

Kim, Dohyung

**Research Report**

## Evaluating the Social Security Subsidy Program in Korea

KDI Focus, No. 75

**Provided in Cooperation with:**

Korea Development Institute (KDI), Sejong

*Suggested Citation:* Kim, Dohyung (2016) : Evaluating the Social Security Subsidy Program in Korea, KDI Focus, No. 75, Korea Development Institute (KDI), Sejong, <https://doi.org/10.22740/kdi.focus.e.2016.75>

This Version is available at:

<https://hdl.handle.net/10419/200875>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



---

## KDI FOCUS

September 29, 2016 (No. 75, eng.)

---

**For Inquiry:** KDI Communications Unit

**Address:** 263, Namsejong-ro, Sejong-si 30149, Korea

**Tel:** 82-44-550-4030 **Fax:** 82-44-550-0652

---

**Authors** | Dohyung Kim, Fellow at KDI (82-44-550-4337)

---

**KDI FOCUS** | Analysis on critical pending issues of the Korean economy to enhance public understanding of the economy and provide useful policy alternatives

---

Korea's Leading Think Tank

[www.kdi.re.kr](http://www.kdi.re.kr)

## Evaluating the Social Security Subsidy Program in Korea

**Dohyung Kim**, Fellow at KDI

**“Social security subsidies in Korea were introduced in 2012 to reduce the coverage gap in social security. Despite the large fiscal cost, however, the subsidies have only a small effect on the social security coverage: For every 1,000 workers and their employers who are subsidized under the program, the program added just 15 workers covered by social security. Rather than pursuing costly subsidization policies, the Korean government needs to make serious efforts for more efficient collection of social contributions to close the coverage gap in social security.”**

### I. Introduction

To reduce the coverage gap in social security, the Korean government began to provide subsidies for the social security contributions of low-wage workers and their employers in small establishments.

The Korean government provides subsidies for the social security contributions of some workers and employers.<sup>1)</sup> The subsidies are designed to reduce the coverage gap in social security, which is estimated to be no less than four million workers. The fiscal cost, however, exceeds 0.5 trillion won a year, a major portion in the annual budget of the Ministry of Employment and Labor. Given the amount of public money used, it is

1) The program is called the Dooroonoori social security subsidy.

important to examine how effective these subsidies are in closing the coverage gap.

This brief, based on a recent study, uses a large administrative data set from the National Pension Services to evaluate the effects of the social security subsidy program in Korea.<sup>2)</sup> The brief proceeds as follows. The next section explains the subsidy program and its evolution. The third section describes the data and methodology and presents the main findings. The fourth section discusses the findings. In the final section, we suggest a policy direction.

## II . Background

It has been twenty years since the full set of social insurance schemes was put into place in Korea.<sup>3)</sup> Although social security is mandated by law, about 25% of eligible workers remain uncovered by the social security system. Without good information on undeclared work, individual collection agencies of each social insurance scheme have not been particularly efficient in collecting social security contributions.

Therefore, it has been often proposed that revenue administration be unified under tax collection agencies in order to broaden the social security tax base and make collecting administration more efficient. Although potentially much more effective and less costly, the reform proposal has not been implemented mainly due to vocal opposition from the labor unions of the individual collection agencies.

Unable to overcome the opposition, the Korean government took on an alternative approach; provide matching subsidies for contributions to the national pension and unemployment insurance of low-wage workers and their employers in small establishments (with less than 10 covered employees), where the coverage gap is concentrated.<sup>4)</sup>

Before the full implementation of the program, a pilot program was conducted in selected counties of 16 provinces between February and June in 2012. Subsequently, the program was expanded nationwide. The wage ceiling for eligible workers was gradually raised in line with the rise in the minimum wage. The matching rate varied depending on the worker's wage until early 2013, when it was raised to half for all wages below the ceiling (Table 1).

The subsidy was not limited to new contributors to social security. It was given to all workers and their employers who met the eligibility conditions regardless of the worker's contribution status of social security. Also, the subsidy was provided indefinitely. The

2) Korea Development Institute, "In-depth Assessment of Job Creation Programs," Ministry of Employment and Labor-commissioned report, 2016.

3) The industrial accident compensation insurance was introduced in 1964, followed by the medical insurance scheme in 1977, the national pension in 1988, and unemployment insurance in 1995.

4) The contribution rates for the national pension and unemployment insurance in 2015 are 4.5% and 0.65% of the taxable wages for workers, and 4.5% and 0.9% for employers.

The subsidy program matches workers' and employers' contributions to the national pension and the unemployment insurance scheme.

About 0.9 million workers and their employers in 0.5 million establishments were subsidized by the subsidy program in 2015.

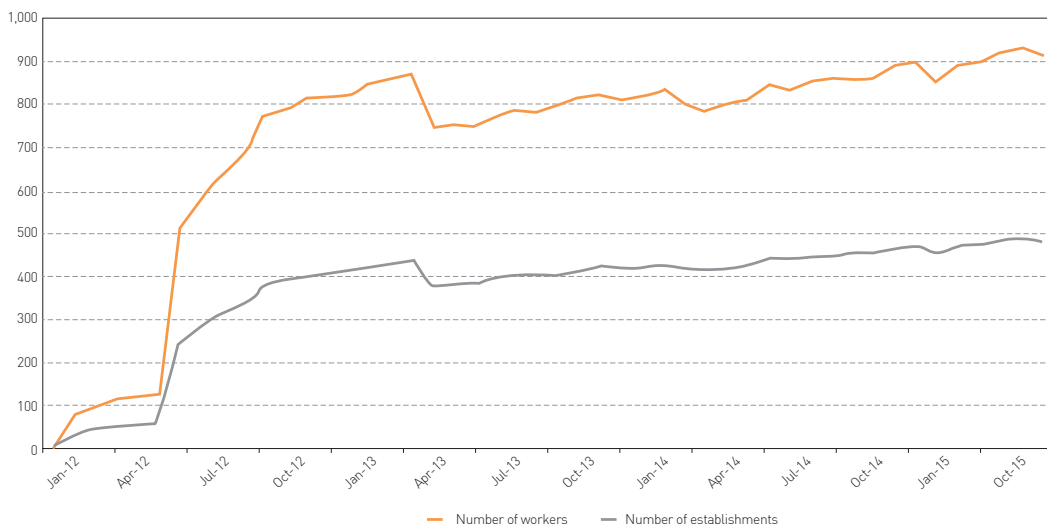
&lt;Table 1&gt; Eligibility Conditions for the Subsidy Program, 2012-2016

Date	Establishment size	Monthly wage (million won)	Matching rate
Feb–Jun, 2012 (pilot)	Less than ten registered employees	0.35–1.05	50%
Jul–Dec, 2012		1.05–1.25	33.3%
Jan–Mar, 2013		Less than 1.1	50%
		1.1–1.3	33.3%
Apr–Dec, 2013		Less than 1.3	50%
2014		Less than 1.35	-
2015		Less than 1.4	-
2016		-	60% for new contributors 40% for existing contributors

Note: - refers to *Ibid.*

Source: Korea Development Institute (2016).

[Figure 1] Number of Recipients of the Subsidy Program (thousands)



Note: Number of recipient workers and establishments are calculated based on the National Pension Service Database.

Source: National Pension Service database and Employment Insurance database.

number of recipients rose to over 900,000 and the number of subsidized employers amounted to 480,000 in 2015 (Figure 1).

### III . The Small Effect of Subsidies and Large Deadweight Loss

The subsidy program seems successful given the sharp rise in the number of recipients who are covered by social security. However, not all the recipients represent the program effect.

Subsidized workers can be classified into two different types. The first type are those who would not have contributed to social security without the subsidy. Clearly, this group is the intended target of the program. The other are those who would have contributed to social security regardless of the subsidy. These workers are not the intended target, but they get the subsidies because they are eligible.

**For every 1,000 subsidized employees and about 600 subsidized employers, the subsidy program creates only 15 additional covered employees.**

Ideally, the government would have minimized the program cost by subsidizing the first type only if it could have identified the type of worker. Unable to distinguish the first type from the latter without knowing their preferences, however, the government has to provide the subsidy to all eligible workers and their employers. The government expenditure to the second-type workers, which is unnecessary for the policy objective but inevitable given the information asymmetry between the government and workers, is often called the deadweight loss of the program.<sup>5)</sup>

While the government cannot identify the type of worker ex ante, it is often possible to credibly estimate ex post the number of workers of the first type among the recipients.

Because the pilot program was implemented in selected counties of major metropolitan areas and provinces, the effect of the social security subsidy on the number of covered employees can be assessed by comparing responses of the affected workers and employers in comparison with those of the unaffected.

Counties that are adjacent and hence similar to those in the pilot region, but unaffected by the pilot program serve as good counterfactuals of the subsidy program. By observing workers in those counties, we can infer how workers in the pilot region would have behaved without a subsidy, regarding social security contribution.

In sum, we attribute to the program effect the portion of the over-time change in the number of covered employees working in eligible establishments of the pilot region larger than the over-time change in that of the adjacent non-pilot region.

The National Pension Service keeps records on the taxable wage of all registered workers and the exact location of registered establishments. Using workers' and establishments' ID, we can precisely identify the number of registered workers working in small establishments that meet the eligibility conditions of the subsidy program in pilot and non-pilot regions.

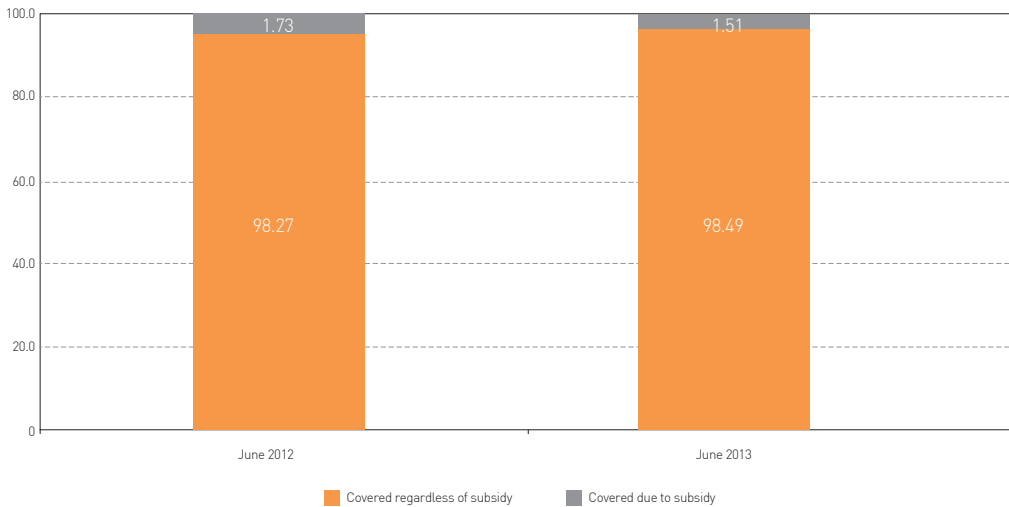
The analysis, using about 0.9 million observations on the number of registered workers in small establishments over three years before and after the introduction of subsidies, suggests that the introduction of the subsidy program increased the number of registered workers by 1.36%. The estimated number of registered workers due to subsidies and the actual number of recipients implies that approximately 98.5% of the annual program cost resulted in deadweight loss. In other words, for every 1,000 subsidized employees and about 600 subsidized employers, the matching contribution scheme created just 15 additional covered employees.

In European countries, social security subsidies are often used as an active labor market policy to promote employment. The subsidies to employers may reduce the marginal cost of labor and hence raise labor demand. The subsidies to workers lower the tax burden on labor and hence raise labor supply. In sum, higher demand and supply for labor should result in higher employment.

5) The deadweight loss in this context, though not unrelated, is a different term from that commonly used in public economics to indicate net loss of economic benefit (Harberger's triangle).

**Unlike similar active labor market policies adopted in several European countries, the subsidy program had no discernible effect on employment.**

[Figure 2] Type of Worker among Subsidy Recipients (%)



Source: KDI(2016).

Because the program subsidizes both employees and employers, some expected higher employment following the adoption of a matching contribution program. However, an analysis using a similar method suggests that the program had no effect on the number of employees (KDI 2016).<sup>6)</sup>

#### IV . Limitations of the Subsidy Program

Why are the program effects so disappointingly small and even absent? One explanation relates to the ineffectiveness of the program in the interplay between the design of the subsidy and the social security system. Many workers who do not contribute to social security are covered by the medical insurance scheme anyway because the medical insurance scheme coverage is applied on a household basis in Korea.<sup>7)</sup> For these workers, the amount of the subsidies for the national pension and unemployment insurance contributions is actually smaller than the additional burden of the health insurance contributions which will be imposed by the medical insurance agency as soon as the worker applies for the subsidy. Although it is understandable that the subsidy does not cover the contributions for medical insurance whose coverage gap is negligible, this limited coverage of the subsidy program effectively imposes “taxes” on some uncovered workers rather than providing subsidies. Similarly, declaring work for subsidy may invite additional tax burdens, including VAT and income taxes, on the employers who are responsible for

The subsidy program can act as a tax rather than a subsidy depending on whether the uncovered worker contributes to the medical insurance scheme.

6) This implies that the small increase in the number of social security contributors following the subsidy program was achieved not through the new hire of covered workers, but through contributions of previously uncovered workers.

7) As long as a household member contributes to the medical insurance scheme, their dependents who may engage in undeclared work can be covered by medical insurance.

The subsidy program is contradictory because it gives subsidies for participation in mandated schemes as if it was a choice initially.

applying for the subsidy.

Unlike some advanced countries, the Korean economy relies on a large informal sector where many workers including the elderly and the young are willing to provide undeclared labor in small establishments even though the social security burden is by no means high. With a large pool of informal labor supply, employers in small establishments are essentially not bound by the social security burden, and it is not surprising that a small subsidy does not translate into labor cost savings. This suggests that matching contribution schemes will be effective in a formal labor market where the social security burden is high.

Finally, the subsidies have critical limitations as an income support program. The program discriminates against low-wage workers depending on the size of the establishment, and more than half of the program expenditure goes to the employers, not the low-wage workers.

## V . Conclusion

A large informal sector with a modest social contribution burden in Korea indicates a sizeable room to enhance administrative efficiency for reducing coverage gap in social security.

Although the matching contribution scheme is a widely used policy tool for a number of objectives, our findings suggest that the subsidy program does not serve well for any policy purpose in Korea. In particular, providing subsidies for contributing to mandated schemes may give workers and employers a misleading signal that participation may be optional rather than mandated by law.

Given these limitations, the retention of the costly subsidy program may need to be reconsidered. If an immediate repeal is not a viable option, the program can be phased out gradually following an overhaul of its program design: subsidies covering medical insurance contributions provided for a limited period with newly registered employees only.

Less popular it may be, integrated collections of tax and social contributions by tax collection agencies is an alternative. Equipped with better information on income sources and authority for inspection, tax collecting agencies could efficiently identify unregistered workplaces and collect social contributions.

## References

- Betcherman, Gordon, N. Meltem Daysal, and Carmen Pagés, "Do Employment Subsidies Work? Evidence from Regionally Targeted Subsidies in Turkey," *Labour Economics*, Vol 17, No. 4, 2010, pp.710~722.
- Chetty, Raj, John N. Friedman, Soren Leth-Petersen, Torben Heien Nielsen, and Tore Olsen, "Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark," *Quarterly Journal of Economics*, Vol. 129, No. 3, 2014, pp.1141~1219.
- Holzmann, Robert, Richard Hinz, and David Tuesta, "Early Lessons from Country Experience with Matching Contribution Schemes," in Hinz, Richard, Robert Holzmann, David Tuesta, and Noriyuki Takayama (eds.), *Matching Contributions for Pensions*, 2013, World Bank.
- Korea Development Institute, "In-depth Assessment Study on the Overhaul of Job Creation Projects," Ministry of Employment and Labor commissioned paper, 2016 (*in Korean*).
- Korea Development Institute, "Ways to Improve the Implementation of Four Social Securities and the Collection of Insurance Contributions," Ministry of Employment and Labor commissioned paper, 2012 (*in Korean*).
- Lee, Byung-Hee, "Analysis on the Status of the Coverage Gap of Social Securities and Mid-to Long-term Ways to Reform the Schemes," Ministry of Employment and Labor commissioned paper, Korea Labor Institute, 2014 (*in Korean*).
- Lee, Yong Ha, Won Sub Kim, and Induck Choi, "Analysis on the Factors to Increase the Workplace Subscribers to the National Pension Scheme and Study on the Ways to Increase Subscribers," Policy Report, 2015-08, National Pension Research Institute, 2015 (*in Korean*).
- National Assembly's Environment and Labor Committee, "Preliminary Examination of the Budget Proposal for 2012," November 2011 (*in Korean*).
- Yoo, Gyeongjoon, Changhui Kang, and Paul Choi, "Measuring the Effects of A Social Insurances Subsidy Program (Duru-Nuri Program): An Application of Program Evaluation Methods," *Kyung Je Hak Yon Gu*, Vol. 64, No.1, 2016 (*in Korean*).

<Source>

- National Pension Service, National Pension Database.
- Korea Employment Information Service, Employment Insurance Database.