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Contracting Out or Contracting Back In:  
School Foodservice Contracts  
in South Korea



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# 2017-2-2 Contracting Out or Contracting Back In: School Foodservice Contracts in South Korea

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## [Case study]

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Over the last two decades, the South Korean government has implemented several policy initiatives and interventions designed to improve student health and education. With so many school-age children getting about half of their daily calories from school meals, it is critical to appropriately manage school foodservices and ensure safe food practices to prevent massive foodborne illness. Since 1970s, the Korean Ministry of Education has promulgated and implemented a variety of school meal programs for enhancing the efficacy of school foodservice delivery and student health outcomes.

While nation-wide policies are being built and set by the Ministry of Education, the Office of Education in each metropolitan area and province implements and administers school meal and nutrition programs. Public officials working in the metropolitan and provincial offices of education have set rules, standards, and procedures regarding the regional school foodservice systems. In addition, school principals in local schools are also a key stakeholder group because school principals have discretion to select and implement a certain school foodservice system regardless of changes in nation-wide school meal policies. However, they also have to follow the guidance set by the Ministry of Education and the Office of Education in

each metropolitan area and province, and they are responsible for any incident and foodborne illness outbreak occurred in their schools. These key stakeholders play a critical role in establishing and expanding school meal programs.

Among various issues related to the school meal program in South Korea, this case particularly discusses the contracting experiences of the school foodservice management systems. The next session illustrates the historical review of school foodservice operation policies that provides insights and lessons regarding what factors induce the adoption of contracting strategies, what issues stimulate the changes in service delivery methods, what are (dis)advantages of contracting out, and why government returned to self-operation or in-house production of public services.

## 1. Case Overview

### *Early Stage of School Meal Programs: 1953 ~ 1980*

School foodservice was first introduced to South Korea right after the Korean War in 1953 with the aid of the United Nations Children's Fund (UNICEF). In 1957, CARE (Cooperation for American Relief Everywhere) inherited the Milk Feeding Program from UNICEF, and modified it to a School Lunch Program that continued to 1966. The UNICEF-CARE program assisted more than 1.1 million children every year.

From 1967 to 1972, more than 1.6 million Korean children have benefited directly from U.S. food assistance, named the Food for Peace program. In 1969, the Public Law 480 agreements between USAID (United States Agency for International Development) and the Korean government included national interventions to expand school meal programs. South Korea first specified

a system of school foodservice under the School Health Act of 1967, and the Korean school meal program started in 1973 as part of the trial project in accordance with the P.L. 480 agreement. From the beginning, the Ministry of Education became a key agency undertaking national school meal policies. In May 1973 the Ministry of Education first launched the workshop and council for school meal programs, including school principals, superintendents, parent group leaders, and nutrition teachers.

On 14 January 1977, the Korean Ministry of Education<sup>1)</sup> enacted fundamental policies for the implementation of the school meal program, simply titled Rules of the School Lunch Program (Ordinance No. 401 of the Ministry of Education). The 1977 Rules described the purposes of the school lunch program as follows:<sup>2)</sup>

- a) To promote the correct understanding of nutrition and inculcate good eating habits in the daily diet.
- b) To build good human relationships and create a spirit of collaboration by improving children's school lives.

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1) Since its establishment in 1948, the Ministry of Education (MOE) has undergone several major large-scale organizational changes. In 2001, MOE was renamed as the Ministry of Education and Human Resource Development and tasked to establish, oversee, and coordinate human resource development policies on a national level. In 2008, the Government Organization Act was revised, and the Ministry of Education, Science, and Technology was established to integrate the functions of the Ministry of Science and Technology (nurturing S&T manpower, basic science policy, nuclear safety and research) and the Ministry of Commerce, Industry and Energy (nurturing industry workforce) into the function of human resources development. In 2013, based on the revised Government Organization Act, preliminary research on policy and research development, nuclear research/development/production, and work related to science and technology, previously delegated to the Ministry of Education (For more information, see <http://english.moe.go.kr/sub/info.do?m=0104&page=0101&s=english>), Science and Technology, was transferred to the Ministry of Science, ICT and Future Planning to restructure the divisions and functions of the Ministry of Education. In this case study, the term "Ministry of Education" (MOE) is used to indicate the central government agency that is in charge of educational programs, regardless of timeline and different organizational names.

2) Park, K.(2013). State and food in South Korea: The national diet in wartime and beyond. Retrieved from <https://openaccess.leidenuniv.nl/bitstream/handle/1887/20552/Chapter7%20KHPark.pdf?sequence=16>. Accessed 15 Jan. 2017.

- c) To promote rational eating, nutritional improvement, and health enhancement.
- d) To contribute to the implementation of state policies on food consumption by giving pupils an appreciation of the production and distribution of food resources.
- e) To run it as a part of Saemaul Undong<sup>3)</sup> with the cooperation of parents and local communities in order to achieve a self-supported school lunch system [rather than relying on the government support].

In September of 1977, more than 200 elementary school students reported symptoms of food poisoning, later traced to the cream bun served for school lunch. This was only the beginning of the outbreak. At that time, 263 public elementary schools in Seoul provided school meals through contracted foodservices with Hankook Food Manufacturing, which had an exclusive contract with the Seoul Education Committee. On September 16, Hankook Food Manufacturing delivered 82,388 contaminated cream buns to 173 schools. The foodborne illness outbreak affected 7,872 elementary students, resulting in 948 hospitalizations and one death. After an in-depth investigation, the company was slapped with misdemeanor criminal violations of agriculture, health, and safety guidelines (laws). Following the outbreak, the Korean government announced discontinuation of school foodservices. As a result, of 1,456 schools that had provided free lunches to children, 1,244 schools no longer did so. Only 288 elementary schools in the nation were permitted to provide free school meals.

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3) United Nations Development Programme (UNDP) describes Saemaul Undong ('new village movement' in Korean) as "a movement of sustainable development in the Republic of Korea that transformed that nation from a developing to a developed country in a single generation" (For more information, see <http://www.undp.org/content/undp/en/home/ourwork/development-impact/south-south-cooperation/saemaul-initiative-towards-inclusive-and-sustainable-new-communi.html>).

From 1978 to 1981, the Korean government set the rule details to better establish and expand the school meal programs. For instance, the Ministry of Education published the School Foodservice Report in June 1978, and revised the Rules of the School Lunch Program in November 1978. The 1977 Rules set the overall tone for school meal policies and became the foundation for the School Meals Act of 1981.

### *Expansion of the School Lunch Program: 1981~2005*

The School Meals Act<sup>4)</sup>, an independent and comprehensive legal basis for the school meal program in South Korea, was enacted on 29 January 1981 to improve the health and well-being of the nation's children and to encourage and promote healthy diet. It outlined the nutritional standards for school meals, required schools to prepare facilities for maintenance and operation of school meal programs, encouraged schools to hire qualified professionals for service operation and management, and listed the roles of local, provincial, and central governments concerning school meal programs. The School Meals Act was amended a total of 24 times in the nearly 36 years since its first enactment in 1981.

After 1981, the Korean government expanded school meal services. From 1982 to 1989, the school meal programs were primarily administered by the Ministry of Sports with support from the Ministry of Education. In particular, the Ministry of Sports initiated a Five-Year Plan for School Meal Program Expansion for 1985~1989 to expand and develop school foodservices. In 1990, the school meal programs were transferred back to the Ministry of

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4) The following information about the School Meals Act and its amendments was obtained from Korea Legislation Research Institute. For more information, see [elaw.klri.re.kr/kor\\_service/lawView.do?hseq=29851&lang=ENG](http://elaw.klri.re.kr/kor_service/lawView.do?hseq=29851&lang=ENG).

Education, and the government tried to seek a broad expansion of the school meal programs starting with all elementary schools in the nation. As a result, the government started providing school meal programs for all special-education schools in 1992, for all elementary schools in 1998, for all high schools in 1999, and for all middle schools in 2003.

In order to efficiently implement school meal services and raise the necessary funds, the 4th amendment of the School Meals Act (Act No. 4593, Dec. 10, 1993) allowed the involvement of supporters' association that consist of parent groups, juristic persons or individuals who support a school's meal service program. It also allowed the superintendents of the boards of education and educational superintendents to employ nutrition specialists who should be responsible exclusively for school meal service programs.

The 5th amendment of the School Meals Act (Act No. 5236, Dec. 30, 1996) first indicated that the superintendents of the boards of education or educational superintendents may set up group meal service facilities and equipment for schools meal services within their jurisdictional areas. In addition, it allowed the "externally managed meal service" for schools that fail to be furnished with the facilities and equipment for self-operated school meal services. Thus, contract foodservice management companies were allowed to operate school meal services to promote effective expansion of the school meal programs. The newly adopted contract foodservice system contributed to the rapid expansion of nationwide school meal programs in spite of insufficient government budgets. According to the Act, the principals of the schools can implement contracted foodservices in consideration of the opinions of the school management committees or parents (limited to the cases where school management committees are not organized) only for the students wishing to participate in the externally managed meal service. Thus, this amendment alleviated the conditions for contracting by allowing

school principals to choose which foodservice companies to contract with based on opinions from school management committee members and parent groups.

According to an investigation of middle schools serving contract -managed school meals, conducted by the Seoul Metropolitan Office of Education in March of 2001, of 193 middle schools in Seoul (54.5% of total middle schools in Seoul), 192 contracted with foodservice companies. The number of schools contracting their meal services with management companies continued to increase; in 2004, about 17% of all schools contracted their meal services with management companies.<sup>5)</sup> However, student and parent surveys revealed a lower satisfaction level for contracted services than for self-operated services (e.g., Shin, 1999).

*Transition from Contracted to Mandatory Self-operated Foodservice:  
2006 ~ Present*

On June 23, 2006, the Korean government ordered dozens of schools to suspend their school meal programs after another outbreak of food poisoning. Specifically, the Ministry of Education took this measure for 68 schools in Seoul and the surrounding Gyeonggi Province, which received lunch catering services from one company, CJ Food System, after 1,709 students from 25 of the schools showed food poisoning symptoms, including stomach pain, diarrhea, and vomiting. A total of 3,613 students in 46 middle/high schools were affected, and among these schools, 31 schools had contracted directly with CJ Food System. An investigation found that the main cause of the outbreak was contaminated food provided by CJ Food System.

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5) The Ministry of Education(2004). The 2004 status of school foodservice. Seoul.



After this large-scale foodborne outbreak occurred in schools with the contracted foodservices in 2006, the Education Committee of the National Assembly of the Republic of Korea significantly revised the School Meals Act to introduce stringent safety guidelines and strict regulations such as penalty systems. As a result, the School Meals Act was wholly amended by Act No. 7962, July 19, 2006 in the 25 years since its enactment.

In terms of the operation mode of school meal services, the School Meals Act of 2006 required that a school principal should directly manage and operate the school meal services, and under this Act, elementary and middle schools were required to set up self-operated foodservices within three years of the 2006 amendment (before January 19, 2010). As a result, many schools that had adopted contracted foodservice management switched to self-operation based on these legal requirements.

This Act concretized the responsibility of state and local governments. Before its amendment in 2006, the Act stated, “the State and local governments shall devise the policies necessary for improvement of eating habits through nutritional education and the efficient implementation of school meal plans.” However, the wholly amended Act of 2006 refined their duty as follows:

- The State and local governments shall provide administrative and financial support to make the school meal services of good quality safely offered, and devise the policies necessary for the cultivation of students’ capability to manage correct eating habits through nutrition education, and for the succession and development of traditional eating culture.
- The superintendent of the Offices of Education of the Special Metropolitan City, Metropolitan City, Do, and special autonomous DO (referred to as the ‘educational superintendents’) shall establish and execute plans for school meal service every year.

Under the contracting system, the superintendents of the local/state education offices and related administrators reviewed the procurement procedures between local schools and foodservice management companies, and provided procurement updates and training. However, under the revised School Meal Act of 2006, additional work duties were imposed on them. Superintendents should also establish a school meal services committee under their jurisdictions in order to deliberate plans for school meal services and supports of expenses for meal services. Furthermore, as the number of temporary workers under the supervision of the Office has increased due to the transition to self-operation, the political power of labor unions for temporary and outsourced workers has intensified. In this context, superintendents of the Office of Education and public officials related to school meal programs have often suffered from an influx of additional duties to manage labor relations. In addition, like school administrators, they are also responsible for any accident or foodborne illness.

The School Meals Act of 2006 specified the responsibilities of school principals. In addition to their role to directly manage and operate the school meal services, principals should provide the proper guidance of eating habits for students and pupils (Article 13) and conduct a nutrition consultation and required guidance (Article 14). School principals and school personnel related to the school meal services should abide by quality control criteria, nutrition management criteria, sanitation and safety control criteria, and other matters necessary for quality and safety of school meals services (Article 16). Therefore, compared to the contracted management system, principals often perceived that self-operation might put a heavy additional burden on their routine services because of newly imposed responsibilities to directly manage the school meal operations. In addition, the Act also required the schools to place the nutrition teachers under the provisions of Article 21(2) of the

Elementary and Secondary Education Act and the cooks under the provisions of Article 36 of the Food Sanitation Act (Article 7). In accordance with this new requirement, in March of 2007 1,700 nutrition teachers were appointed and another 2,386 nutrition teachers have been posted since September 2007. Their main duties include both providing meal services and educating students by developing nutrition education materials. In this situation, for school principals, the transition to self-operation also brought additional labor relations with nutrition teachers and in-house cooks, and human resource management adds another burden, while nutrition teachers and cooks were generally satisfied with self-operated school meal services due to better work environment and salaries.

Under the contracting system, school staffs were required to plan, research, send invitations for the bidding process, and award contracts every other year. Compared to their duties under the contracting system, the self-operation system required more work duties, such as managing the foodservice environment, planning and monitoring the process of food purchasing, and supervising hourly employees. Like the principals, other school administrators related to school meal services are also responsible for any accident or foodborne illness. In this sense, school administrators generally opposed the mandatory transition to self-operation systems. For instance, the president of the Korean National Association of Elementary, Middle, and High School Principals, Principal Kibong Lee (Seould Bongeun Middle School) argued, “If the self-operated foodservice is adopted, the quality of school meals will be sacrificed due to increased costs. In particular, the rise of labor costs will cause the increased costs for meals that will lead to the increased financial burden on parents.”<sup>6)</sup> Likewise, some of Seoul private school principals issued

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6) Han, J. (2010, January 8). School principals oppose self-operated foodservices. Retrieved from

a joint statement for revising the School Meal Acts, arguing that the mandatory transition to the self-operated system is not acceptable.

On the other hand, parent groups, students, and local communities asserted to the Ministry of Education or local education offices that food and nutrition services could be significantly improved through the transition to self-operation because the in-house foodservice can purchase high-quality food ingredients, provide nutritious meals, and increase participation among students and parents. Previous studies found that most middle and high school students were not satisfied with contract-managed foodservice in terms of food quality, menu variety, and sanitary conditions compared with self-operated foodservice systems (Cha et al., 2004; Kim et al., 2003). After the transition to self-operated meal services, parents and students argued that most school foodservice environments have been improved, and students and parents were satisfied with the improvement. In this regard, some community nonprofit organizations brought an accusation against 40 school principals who did not switch their foodservice systems to self-operation in 2010<sup>7)</sup>.

In 2006, the Korea Contracted Foodservice Association lodged a constitutional complaint, arguing that the fundamental rights of occupational freedom and equity were violated by Article 2, Article 7, and Article 15 Section 3 of the amended School Meal Act, which stipulated that schools should restrict the use of contracted foodservice operations. The contractors argued that the improved sanitation and facility management under the self-operated system were not guaranteed, and that while the transition to self-operation was caused by massive foodborne outbreaks, the numbers of foodborne illness

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<http://v.media.daum.net/v/20100108023509243>. Accessed 15 jan. 2016.

7) Ibid.

outbreaks and cases under the self-operated system were not significantly lower than those under the contracted system. Moreover, they argued that the freedom of school foodservice contractors was violated by the restriction of contracted foodservices only in schools, compared to others who provided contracted foodservices in other industries, such as hospitals and companies. However, the Constitutional Court dismissed the constitutional complaint on its merits, holding that the provision at issue in this case is not in violation of the Constitution.

In response to contractors' constitutional complaints, the Minister of the Ministry of Education argued that the revised Act was not intended to fully restrict the activities of contracted foodservice management companies; rather it restricted the case that contractors would be fully in charge of the school meal programs. In addition, the main purpose of the self-operated management of foodservices in schools was to improve student health and nutrition status through quality control of meal programs and appropriate monitoring systems to ensure food safety. He argued that such goals of the revised Act contained the consideration of public interests and public health concerns and that self-operated foodservices are more likely to attain such goals than contracted foodservices.

Since 2006, the School Meals Act was partially amended 13 times but the operation mode of school meal services still remains as self-operated school meal services. Table 1 presents the key differences between the School Meal Act of 1996 that allowed the contracted management and the School Meal Act of 2006 that restricted it.

**| Table 1 |** Summary of Key Differences between 1996 and 2006 Amendments of School Meals Act<sup>8)</sup>

	School Meals Act of 1996 (Act No. 5236, Dec. 30, 1996)	School Meals Act of 2006 (Act No. 7962, Jul. 19, 2006)
Purpose	To contribute to the sound development of students' mind and body through school meal service programs and, furthermore, to the improvement of the public's eating habits by prescribing the matters concerning the school meal service.	To elevate the quality of school meal services and to contribute to the sound mental and physical development of students and the improvement of the nation's diet by prescribing matters on school meal services, etc.
Definitions	"School meal service" means the meal service which is provided for students of a school or of its neighboring schools, in order to achieve the purpose under Article 1, with the installation of meal service facilities and equipment within the school concerned and the meal service provided for students of various school levels within the jurisdictional areas of superintendent of the boards of education and educational superintendents of the Seoul Special Metropolitan City, other Metropolitan Cities, and Dos (hereinafter referred to as the "City/Do") through group meal service facilities and equipment installed by them; "Externally managed meal	The term "school meal services" means meal services provided by school principals to students and pupils of schools or classes under the provisions of Article 4, in order to achieve the purpose under Article 1. The term "school meal service providers" means persons executing the business of school meal services upon entrustment according to contracts with school principals, pursuant to Article 15; The term "expenses for meal services" means food costs, meal services operation costs and other expenses for meal service facilities and equipment, which are necessary for school meal services.

8) Korea Legislation Research Institute. [https://elaw.klri.re.kr/kor\\_service/lawView.do?lang=ENG&hseq=18889](https://elaw.klri.re.kr/kor_service/lawView.do?lang=ENG&hseq=18889). Accessed 15 Jan. 2017.

	School Meals Act of 1996 (Act No. 5236, Dec. 30, 1996)	School Meals Act of 2006 (Act No. 7962, Jul. 19, 2006)
	<p>service” means a meal service operated by or implemented through transporting of prepared or processed food by school meal service providers upon being entrusted with the school meal service by school principals;                      “School meal service provider” means any person who conducts the externally managed meal service as referred to in subparagraph 2;                      “Meal service expenses” means food costs, meal service operation costs, and expenses for meal service equipment and installation necessary for a school meal service.</p>	
Operation Mode of School Meal Services	<p><u>Article 10 (Externally Managed Meal Service)</u>                      (1) In case of a school that fails to be furnished with the facilities and equipment for school meal service within the school, the installation and operation of the facilities for the school meal service may be entrusted to, or an externally managed meal service program may be implemented through transporting of prepared and processed food by, school meal service providers under contract.                      (2) Externally managed meal service programs shall be implemented by the principals of</p>	<p><u>Article 15 (Operation Mode of School Meal Services)</u>                      (1) A school principal shall directly manage and operate the school meal services, but may make the person equipped with specific requirements execute the affairs of school meal services by entrusting him/her therewith subject to the deliberation of the school operation committee under the provisions of Article 31 of the Elementary and Secondary Education Act: Provided, That he/she shall not entrust such person with the business of the</p>

	School Meals Act of 1996 (Act No. 5236, Dec. 30, 1996)	School Meals Act of 2006 (Act No. 7962, Jul. 19, 2006)
	<p>the schools intending to implement the externally managed meal service program in consideration of the opinions of the school management committees referred to in Article 44 (2) of the Local Education Autonomy Act or parents (limited to the cases where school management committees are not organized) only for the students wishing to participate in the externally managed meal service;</p> <p>(3) The meal service costs for externally managed meal service program shall be borne by the parents, but the State or local governments may support part of the meal service costs, if necessary, under the conditions as prescribed by the Presidential Decree.</p> <p>(4) Necessary matters concerning the standards for the school meal service providers and methods of the contract for external management referred to in paragraph (1) shall be determined by the Presidential Decree.</p> <p>[This Article Wholly Amended by Act No. 5236, Dec. 30, 1996]</p>	<p>selection, purchase and inspection of food materials, with the exception of inevitable cases for the given conditions of school meal services.</p> <p>(2) Where the compulsory education agency intends to entrust the business under the provisions of paragraph (1), it shall obtain in advance approval of the competent authority.</p> <p>(3) The scope of business entrustment for school meal services under the provisions of paragraph (1), the requirements to be met by school meal service providers, and other matters necessary for business entrustment shall be prescribed by the Presidential Decree.</p>



	School Meals Act of 1996 (Act No. 5236, Dec. 30, 1996)	School Meals Act of 2006 (Act No. 7962, Jul. 19, 2006)
Duty of State and Local Governments	The State and local governments shall devise the policies necessary for improvement of eating habits through nutritional education and the efficient implementation of school meal plans.	(1) The State and local governments shall provide administrative and financial support to make the school meal services of good quality safely offered, and devise the policies necessary for the cultivation of students' capability to manage correct diet and eating habits through nutrition education, and for the succession and development of traditional eating culture. (2) The Superintendents of the Offices of Education of the Special Metropolitan City, Metropolitan City, Do and Special Self-Governing Province (hereinafter referred to as "Superintendent of the Office of Education") shall establish and execute plans for school meal services every year.
Penalty	None	<u>Article 23 (Penal Provisions)</u> (1) The school meal service provider who has violated the provisions of Article 16(1) 1 shall be punished by imprisonment for not more than seven years or by a fine not exceeding 100 million won. (2) The school meal service provider who has violated the provisions of Article 16(1) 2 or 3

	School Meals Act of 1996 (Act No. 5236, Dec. 30, 1996)	School Meals Act of 2006 (Act No. 7962, Jul. 19, 2006)
		<p>shall be punished by imprisonment for not more than five years or by a fine now exceeding 50 millions won.</p> <p>(3) The person failing under any one of the following subparagraphs shall be punished by imprisonment for not more than three years or by a fine nor exceeding 30 million won: 1. The school meal service provider who has violated the provision of Article 16(1) 4; and 2. The person who has refused or obstructed or avoided without any justifiable reason the entry, inspection, perusal or removal under the provision of Article 19(1)</p> <p><u>Article 24 (Joint Panel Provisions)</u></p> <p><u>Article 25 (Fine for Negligence)</u></p>

## 2. Status of School Foodservices in South Korea

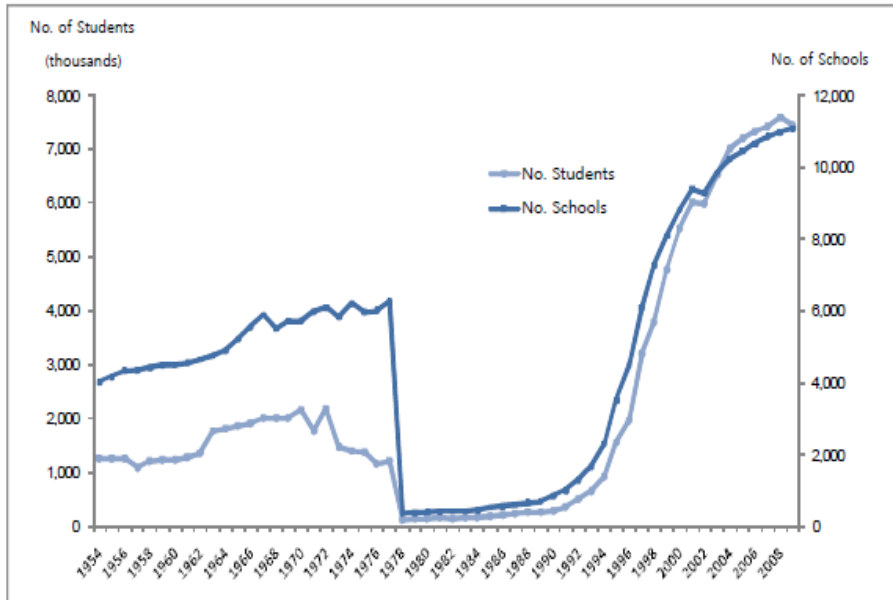
The proportion of schools providing foodservices grew from 17.6% in 1992 to 99.2% in 1998 for elementary schools; from 8.6% in 1997 to 83.1% in 2002 for middle schools; and from 9.8% in 1997 to 94.7% in 2000 for high schools. The percentage of elementary, middle, high, and special education schools serving school meal services reached almost 100% in 2003, from only 13.3% in 1991. More schools have developed lunch programs, and as of 2015, 1,326 out of 1,330 schools in Seoul provide school meal services. Currently students with family income below 80% of the poverty level are eligible for a free school lunch, and 99% of schools have adopted a self-operated foodservice system.

Table 2 and Figure 1 show the development and expansion of school foodservices in South Korea. Data for student participation rates across multiple school years were obtained directly through the Korean Educational Development Institute database. Due to the discontinuation of school foodservices caused by massive foodborne illness outbreaks in 1977, the percentage of students who participated in the school meal programs dropped from 22% in 1977 to 2.3% in 1978. In 1996 when contract foodservice management companies were allowed to operate school lunch services, 51.5% of students participated in the school meal programs, and the percentage grew consistently up to 98.5% in 2009.

**Table 2 | Status of School Foodservices Participants (schools and students) by Year<sup>9)</sup>**

Year	No. of Schools	No. of Students (thousands)	% of Students	Year	No. of Schools	No. of Students (thousands)	% of Students
1954	4,024	1,250	44.0	1982	432	152	2.8
1955	4,171	1,250	43.0	1983	439	162	3.0
1956	4,334	1,250	39.0	1984	464	171	3.4
1957	4,350	1,100	34.0	1985	541	200	4.1
1958	4,425	1,200	36.0	1986	569	213	4.4
1959	4,500	1,236	33.0	1987	616	237	5.0
1960	4,509	1,238	32.0	1988	660	254	5.3
1961	4,552	1,276	33.0	1989	701	264	5.4
1962	4,648	1,358	33.0	1990	854	289	6.0
1963	4,762	1,779	42.0	1991	998	372	7.7
1964	4,897	1,812	41.0	1992	1,298	513	11.2
1965	5,215	1,861	39.0	1993	1,654	661	15.2
1966	5,552	1,912	37.0	1994	2,291	931	22.6
1967	5,892	2,000	37.0	1995	3,512	1,543	38.9
1968	5,495	2,000	36.0	1996	4,487	1,963	51.5
1969	5,705	2,000	36.0	1997	6,100	3,205	38.5
1970	5,717	2,164	38.0	1998	7,256	3,782	46.1
1971	5,983	1,771	31.0	1999	8,071	4,762	58.0
1972	6,097	2,184	38.0	2000	8,807	5,533	68.8
1973	5,820	1,476	26.0	2001	9,394	6,011	76.7
1974	6,208	1,402	25.0	2002	9,275	5,989	76.6
1975	5,980	1,384	25.0	2003	9,860	6,523	83.9
1976	6,010	1,172	21.0	2004	10,213	7,012	90.0
1977	6,265	1,200	22.0	2005	10,453	7,206	92.5
1978	360	129	2.3	2006	10,645	7,330	93.8
1979	382	142	2.5	2007	10,850	7,414	95.6
1980	412	155	2.7	2008	11,225	7,456	97.7
1981	425	160	2.8	2009	11,303	7,339	98.5

9) Yang, S. (2010). Evaluation of school foodservices in South Korea and OECD countries. Korean Educational Development Institute (CR2010-19). Data combined from the Korean Educational Development Institute.

| Figure 1 | Status of School Foodservices Participants by Year<sup>10)</sup>

As aforementioned, the operation mode of school meal services can be broadly categorized into self-operated foodservice management and contracted foodservice management. The Ministry of Education provides a description of each management type as shown in Table 3. While the Ministry of Education and the Office of Education in each metropolitan area and province set the guidance and policies, the decision to determine whether foodservice management is “self-operated” or “contracted” is determined by school principals.

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10) Ibid., p.73.

**Table 3** | Types of School Foodservice Management<sup>11)</sup>

Management Types		Description	
Self-operated foodservice		School employees (nutrition education teachers, cooks) manage all food preparation procedures, serve the food, and clean up the facilities.	
Contracted foodservice	Partial contracts	Nutrition education teachers (school employees) are involved in food ingredient purchasing, storage, and management. The contractor is responsible for cooking, serving, and cleanup.	
	Full Contracts	School foodservice contracts	For schools equipped with foodservice facilities, the contractor and their employees prepare and serve the food. The contractor is expected to directly manage all aspects of foodservices.
		Vended meals	The contractor acts as a vender only. For schools without foodservice facilities, the contractor provides prepackaged or pre-plated meals.

In 2008, the nationwide statistics provided by the Ministry of Education indicate that about 99.7% of schools provide school meal programs, and among them, about 88.5% of schools chose the self-operated foodservice management system. Among schools with contracted meal services, only 1% of schools adopted vended meals; the majority used foodservice contracts as shown in the nationwide statistics of the status of school foodservice operation in South Korea as of 2008.

11) Ministry of Education (2008). *Manual for transferring contracted foodservices to self-operated foodservices*. Seoul.

**| Table 4 |** Korean Schools that Participated in School Meal Programs: By Types of School Foodservice Management (2008)<sup>12)</sup>

Management Types			Number of Schools	Percentage of Schools
Self-operated foodservice			9,827	88.5%
Contracted foodservice	Partial contracts		1	0.0%
	Full Contracts	School foodservice contracts	1,165	10.5%
		Vended meals	113	1.0%
Total			11,106	100%

The percentage of schools that contracted with foodservice management systems varies according to the school types. Self-operated management occurs in about 99.7% of elementary schools, while 66.1% of high school foodservices were directly managed by each school (See Table 5).

**| Table 5 |** Korean Schools that Participated in School Meal Programs: By School Types (2008)<sup>13)</sup>

	Number of Schools			Number of Students (1,000)			Operation Types	
	Total	School meals	%	Total	School meals	%	Self-operated (%)	Contracted (%)
Elementary	5,791	5,791	100	3,826	3,738	97.7	5,775 (99.7)	16 (0.3)
Middle	3,035	3,021	99.5	2,068	2,049	99.1	2,491 (82.5)	530 (17.5)
High	2,166	2,155	99.5	1,858	1,794	96.6	1,424 (66.1)	731 (33.9)
Special Education	144	139	96.5	23	22	95.7	137 (98.6)	2 (1.4)
Total	11,136	11,106	99.7	7,775	7,603	97.8	9,827 (88.5)	1,279 (11.5)

12) Ibid.

13) Ibid.

Table 6 presents the 2015 data from the Seoul Metropolitan Office of Education. In elementary and middle schools, 100% of schools provided meal programs using self-operated foodservice management systems. However, among high schools, only 53.5% of school foodservices were self-operated, while other 46.5% were operated using contracts.

**| Table 6 |** Seoul Metropolitan Schools with School Meal Programs: By School & Management Types (2015)<sup>14)</sup>

Category		School Types					Total
		Elementary	Middle	High	Special Educ.	Kindergarten <sup>15)</sup>	
School Meal Program Participants: Total	schools	598	384	318	26	192	1,518
	students	451,026	262,525	297,817	4,302	14,414	1,030,084
Self-operated: Total	schools	598	384	166	26	191	1,365
	students	451,026	262,525	148,610	4,302	14,188	880,651
Contracted: Total	schools	-	-	152	-	1	153
	students	-	-	149,207	-	226	149,433

### 3. Issues Related to School Foodservices

#### *Better Service Quality Arguments*

As illustrated in the previous sections, after the amendment of the School Meals Act of 1996, contract foodservice systems contributed to the rapid expansion of nationwide school lunch services. However, after several massive foodborne disease outbreaks, the School Meals Act was significantly revised

14) Seoul Metropolitan Office of Education (2015). School foodservice improvement Medium-term plan. Seoul.

15) Kindergarten annexed elementary schools are only counted.



to require elementary and middle schools to set up self-operated foodservice management systems. Since the school meal program was established to improve the health and well-being of the nation's children, the safety and nutritional quality of school meals remained the biggest issue. Regarding government contracting, issues related to service quality are highly controversial. Proponents argue improved effectiveness and better quality of services as the advantages of contracting, while opponents posit sacrificed service quality and accountability issues as the biggest problems of contracting out. This section provides information regarding the service quality of school lunch programs, particularly focusing on safety issues and foodborne disease outbreaks in order to provide opportunities to evaluate contracting performance in terms of service quality.

#### (1) Food Safety<sup>16)</sup>

In 2007, The Ministry of Education conducted the safety and hygiene inspections according to the School Meal Act Article 19 and Enforcement Rule Article 6 and Article 8 paragraph 1. The results in Table 7 show that 1.8% of schools with contracted foodservice systems received a grade D or lower, meaning that they failed to meet the minimum requirements, and 0.4% of schools with self-operated foodservice systems received the grade D.

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16) Ministry of Education (2008). Manual for Transition from Contracted to Mandatory Self-Operated Foodservice

**| Table 7 |** Safety and Hygiene Inspection Grade by Foodservice Operation System<sup>17)</sup>

			Inspected Schools	Grade A	Grade B	Grade C	Grade D	Grade E
2007 Spring	Self-operated	Number (%)	8,296 (100.0)	5,550 (66.9)	2,517 (30.3)	207 (2.5)	22 (0.3)	-
	Contracted	Number (%)	1,086 (100.0)	405 (37.3)	609 (56.1)	60 (5.5)	11 (1.0)	1 (0.1)
2007 Fall	Self-operated	Number (%)	8,446 (100.0)	6,467 (76.6)	1,857 (22.0)	111 (1.3)	10 (0.1)	1 (0.0)
	Contracted	Number (%)	1,097 (100.0)	512 (46.7)	522 (47.7)	54 (4.9)	7 (0.6)	1 (0.1)

In 2006 (June 27 ~ July 10), the Ministry of Education inspected the school foodservice systems of a total of 9,186 elementary, middle, and high schools in South Korea. The main purpose of this special inspection was to investigate the risk factors affecting the quality of school meal services. For this nationwide inspection, 16 metropolitan/province -level and 182 local-level inspection teams were arranged, with a total of 7,282 public employees required to find whether each school’s foodservice system met a total of 46 standards, including 11 criteria concerning foodservice facilities and 8 criteria for food purchasing and storage processes.

***School foodservice facility and equipment.*** Overall, due to limited physical space in the school facility for foodservice systems, 76% of schools did not have enough space to set up walls and doors to separate prep, cooking, and washing areas, and 57.7% of schools did not have a prep area. The inspection teams found that many schools had no air conditioning (A/C) systems in the kitchen (85.5%), no coolers (77.7%), no heated cabinet (89.2%),

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17) Ibid.

and no combi oven (88.8%). The A/C installation rate was higher among self-operated schools (25.9%) compared to the contracted schools (14.9%); however, coolers, heated cabinets, and dishwashers were installed more often in contracted schools (95.2%) than in self-operated schools (68.2%). The inspection teams concluded that the quality of overall facilities and equipment of schools with contracted foodservices was better than those with self-operated foodservices.

**| Table 8 |** Self-op vs. Contract: School Foodservice Facility and Equipment<sup>18)</sup>

Criteria	Total		Self-operated		Contracted	
	Yes	No	Yes	No	Yes	No
1. Are food preparation area, cooking area, and washing area divided by walls or doors?	24.0	76.0	24.2	75.8	22.8	77.2
2. Are food preparation areas separated from other areas?	42.3	57.7	42.1	57.9	43.3	56.7
3. Is A/C installed in the cooking area?	24.5	75.5	25.9	74.1	14.9	85.1
4. Are ventilation systems proper in the cooking area?	90.2	9.8	91.5	8.5	81.0	19.0
5. Is lighting proper in the cooking area?	88.6	11.4	88.9	11.1	87.0	13.0
6. Are there refrigerators and freezers for ingredients?	98.1	1.9	97.9	2.1	99.1	0.9
7. Are there coolers for cooked food?	22.3	77.7	20.5	79.5	34.5	65.5
8. Are there heated cabinet for cooked food?	10.8	89.2	9.2	90.8	21.9	78.1
9. Is a combi-oven installed?	11.2	88.8	11.1	89.0	12.7	87.3
10. Is a dishwasher installed?	71.6	28.4	68.2	31.8	95.2	4.8
11. Is a hand washing sink installed in the cooking area?	94.6	5.4	94.2	5.8	97.2	2.8

\* Note: Total number of schools inspected: 9,186 (Contracted 1,161; Self-operated 8,025)

***Food selection, purchasing, and storage:*** During the inspection period, the inspection teams found five schools that violated the requirements in

18) Ibid.

terms of unlicensed vendors and expiration dates. Two of them employed contracted foodservices while three schools had the self-operated foodservice system. Overall, the quality of food selection, purchasing, and storage is quite good in general, though schools with self-operated foodservice systems have higher rates of the standards than those with contracted systems.

**| Table 9 |** Self-op vs. Contract: Food selection, purchasing, and storage<sup>19)</sup>

Criteria	Total		Self-operated		Contracted	
	Yes	No	Yes	No	Yes	No
1. Does this school restrict the use of foods from unlicensed vendors?	99.9	0.01	100	0	99.9	0.09
2. Does this school restrict the use of foods that exceed the expiration date?	99.9	0.03	99.9	0.02	99.9	0.09
3. Does this school use meat, poultry, and fish products cured at a food processing plant regulated by HACCP?	92.3	7.7	93.6	6.4	83.0	17.0
4. Does this school properly daily record the inspection results concerning food temperature, expiration date, place of origin, etc.?	96.9	3.1	97.1	2.9	95.2	4.8
5. Does this school use processed foods?	55.0	45.0	54.5	45.5	58.2	41.8
6. Does this school properly store foods?	98.2	1.8	98.6	1.4	95.3	4.7
7. Are food storage areas (cabinets, refrigerators, freezers) clean?	97.9	2.1	98.4	1.6	94.7	5.3
8. Do parents participate in food inspection?	88.1	11.9	88.5	11.5	85.4	14.6

\* Note: Total number of schools inspected: 9,186 (Contracted 1,161; Self-operated 8,025)

***Food hygiene (sanitation):*** Food hygiene and sanitation are the conditions and measures necessary to ensure food safety from production to consumption. Food can become contaminated at any point during slaughtering or harvesting, processing, storage, distribution, transportation, and preparation. Lack of adequate food hygiene can lead to foodborne diseases and death. For all

<sup>19)</sup> Ibid.

seven criteria, more than 97% of schools met the standards, though schools with contracted services show a higher rate of violations than schools with self-operated foodservice systems.

**| Table 10 | Self-op vs. Contract: Food hygiene (Sanitation)<sup>20)</sup>**

Criteria	Total		Self-operated		Contracted	
	Yes	No	Yes	No	Yes	No
1. Are cooking and washing areas clean?	97.2	2.8	98.3	1.7	89.5	10.5
2. Do they use separate machinery and equipment, such as vacuum packing machines, slicers and mincers, for raw and ready-to-eat food?	98.9	1.1	99.3	0.7	96.8	3.2
3. Do they store food and nonfood items at least 24 inches (60 centimeters) off the floor?	98.9	1.1	99.3	0.7	96.6	3.4
4. Do they check and record whether meat, poultry, seafood, and other cooked foods reach a safe minimum internal temperature (74 ° C)?	98.4	1.6	98.6	1.4	97.2	2.8
5. Do they use proper serving equipment?	99.0	1.0	99.1	0.9	98.8	1.2
6. Do they clean and disinfect food areas and equipment?	99.2	0.8	99.5	0.5	97.2	2.8
7. Do their staff wash and dry their hands thoroughly between different tasks, especially after handling raw food?	97.3	2.7	97.7	2.3	94.6	5.4

\* Note: Total number of schools inspected: 9,186 (Contracted 1,161; Self-operated 8,025)

## (2) Foodborne Disease Outbreaks

As shown in Table 11, 614, or about 16.5%, of the total 3,730 foodborne outbreaks that were reported nationwide between 2002 and 2016 occurred in schools. These outbreaks affected about 48,113 students. School is the second

<sup>20)</sup> Ibid.

largest location where food was provided, followed by public restaurants (1186, 31.8%). Information on these outbreaks at schools shows that for last 15 years, 454 cases, or about 73.9%, occurred at schools with self-operated foodservice systems, and the remaining 160 cases occurred at schools with contracted foodservice systems. Such large outbreaks resulted from improper food preparation and handling practices in school kitchens. Most commonly, foods involved in the outbreaks were contaminated with Norwalk-like viruses, which cause a mild gastrointestinal illness.

**Table 11** | Number of reported foodborne disease outbreaks and cases by dining place<sup>21)</sup>

Place		'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	Total
School: Self-operated	Outbreaks	7	16	42	12	24	36	33	27	30	27	51	42	49	38	20	454
	Cases	497	1,230	4,962	1,412	1,994	2,308	2,533	1,496	2,770	1,648	2,851	2,161	4,058	1,980	880	32,770
School: Contracted	Outbreaks	2	33	15	7	46	21	6	12	8	3	3	2	2	-	-	160
	Cases	309	3,391	1,760	892	4,998	793	450	1,220	620	413	334	86	77	-	-	15,343
Other food service	Outbreaks	7	18	15	11	23	41	22	20	15	10	9	14	15	26	10	256
	Cases	586	1,509	1,026	1,447	1,081	1,432	633	719	799	460	246	608	380	802	375	12,103
Public restaurant	Outbreaks	31	46	34	53	108	289	208	98	133	117	95	134	213	199	128	1,886
	Cases	624	1,441	1,049	1,021	1,971	3,476	2,392	1,132	1,704	1,753	1,139	1,297	1,761	1,506	1,129	23,395
Household	Outbreaks	7	7	7	9	15	30	24	11	3	8	14	5	7	9	2	158
	Cases	117	81	44	111	119	151	176	89	11	51	54	22	28	34	11	1,099
Others	Outbreaks	23	15	39	13	33	82	48	24	25	33	22	24	50	54	29	514
	Cases	734	257	1,206	729	515	1,320	1,108	664	774	2,217	758	502	1,078	1,641	322	13,825
Not detected	Outbreaks	1	0	13	4	10	11	13	36	57	51	72	14	13	4	3	302
	Cases	113	0	351	99	155	206	195	679	540	563	676	282	84	18	101	4,062
Total	Outbreaks	78	135	165	109	259	510	354	228	271	249	266	235	349	330	192	3,730
	Cases	2,980	7,909	10,388	5,711	10,833	9,686	7,487	5,999	7,218	7,105	6,058	4,958	7,466	5,981	2,818	102,597

Based on the data from the Ministry of Food and Drug Safety, Table 12 presents a comparison of foodborne disease outbreaks and cases by the management

21) Ministry of Food and Drug Safety(2017). Foodborne illness statistics. [http://www.foodsafetykorea.go.kr/portal/healthyfoodlife/foodPosoningStat.do?menu\\_no=519](http://www.foodsafetykorea.go.kr/portal/healthyfoodlife/foodPosoningStat.do?menu_no=519). Accessed 15 Jan. 2017.

types of school meal programs. According to the Ministry of Education report (2008), the analysis of data on the total number of schools by foodservice operation systems and the foodborne outbreaks in Korean schools shows that the percentage of foodborne outbreak cases in self-operated foodservice schools in 2007 was 0.0021% of the total number of schools with self-operated foodservice, while the percentage of outbreaks in schools with the contracted foodservice system was 0.0082%. Figure 2 provides an annual summary of foodborne outbreaks and illnesses by school foodservice management types for South Korea from 2002 to 2016.

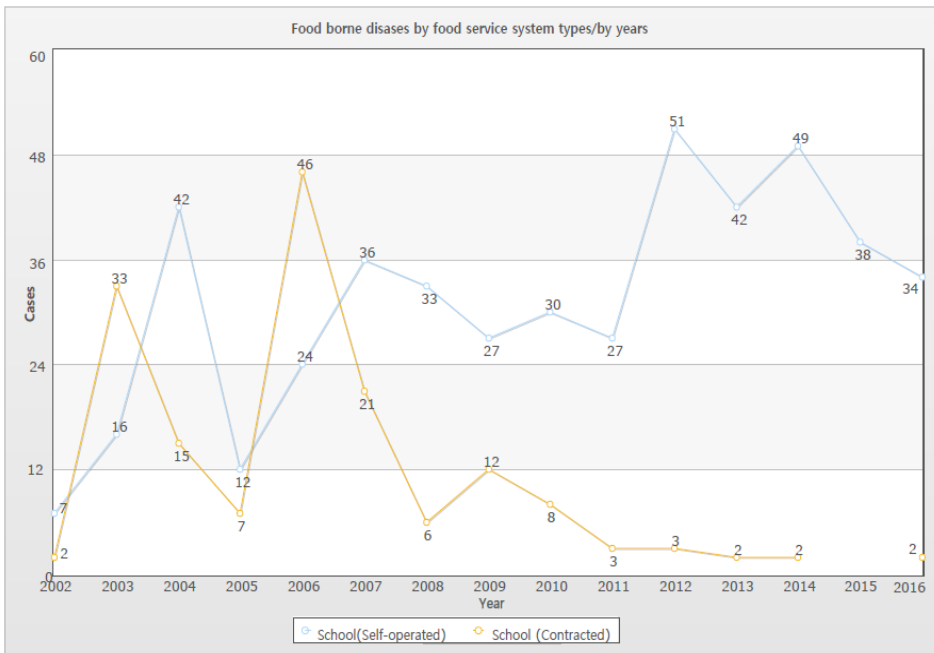
**| Table 12 | Self-op vs. Contract: Foodborne Disease Outbreaks and Cases<sup>22)</sup>**

	Number of Schools offering School Meal Program (Number of Students)			Foodborne Disease Outbreaks (Cases)		
	Self-operated	Contracted	Total	Self-operated	Contracted	Total
2000	6,688 (4,289,856)	1,780 (898,921)	8,468 (5,188,777)	8 (1,482)	7 (2,549)	15 (4,076)
2001	7,248 (4,534,131)	1,850 (1,419,924)	9,098 (5,954,055)	17 (1,990)	19 (2,899)	36 (4,889)
2002	8,115 (5,093,571)	1,874 (1,451,449)	9,989 (6,545,020)	7 (497)	2 (309)	9 (806)
2003	8,300 (5,358,613)	1,942 (1,639,860)	10,242 (6,998,473)	16 (1,230)	33 (3,391)	49 (4,621)
2004	8,413 (5,408,259)	1,930 (1,625,983)	10,343 (7,034,242)	42 (4,952)	15 (1,760)	57 (6,712)
2005	8,793 (5,647,512)	1,793 (1,579,915)	10,586 (7,227,427)	12 (1,412)	7 (892)	19 (2,304)

22) Data were combined from the Ministry of Food and Drug Safety and Ministry of Education, Science, and Technology. For more informations, see [http://www.foodsafetykorea.go.kr/portal/healthyfoodlife/foodPoisoningStat.do?menu\\_no=519](http://www.foodsafetykorea.go.kr/portal/healthyfoodlife/foodPoisoningStat.do?menu_no=519)

	Number of Schools offering School Meal Program (Number of Students)			Foodborne Disease Outbreaks (Cases)		
	Self-operated	Contracted	Total	Self-operated	Contracted	Total
2006	9,125 (5,830,121)	1,655 (1,521,022)	10,780 (7,351,143)	24 (1,994)	46 (4,998)	70 (6,992)
2007	9,556 (6,050,286)	1,430 (1,385,441)	10,986 (7,435,727)	36 (2,308)	21 (793)	57 (3,101)

| Figure 2 | Self-op vs. Contract: Foodborne Disease Outbreaks and Cases<sup>23)</sup>



23) Ibid.



### *Foodservice Cost*

The relationship between service contracting and total government expenditure has been tested in various empirical studies; however, it is still debatable whether contracting out is associated with lower spending. From 1992 through 2002, over 1.3 trillion won were spent to expand foodservices and related facilities for 8,254 schools in South Korea. During the seven-year period of the transition from contract-managed to self-operated foodservice (2003~2009), a total of 1,707 schools switched their foodservice operation systems, and the government spent more than 417.5 billion won to support this transition. Table 13 shows the number of schools that changed their operation system and the related budget to support them.

**| Table 13 |** Budget Support for Korean Schools that Switched to Self-operation<sup>24)</sup>

	No. of Schools: from Contracted to Self-operated Foodservices	Budget Support (unit: 100 million won)			Budget Support per School
		Ministry of Education	Metropolitan and Provincial Offices of Education	Total	
Before the revised School Meals Act of 2006 ('03~'06)	681	252	1,243	1,495	220 million won per school
After the revised School Meals Act of 2006 ('07~'09)	1,026	327	2,353	2,680	260 million won per school
Total	1,707	579	3,596	4,175	240 million won per school

24) Yang, S. (2010). Evaluation of school foodservices in South Korea and OECD countries. Korean Educational Development Institute(CR2010-19). 43.

To examine the costs related to school meal programs, this section focuses on one specific region, the Seoul metropolitan area. Seoul is the capital and largest metropolis of South Korea. The Seoul metropolitan area has 588 elementary schools, about 10% of the total number of elementary schools in South Korea, 381 middle schools and 325 high schools, about 14% (see Table 14). Considering the size and scope of this system, a case study of school meal programs in Seoul would be beneficial to understand Korean school meal programs.

**Table 14** | 2016 Schools and Students in the Seoul Metropolitan Area<sup>25)</sup>.

	Elementary Schools		Middle Schools		High School	
	Schools	Students	Schools	Students	Schools	Students
Seoul	5,885	3,299,113	3,144	1,979,656	2,313	1,496,227
Nationwide	588	566,168	381	348,375	325	303,609
Total	(9.99%)	(17.16%)	(12.12%)	(17.60%)	(14.05%)	(20.29%)

Reported costs include those costs that are related to school meal programs, such as school meals for low-income students, the free meal program, and meal production systems including facilities, cafeterias, equipment, administrative costs, and so on. As shown in Figure 3, the Seoul Metropolitan Office of Education has proposed approximately 389.2 billion won per year for school meal programs in its fiscal year 2016 budget. The eco-friendly free meal program has taken about 73% of the total budget since its implementation in 2012. Before this program began, one of the biggest portions of the budget was allocated to the school meal subsidies for low-income students. Since the transition from contracted to mandatory self-operated foodservices, about

25) Ministry of Education (2017). For more information, see <http://english.moe.go.kr/sub/info.do?m=050101&page=050101&num=1&s=english>.

16% to 20% of the annual budget has been allocated to support school meal production equipment. The percentage of school meal facility support was over 50% of the budget in 2007 and 2008, right after implementing mandatory self-operated foodservice systems, but has decreased since 2008.

**| Figure 3 |** Seoul: School Meal Program Budgets 2005~2016<sup>26)</sup>

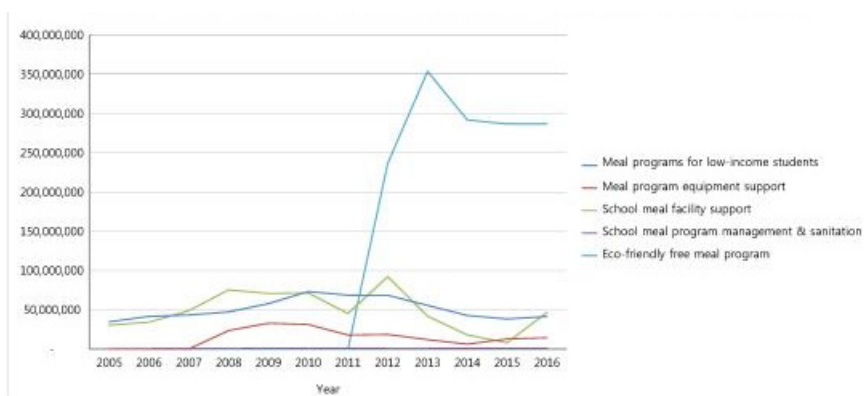


Table 15 provides information that may be useful to analyze the 2015 foodservice expenses in Seoul metropolitan area schools. Expense categories include facility and equipment support, maintenance costs, food costs, labor costs, and costs for fuel and other supplies

26) Seoul Metropolitan Offices of Education (2016). Internal document.

**| Table 15 |** Seoul Metropolitan Office of Education: School Meal Program Budgets  
2005~2016<sup>27)</sup>

Year	School meal program for low-income students		School meal equipment support		School meal facility support		School meal program management		Eco-friendly free meal program		Total
	Won	%	Won	%	Won	%	Won	%	Won	%	Won
2005	34,516,170	53.33	-		30,197,795	46.65	12,600	0.02	-		64,726,565
2006	41,459,263	54.61	-		34,143,396	44.97	314,870	0.41	-		75,917,529
2007	43,199,054	46.80	-		48,657,801	52.71	450,593	0.49	-		92,307,448
2008	47,162,613	32.22	23,419,167	16.00	75,251,097	51.41	548,419	0.37	-		146,381,296
2009	57,690,871	35.57	32,738,756	20.19	70,694,200	43.59	1,068,633	0.66	-		162,192,460
2010	73,035,579	41.42	31,183,226	17.69	71,371,341	40.48	719,860	0.41	-		176,310,006
2011	68,435,098	51.82	17,736,086	13.43	45,101,141	34.15	792,364	0.60	-		132,064,689
2012	68,361,618	16.43	18,478,518	4.44	92,071,297	22.13	728,565	0.18	236,370,857	56.82	416,010,855
2013	55,446,580	11.97	11,786,923	2.54	41,762,966	9.02	719,915	0.16	353,519,218	76.32	463,235,602
2014	42,615,872	11.87	6,075,721	1.69	17,786,747	4.96	850,774	0.24	291,600,953	81.24	358,930,067
2015	38,152,977	11.03	12,694,992	3.67	7,911,287	2.29	721,052	0.21	286,551,405	82.8	346,031,713
2016	41,263,054	10.60	14,225,172	3.65	46,304,108	11.90	880,378	0.23	286,569,621	73.62	389,242,333

\* Note: (unit: 1,000 won)

The total costs for each category for the entire school year can be calculated and a comparison by foodservice operation types is possible (See Table 16). For instance, in terms of labor costs for high schools in Seoul, each school with a self-operated conventional foodservice system spent a total of 184.8 million won on average<sup>28)</sup>, while each school with a contracted conventional

27) Seoul Metropolitan Offices of Education(2016). Internal document.

foodservice system spent a total of 202.3 million won on average. In terms of facility and equipment costs, each high school with a self-operated conventional foodservice system spent a total of 17.5 million won on average, while each high school with a contracted conventional foodservice system spent a total of 29.3 million won on average. In terms of facility and equipment costs, each school with a self-operated conventional foodservice system spent a total of 17.5 million won on average, while each high school with a contracted conventional foodservice system spent a total of 29.3 million won on average. In terms of food costs, each high school with a self-operated conventional foodservice system spent a total of 437.4 million won on average, while each high school with a contracted conventional foodservice system spent a total of 542.1 million won on average.

Combining all three operation types, Table 16 summarizes and compares the high school expenditures in Seoul by foodservice management types. Each school with a self-operated foodservice management system spent 783.2 million won on average, while each school with contracted foodservice management system spent 736.7 million won on average. For the categories of facility/equipment and food costs, the expenses per school of self-operated systems are higher than those of contracted systems.

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28) For calculation, a sum of labor expenditures from four sources is divided by the number of schools.  $[(3,984,400+4,103+9,136,751+1,766)/71=184,877.6]$

**| Table 16 |** Seoul Metropolitan Office of Education: High School Expenditures by Foodservice Management Types (2015)<sup>29)</sup>

Foodservice Management Type	Schools (students) with meal program		Expenditure					
			Facility/Equip ment	Mainten-ance	Food	Labor	Fuel/Supplies	Total
Self-operated	166 (148,610)	Total	5,788,571	1,024,722	83,809,549	32,489,456	6,908,678	130,020,976
		Per school	34,871	6,173	504,877	195,720	41,619	783,259
		Per students	39.0	6.9	564.0	218.6	46.5	874.9
		Percent	4.45%	0.79%	64.46%	24.99%	5.31%	100.00%
Contracted	152 (149,207)	Total	4,400,338	1,035,688	69,918,023	30,235,399	6,396,570	111,986,018
		Per school	28,950	6,814	459,987	198,917	42,083	736,750
		Per students	29.5	6.9	468.6	202.6	42.9	750.5
		Percent	3.93%	0.92%	62.43%	27.00%	5.71%	100.00%

\* Note: (unit: 1,000 won)

29) Ibid.

Table 17 | Seoul Metropolitan Office of Education: 2015 Expenditure of Education Budget by Expense Category<sup>30)</sup>

	Category	Schools with meal program	Schools with cafeteria	Expenditure										
				Facility & Equipment			Maintenance			Food				
				Education Budget	Local funding	Misc.	Education Budget	Local funding	Misc.	Education Budget	Local funding	Parents payment	Misc.	
Elementary	Self-operated	592	299	Conventional foodservice	10,790,514	2,014,272	13,751	3,373,780	107,579	24,325	117,403,804	114,450,224	12,178,431	6,275
				central kitchen	40,182	0	0	6,717	0	0	108,733	113,990	0	0
				Commissary foodservice	4,007	-	-	4,905	-	-	100,143	64,567	657,217	-
Middle	Self-operated	306	217	Conventional foodservice	4,551,592	940,439	7,344	1,646,430	48,638	1,033	56,774,025	57,695,728	308,510	3,469
				central kitchen	78,515	-	-	1,133	-	-	284,965	305,223	47,091	-
				Commissary foodservice	598,481	22,408	4,950	143,242	4,741	-	10,975,639	10,711,934	170,892	-
High	Self-operated	71	69	Conventional foodservice	971,185	260,172	16,728	312,552	-	11,861	5,459,449	632,259	24,960,017	4,650
				central kitchen	4,010,934	184,514	320,111	541,529	27,921	64,340	6,180,012	1,270,383	38,429,085	12,308
				Commissary foodservice	24,927	-	-	66,519	-	-	893,875	74,142	5,890,697	2,672
	Contracted	138	131	Conventional foodservice	3,253,322	609,252	183,237	799,213	24,489	22,484	9,797,516	1,855,791	63,141,086	22,936

30) Ibid.

Category	Schools with meal program	Schools with cafeteria	Expenditure											
			Facility & Equipment			Maintenance			Food					
			Education Budget	Local funding	Misc.	Education Budget	Local funding	Misc.	Education Budget	Local funding	Parents payment	Misc.		
	7	6	37,224	81,585	21,773	103,961	-	-	455,928	148,363	-	2,880,249	-	
Commissary foodservice center	7	0	174,502	-	14,516	19,022	-	-	423,113	69,448	-	1,800,150	-	

\* Note: (unit: 1,000 won)



Table 17 | Seoul Metropolitan Office of Education: 2015 Expenditure of Education Budget by Expense Category (continued)

	Category	Schools with meal program	Schools with cafeteria	Expenditure											
				Education Budget			Labor costs			Fuel, supplies cost			Misc.		
				Budget	Local funding	Parents payment	Budget	Local funding	Parents payment	Education Budget	Local funding	Parents payment	Education Budget	Local funding	Parents payment
Elementary schools	Self-operated	Conventional foodservice	592	299	90,534,419	10,512,129	3,744,653	-	13,004,005	2,517,174	563,328	-			
					central kitchen	1	0	115,099	7,380	0	24,260	4,834	0	0	
	Commissary foodservice	5	3	112,660	15,034	232,402	-	14,687	1,348	45,056	-				
Middle Schools	Self-operated	Conventional foodservice	306	217	27,141,119	17,947,397	139,524	8,382	4,644,756	3,976,654	10,259	3,311			
					central kitchen	2	2	144,272	87,209	10,971	30,993	24,561	3,575	-	
	Commissary foodservice	592	6	5,061,754	3,270,589	43,877	-	802,128	775,434	16,167	-				
High Schools	Self-operated	Conventional foodservice	71	69	3,984,400	4,103	9,136,751	1,766	582,759	646	1,514,174	16,997			
					central kitchen	80	79	4,093,839	93,943	12,204,961	246,333	596,821	21,709	3,598,813	1,376
	Commissary foodservice	15	1	652,097	18,587	2,051,990	686	97,889	4,066	473,176	252				
Contracted	Conventional foodservice	138	7	6	5,881,979	44,650	21,950,240	45,317	1,127,137	812	4,780,142	6,805			
					Central kitchen	7	6	418,509	-	929,072	-	43,601	-	228,208	-
	Commissary foodservice	7	0	364,094	-	601,538	-	37,891	-	171,974	-				

\* Note: (unit: 1,000 won)

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[Resources Related to the Korean School Foodservice Management]

Food Safety Information Portal:

<http://www.foodsafetykorea.go.kr/portal/main.html>

Ministry of Food and Drug Safety: [www.mfds.go.kr/eng](http://www.mfds.go.kr/eng)

School Meals Act:

[https://elaw.klri.re.kr/kor\\_service/lawView.do?lang=ENG&hseq=18889](https://elaw.klri.re.kr/kor_service/lawView.do?lang=ENG&hseq=18889)

Seoul Metropolitan Office of Education: <https://www.sen.go.kr/>

South Korean Ministry of Education: [www.moe.go.kr/](http://www.moe.go.kr/)