WorkShare
QUESTIONS AND ANSWERS

January 2016

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Introduction

This policy question and answer sheet is designed to answer key questions about WorkShare to inform the debate about such programs in Indiana. To do so, we briefly explain the program and answer key questions about the impact of the program on the aggregate economy, individual businesses, the state's fiscal health and families. We begin with a description of a WorkShare policy.

What is WorkShare?

WorkShare is a form of unemployment insurance, authorized by Congress and implemented by states (currently 32) which permits partial unemployment compensation to be paid to workers whose working hours have been reduced beneath a pre-established threshold. These programs date back to the late 1970s and are widely used by states to stabilize both employment and earnings, just like traditional unemployment insurance.[1]

The goal of WorkShare is to lessen the impact of an economic downturn by spreading the reduction of demand for labor across a larger pool of workers. For example if a business with 100 workers experiences a 25 percent reduction in the demand for their product, a frequent option might be to lay off a quarter of the labor force. This is traditionally part of the negative consequences of a business cycle. The remaining 75 workers would continue their current level of employment and earnings, while the 25 workers who have been laid off will draw unemployment until they are re-hired, find alternative work, leave the labor force or exhaust their unemployment benefits.

Under WorkShare rules, the business may reduce hours of all workers by 25 percent, and individual workers can receive a share of their total unemployment insurance to compensate for the reduction of hours worked. The labor market stabilization effects of WorkShare should impact the household with less extreme periods of unemployment and the business by allowing it to retain connection to qualified workers at a lower cost.

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[1] See FACT SHEET "Work Sharing Unemployment Insurance Program" Employment Development Department, California, http://www.edd.ca.gov/pdf_pub_ctr/de8714bb.pdf

It is also important to understand what WorkShare is not. In Europe in recent decades there has been a movement to reduce the maximum work week. This has been done under the mistaken belief that there is a finite number of jobs available, and that reducing the work week will open up more jobs. To reduce confusion, we term this as job-sharing.[2] As we will review below, this approach has not increased either employment or labor force participation rates in the nations where it has been tried. These programs are very different, and this European type of practice is not the goal of the American WorkShare legislation nor is there evidence that a transition from one policy to the other is facilitated through this plan. They simply share a confusingly similar name, and no other characteristics.

How would WorkShare Impact the Economy?

A number of studies have examined the impact of work sharing arrangements in the United States and in a global context. The international focus of the research is important because labor market flexibility between the United States and Europe has long been a comparative advantage to the U.S. economy. Programs like work sharing in Europe have a long history, and so understanding the link between labor market flexibility and work sharing offer an important policy lesson.

Analysis of work sharing involves either direct comparison of work sharing legislation in the U.S. or a comparison of similar programs in different settings. A recent study in Germany estimated that layoffs during the 2007-2009 economic crises were reduced by roughly one half percent of the total labor force.[3] They did so by estimating the size of the downturn on total domestic demand, and the size of worker productivity growth and found that if discrete jobs were cut, then unemployment growth associated with the recession should have been a full one-half percent higher. The lower level of unemployment was attributed to the German work sharing program, which allowed businesses to retain workers, but remain in operation by reducing their hours.

Few studies have identified problems with WorkShare. A frequently read Heritage Foundation commentary (Sherk, 2009) identified four studies which purported to criticize the employment impacts of European type WorkShare programs.[4] Our reading of those studies draws a different

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[2] The academic studies tend not to be consistent with the language used for these programs, particularly when translated into English. So, job sharing and work sharing appear in the academic literature, and have led to some confusion on the effects of the different programs.

[3] See Crimmann, Andreas, Frank Wießner, and Lutz Bellmann. *The German work-sharing scheme: An instrument for the crisis*. ILO, 2010.

[4] See Sherk, James "Why Work Sharing Won't (sic) Work" http://dailysignal.com//2009/12/10/why-work-sharing-wont-work/. The cited study was Steiner, Viktor; Peters, Ralf-Henning (2000) : Employment effects of work sharing: an econometric analysis for West Germany, ZEW Discussion Papers, No. 00-20, we review the findings

conclusion. In the first of the cited studies (Steiner and Peters, 2000), the analysis did not evaluate WorkShare unemployment insurance, nor measure the cyclical impact of WorkShare. The Steiner and Peters study is quality analysis, but it examines the aforementioned European job sharing program that is designed to craft a long-term sharing of jobs, not a short term stabilization of employment. Quite simply the programs differ and these studies did not examine WorkShare unemployment effects in an American type program.

Likewise, the second study (Borsch-Supan, 2002) examined not WorkShare, but work time reductions in job sharing programs. This is an interesting topic, but not the same thing at all.[5] The third study (Jacobson and Ohlsson, 2000) looked at broad hour-reducing programs in Europe, not WorkShare.[6] It appears that the author confused the broad European efforts to craft work sharing policies (that cut hours to create more jobs) with the WorkShare unemployment insurance.

It is useful to repeat again that there are two types of program efforts. One which shows little benefit is the effort to involuntarily reduce the length of the work week to incentivize employers to hire more workers over the long run. We call this job sharing. The second is to allow partial unemployment payments to flow to workers in participating companies that reduce hours for all workers rather than lay off a few. We call this type of program WorkShare to distinguish it from other policies. There are some lessons to be learned from these European job sharing programs, especially since in many places, such as Germany, the short term WorkShare type programs are also permitted as part of the broader labor market policies. So, understanding who participates and which businesses are impacted by the programs should help inform Indiana's WorkShare consideration.

The academic analysis of the current type of WorkShare programs is limited. The relative newness of the program and the small use of it have failed to attract widespread research on the topic. However, a similar program known as Compensated Work Sharing (or Short-Time Compensation) offers a useful evaluation of state WorkShare programs. The Short-Time Compensation program (STC) is a federal program administered through the traditional unemployment insurance program, but it only occurs in states that select to participate. Currently 21 states participate in this program.

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from that one and the later study Steiner, Viktor. "Employment Effects of Work Sharing-An Econometric Analysis for West Germany." (2004).

[5] See Borsch-Supan, Axel (2002) Reduction of Working Time: Does it Decrease Unemployment? Working paper.

[6] Jacobson, Tor, and Henry Ohlsson. "Working time, employment, and work sharing: evidence from Sweden." Empirical Economics 25, no. 1 (2000): 169-187.

To evaluate the impact STC has had on labor markets, we craft an empirical model which evaluates the volatility of manufacturing, construction and retail employment over time from 1998 through 2014 at quarterly intervals. The volatility measurement is the squared one quarter difference in manufacturing income in each state.[7] This was chosen to merit higher levels of volatility by squaring the value, and to ease the interpretation of the volatility measure.

We then evaluate whether or not that manufacturing and construction volatility is impacted by the presence of a state STC program, the relative presence of STC in surrounding states, surrounding manufacturing income volatility and the real manufacturing income in the state and in surrounding states along with a recession dummy. We include a correction for seasonal autocorrelation and a time trend. The reason we focus just on manufacturing volatility is that manufacturing is the most volatile employment sector in a recession. Since the take rates of STC are small, and appear to be largely within manufacturing, if we are to determine an impact on the smoothing of labor market fluctuations, it will be in the manufacturing and construction sectors. We include the retail sector as a counterfactual estimate, to test whether unobserved effects at the state level are influencing results. The results appear in the table below.

Table 1, The Effect of STC on Income Volatility

	Manufacturing	Construction	Retail
C	-3.67E+11	-4.39E+11***	-6.56E+10***
	(-1.24)	(-3.08)	(-3.20)
STC in state	-2.84E+11**	-1.45E+10	-8.97E+09
	(-1.96)	(-0.34)	(-1.08)
Adjacent STC	1.50E+12**	1.97E+11	7.46E+10***
	(2.52)	(1.19)	(2.74)
Adjacent real income	0.24391***	0.213285**	0.156577***
Volatility (sector specific)	(2.98)	(2.51)	(4.16)
	107303.2***	47659.1***	11971.51***
Real Income (sector specific)	(4.33)	(5.51)	(5.96)
Real Adjacent Income (sector specific)	-71610.6***	-13569.3**	-5062.3***
	(-3.72)	(-2.28)	(-4.33)
Recession	3.14E+11	2.35E+11*	1.27E+10
	(1.15)	(1.95)	(0.81)
Time trend	-7.62E+09	3.17E+09**	4.83E+08*
	(-0.85)	(1.98)	(1.91)
Autocorrelation (AR4)	0.077087	0.154965	0.02068
	(1.04)	(1.47)	(0.36)
Adjusted R-squared	0.18	0.19	0.19
Log likelihood	-86689.5	-81085.1	-79752.9
F-statistic	82.93914***	82.57364***	86.32046

This model was estimated in a panel setting with the 48 contiguous states from 1998:Q1 through 2014:Q4 using income data from the Quarterly State Personal Income Database, Bureau of Economic Analysis. The participating STC states came from Shelton (2012) and the price index

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[7] $V_{i,t} = \left(M^I_{i,t} - M^I_{i,t-1} \right)^2$

is the CPI-All Urban Consumers.[8] The adjacency variable was calculated from a first order contiguity matrix.

The model results tell us that higher manufacturing employment leads to higher volatility of manufacturing income, that higher regional manufacturing income reduces own-state manufacturing income volatility. The model also suggests that there is neither a trend nor clear seasonality to the volatility. Both the presence of a STC program (and the presence of STC in surrounding states) reduces overall volatility of manufacturing income. Since STC (and WorkShare) participants would not formally become unemployed, evaluating income offers a clearer snapshot of the impact of the STC programs and its applicability to evaluating WorkShare. Neither construction nor retail income volatility (our counterfactual variable) are impacted by STC variable.

The size of the STC pool is surprisingly large. The coefficient suggests that adoption of STC will reduce volatility in manufacturing income of about 35 percent per quarter in states with the STC. Moreover, the effect is statistically strong and not sensitive to small changes in the specification of the model. While it remains possible there are state level idiosyncrasies that are correlated with both adoption of the STC and lower volatility of manufacturing employment, which would bias this model, they are not obvious. Indeed, a brief listing of the participant states: Texas and Vermont, Maryland and Kansas, Florida and Connecticut, Arkansas and California suggest that some underlying political dynamic which might influence the business climate of the state is not at work.

Further, the size of the impact appears large (35 percent of manufacturing income volatility), but this appears consistent with the overall take rates of STC among states. At the peak of national unemployment in 2010, 2.92 percent of regular unemployment insurance recipients received the STC. Applying these results to Indiana would translate into about $500,000 less in the month to month income volatility, and roughly 10,500 Indiana workers participating in STC in the peak year.

Based upon this estimate alone, it would seem WorkShare represents a meaningful stabilization of employment and incomes for workers in states that have adopted a similar program. This stabilization appears mostly isolated to manufacturing. But there are other important questions to be answered before considering the adoption of WorkShare.

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[8] Shelton, Alison (2012) Compensated Work Sharing Arrangements (Short-Time Compensation) as an Alternative to Layoffs. Congressional Research Service April 23, 2012.

Who uses WorkShare?

Based on evidence from California and New York, the employers of WorkShare programs (or short-time compensation) tend to have more experienced workers that are paid higher than those who collect unemployment benefits, suggesting that such programs retain high-skilled valued employees (Shelton, 2012). Using the 2009 German work-sharing data, (Crimmann, Wiebner and Bellmann, 2010) finds evidence of firms with higher share of low-skilled and lower educated workers enrolling into WorkShare programs in an effort to retain them during tough economic times.

The low-skilled workers are more prone to having higher unemployment spells than high-skilled workers. Nickell (1979) finds that the probability of entering into unemployment and expected duration of unemployment spells are higher among those with the least amount of education. The expected number of unemployment spells for those with 9 years of schooling is 8.31 weeks; whereas, the unemployment spells for those with 14 years of schooling is 3.46 weeks.

Irrespective of skill level, the employers of WorkShare programs are required to provide benefits such as health insurance and retirement benefits to all its employees. Therefore, the low-skilled workers and their families will continue to receive medical benefits during tough labor market conditions.

Based on Germany's work sharing program analyses, the larger establishment sizes were more likely to enroll in WorkShare programs. When a firm's expected development of business or profit situation proves to be worse than the year before, such firms were more likely to enroll in WorkShare programs. Being an export dependent firm increases the probability of participating in the WorkShare program. Manufacturing and wholesale trade firms are more likely to use WorkShare programs (Crimmann, Wiebner and Bellmann, 2010; Shelton, 2012).

WorkShare programs may prompt workers to delay the job searches or re-training efforts (Shelton, 2012). Germany has a work sharing program, called "Kurzarbeit", which has been implemented for decades. During the recent Great Recession, Germany, the European Union (EU) and the United States (US), all experienced decline in GDP between 2008 and 2009. Hassett and Strain (2014) find however that Germany had maintained its share of employed workers during the recessionary period compared to the EU and the US. During the recession, Rhode Island's WorkShare program claims constituted 15.9% of initial unemployment claims and had suggestive evidence of lowered unemployment rate and saving 9,500 jobs between 2009 and 2010 (Hassett and Strain, 2014). Both of these findings mirror our estimates of the impact of STC on reducing employment volatility during the business cycle.

If Indiana implements a WorkShare program, we anticipate that unemployment and earnings will suffer less volatility associated with an economic downturn. This may have longer term impacts

by reducing long-term unemployment, increasing consumer spending and growth in sales tax revenues over the short run.

What are the Fiscal Effects of WorkShare?

The overall impact of WorkShare programs on the unemployment trust fund balance is small. Though there appears to be a short-term negative impact with immediate increase in benefit payments especially during a recession, the long-term effect on the trust fund is trivial (Shelton, 2012). This should not be surprising, since the financing of WorkShare programs is collected through states unemployment taxes on those employers that enroll in WorkShare. The taxes are based on the experience rating or firms' experience with WorkShare and regular unemployment.

The take-up rates, defined as WorkShare claims as percentage of total regular unemployment compensation payments, have been steadily increasing across states and years. As expected, the take-up rates were exponentially higher during years of economic downturn. Based on Rhode Island's experience with the WorkShare Program and its public relations campaign, the potential take-up rates in Indiana could be as high as 8.3% during non-recessionary years and up to 15.9% during recession (Shelton, 2012). We note that participation in the Short Time Compensation is far lower, with peak numbers of 0.37 of total unemployment weeks claimed by participating states (Vroman, 2013).

What are the Cyclical Growth Effects of WorkShare?

WorkShare is a small program, embedded in a much larger and heavily studied program of unemployment insurance (see Meyer, 1988; Topel, 1983; and Schmeider, Wachter and Bender, 2012). However, to evaluate concerns over the role of this program in business cycle activity, we post the following empirical relationship:

$$\mathrm{d}(\log{(Wages)})\big/_{dt} = \alpha + STC_{i,t} + \breve{W}STC_{j,t} + \beta T + \theta\delta_{i,t-4} + e_{i,t}$$

Where the percentage in quarterly wage growth is a function of fixed characteristics, state adoption of STC, the weighted adjacent state adoption of STC value, using a first order continuity weight, a time trend, and a fourth order autoregressive term and a white noise error term. Results appear in table 2 for the entirety of our time sample (1998-Q1 2014) and then the 2001 recession, the 2002-2007 recovery, the 2007-2009 recession and the recovery from the third quarter 2009 to the present. In each case the presence of STC had no noticeable effect on overall wage growth, our proxy for business cycle recovery and recession.

As indicated in the result discussed above, STC clearly mitigates volatility of manufacturing; but, WorkShare is too small a program to generate statistically measurable growth effects over the business cycle.

Table 2, Cyclical Effects of STC

	1998-2014 full sample	2001 recession	2002-2007 recovery	2007-2009 recession	2009-2014 recovery
C	0.004121***	0.013383	0.00075	0.061302***	-0.02777***
	(5.91)	(1.06)	(0.41)	(2.21)	(-8.93)
STC	1.97E-05	-0.00288	0.000182	-1.43E-03	7.22E-05
	(0.03)	(-1.38)	(0.19)	(-0.56)	(0.90)
Adjacent STC	0.000126	-0.00355	-0.00081	0.000852	0.000217
	(0.11)	(-0.99)	(-0.41)	(0.18)	(0.14)
Trend	-3.68E-05	-0.0008	0.00016	-0.00159**	0.000559***
	(-2.3)	(-0.91)		(-2.40)	(10.72)
AR(4)	0.109801***	0.148512**	0.169649***	0.092939	-0.02094
	(5.28)	(2.16)	(4.59)	(0.87)	(-0.72)
Adj R-squared	0.014	0.055	0.03	0.031	0.076
Log likelihood	8258.625	604.1772	3321.187	862.6466	3162.268
F-statistic	11.38405	3.803712	9.660111	3.661582	22.6933

How Expensive Would WorkShare Be to Implement?

The administrative costs of WorkShare programs could be a challenge for states due to the use of paper-based processes and approving employers on case-by-case basis. No studies to date have estimated the administrative costs of WorkShare programs to states. While there are costs associates with such programs, the states, however, do not have to indulge in costly requirements of traditional unemployment compensation such as checking if beneficiaries are actively seeking work and that they do not decline suitable work. To minimize the administrative costs, certain states have fully automated the WorkShare program, including internet-based data entry and submission process by the employers. Also, some states have cut down on the approval layers for the employer plan submissions and also have moved away from employee-based filing to employer-based filing (Shelton, 2012).

It is difficult to predict potential experience with costs over a business cycle, but we can test the average effect STC plays on quarterly UI compensation overall. If we construct a model where state UI payments each quarter are a function of STC, adjacent STC, a recession and other spatial and temporal control variables, we see an increase in quarterly UI payments of roughly $1.26 million over the full 1998-2014 time period. During the most recent recovery (2009-2014) during periods of very high unemployment the quarterly cost roughly halved to $660,000. During the post 2001 recovery (2002Q1 to 2007Q3) the quarterly increase in UI due to STC was estimated to be roughly $362,000. However, when we scale these UI payments to total wages, STC appears to play no statistical role in the size of quarterly UI payments. This implies that STC is offsetting a significant share of the total UI compensation workers would otherwise

receive from being fully unemployed during this period. This bolsters the recurring theme that WorkShare will be a small stabilizer of some firms (mostly small to mid-sized manufacturing firms) but will play only a modest overall stabilizing role in the economy.

We were unable to locate any studies which estimated fraud or abuse of WorkShare programs. Most research on unemployment insurance fraud reports that the bulk of all fraud (54 percent to 66 percent) is due to individuals concealing earnings that would otherwise render them ineligible.[9] WorkShare would seemingly be less exposed to this type of fraud, since the hours reduced would be much lower than for traditional unemployment. None of the other types of fraud identified by the Department of Labor would be applicable to a WorkShare employee, so it seems almost certain that overall fraud would be lower than with traditional unemployment compensation.

What is the Impact of WorkShare on the Employer?

There are several factors which should be considered in evaluating the employer impact of WorkShare. An employers' decision to enroll in WorkShare may boost employee morale, thereby increasing productivity in the workplace. The short-term savings come from the reduced costs on wages/salaries. Other benefits of WorkShare programs to employers include, but are not limited to, reductions in business recruitment costs, rehiring costs and training costs. When the WorkShare enrolled firms experience increases in demand for their products and associated profits, they can increase the hours of existing employees, rather than recruiting and training new workers.

Further, WorkShare programs will help the employers to retain high-skilled workers and mitigate the risk of them leaving for other employers. There are several employers in certain states who use custom designed WorkShare programs to safeguard specific groups of high-skilled workers in an organization during a downturn, by applying different reductions in hours/wages in different departments/shifts/units (Hassett and Strain, 2014).

These considerations are part of everyday business decision making. WorkShare efforts should enable some firms that could not otherwise afford to retain workers during a business cycle to do so, while paying for the benefit through the application of an experience rating in the state unemployment insurance tax. We anticipate the largest beneficiary to be the medium-sized manufacturing firm, and we use the example of Kokomo during the summer of 2009 to illustrate this point.

The summer of 2009 saw the deepest part of the Great Recession, with automobile production ceasing nearly everywhere in the USA. The two largest manufacturing firms in Kokomo (GM

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[9] See the Benefit Accuracy Measurement Program, US Department of Labor.

and Fiat-Chrysler) both suspended manufacturing in June and July of that year, but did not lay off workers. Both of these companies had sufficient cash reserves to continue employment, shifting their efforts to training and plant maintenance. However, the large supply chain of smaller companies could not maintain employment, and were forced to lay off workers. As a consequence, Kokomo's unemployment rate rose to nearly 18 percent. WorkShare would have likely enabled some of these operations to continue at a slower pace during the summer of 2009. The commercial benefits would have accrued primarily to these smaller manufacturing firms, and would likely have stabilized the Kokomo economy significantly during this time.

Under certain administrative rules, WorkShare may also be used to train workers. If this is authorized by Indiana, the use of a share of WorkShare payments to permit individual firms to train employees might offer a long-term productivity boost to firms. However, if additional training would be profitable, firms would likely do so without additional incentives.

What are other Impacts of WorkShare? On the Family?

As the Great Recession so vividly exemplifies, unemployment, especially long-term unemployment is costly to the overall growth of the economy. For individual households long-term unemployment (six months or longer) negatively impacts several individual-level factors such as employability, stress, mortality, suicides, cancer, heart attacks, psychiatric problems, divorce, and earnings of children (Hassett and Strain, 2014).

Using WorkShare programs, the employees may avoid facing layoffs and hence economic hardships. The younger, entry-level or newer workers, who otherwise would have faced more pressure from layoffs, would benefit the most from this program.

Suppose an employer reduces 20% of hours (say implement a four day work week) across all of its employees. The employer pays 80% of employees' wages and the WorkShare program pays 10% wages, effectively, bringing the total compensation of 90% for four days of work per week (Shelton, 2012).

For families, the great benefit of WorkShare is short-run stability during a business cycle. For most businesses hiring full-time employees, a cyclical downturn that is large enough to lead to layoffs will impact employees very differently. More junior employees are typically the first to receive layoffs, while more senior employees are kept on payroll. WorkShare allows a business to spread the impacts of lower demand across more workers.

Conclusion

A WorkShare program of the type proposed for Indiana would appear to act as a clear stabilizer during a business cycle, but isolated to the manufacturing sector. The program would be largely

self-funding through the state's unemployment tax, and have only modest administrative costs when compared to total UI compensation. The best evidence suggests that the program would largely be used by medium-sized manufacturing firms to limit the impact of a cyclical downturn, and would not appear to suffer significant problems associated with fraud or abuse. The program would reduce business costs for participating firms by reducing search and hiring costs, and would stabilize families and communities. These impacts are not, in aggregate, large, but may be very important in some communities.

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