥20 trillion and putting the total balance of loan guarantees at ¥34 trillion by yearend (Yamori et al. 2013, 74). Statistics from the National Federation of Credit Guarantee Corporations, the peak organization for Japan's individual credit guarantee corporations, show that more than half of the SME using the Emergency Guarantee System were users of the credit guarantee system prior to taking advantage of the new system, demonstrating that many SME were already weak and dependent on credit guarantees before the crisis struck. Moreover, many of these firms would have likely qualified for the Emergency Guarantee System even had the crisis never happened, since their financial precariousness meant they were highly prone to sales swings exceeding the minimalistic qualifying threshold of 3 percent (Yamori 2011, 22–23).

Though the Emergency Guarantee System ended in March 2011, the popularity of the remaining Safety Net Number 5 program was such that loans subject to 100 percent guarantees through the program were a larger portion of the overall stock of outstanding guaranteed loans than the loans issued through the responsibility-sharing system until 2013 (SME Policy Council Finance Working Group 2016, 27). Given the widespread use of 100 percent guarantees after the global financial crisis and the fact that even the responsibility-sharing system's 80 percent guarantees produced some degree of moral hazard, it is reasonable to conclude that the credit guarantee system continued to play a significant role in zombie SME creation well into the 2010s.

## 5. Conclusion

This paper examined zombie firms among Japanese SME in the two decades after Japan's banking crisis in the 1990s. Starting from statistical findings suggesting that the zombie ratio among SME remained consistently high in this period, the paper proposed that a distinct causal mechanism underpinned zombie SME which was absent from listed firms where the zombie ratio declined in the early 2000s due to transparency-enhancing regulatory changes and new bankruptcy laws. Specifically, the paper investigated the possibility that assurances given to private banks via a particular policy arrangement—the credit guarantee system—might have contributed to the formation of zombie SME.

While the enlargement of Japan's credit guarantee system was initially conceived as a crisis countermeasure for the credit crunch in the late 1990s, the continuation of the system's generous scale and high coverage ratios throughout the 2000s was puzzling from the perspective of Japan's positive macroeconomic environment, which suggested that reduction might have been feasible. It was also curious from the perspective of conventional theoretical wisdom, which expected that Japan's majoritarian electoral reform would reduce protectionism. As a possible explanation for why the system remained largely unchanged and likely contributed to supporting zombie firms even after economic recovery and a shift to majoritarian electoral rules, the paper explored the hypothesis that Japan's credit guarantee system underwent drift.

The paper found evidence largely consistent with this hypothesis. In particular, limited public participation in the deliberative council where system reform was discussed in the mid-2000s enabled key stakeholders, especially SME associations and regional financial institutions, to dampen the extent of adjustment. Though government officials in charge of the system had long wanted to reduce the system's guarantee ratios, these stakeholders' strong opposition, as well as the officials' own uncertainty about the possible effects of change and constant informal pressure from politicians, impaired reforms that would have caused banks to accept significant risk when lending to SME and thereby incentivized the banks to more strictly screen out weak loan applicants. Academic economists were critical of the system at the time of the deliberative council, but their outspokenness was unmatched by Japanese taxpayers, who, despite seeming to put low priority on SME policy, appeared either indifferent or unaware toward the system's substantial costs and were not well represented at council meetings.

Facing little organized opposition, officials overseeing the system subsequently implemented a responsibility-sharing arrangement whose effect on changing banks' lending behavior toward weak SME was modest. Furthermore, the credit guarantee system was expanded again during the global financial crisis and mostly served habitual systems users that were chronically tenuous, instead of healthy firms temporarily suffering from the downturn. In this way, the highly protectionist character of the system endured well into the second decade of the 21<sup>st</sup> century, prolonging Japan's encounter with zombie firms.

While zombie SME were actually supported if not officially condoned by Japanese politicians, many public officials, and countless small businesses and regional and local financial institutions, it is also important to note the early research finding suggesting that many SME escape from zombie status. In other words, though the overall percentage of zombie SME was relatively high due in part to the credit guarantee system, many zombie SME appear to have regained corporate health in short order. Future work on zombie firms among Japanese SME should attempt to estimate the duration of zombie status to see whether guarantee recipient SME endure similarly short zombie timespans, as well as the potential problem of market congestion posed by the original zombie firm research. Investigations on these fronts could help clarify whether zombie status should be understood as an indirect type of social support in the form of "welfare-through-work," or a policy epiphenomenon with negative externalities and effects for Japan's economic growth in the post-bubble period.

## 6. Appendix: List of Field Interviews

Number	Date	Interview Site	Admin. Level	Prefecture	Country	Position	Institution	
							Name	Type
28	7/8/16	Suita	NA	Osaka	Japan	professor	Osaka University	academia
32 (E)	7/29/16	Kasumigaseki	NA	Tokyo	Japan	researcher	Research Institute of Economy, Trade and Industry	research
34	8/5/16	Otemachi	national	Tokyo	Japan	economist (1); economist (2)	Japan Finance Corporation	government finance institution
35	8/22/16	Shinkawa	national	Tokyo	Japan	assistant director	National Federation of Small Business Associations (Chuokai)	SME association
36	8/23/16	Yurakucho	national	Tokyo	Japan	section assistant	Central Federation of Societies of Commerce and Industry	SME association
59 (E)	11/21/16	Mita	national	Tokyo	Japan	former deputy director	Finance Department, SMEA, METI	government
64	11/30/16	Matsuyama	prefectural	Ehime	Japan	director	--	credit guarantee corporation

*Note: All interviews conducted in Japanese unless otherwise noted by E (conducted in English). The mark "--" represents identifying information which is redacted to maintain interview subject anonymity.*

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