



IDEA anti COVID-19 # 13

Short-time Work and Related Measures to Mitigate Consequences of a (Partial) Economic Shutdown¹

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Kurzarbeit: zahraniční zkušenosti s dotováním zkrácené pracovní doby²

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Shrnutí

Podstata

- Podstatou *kurzarbeit* jsou dotace mzdových nákladů firem při současném snížení odpracovaných hodin (německy *kurzarbeit*), které zaměstnancům doplácí snížené mzdy. Zaměstnavatelé tak mohou zkrátit pracovní dobu, nepropouštět a udržet pracovní místa. To omezí propady firem do insolvence a udrží hodnotné zaměstnanecké vztahy během výrazného, ale dočasného poklesu poptávky v důsledku krize.

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- Hlavní parametry *kurzarbeitu* dané zákonem určují nároky firem na dotaci, rozsah možného snížení odpracované doby a výši dotací nahrazené mzdy.

Základní doporučení

- Hlavním cílem by mělo být zachování pracovně-právních vztahů mezi zaměstnanci a zaměstnavateli v době ekonomické krize.
- Pravidla by měla být administrativně jednoduchá pro úřady i žadatele a flexibilní, aby se v nich firmy mohly „najít“.
- Problematické může být nejen zavádění, ale i ukončení. V delším období může pomoc nastartování ekonomiky brzdit. Vyhodnocovat strukturální (tj. necyklické) změny v ekonomice a ukončovat *kurzarbeit* tam, kde těmto změnám brání.

Hlavní výhody

- Jde o relativně levný, efektivní a jednoduchý způsob, jak chránit pracovní místa.
- Pomáhá udržet ekonomickou aktivitu a brání bankrotům životaschopných firem a jejich částí. Umožňuje snížení pracovní doby a reakci firem na měnící se ekonomické podmínky.
- Snižuje zatížení sociálního systému, jako dávky v nezaměstnanosti, potřebu úvěrového financování firem, potřebu konsolidace firem státem.

Hlavní rizika a podmínky efektivity

- Vyšší než nezbytné náklady na zachování pracovních míst
 - Cílit by se mělo na pracovní pozice, které mají s podporou šanci krizi přežít
- Zneužívání nebo nadužívání dotací
 - Nemotivovat k nadměrné redukci odpracované doby, například zpětným sdílením nákladů
- Nepomůže každé firmě
 - Nutno doplnit půjčkami, odklady splátek, podporou v nezaměstnanosti, sociální politikou

Jsou česká pravidla *kurzarbeit* optimální?

Pravidla *kurzarbeit* MPSV (5. 3. 2020), která se během schvalování Parlamentem ČR mohou změnit, mají následující výhody a nevýhody:

- + Pomohou firmám zasaženým plošnou restrikcí v době epidemie
- + Administrativní náročnost odsunují až na pozdější období
- + Předpokládají možnost elektronické komunikace s úřady práce
- nejasná a arbitrární kritéria náhrady mzdy při nepřímém zasažení firmy krizí
- nejasná kritéria financování částečných úvazků
- nízký maximální strop náhrady platu více ochrání méně kvalifikované práce

Short-time Work and Related Measures to Mitigate Consequences of a (Partial) Economic Shutdown³

March 29, 2020

The objective of this document is to provide someone discussion of short-time work policies with a basic foundation to think about their merits, alternatives and relevant policy design choices. To do so, the first section characterizes the motivation for short-term work as well as the types of cost that it can help to reduce or cause. The second section provides a brief overview of key policy alternatives and their merits to line out where short-time work has the potential to be useful and which tools can amend or replace it, followed by an overview of short-time work policies in the last recession and key lessons we learned. It closes with an overview of short-time work policies already enacted in response to the current economic situation. The main point of this document is to draw general policy conclusions for the current situation in the Czech Republic based on the reviews and considerations in the first two sections. Section 3 will attempt to do so. Readers mainly interested in specific policies or those familiar with the literature on short-time work may want to jump right to this section.

1. Main Objective and Problems of Economic Policy in the Current Crisis

In light of the massive short-run economic disruptions, a desirable goal would be to temporarily “suspend” the economy, i.e. to create conditions that would allow both individuals and companies to take a break until the containment measures are lifted at which point the economy should return to its state before the crisis as seamlessly as possible. Suspending and later “waking up” the economy will obviously come at a cost, which depends on the measures taken as well as the details of implementation. To compare policies, it seems useful to distinguish the four different sources of costs:

³ The current text is by and large just common sense based on a partial understanding of the literature. When it is based on the literature, the current draft rarely gives appropriate credit. I will add the references it is based on and weed out parts where my common sense contradicts prior evidence. Davit Adunts, Sona Badalyan, Bohdana Kurylo and Ella Sargsyan made excellent contributions at short notice. All remaining mistakes, of which I suspect many due to quick implementation, are my responsibility. Any comments or corrections are appreciated.

A. Costs of Adjustment to the Transitory Reduction of Economic Activity

Causes and examples

Employers have reduced revenue, so they may not be able to pay workers. Even if you alleviate or solve that problem by covering their wages or temporary laying off all workers, other costs continue and may force them out of business. There is widespread agreement that both the costs of breaking (otherwise viable) ties between employers and employees and the costs of destroying (otherwise viable) firms are very high.⁴ At the same time, incomes of employees are reduced. The consequences of mild, transitory reductions in income are debatable. Further reductions in demand speak for government action, but the reduced spending capacity of individuals and their increased capacity to replace monetary costs by time speak against it. However, it is clear that individuals facing steep income drops or steep increases in expenses as well as individuals that were at the brink of hardship are likely to engage in adjustment behavior (switching jobs, selling assets all the way to hunger and social unrest), the costs of which are likely much higher than transfers.

In economic terms, these are costs arising from two well-known problems: (1) The fixed cost problem, which prevents both employers and employees from instant, lossless adaptation to changes. (2) The problem of declining marginal utility combined with imperfect consumption smoothing that motivates transfers and insurance for the poor as well as anti-cyclical programs such as unemployment insurance.

Bottom line

Both suspending the economy (i.e. temporary suspending economic activity) and keeping the suspended economy in a state from which it can seamlessly be “woken up” lead to costs arising from individuals adjusting to the state of suspension. The key to minimizing these costs is to minimize changes in economic behavior in response to purely transitory problems. The most severe consequences of such responses likely arise from responses to extreme hardship for individuals and companies that struggle to survive short term loss of revenue, leading to businesses or jobs being destroyed unnecessarily. Overall, these costs point toward implementing policies that disincentivize changes during the suspension.

⁴ See for example agreement on the statement [by Kopczuk](#), which states that “continuity of employment is critical” and “the disappearance of otherwise viable businesses will further hurt the recovery”.

B. Costs of Adjustment to new Permanent Conditions after the Crisis

Causes and Examples

Relevant real-world conditions will change during the suspension. There are likely severe negative effects, such as reduced demand in a recession and reduced tourism, but also positive adjustments, such as innovative ways of working found during the crisis and changes that prove advantageous in the long run. These changes imply that if it were possible to completely suspend and wake up the economy, the economy would wake up in a suboptimal state and would need to adjust rapidly. While these costs only occur after the crisis, they can be substantial: Being in a suboptimal state is costly by definition and the costs of adjustment (high separations and firm destruction, coordinating expectations, temporary reductions in revenue, necessary investments, etc.) can be high. Such adjustment costs are likely to harm recovery. They probably cause severe long-run problems if the health crisis lasts longer, causes more severe changes or is followed by a steep recession. Such adjustments are likely to be important for the Czech Republic, since the economy heavily depends on demand from other countries and tourism. Both are likely to be different after the epidemic passes.

In economic terms, these are the costs of suspending the incentives to adjust to changes and thereby smoothly transit to a new equilibrium. They can probably best be thought of as the costs that arise from delaying and accumulating necessary policy reforms or the cost of artificially keeping inefficient parts of the economy running (e.g. coal mining).

Bottom line

Changes in the global economy will result in adjustment costs to the new permanent state. Preventing or reducing adjustments to the future permanent state during the crisis increases the economic shock at the end of the crisis. Adjusting to these changes after the crisis is likely far more costly than during the crisis, because the costs of adjustment are lower during the crisis (job search, planning a new business) and because adjustments are less costly if they are less sudden. Therefore, these costs are higher the more completely we suspend the economy. The key to minimizing these costs is to allow for responses to permanent changes during the crisis as much as possible. The difficulty in doing so lies in the lack of knowledge of which changes are permanent and which are not. The government can incentivize

responses to changes that it knows are (likely) permanent in cases where the changes are due to government policy or the government has reasonably certain foresight. Other than that, the lack of knowledge of which changes are permanent suggests dynamic and flexible policies that allow individuals and companies to slowly adjust to changes in their expectation of what is permanent. Overall, these costs point toward not suspending the economy as much as possible, but to allow for responses to changes that are likely permanent.

C. Costs of Implementing Emergency Measures

Causes and Examples

One would obviously like to minimize wasteful spending, since costs can quickly become enormous. Consider the simple example of the cost of sending a fixed subsidy to all 11 million residents compared to only sending money to those in need. Programs need to be targeted well at those in need (which includes reducing “exploitation”) and to avoid incentivizing wasteful or harmful adjustments in order to receive help (e.g. quitting jobs that one can return to later for the purpose of receiving benefits). In the specific situation of a lockdown, it may be possible to clearly identify some groups that very likely need support (e.g. the elderly, restaurants) and some adjustments that make the design of welfare programs difficult are simply not possible (e.g. rents do not adjust in the very short run). Yet apart from some specific cases, the well-known problem that we do not have enough information to target programs or assess the sensibility of individual choices looms even larger in the current situation. In such situations, it is desirable to make programs self-targeting in two ways: It should only be attractive for the needy to receive support, so that the fraction of needy individuals among applicants is high (allowing for cheap or no means-tests or even universal access) and receiving (or applying for) the program should not require wasteful adjustments or rule out productive adjustments.

Both the efficient implementation of government support programs and their externalities are thoroughly studied in the economic literature. However, what we know is often case-specific and better discussed in the context of specific policies below. Several issues likely play an important role in this specific situation:

- Some individuals and companies can sufficiently smooth their income/revenue, so “blanket policies” likely support a lot of non-needy cases
- While some revenue/income is likely permanently lost (many beers at pubs will not be caught up with), in other cases there is just a temporal shift (demand for many permanent goods is likely to “catch up”, though subject to worse economic conditions). The former is likely optimally addressed by transfers, the latter may only require easier access to credit
- Benefits to both firms and workers may also partly replace salary that would otherwise still be paid
- Substituting salaries can also choke creative adjustment mechanisms (delivering food, theaters and clubs that offer live streams, online lectures and other work from home, ...) as well as private means of surviving the crisis (savings, donations, private credit, ...).
- Both low-cost, reversible adjustments (e.g. Uber drivers delivering food) and adjustments to permanent changes (reductions in tourism and manufacturing seem likely) should not be disincentivized

In economic terms, these are problems of moral hazard and crowd-out.

Bottom line

Economic policy and welfare/stimulus policy in particular is known to be prone to wasteful spending. With large interventions being necessary, little time to design them well and little government capacity to monitor their implementation, these policy costs can easily become large. The key to minimizing them is to make programs incentive compatible (i.e. to reduce

program take-up as an alternative to anything productive) and self-targeting (i.e. to make people/companies self-select into whether and which programs they should apply to).

D. Costs and Losses due to Rapid Implementation

New government programs take some time until they fully function. Information about programs spreads slowly, causing imperfect take-up. Both program administrators and recipients need time to learn how to run and use the program optimally. It is likely that initial implementations, particularly when done quickly, are less than ideal and need corrections. For measures taken now, a particular important aspect is that both the government and individuals have limited capacity. Individuals face constraints in their communication and mobility and therefore have an even harder time finding out and applying for government programs even if they are eligible and in need. The short-run nature of these programs likely prevents information from spreading quickly. Government bureaucracy faces severe constraints on labor supply and the possibility to interact with clients. It also seems more sensible to use government capacity to solve the health crisis than to evaluate and process applications for support.

In economic terms, these are the consequences of temporary frictions arising from information costs, learning and uncertainty about optimal policy parameters. In the current situation, it is useful to highlight these temporary frictions and to distinguish them from the long-run policy costs outlined above, because they are likely large for programs that are quickly implemented and only operate in the short run.

Bottom line

To minimize the costs arising from a quick implementation with little scope for “learning by doing”, policies implemented now should be simple, transparent and easily accessible. If they are not simple, they will not be run well in the current situation. If they are not transparent and accessible, they will miss many people in need. Opaque programs skew program receipt to the less needy, likely leading to wasteful spending and corruption, while at the same time missing many people who are truly in need (and hence do not have the capacity to figure out a new support system).

**Table 1: Important Costs of a Sudden Economic Downturn
and Policy Responses**

	Short-term Adjustment costs	Long-term Adjustment costs	Policy Costs	Costs of Quick Implementation
Key lessons from economics	<ul style="list-style-type: none"> - Destruction of (otherwise viable) jobs and enterprises is very costly - Severe costs of steep or unexpected income/revenue reductions - Dynamics of expectations in chaos can amplify negative effects 	<p>Stifling adjustments to permanent changes can severely impact growth in the medium and long run and thereby far surpass the costs of any measures taken during crisis.</p>	<ul style="list-style-type: none"> - Targeting is crucial, but information on who is needy and eligibility screening are costly and imperfect. - Self-targeting and ex post targeting can help to avoid ineffective programs and wasteful spending. 	<p>Complicated rules lead to incomplete take-up, slow implementation and a large bureaucratic burden</p>
Relevant Factors in the Czech Republic	<p>The quick and effective shutdown from an economy in full swing with little short-run support or recession policies in place likely makes adjustments difficult, but good economic conditions likely also delay hardship a bit.</p>	<p>Dependence on tourism and economic conditions abroad are likely to make these costs important and likely to arrive quickly.</p>	<p>Abundant administrative data and good population registries can allow some quick algorithmic means-testing. The bureaucratic culture suggests large costs and inefficiencies of any other forms of means-testing.</p>	<p>A slow, strict and currently incapacitated bureaucracy makes anything but very simple programs a likely recipe for disaster.</p>

2. Overview of Key Tools to Address These Problems

A. Scope for Short-time Work and Complementary Measures

To keep the discussion of the merits of short-time work focused, I first provide a brief overview of its main merits and which alternative measures are available.

Short-time work compensation schemes⁵ compensate workers for the lower income they receive while they work shorter hours than usual. Employees usually receive less than their usual salary, but more than what they would be paid on an hourly basis and what unemployment insurance would pay (i.e. the replacement rate is less than 100%, but higher than the ratio of current and usual hours and the unemployment insurance replacement rate). In addition to the replacement rate, key policy design choices are the eligibility criteria, the allowed reductions in hours worked and the shares of the cost imposed on workers, firms and the government. The availability of short-time work compensation makes it easier for employees to temporarily reduce their work hours. Thereby, they allow employees to retain workers they may otherwise have to lay off during hard times. The key advantage of short-time work is that it can keep people in employment and companies in business during temporary economic downturns. It thereby preserves valuable employer-employee relationships, reduces unemployment insurance take up and can avoid firm bankruptcies or bailouts. These advantages are particularly pronounced for large economic shocks, rigid labor markets and generous unemployment insurance schemes. Key downsides of short-time work compensation schemes are that they prevent job search and separations that would be useful to adapt to a changing environment and they may limit labor market access to freelancers, temporary workers, etc. They also provide a free and inconsequential transfer to companies that would have been able to reduce hours at full pay and employees who would have been willing to reduce hours without compensation.

⁵ [Cahuc \(2019\)](#) provides an excellent overview, Section 2B characterizes common short-time work policies, Section 2C provides further reading and review.

Table 2: Comparison of Key Measures

	Short-term Adjustment costs	Long-term Adjustment costs	Policy Costs	Implementation Frictions
Short-time work	Low by preserving jobs and supporting businesses	Ambiguous: high where they deter adjustment, low where they preserve jobs and businesses	Potential for excessive use, but lower than unemployment insurance	Depends on design.
Unemployment Insurance	High: - Employer-employee relations lost - Eligibility checks often deter quick take-up	High: - prolong unemployment - employers might face difficulties to rehire workers - persistent wage losses	When short time work is available, unemployment insurance is strictly more costly due to the reduction to zero hours and no employer contribution	Usually low because existing systems can be extended or used.
Means-tested programs	High: - eligibility checks and bureaucracy - imperfect take-up due to stigma or complex rules - inefficient targeting without complex rules	High: - low incentives to adapt - low incentives for job search can harm recovery - welfare participation is persistent	- Generous programs are costly due to the high subsidy and likely high take-up. - Small transfers are cheap, but can only deliver emergency relief	High: - eligibility checks cause bureaucratic costs and low take-up. - Can be mitigated by using available records for quick eligibility checks.
Universal transfers	Low due to its universal nature, but transfers often too low for most recipients	Likely low, though free handouts and including the better off can have negative effects.	Extremely high due to absence of any targeting.	Very low.
Loans	- Very low if taken up by those in need - bureaucracy, eligibility and repayment often deter take-up, potentially leading to no or harmful effects	- High if they create problems with repayment - Low if waived to stimulate recovery skillfully - implementation and expectations crucial for long-term costs	Low unless repayment rates are very low	Depends on administration, simplicity comes at the expense of low repayment rates and potential for fraud

Note: Preliminary, corrections/additions appreciated. I will try to add references in a table note.

Unemployment insurance⁶ pays a fraction of the worker's salary while the worker looks for alternative employment if the eligibility requirements are met. It has at least three identifying dimensions: eligibility conditions, potential benefit duration and replacement rates (the fraction of previous income replaced by the transfer). The main advantage of the unemployment insurance is to stabilize the intertemporal income variability and to sustain a desirable consumption level of laid off workers. Thereby, it allows for more search and better labor allocation. However, generous benefits may discourage unemployed individuals from searching for a job or taking certain jobs. It is undisputed that longer potential benefit duration leads to longer unemployment spells. Reemployment wages drop steeply with unemployment duration, but whether more generous unemployment insurance decreases or increases subsequent wages is debated and likely depends on the duration of unemployment benefits (see e.g. Schmieder, von Wachter and Bender, 2016, Nekoei and Weber 2017).

Means-tested⁷ programs are targeted on poverty reduction, including cash transfers and programs of food subsidies, housing, health care, employment, and education. They limit eligibility to individuals and families based on income or other income-related characteristics that fall below a pre-determined threshold. Means testing is an administrative mechanism which allows targeting the benefits of an intervention to a pre-identified specific group. The core elements in a design and implementation of means testing include: eligibility criteria, targeting mechanisms, implementation process, and administrative costs. Compared with other targeting methods, means testing programs are designed to specifically target those most in need. Means-tested programs have been playing a growing role in OECD countries, in particular by being offered to working and not just out of work families in order to reduce work disincentives. Quick implementation of means-testing might be easier in the places where it already was or has been implemented, because of better administrative capacity and more basic information. Stricter eligibility criteria can help to avoid overuse, but can also lead to costly adaptation to meet these criteria. Stigma, lack of information as well as complex and invasive administrative procedures may discourage potential beneficiaries from applying, so that

⁶ See e.g. Schmieder and von Wachter (2018) for a recent review. Further reading can be found e.g. [here](#).

⁷ An overview and comparison of means-tested programs and universal transfers for the UK and other European countries could be found [here](#). [Moffit \(2002\)](#) provides a discussion of means tested programs for the US.

the programs often do not reach everyone in need. Other disadvantages may include high administrative costs, creation of work disincentives and stifling recovery because welfare take-up is often persistent.

Universal transfers⁸ do not explicitly target the poor, but are available to all citizens or large categories of citizens (e.g. winter fuel allowance; state retirement pension, Disability Living Allowance, contributions-based JSA). Universal transfers do not have many of the problems inherent in the means-tested schemes. However, two primary drawbacks of these programs are the high costs of implementation and low effectiveness in targeting the households in need. Moreover, some transfers might provide more support to the better-off than to low income households.

Subsidized loans⁹ usually provide the borrower an opportunity to fully or partially avoid paying interest on the debt, which effectively decreases the cost of borrowing. The government may also make loans more accessible by paying for defaults. The eligibility criteria for subsidized loans may differ by the form of the loans. Demonstration of financial need or other criteria might be required to qualify for a loan. Currently, the most popular form of subsidized loans is student loans designed to help students in need to cover their education costs. The main advantage of these loans is that funding is made available when commercial loans are not possible. Additionally, eligibility screening and debt collection mechanisms may result in significant administrative costs.

B. Short-time Work Policies During the Great Recession

Short-time work became a popular tool to mitigate the consequences of the great recession. This summary heavily relies on the excellent overviews in [Cahuc and Carcillo \(2011\)](#) and [Hijzen and Venn \(2011\)](#). 18 out of 33 OECD countries had short-time work schemes in place before the recession. 25 countries had such schemes in 2009. The policies differed substantially in design. Table 3 provides an overview of the differences in key design features for selected countries.

⁸ An overview and comparison of means-tested programs and universal transfers for the UK and other European countries can be found [here](#).

⁹ [Chapman \(2006\)](#) provides an overview of a specific type of subsidized loans – Income Contingent Loans.

Table 3: Short-time Work Policies in the Great Recession

	Permissible Reduction of hours (%)	Key Eligibility Criteria							Typical Replacement Rates (%)	Cost to Employer (% on average)	Take-up in 2009 (approx. %)
		Eligibility Reuirements			Conditionality Requirements						
		Justification for Ec.Need	Social Partner Agreement	Eligibility for UB	Compulsory Training	Job Search Requirement	No dismissal	Recovery plan			
Austria	10-90	+	+	-	-	-	+	-	60-95	17	1
Czechia	0-100	+	+	-	+	-	-	-	60-99	26	1.5
Denmark	40-100	-	+	-	-	+ (when receiving UB)	-	-	60-85	0	Below 1
France	0-100	+	+	-	-	-	+	-	75-100	38- small firms 40- large firms	1
Germany	10-100	+	+	+	-	+	-	-	60-95	8 (0 if short-time workers take part in training)	3
Netherlands	20-50	-	+	+	+ (or secondment)	-	+	-	87-94	0	Below 1
Poland	0-100	+	+	-	-	-	+	+	49-99	6 -hours reductions with training 12 - stoppages 20- hours reductions without training.	0
Slovakia	4-100	+	+	-	-	-	-	-	72-99	47	Below 1

Note: Information in columns 1 and 2 is from Tables 3 and 4 from Hijzen and Venn (2011). The numbers in column 3 and 4 are from Hijzen and Venn (2011) Figures 1 and 2 (approximate) and column 5 is from Cahuc (2019) Figure 1.

The short-work compensation schemes in place during the great recession varied widely in their design. Most countries allowed reductions up to 100% and many countries also allowed very small reductions of hours worked. A few countries allowed for both extremes, leaving the size of the reduction entirely up to the employer and employee. Yet, some countries also severely restricted the range of permissible reductions, both from above (with Luxemburg and Netherlands allowing reductions up to 50% and the extreme of New Zealand imposing a maximum reduction of 12.5%) or from below (with the extreme of a minimum reduction of 40% in Denmark, Ireland and Norway). See Hijzen and Venn (2011) Table 1 for an overview. Almost all countries imposed tight limitations on the duration of short-time work or temporal limits on the existence of the program in order to prevent the programs from hindering recovery.

Eligibility requirements also varied widely across countries. See Table 2 in Hijzen and Venn (2011) for an overview. Most, but not all countries required a justification. The majority of countries also required some form of agreement with employees or unions. Some countries tie eligibility of workers to meeting eligibility for unemployment benefits. Many programs also included additional requirements such as the provision of compulsory training, job search requirements or firm-level requirements such as no dismissals or a recovery plan.

Finally, the programs varied substantially in their generosity and the extent to which reductions not replaced by government funds were paid for by the employer or the employee. Both the reduction in labor cost and the reduction in salary received usually vary with the size of the reduction and other factors, making them difficult to summarize quantitatively. In many countries and situations, hours not worked are entirely free to the employer. Yet in some cases and countries, hours not worked were still costly to the employer, reaching a maximum of 47% of usual hourly wages according to Figure 1 in Hijzen and Venn (2011). The impact on wages received is even more variable, see Figure 2 in Hijzen and Venn (2011) for examples. Most countries do not allow the entire salary to be replaced, though many countries allow for replacement rates close to 100%. In most countries, the replacement rate drops as the reduction in hours rises. For typical cases, few countries allow for replacement rates below 60% and (with an exception in Portugal) the replacement rate cannot drop below the replacement rate of unemployment insurance.

Cahuc (2011) Table 1 provides take-up rates in 2009, which ranged from 0% to 7.4% of all employees. Countries with existing short-term work schemes saw large increases in take-up during the recession. For example, Belgium, Turkey, Italy, Germany, Luxembourg and Japan had existing short-time work schemes and saw enrollment rise beyond 2% of all employees. Cahuc and Carcillo (2011, p. 139-145) provide a detailed comparison and analyze the correlates of take-up. Unsurprisingly, they find take-up rates to be predicted by the size of the downturn. They also find a positive correlation with the recovery, but the direction of causality is not clear. They also analyze which design features and requirements are correlated with higher take-up rates.

C. Key Lessons About Short-time Work

The current popularity of short-time work as a policy tool or proposal likely stems from its success during the last economic crisis. It is widely believed that short-time work policies helped countries like Germany, France, and Belgium to reduce hours worked in manufacturing quicker and with a much smaller reduction of the workforce than in the US, where no such scheme was in place initially.

The majority of previous papers highlight the importance of short-time work programs in decreasing unemployment and working hours (e.g., Cahuc and Carcillo, 2011; Cahuc, Kramarz, and Nevoux, 2018). However, Gehrke, Lechthaler, and Merkl (2019) argue that the successful navigation of the recession in Germany may be more attributed to the positive labor market performance shocks than to short-time work programs. Despite their finding on the limited effects of short-time work, they argue that the stabilizing effect of this policy increases if firms expect that the rules for short-time work are business cycle dependent. However, it raises concerns that short-time work policy may not be equally effective in the context of other labor markets, since the stabilizing effects of short-time work depend on certain labor market features, e.g., rigid labor market flows, collective wage bargaining and high firing costs.

The positive effects of short-time work are supported not only by evidence from across-countries analysis but also by micro-level analysis. For example, Giupponi and Landais (2018) find significant reductions in hours worked, but large and positive immediate effects

on worker counts in Italy. However, they find no evidence that short-time work has medium or long term effects on employment probability and earnings of workers. Similarly, Cahuc, Kramarz and Nevoux (2018) also find that short-time work leads to reductions in hours worked but only saves jobs in firms that are hit by severe shock (i.e. with large drops in revenues, particularly when leverage is high). For these firms, they find short-time work to be a very cost-effective measure to save jobs compared to public unemployment insurance programs or other alternatives.

However, short-time work policy likely has distortionary effects on the labor market. Cahuc and Carcillo (2011) find that short-time work programs may lead to inefficient reductions in working hours and may potentially protect the jobs of currently employed workers at the expense of outsiders. Hence, it may restrict the ability of firms to hire potentially more productive new workers. Furthermore, Giupponi and Landais (2018) show that low-productive firms are more likely to participate in short-time work than high-productive firms. The negative selection of firms may negatively influence the reallocation in the labor market (employer-employee mismatch) and may explain the absence of long-term benefits of the short-time work program. The efficiency of short-time work is heterogeneous across firms. Cahuc, Kramarz, and Nevoux, (2018) show that credit-constrained firms benefit more from SWT as they can use the program to partly finance the reduction of hours for jobs at no risk of being destroyed during the recession. Furthermore, they show that the short-time work program has positive effects only for firms that are hit with a large negative shock while it does not affect less affected firms.

Due to potential distortionary effects of SWT programs on labor market outcomes, the effectiveness of SWT mainly depends on its implementation design. There are four main features highlighted in the previous literature that determine the effectiveness of SWT. First, the targeted group of SWT programs should be the most affected firms, e.g., those with a large decrease in revenues or firms with high leverage as these firms are more likely to benefit from short-time work. Cahuc, Kramarz, and Nevoux (2018) suggest screening firms by not subsidizing small reductions in non-worked hours per employee as employees whose hours worked are reduced by small amounts are less likely to lose their jobs. Second, it is suggested to use experience rating (make firms that use short-time work to bare part of its cost) to

reduce the probability that some firms may choose to use short-time work as a publically financed tool to overcome repetitive shocks instead of finding other ways to cope with repeated difficulties (Cahuc, 2019). Third, it is advised not to use the short-time work program on large scale (Cooper et al., 2017) as it may negatively influence the reallocation in the labor market and dramatically reduce the output of firms. Fourth, short-time work can be particularly effective when designed to complement other programs such as unemployment insurance as it can potentially mitigate the excess lay-offs encouraged by generous public unemployment insurance programs (Cahuc and Carcillo, 2011).

To summarize, the short-time work program seems to be more cost-efficient compared to other job-preserving policies, e.g., wage subsidies, creation of public jobs or hiring subsidies (Cahuc, Kramarz, and Nevoux, 2018). The negative effects of short-time work may be reduced by appropriate design.

D. Short-time Work Policies Enacted in the Current Crisis

Several countries have introduced or extended short-work schemes to meet the challenges of the current crisis. Table 4 presents an overview of the basic features of some compensation schemes that had been enacted at the end of March 2020. Many policies were adjusted even in the first few days of their existence, which makes the table likely to be outdated quickly and underlines that quick implementation indeed comes at a cost.

Even in a summary table that necessarily simplifies matters, the heterogeneity of the programs stands out. Almost all countries require the recipient to be affected by the current crisis, but the stringency of the requirement ranges from a quick justification to actually being furloughed or proving loss of income or revenue. Most countries determine eligibility at the firm level, but some countries do so at the individual level or have programs for both individuals and countries. Some countries restrict receipt to certain types of enterprises, though they mainly exclude state-run enterprises. Most programs appear to be based on eligibility criteria that are quick and easy to determine, though some programs include more complicated provisions. For example, some countries require an agreement with workers or their representatives (Austria, Sweden) and others tie eligibility to unemployment insurance eligibility (Ireland).

Table 4: Short-term Work Policies Enacted in the Current Crisis

Eligibility		Replacement Rate (flat or in % as indicated below) by different criteria			Duration (months)			
Austria	- Agreement with union and employees/ worker council - Affected by COVID-19	gross pay before short time work (€)			3			
		Over 2,685	(1700-2685)	Less than 1700				
		80 %	85 %	90 %				
	N/A	up to 75 per cent wage subsidy for qualifying small businesses			3			
Canada	Employer has business for at least 2 years and has 10% decrease in business activity due to COVID-19	Earnings (fraction of weekly insurable earnings)			N/A			
		<90%	90-100%	>100%				
		50%	50% up to 90% + 100% of the earnings >90%	0				
Denmark	- private-sector enterprise employers which have been hit by the COVID-19 outbreak - termination to at min 30% (min 50 employees)	Employment type			3			
		Monthly paid workers	Hourly paid workers					
		3 quarters of total payroll costs for the monthly salary, subject to a max of DKK 23,000/month	90%, subject to a max of DKK 26,000/month					
Germany	- if the loss of working hours affects at least 10% of its employees	Family type			12			
		supports min 1 child	the rest					
		67%	60%					
Ireland	- full-time employees who must work max 3 days/week - meets additional work history (social insurance contribution) related criteria	Family status				depends on social insurance contributions.		
		Single	Couple, no children	Couple, 2 children over 12	Couple, 3 children (1 under 12)		Couple, 4 children (2 under 12)	
		2	81.20 €	135.08 €	167.08 €		181.48 €	195.88 €
		3	121.80 €	202.62 €	250.62 €		272.22 €	293.82 €
		4	162.40 €	270.16 €	334.16 €		362.96 €	391.76 €
	Min 25% decrease in the turnover of the employer's business or in customer orders between 14 March 2020 to 30 June 2020 due to COVID-19	net weekly average earnings before COVID-19 (in €)			3			
		<586	(586-960)	>960				
		70%	determined by the Minister of Finance	0%				
		temporary wage subsidy is up to a maximum level of €410/employee						
Luxembourg	Business suffered because of COVID-19	80 % of the normal salaries (capped at 250 % of the social minimum wage for unskilled workers), max 1,022 hours/ salaried worker			N/A			
New Zealand	- All businesses, except state Min 30% decline over 1 month relative to same month last year	Working hours/week			3			
		Min 20	Max 20					
		585.80 \$	350.00 \$					
Sweden	- All businesses, except governmental entities, LLC, public funds financed - short-time working possibility should be in agreements, or 70% must agree for short-time work	fixed levels of reduction in working hours (%)			6 (+3 extension)			
		20	40	60				
		19%	36%	53%				
UK	furloughed workers	80% of employees' wages, up to £2,500 per month			3-6			
Cz.Rep.	all business	100%, max CZK 39 900 for closed firms, 60-100% max 29 900 for affected firms			N/A			

Note: The table is not meant to be exhaustive. Many policies change quickly, so the information may not be up to date.

Similarly, replacement rates vary both in their generosity and the complexity of their determination. Contrary to the short-time work schemes discussed above, no country seems to allow for a replacement rate of 100%, i.e. all reductions in work come at an expense to the worker. Most countries also impose caps on the absolute size of the transfer and the duration on receipt, though they vary substantially in how stringent they are. The factors that determine the level of the replacement rate differ between countries. The most common criteria are prior earnings or the reduction therein, as well as prior hours worked or the reduction therein. The differences in design make it difficult to compare the schemes in generosity, also because some countries pay fixed amounts, while others use fractions of prior earnings.

Yet even the few examples in the table show substantial variation in both generosity and flexibility. Some schemes, such as the one in Sweden, replace almost the entire salary. At the other end of the spectrum, the subsidy in New Zealand likely only replaces a small fraction of most salaries. Most replacement rates appear to be somewhere between 60 and 80%. The programs also vary substantially in the flexibility they offer to their recipients and the work incentives they provide conditional on going on short-time work. Only Sweden (and partly Canada) seem to incentivize smaller reductions in hours worked.

These differences in the complexity of rules, the bureaucratic strain of eligibility determination, the generosity and the flexibility likely have important implications for how many and which employees will actually receive the subsidy. As soon as information on these measures becomes available, we will try to incorporate them in an updated draft. Several countries have already announced adjustments to their policies, which can point to features that are likely better avoided by those who still design policies.

3. Thoughts on Policy Recommendations

A. Some Thoughts on a Desirable Policy Mix

The idea below rests on two basic insights:

- i. Short-time work is ideal if and only if three conditions hold
 - a. The job/company would still be desirable and viable after the crisis.
 - b. The job/company would be destroyed without short-time work, but can be saved by it.
 - c. The company is hit by a large economic shock.
- ii. Short-time work clearly cannot solve the problem for everyone. Severely needy groups are left out (elderly, unemployed, temporary/informal workers, companies that cannot operate now at all). Also, the sharper one cuts the incentives and criteria, the more people and companies will fall through the cracks or find it undesirable. But as long as we have other means of “catching” these cases, making the short-time work policy better may outweigh the benefits of making it broader (it is a good, but expensive tool).

The short-time work program would ideally be designed such that it is desirable to both the employer and the employee when the job is likely to still exist after the crisis and both the employer and the employee would prefer the same person to still held this job. Given that whether the job will still exist or not is uncertain, the policy should also be more attractive to employers and employees with a high continuation value of the current employer-employee relation. To keep the policy costs low and the effects well-targeted, it seems desirable to design a self-targeting policy in the sense that both employers and employees have incentives to pick work hours optimally. Making the policy self-targeting and thereby difficult to abuse also allows for a simple policy that neither deters take-up nor burdens bureaucracy with complicated rules. Designed this way, short-term work becomes the ideal measure to minimize short-term adjustment costs. The next subsection provides advice on specific design choices to meet this goal.

A key downside of short-time work is that it deters adjustment to long term changes and thereby may lead to large long-term adjustment costs. To minimize these costs, short-time work can be complemented by unemployment insurance. Employees in jobs that were not

viable even before the crisis started and employees in jobs that will not be viable after the crisis or have low continuation value of the job should be incentivized to transit to unemployment insurance or other programs. This incentivizes labor re-allocation and will thereby smooth the recovery. Since there is a lot of uncertainty about long-term adjustments, transitions between short-time work and unemployment insurance should be easy (and likely reversible). Flexible transitions have the advantage that they can adapt to both changing situations (e.g. temporary closures in between short-time work spells driven by demand abroad or policy here) and changing expectations (the cost of repeatedly adjusting to changes in expectations should not be too costly, but should deter bank-run type swings).

To keep the policy costs manageable and implementation simple, the short-time work policy should deter employees and employers who would be able to continue through the crisis without the subsidy for short-time work from taking it up. It is likely that many cases are better served with loans or simpler wage subsidies such as postponing or partly waiving social security contributions. Offering such schemes in addition to short-time work may take some companies and workers off the short-time payroll. But subsidies are always attractive and screening for “neediness” is extremely difficult. It seems preferable to build some form of a tax or other form of ex post targeting into the short-time work program to incentivize companies and workers to only take up the subsidy if necessary. Such provisions could include the simple threat of some screening after the crisis is over that could lead to a fine (or a conversion of the subsidy to a loan) in case of fraud. Another useful tool may be to tax the benefits in proportion to the loss of income/revenue compared to last year along the lines of [Mankiw’s proposal](#) (March 23). Any such incentives will naturally deter some employers and employees in need. This trade-off can be softened by offering other forms of help for those who are “missed” by the policy and clearly suffer hardship.

Mild hardship and lighter problems in small businesses can probably be addressed by offering cheap and simple access to small loans. What is small could be checked against prior balance sheets or tax records. One may offer to waive these loans after the crisis if there is

evidence of true hardship or the company transits to short-time work later. Waiving loans can also be part of stimulus policy (that can be directed at those with high propensity to spend additional income). As long as there is a probability of having to pay the loan back, they improve incentives over subsidies. Moving the decision to re-pay or not to after the crisis makes administration simple and makes the program adapt to the long-term shock automatically. The literature on student loans probably provides useful advice on what (not) to do.

But it is clear that many individuals will be missed by the policy entirely, either because they fall victim to imperfect incentives and implementation or because they simply do not qualify (e.g. temporary workers, informal employment, those who don't work). Therefore, it is important to amend short-time work policies with welfare or disaster-relief policies. Disaster relief may be preferable for its salient short-run and exceptional nature. In the current situation, the usual downside of in-kind transfers and covering people's expenses (rent, utilities, etc.) only weakly apply, since people are very limited in adjusting their expenses during the shutdown. Food deliveries are also already in place. This may allow the government to extend welfare quickly and without bureaucracy for those in need, because low cash transfers make these schemes very unattractive. As above, ex post targeting can help.

B. Key Aspects of Designing Short-Time Work Policies

Keeping as much economic activity going as feasible reduces short-term adjustment costs. Companies and workers differ in their need to reduce hours, but also in their need and ability to continue working. The ideal level of economic activity thereby varies between employers and even between jobs. Thus, a fixed reduction in hours or a fixed amount paid or share of salary that is replaced will result in too few or too many hours worked and hence lead to more jobs and companies being destroyed. The government does not have the information to pick sensible levels of the subsidy for individual cases, so employers and employees need to be given flexibility to choose the level of short-time work that is ideal for both sides. At the same time, the policy needs to ensure that the chosen reduction in work hours is also socially desirable. A key concern is to incentivize more work to continue, which not only leads to more production and higher salaries (lower short run adjustment costs), but also supports creative ways to continue work and adapt to the new situation (mitigating long-run adjustment costs).

Allowing employers and employees to agree on the share of hours reduced, but making the replacement rate decrease in the share of hours reduced makes the marginal hour worked more attractive than the average hour and thereby incentivizes more work. At the same time, it allows desperate employers and employees to implement more severe work reductions at a cost to them. Thereby, it will keep more jobs alive and more companies in business. A lower replacement rate at higher work reductions also reduces the incentives for employers and employees to collude and claim subsidies for hours they still work (lowering policy costs).

In a similar vein, the policy should not deter employees from replacing their lost income from other sources of earnings, such as earnings in a second job, raising money from freelance and self-employment or deterring flexible workers from temporary switching jobs (such as taxi drivers delivering goods, etc.). One can allow workers to top-up their short-time work earnings from other sources at the expense of a lower replacement rate, akin to income allowances in welfare programs and unemployment insurance. Doing so will not only reduce short-run adjustment costs, but can also reduce policy costs and will likely make the adjustment after the crisis easier and thereby reduce long-run adjustment costs.

To further mitigate long-run adjustment costs, short-time work should subsidize as many jobs that are likely to survive in the long run as possible and keep the number of subsidized jobs that disappear after the crisis low.¹⁰ Moving employees that are likely unproductive in their current job in the long run to unemployment insurance or ultimately welfare provides incentives to keep more productive jobs and see adjustments to the long-run state earlier. Expectations on job destruction change over time, so the choice between short-time work and unemployment insurance (or ultimately welfare) should dynamically adjust to change in expectations and real changes. Setting these incentives right is more difficult, and risky than the design choices above, as expectations may go awry and induce sudden swings. However, a lot can be gained from doing it well, because keeping inefficient jobs is a key downside of short-time work (and it is very easy to perpetuate it after the immediate crisis). Its particularly tricky to make the choice(s) above work for both employer and employee. Both need to agree to do short-time work, but either can unilaterally opt for unemployment insurance or something else. The incidence of the cost can be used to tune incentives to particular situations.

¹⁰ Jobs with high continuation value on either side despite a high likelihood of destruction should be an exception.

To reduce policy costs, the policy should be as self-targeting as feasible. It should deter take-up by those who do not lose income, can recover it later or can do without help for other reasons. Toward this end, one can make the means by which these employers and employees deal with the usual economic fluctuations more attractive, e.g. by making loans available, simple, and cheap. At the same time, one can make short-time work relatively unattractive for those who likely do well in the long run. The key tool to doing so in the current situation is to use ex post targeting rather than ex ante screening. Even ex post screening and the threat of paying back parts of the benefits is preferable to the bureaucracy and imperfection of ex ante screening. A simpler and more transparent solution is an ex post tax that is proportional to the amount received, but also proportional to some measure of long-term economic performance, such as the ratio of income or revenue in the year after the crisis and the year before the crisis. For an example of a specific proposal, see [the discussion by Mankiw](#) from March 23. Loans can also incorporate some element of ex post targeting by adjusting interest rates later or offering to waive them after the crisis if necessary.

Targeting ex post not only helps to keep policy costs low, it is also a key tool to reduce the cost of quick implementation. Quickly implementing relief policies in times of low capacity requires extremely simple applications and eligibility checks. Otherwise the program will overburden the bureaucracy and miss many in need. These problems can be so severe that they have been used as arguments for universal handouts, i.e. to let everyone take-up the program. Making programs self-targeting and evaluating targeting ex post along the lines of the suggestions above can allow the government to provide quick and unbureaucratic relief while still keeping program costs manageable.

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