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Article

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How to minimize lock-in effects of programs for unemployed workers

Appropriate timing and targeting of activation programs for the unemployed can help improve their cost-effectiveness

Keywords: skills-training programs, program evaluation, lock-in effects

ELEVATOR PITCH

Activation programs, such as job search assistance, training, or work experience programs for unemployed workers, typically initially produce negative employment effects. These so-called “lock-in effects” occur because participants spend less time and effort on job search activities than non-participants. Lock-in effects need to be offset by sufficiently large post-participation employment or earnings for the programs to be cost-effective. They represent key indirect costs that are often more important than direct program costs. The right timing and targeting of these programs can improve their cost-effectiveness by reducing lock-in effects.

KEY FINDINGS

Pros

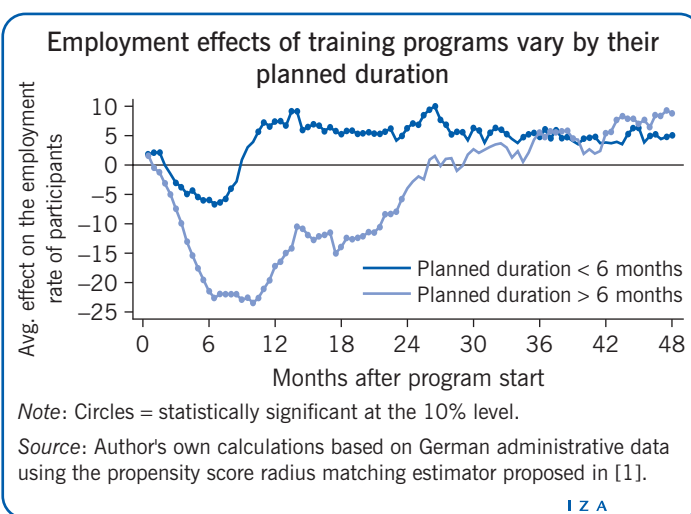
- ⊕ Activation programs can improve the employment prospects and earnings of participants.
- ⊕ Higher expected post-program effects make participation more desirable.
- ⊕ The human capital investment associated with a program increases with program duration.
- ⊕ The earlier in the unemployment spell the program takes place the earlier possible positive employment effects can occur.

Cons

- ⊖ Activation programs divert time and effort away from job search.
- ⊖ As the expected post-program effects increase, it becomes more attractive to complete the program than to search for a job, which increases the magnitude of lock-in effects.
- ⊖ Incentives to engage in an intense job search decrease with the length of the program, especially during its early stages.
- ⊖ Starting programs early in the unemployment spell makes it more likely that participants will forego good employment chances.

AUTHOR'S MAIN MESSAGE

Lock-in effects have a significant impact on the cost-effectiveness of activation programs, and are currently underestimated by policymakers. Better timing and targeting of these policies can potentially considerably reduce lock-in effects. Case workers should seek good employment chances at the beginning of jobseekers' unemployment before assigning them to programs. Jobseekers with poor employment prospects in the absence of programs should be prioritized. Sequences of short programs should be applied, where each unit is interrupted by a spell of active job searching, rather than uninterrupted long programs.



MOTIVATION

In most countries, unemployed workers who participate in activation programs such as job search assistance, training, or work experience programs are formally required to continue their job search during participation. However, almost by construction, they have less time available to do so. Therefore, it may be no surprise that program participants exhibit lower exit rates to employment during participation than comparable non-participants. Policymakers should take the impacts of these initially negative employment effects into account. These so-called lock-in effects [2] can be quite large; their size depends not only on time available for job search, but also on other factors that can be influenced by policymakers, such as the timing and duration of a program. They imply important indirect costs of activation programs, which strongly affect their cost-effectiveness. These indirect costs include substantially higher or prolonged unemployment benefit payments or other forms of income support, as well as foregone income taxes and social insurance contributions. Together with direct program costs, indirect costs need to be offset by sufficiently large post-participation effects on employment and earnings for the measures to be considered cost-effective. Therefore, it is important to understand what determines lock-in effects and whether they can be reduced.

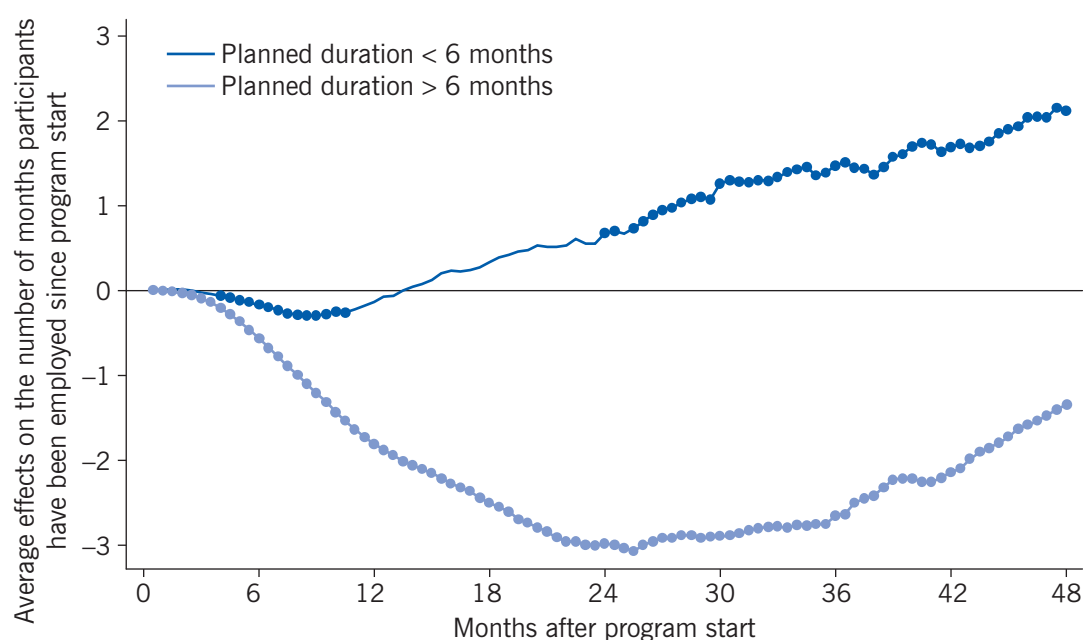
DISCUSSION OF PROS AND CONS

Why are lock-in effects so important for the cost-effectiveness of activation programs?

The illustration on page 1 shows lock-in effects for a typical training program for unemployed workers in Germany, which provides occupational or job-related training. Similar programs exist in many other countries [3]. The illustration shows the employment effects of the program for participants separately by planned program duration: the short-term training program has a planned duration of no more than six months (average actual duration 3.6 months) and the long-term program has a planned duration of more than six months (average actual duration 11.8 months). Both programs exhibit negative effects on the average employment rate of their participants in the short term and positive employment effects in the long term. With an observed impact of 5 to 10 percentage points for both programs, the positive long-term effects are relatively large compared to most findings in the literature [4]. For the shorter program, it takes about nine months for the positive employment effects to occur. For the longer program, statistically significant positive employment effects only occur after three years. Before the programs exhibit positive effects there are negative lock-in effects at play. They reach up to seven percentage points for the short program and last for about six months. The long program exhibits much larger negative lock-in effects of up to 25 percentage points that last for about two years.

Figure 1 shows the implications of these lock-in effects for cost-benefit considerations. It displays the programs' average impact on the number of months that participants have been employed since the programs began. During the lock-in period, participants are employed for fewer months than comparable non-participants. However, they start catching up once the programs exhibit positive effects on the employment rate, as shown in the illustration on page 1 (that is, after about nine months for the shorter program and almost three years for the long-term program). The outcome presented in Figure 1 illustrates the trade-off between positive longer-term effects and negative lock-in effects

Figure 1. Net effects of training on employment duration since program start



Note: Circles indicate that the effect is statistically significant at the 10% level.

Source: Author's own calculations based on German administrative data using the propensity score radius matching estimator proposed in Lechner, M., R. Miquel, and C. Wunsch. "Long-run effects of public sector sponsored training in West Germany." *Journal of the European Economic Association* 9:4 (2011): 742–784 [1].

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over the short term. For the shorter program, it takes about two years for a positive net gain in employment to occur—despite moderate lock-in effects and relatively large positive effects on the average employment rate observed after nine months. For the longer program, the lock-in effects are so large that even after four years the net effect on total months employed is still negative, despite positive long-term effects on the employment rate. Therefore, negative lock-in effects represent the key determinant for an activation measure's cost-effectiveness, even if there are sizable positive employment effects after participation.

Lock-in effects are a common finding in evaluations of activation programs [3]. They have been documented for many countries and different program types (see for example [1] for Germany, [5] for Sweden, [6] for Denmark, [7] for Austria, [8] for Switzerland, or [9] for the US). However, the size of lock-in effects varies quite considerably depending not only on program duration, but also on other factors such as the type of program, participant characteristics, and the timing of the beginning of the program.

What causes lock-in effects?

Besides the fact that participants have less time available to search for jobs, there are several other reasons why lock-in effects exist. First, in contrast to non-participants, participants do not typically receive active placement services from case workers while the program is ongoing. Moreover, search requirements during program participation are often relaxed or less strictly monitored. This is due to the fact that in most countries, program participants do not count as unemployed for case workers' performance measures. Thus, case workers

have a strong incentive to focus their limited time and effort on those that have not been placed into activation programs. Furthermore, external providers usually conduct these programs. Hence, participants are effectively temporarily out of the case worker's care.

Second, participants are incentivized to target job starts toward the end of the program, especially if the program leads to a formal certificate or degree upon completion. The same incentive exists for potential employers because they can benefit from human capital investments financed by the public employment service. Employers also benefit by being able to screen participants according to successful or unsuccessful completion.

Third, because participants receive income support during the program and because employment prospects are uncertain, there is an incentive to stay in the program as long as possible, especially if unemployment insurance claims are nearly exhausted. Moreover, the longer the program lasts, the less pressure there is to find a job immediately. This creates incentives similar to time-limited unemployment insurance payments, which have been shown to reduce job search effort during early stages of benefit receipt and to induce intensive job searching shortly before benefit exhaustion [10].

Finally, disincentives to leave a program before completion are also created due to the fact that most countries' unemployment insurance payments are suspended during program participation and replaced by other types of income support. This effectively prolongs the period for which unemployment insurance benefits can be drawn. In some countries, program participation even counts toward the acquisition of new unemployment insurance claims, further strengthening incentives to remain in the program. For example, in Germany in the 1990s, one year of program participation was equivalent to one year of employment, leading to a new unemployment insurance claim equating to six months of additional benefits. Similar incentives existed, for example, in Sweden [5].

What determines the size of lock-in effects?

The most important determinant of the size of lock-in effects is program duration. As the illustration on page 1 and Figure 1 show, lock-in effects last longer and are larger as the duration of the program increases. The relationship between program duration and the extent of the lock-in effects is non-linear [6], [11]. If the duration of the program is rather short, the pressure to quickly find a job is large while the possibilities of prolonging benefit payments are limited. Hence, lock-in effects are expected to be moderate for a range of shorter programs. However, once program duration significantly exceeds the duration of a typical application and hiring process, or if it is long enough to considerably prolong benefit payments, then lock-in effects are expected to become large.

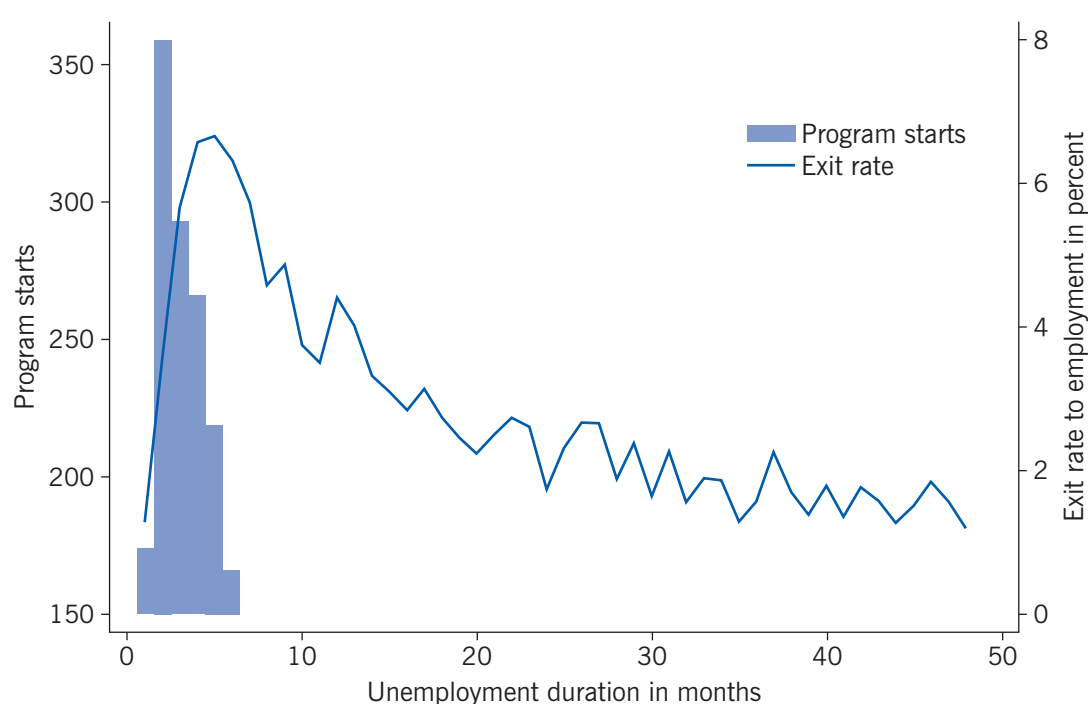
Empirical research (e.g. [6]) suggests that the second most important determinant for the size of lock-in effects is the employment prospects of participants if they were not enrolled in the program. The better employment prospects are without participation, the more problematic it is that participants strongly reduce their search activities during the program, as they may forego particularly good employment chances. If it is difficult to find a job, even when searching intensely, then it is not very harmful if participants search for jobs less while the program is ongoing. If, however, employment chances are good, comparable non-participants will find jobs more easily, while participants focus on the program rather than on job search, thus causing substantial lock-in effects. In one

study, for example, the lock-in effects for participants with good ex-ante employment prospects are up to twice as large as those for participants with considerably worse ex-ante employment prospects; the effects also last much longer [6].

A similar argument applies with respect to labor market conditions. If labor market conditions are good, it should be easy to find jobs when exerting a reasonable search effort. Hence, the cost of foregoing search time is high. Non-participants quickly exit unemployment, while otherwise comparable program participants do not engage in job searches as intensely, thus leading to lower employment rates for participants than for non-participants. This argument is supported in another study, which finds that lock-in effects are considerably smaller when labor market conditions at program start are disadvantageous [12].

This argument also has implications for the timing of program participation, as illustrated in Figure 2. On the one hand, Figure 2 shows the exit rate from unemployment to employment for non-participants. At the beginning of unemployment the exit rate increases steeply, reaching its peak after about four months; this reflects the fact that the job application and hiring process takes some time. Thereafter, exit rates fall relatively quickly to half of the peak level in the first year of unemployment, after which exit rates remain relatively low, under 2%. The programs analyzed in the illustration on page 1 and in Figure 1 start within the first six months of unemployment. The distribution of program starts is displayed in Figure 2. Almost two-thirds of the programs start in the period where the exit rate to employment is relatively large for non-participants. The long programs, especially, cover the majority of the period when exit rates for non-participants are comparatively high.

Figure 2. Number of program starts and exit rate to employment of non-participants



Note: Participants start a program within the first six months of unemployment; non-participants do not start a program.

Source: Author's own calculations based on German administrative data.

Evidence from multiple studies supports the hypothesis that the timing of the program within the unemployment spell is important [6]. Looking at identical programs, if they begin within the first five months of unemployment then the lock-in effects are about 75% larger than if they begin after five months of unemployment [6]. This is because the employment chances of non-participants become much smaller as the duration of unemployment increases, even if they search for a job intensively. Hence, reduced search effort during program participation matters less later on in the unemployment spell. Generally speaking, job search intensity becomes more important for the exit to employment if employment prospects without participation are high—for instance, because of desirable worker characteristics, good labor market conditions or because it is still early in the unemployment spell. Consequently, low search intensity during program participation is more harmful in a situation with, for example, good employment prospects than in a situation with bad employment prospects, where the returns to job search are small.

Case worker incentives also play an important role in the context of lock-in effects. The effects of reduced search activity by participants are amplified if case workers consider program participants to no longer be their responsibility, even temporarily. The same holds true if case workers explicitly relax job search requirements or monitoring efforts because they devote their limited time to other cases (non-participants). Some performance evaluation systems also provide incentives for so-called “cream skimming,” which is likely to increase lock-in effects. This skimming phenomenon arises when systems reward case workers based on the employment rate of participants within a certain period after program completion. High employment rates can be achieved more easily by enrolling unemployed workers in activation programs who would anyway have relatively good employment prospects, even in the absence of the program. This compounds the significant lock-in effects that occur when qualified workers reduce their job search intensity while enrolled in programs.

Other institutional incentives that affect the size of lock-in effects arise from the social insurance system. Most countries at least partially suspend unemployment insurance payments during program participation, replacing them with other forms of income support of roughly equivalent amounts. As a consequence, program participation effectively prolongs income support payment, resulting in negative effects on job search intensity. These search disincentives are larger when the unemployment benefit claim duration remaining at program start is shorter. This leads to a postponement of the typical end-of-benefit spike in the exit rate to employment observed for program participants; the same postponement is not seen with comparable non-participants [12].

Moreover, if program participation leads to a renewal of unemployment insurance claims, these search disincentives are amplified considerably. This likely carries additional negative effects on job search intensity for workers who are interested in bridging the time before other benefits become available, such as early retirement or disability insurance benefits. This would further enhance the lock-in effects observed for program participants.

Several other factors also affect the size of lock-in effects. Everything else being equal, lock-in effects are expected to be larger if participants expect a higher return to a completed program, e.g. because they receive a formal certificate or degree after successful completion. More generally, due to what may be called an “attraction effect,” lock-in effects are expected to be positively correlated with post-program effects. The largest lock-in effects typically occur in long-term programs that provide a formal vocational qualification upon successful completion, such as German retraining programs, which also exhibit

large post-program effects [1]. Of course, such programs are meant to be completed, and thereby comprise a potentially substantial human capital investment. However, the cost of this investment might be prohibitively large given the sizable lock-in effects it causes. Hence, there is a trade-off between reducing lock-in effects and increasing post-program effects.

On the other hand, the smallest lock-in effects typically occur in programs with an explicit job search component, such as job search assistance programs [4]. Moreover, programs in which participants come into contact with potential employers, like on-the-job training, are expected to have both smaller lock-in effects and larger post-program effects because they typically provide firms with a screening device for future hiring [5].

Other factors that reduce lock-in effects are so-called “threat effects” of activation programs [13]. Some unemployed workers who are assigned to an activation measure may want to avoid participation by finding a job before the program starts, for example, because they do not consider the program useful. Such workers would start to search for a job intensely once they know about the assignment. Some of these workers may not manage to find a job before the program starts but would leave shortly after. Some evidence for this is visible in the illustration on page 1: both training programs have a small but statistically significant positive effect on employment rates at the very beginning of the program, before any noteworthy human capital investment has taken place.

How could lock-in effects be reduced?

There are several ways in which lock-in effects might be reduced. In particular, better timing and targeting of activation programs combined with appropriately aligned institutional and case worker incentives could considerably improve the cost-effectiveness of activation programs.

One important lesson from the existing evidence is that, in contrast to the current practice in many countries, programs should not take place during the exit spike that occurs at the beginning of unemployment (i.e. when the highest percentage of people “exit” from unemployment into employment). A short program (one to two weeks) that provides basic job search assistance and assesses jobseekers’ strengths and weaknesses, occurring at the very beginning of unemployment, may be useful to screen workers for future activation programs. However, more intensive programs should not take place within the first three to four months of unemployment. They should only be used later in the unemployment spell, when jobseekers have not succeeded in finding employment during the period when exit rates are expected to be relatively high. In fact, the later in the unemployment spell a program is instituted, the smaller are the expected lock-in effects. However, there is a trade-off between minimizing negative lock-in effects and utilizing positive early intervention measures that can help prevent long-term unemployment. Similarly, activation programs should be used counter-cyclically, with low participation rates in times of good economic conditions and more intensive use when the labor market is depressed.

Another tactic is to employ a sequence of shorter programs. Each unit of the program is followed by a period devoted to job searching, with re-enrolment being conditional on not having found employment within a certain period of time. This setup is better suited to maintaining search incentives and is likely to produce much smaller lock-in effects as compared to one long program. This would also ensure that jobseekers are regularly

placed back under the care and monitoring of case workers. Moreover, it might create desirable threat effects, as jobseekers may want to avoid having to participate in the next unit of the sequence. It should be noted, though, that lock-in effects might not be reduced if the long-term program is particularly attractive. If participants expect a high return if completing the full program, but a relatively low return to individual units of a sequential program, then they will have a strong incentive to remain enrolled for the entire sequence. In this case, sequencing may even increase lock-in effects because of the additional non-participation periods between units.

If a long program appears to be the best option for bringing jobseekers back into work, then it should only take place relatively late in the unemployment spell (e.g. after 9–12 months). If starting much earlier, it should be targeted at workers with particularly bad employment prospects, especially if a formal certificate or vocational degree is awarded upon completion.

Regarding the implementation of activation programs, it is advisable to include at least some component that takes place inside firms. This allows the jobseeker to develop employer contacts and provides the firm with screening opportunities of potential candidates. Pure classroom training is likely to produce larger lock-in effects.

In terms of institutional incentives, program participation should not lead to the renewal of unemployment insurance eligibility; it should also not effectively prolong unemployment insurance payments. Unemployment insurance payments should be exhausted before other forms of income support kick in during program participation. This would lead to a maximum prolongation of benefit payments equal to the duration of the program, but not beyond. It would also increase pressure on jobseekers to find employment by the end of the program.

LIMITATIONS AND GAPS

Because most of the literature focuses on the effects of activation programs after participation, lock-in effects have not been systematically investigated—neither theoretically nor empirically. The importance of lock-in effects for activation programs' cost-effectiveness is largely underestimated. This article is the first that attempts to systematically assemble both theoretical arguments and empirical evidence for the existence of lock-in effects and their determinants.

The above considerations are based on a variety of different studies, which have been conducted in different countries and time periods, using different data and methodologies, and examining different populations. So far, a systematic investigation of how the examined determinants affect the size of lock-in effects, as well as the longer-term post-program effects is missing, though ongoing studies are currently examining these questions.

SUMMARY AND POLICY ADVICE

Lock-in effects have a significant impact on the cost-effectiveness of activation programs such as job search assistance, training, or work experience programs for the unemployed; both researchers and policymakers still greatly underestimate the magnitude of this impact. Lock-in effects resemble important indirect costs for activation programs, such as substantially higher or prolonged payments of unemployment benefits, as well as

foregone income taxes and social insurance contributions. These indirect costs are often much more important than the actual direct program costs. Better timing and targeting of activation programs have the potential to considerably reduce lock-in effects. In particular, case workers should wait out the exit-rate spike at the beginning of unemployment before assigning jobseekers to programs. Jobseekers with poor employment prospects in the absence of programs should be prioritized above those with relatively good employment prospects. Furthermore, sequences of short programs should be applied, where each unit is interrupted by a spell of active job searching, rather than using uninterrupted long programs. Finally, case worker incentives and incentives implied by the benefit system need to be aligned such that search incentives for program participants are restored and continuous support by case workers is ensured.

While it is important for policymakers to recognize potential trade-offs between the minimization of lock-in effects and the maximization of positive employment effects, it is clear that the former have real and significant impacts on the efficacy of activation programs; lock-in effects can no longer be ignored in the public policy domain.

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Competing interests

The IZA World of Labor project is committed to the *IZA Guiding Principles of Research Integrity*. The author declares to have observed these principles.

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