



Oxford Economic Forecasting

Slivers of Time: Making the Labour Market Work Better

Oxford Economic Forecasting

March 2006

Oxford Economic Forecasting
121, St Aldates, Oxford, OX1 1HB
☎: 01865 268900, 📠: 01865 268906
🌐: www.oef.com

1. KEY POINTS	1
2. INTRODUCTION	2
3. WHAT IS SLIVERS OF TIME	3
3.1. A new way of engaging with the labour market	3
3.2. How Slivers-of-Time can tackle worklessness.....	4
3.3. Barriers to Slivers-of-Time Working	4
3.4. Market size	6
4. HOW SLIVERS OF TIME ADDRESSES LABOUR MARKET FAILURES	7
4.1. Institutional barriers preventing selling small amounts of time.....	7
4.2. Information failures	8
4.3. Asymmetric market power.....	9
4.4. Benefit traps.....	10
5. WHY SLIVERS OF TIME NEEDS A CATALYST	14
6. THE BENEFITS AND COSTS OF SLIVERS OF TIME	15
6.1. Economic benefits.....	15
6.2. Costs	15
6.3. A cost benefit analysis	16
7. RECOMMENDATIONS	20
8. ANNEX 1: COST BENEFIT ANALYSIS	21

1. Key points

1. The agenda on the re-integration of the workless into work should move away from a sole focus on full time employment. Slivers of Time (SoT) could play a crucial role in this move by offering a step-change in the operation of local labour markets, allowing individuals to move from inactivity by moulding work around the rest of their lives.
2. SoT makes it possible for workers to sell small parcels of time to employers and offers a step-change in the working of the labour market.
3. Client groups for SoT working include the unemployed, incapacity benefit claimants, the disabled, the retired and students. This way of working could be relevant to 14-20 million people in the UK.
4. SoT addresses labour market failures, particularly the information failures related to short-term hires, including information relating to experience and quality of workers, and the fixed costs related to temporary working such as payroll.
5. SoT rebalances the asymmetry in market power between employers and temporary workers, allowing workers to specify the times that they find most convenient to work.
6. SoT's database can be integrated with the benefits system and used to help overcome "benefit traps" that currently place a major disincentive on working for many of the workless.
7. SoT has "network" characteristics; that is, the benefits flowing from SoT to users grow exponentially the more users join the system. The public sector – without adding to public spending – is ideally placed to catalyse the development of SoT, through demonstrating its usefulness at a local level and by building up the number of sellers to make SoT more attractive to employers of all types.
8. On the basis of cautious assumptions, SoT provides a worthwhile net contribution to the public finances, increases the economic activity rate, adds to the UK's overall labour supply, increases consumer spending and contributes to company profitability. For example scenarios we have examined illustrate that:
 - even low take up of SoT working in terms of the number of users of SoT, with most users only working between half a day and a day a week, could benefit the Exchequer by £50-£100 million per annum.
 - higher, but still modest rates of take up, in terms of numbers of users and hours sold, along with sharper benefit tapering could raise these benefits to over £400m per annum.
9. Public Service Agreements should recognise the contribution that flexible working can make to reducing economic inactivity, with appropriate targets for the increase in the employment rate possible through flexible, part-time working.

2. Introduction

Slivers of Time (SoT) allows a step-change in the operation of the labour market. By enabling individuals to sell small parcels of time to organisations whose demand for workers fluctuates hour-by-hour, week-by-week and month-by-month, SoT has the power to:

- let individuals mould work around the rest of their lives
- bring people, who for a complex of reasons, are inactive into economic activity
- build “job” confidence in those that have been inactive for a long period of time
- provide employers of all types with a flexible, committed and quality assessed workers at short notice.

This paper sets out the economic rationale for breaking down the barriers that stand in the way of widespread use of SoT, barriers that stand in the way of better outcomes for individuals, employing organisations and the economy as a whole. Moreover these barriers can be broken without additional public spending. Commitment by the public sector to use SoT to more efficiently meet its objectives would provide the critical mass required to become a key aspect of a more efficient labour market.

Section 3 provides an overview of SoT and a brief background of its development to date. Section 4 discusses how SoT alleviates a number of market failures in the labour market. Section 5 discusses the network aspects of SoT that present a barrier to its rapid adoption. Section 6 presents a cost benefit analysis of a fully functioning SoT, while Section 7 lists a number of recommendations, including an agenda for public sector support for SoT – this is not the usual request for funding, but simply an opportunity for the public sector to use its purchasing muscle to catalyse a unique step-change innovation in the UK’s labour market.

3. What is Slivers of Time

3.1. A new way of engaging with the labour market

SoT working is designed for anyone with hours to sell to local employers. It is an intuitive and inviting online marketplace. 12 million people in the UK buy and sell spare items on eBay. SoT allows anyone to sell their available hours.

This is a much more complex market than auctioning items. While the concept had a long heritage, ensuring uniquely high levels of safety, control, convenience and cost effectiveness, but keeping the service entirely intuitive is only now feasible.

The SoT Programme has been funded by the ODPM and the private sector. The service launched in London Borough of Newham in December 2005 and rolls out to the rest of London through the Mayor's new portal for the capital in Summer 2006. Large corporates already committed to hiring top-up staff this way include Compass (the world's biggest caterer), Tesco and Royal Mail.

The key features of SoT include the:

- ability for an employer (buyer) to:
 - specify the type of work available and the hours required
 - view available sellers (workers) ranked by experience
 - view pay rates required by individual sellers
 - review background and experience of available workers
 - book a worker whose availability matches the employer's demands
 - sign a contract with the worker
 - confirm location, travel details and conditions such as meal breaks via text message or via the web
 - track usage of SoT workers and handle agency invoicing electronically

- ability for the seller to:
 - specify hours (times) available for work
 - pay rate required
 - vary pay rate required according to time, type of work, travel distance
 - accept or reject job offers electronically
 - gain a star rating (ranking) depending on performance and number of SoT assignments undertaken
 - track employment, earnings history, and importantly for motivation payments due

- ability for agencies to
 - rank the workers on their books
 - automate pay roll for workers on books and invoicing to employers
 - economically organise time SoTs of less than 0.5 days
 - integrate electronically with the benefits system

3.2. How Slivers-of-Time can tackle worklessness

The SoT marketplace will show anyone

- (a) where there is demand for them personally locally
- (b) the times of that demand
- (c) how much they could be earning. It is ideally suited to doing work for short periods with no further commitment.

For example, someone who is long-term unemployed and fears a return to the workforce can be shown that there is demand for their services in their area this afternoon. Are they willing to do a 2-hour shift, perhaps, collecting trolleys at a supermarket during the post-school shopping peak? If they are they can earn £12.50 they wouldn't otherwise have had.

Similarly an Incapacity Benefit claimant with unpredictable medical needs can say "I am only available for work for periods that don't exceed 3 hours, within a mile of home and if it involves no physical exertion. Also, I will decide each morning if I am able to work that particular day".

Or a lone parent could fit in some work when the children are at school or when baby-sitters are available, without having to commit to regular hours every week, thus helping to boost female participation rates in particular.

Equally with pension incomes under pressure increasing numbers of younger retirees may be keen to continue working, as long as this can be done flexibly and part-time

3.3. Barriers to Slivers-of-Time Working

The new service is ideal for benefit claimants. Unfortunately the existing rules actively deter claimants from using any such ramp into employment.

Government has recognised the value of allowing claimants to begin work while continuing to claim. For example, since October 2004 Incapacity Benefit claimants have been permitted 16 hours work a week without losing their primary benefit. The problem, as every claimant knows, is the loss of secondary benefits (which are much harder to get back), as soon any work is done.

Additionally, Jobcentre Plus targets are driven by assumptions about regular work, particularly the 8 hours a week over 13 weeks rule as a minimum for triggering points for staff. Claimants are being pushed towards immediate, long term, work to the exclusion of more personalised, flexible ways of entering the workforce.

Box 1: How SoT Works

1. Employer specifies need

BUY: PURCHASE REQUIREMENTS

What:
Type of work: Hospitality/Catering

Where:
Place of work: our locations new address saved Reporting Instruction
Available Locations: Red Lion, Barking Road, E6 1LA

When:
Please enter the shifts for this job
From: 13 Feb 2006 12:30 To: 13 Feb 2006 14:15 Unpaid breaks (minutes):
ADD ANOTHER SHIFT
NEXT

2. SoT matches with available sellers – ranked by price and experience

BUY: SELLER SELECTION
Hospitality/Catering / E6 1LA / Start: 13 Feb 2006 12:30 / Shifts: 1
Sellers available: 11 [refine requirements](#)

This Purchase: Sellers selected: 3 Ave. cost/hour: £9.05 Total cost: £47.50 **NEXT**

LEVEL	AVAILABLE SELLERS (click to select / de-select)	Refresh	SELECTED								
6	<table border="0"> <tr> <td>£7.84</td> <td>£8.94</td> </tr> <tr> <td>Mark Warner</td> <td>Nick Tjaarda</td> </tr> </table>	£7.84	£8.94	Mark Warner	Nick Tjaarda		1				
£7.84	£8.94										
Mark Warner	Nick Tjaarda										
5	<table border="0"> <tr> <td>£8.90</td> <td>£9.30</td> <td>£10.40</td> </tr> <tr> <td>Wingham Roy</td> <td>Elisabet Ricar</td> <td>Michael Pich</td> </tr> </table>	£8.90	£9.30	£10.40	Wingham Roy	Elisabet Ricar	Michael Pich		2		
£8.90	£9.30	£10.40									
Wingham Roy	Elisabet Ricar	Michael Pich									
4	<table border="0"> <tr> <td>£8.96</td> </tr> <tr> <td>Steve Pennar</td> </tr> </table>	£8.96	Steve Pennar		0						
£8.96											
Steve Pennar											
3	<table border="0"> <tr> <td>£8.96</td> <td>£9.00</td> <td>£9.05</td> <td>£10.17</td> </tr> <tr> <td>Helen Goulde</td> <td>Richard Seller</td> <td>Louise Jones</td> <td>Fred Blogs</td> </tr> </table>	£8.96	£9.00	£9.05	£10.17	Helen Goulde	Richard Seller	Louise Jones	Fred Blogs		0
£8.96	£9.00	£9.05	£10.17								
Helen Goulde	Richard Seller	Louise Jones	Fred Blogs								
2	<table border="0"> <tr> <td>£9.55</td> </tr> <tr> <td>John Defoe</td> </tr> </table>	£9.55	John Defoe		0						
£9.55											
John Defoe											
1			0								
Entry level			0								

List sellers by: Market Level Star rating Show star ratings for: Accounts dept

3. Confirm job details with seller

BOOKING 13 CONFIRMED

Booking details **CONFIRMED**

Your booking no. 13
Buyer Regis Taverns [View buyer's details](#)
Shift(s) **Mon 13 Feb 2006: 12:30 - 14:15**
Location 336 Barking Road, London, E6 1LA, [See a map](#) (0.19 miles)
Type of work Hospitality/Catering
Hours paid 1 hour 45 minutes
Pay **£7.12** per hour before tax
£12.46 total pay before tax
Confirm by Mon 13 Feb 2006 **11:00** (It is now **11:10**)

Additional details

Industry	Catering
Total Staff	50
Health and safety equipment	Yes
Work Description	Bartending including taking food orders
How to get here	East Ham tube > turn left > next to Town Hall
Contact	Sid Marks, 07970 023897
Dress code	Formal
Canteen	No facilities
Parking	Generally available

3.4. Market size

As with any new market, it is not possible to be exact about the potential size of a fully developed SoT marketplace. In a recent report Accenture¹, suggested that there is a potential pool of 14 million working age people in the UK who could be considered as targets for SoT. This excludes those in full-time employment and the non-working retired who are older than the state pension age, but as shown in Table 1 does include existing part-time and temporary workers, as well as a large number of the inactive. In particular it includes the unemployed, a proportion of those in receipt of incapacity benefit and discouraged workers.

Table 1 Potential pool of SoT workers

Categories	Number (000s)	Assessed pool for SLOT (000s)
Part-time employees	7,100	500
Temporary / casual workers	568	568
<i>Agency temps</i>	255	255
<i>Casual workers</i>	251	251
<i>Seasonal workers</i>	62	62
Part-time self-employed	818	818
Unemployed	1,395	927
Economically inactive	17,500	-
<i>Looking after family or home</i>	2,326	-
<i>Discouraged workers</i>	901	-
<i>Long-term sick / disabled</i>	2,165	1,624
<i>Students</i>	1,747	-
Retired over state pension age but under 75	5,300	5,300
	22,320	14,000

Based on NEMS Scoping Slivers of Time Working, Accenture September 2005
- = no disaggregated estimate given

In terms of demand by employers for SoT workers the Accenture¹ report concludes that there is “significant potential due to high and rising levels of part-time and/or temporary employment (especially in sectors such as Retail, Education, Health & Social Work, Agriculture, Hotels & Catering)”. This is based on an estimated stock of 1.6 million unfilled vacancies nationwide, with a flow of 860,000 new vacancies each month – of which 12,000 – 15,000 are for less than 8 hours work per week. Sickness cover is seen as another important source of potential demand for SoT. Here there is a large variation in the estimates of days lost to sickness each year. Based on ONS data from 2004, Accenture¹ estimate that 6.8 million scheduled working days are lost annually. However the report also points to a CBI survey from 2002 suggesting a much larger figure of 166 million days. In addition, though there is no data available, the Accenture¹ report points to the need for cover for holidays, leaves of absence and maternity / paternity leave.

¹ “NEMs Scoping Slivers-of-Time Working”, Accenture, September 2005

4. How Slivers of Time addresses labour market failures

SoT addresses a number of market failures that currently exist in the labour market. The most prominent of these are

- Barriers to selling small amounts of time
- Information failures relating to employer needs and potential employee attributes
- Asymmetric market power in available time management systems

4.1. Institutional barriers preventing selling small amounts of time

There are a number of fixed and frictional costs involved for both potential sellers of labour and employers in taking on staff at short-notice for short periods of time. By developing an easily accessible, continually updated, transparent, locally centralised exchange for short-term working SoT can overcome these search costs.

From the sellers point of view currently there are the difficulties and costs of providing information to the marketplace of availability, experience, willingness to travel to work, flexibility on hours of work and record keeping for tax and other purposes. Recruitment agencies do mitigate some of these difficulties. But this solution is partial, particularly when it comes to short-notice short-time frame assignments. The costs for recruitment agencies of supporting this type of service is higher than under the SoT model, so making half-days of work the minimum time SoT that can be handled economically. And, crucially, the worker has much less flexibility and control over the times that are identified as available for work.

As a result of these institutional factors, employers are more likely to develop less economically efficient coping strategies to meet peaks of demand for labour. These will range from increased over-time working and conscious over-staffing – so reducing productivity levels - through to accepting the delivery of poorer service levels during peaks of demand pressure. It may also lead to some activities not taking place at all as a result of the inability of the employer to source additional workers at the appropriate time, with SME's likely to be at a greater disadvantage than larger employers who have more, if limited, scope for fine tuning their workforce to workload.

SoT overcomes these barriers by addressing these fixed and frictional costs. By acting as an electronic marketplace and information depositary SoT:

- solves the fixed cost issues that recruitment agencies face in handling short-notice short term assignments
- enables employers to more efficiently match their need for workers at any point in time with the supply.

4.2. Information failures

Like any transaction buyers and sellers of working time need to exchange information to successfully complete the bargain. Employers are interested in the attributes of the workers they hire. For example this will include information on educational attainments, experience in doing similar jobs, track record of performance in jobs and need for training, as well as availability and cost. Potential workers require information on the nature of the work to be undertaken, experience needed, work times, location, travel, provision for meals and pay rates.

In particular employers need a degree of assurance that potential workers do indeed have the attributes that they claim, while the potential worker will seek information that confirms that the employer offers a suitable job. For short-assignments these costs can swamp the potential gain to either or both parties with the result that no transaction takes place.

SoT combats these information failures. Both the employer and the job seeker can access information about each other from the SoT web pages. The SoT approach assists employers in vetting, quality controlling and ranking potential workers. Borrowing from the familiar e-Bay approach a seller is ranked by the SoT system according to the amount of work undertaken for employers using SoT and performance in these roles (see Box 2 below). Better performers earn higher rankings. This is likely to make them more attractive to potential employers, but it also allows these sellers to increase pay rates demanded, reflecting their performance through time.

Box 2: Star-rated sellers

Number Available	Grade	Available sellers				Number Selected	
1	6	£7.08 Azmir Khan 0 **** **		On any option: Left click to purchase Right click for details.		0	
1	5	£7.03 Ally Wilmot 0 **** **				0	
2	4	£6.37 Dipak Khan 0 **** **	£7.93 Ally Gee 0 **** **			0	
2	3	£6.32 Sam Patel 0 **** **	£7.13 Shera Chok 0 **** **			0	
2	2	£5.98 Jane Harris 0 **** **	£6.05 Kit Chan 0 **** **			0	
3	1	£5.47 Dora Hollis 0 **** **	£5.89 Julie Good 0 **** **	£5.99 Fiona Foe 0 **** **			0
4	Entry Level	£5.42 Ezra Arms 0 **** **	£5.57 Sue Potter 0 **** **	£5.89 Lesley Viand 0 **** **	£12.57 Ann Scully 0 **** **	0	

Similarly SoT reduces the cost to the potential worker of gathering information about the nature of the job on offer and its non-pecuniary conditions.

With more information available and cheaper to access for both employers and employees more transactions are likely to occur as a result of the existence of SoT than without its integrating role.

4.3. Asymmetric market power

In the traditional models for sourcing workers for periods of work that are not clearly defined well in advance of that work taking place there are considerable asymmetries in market power. Workers have little control over exact hours of work. Rather these are defined by the employer and for temporary work the costs to both parties of negotiating a different structure of hours result in a take-it-or-leave-it position for the potential employee. This can make it difficult to fit work around other commitments – for example to family or to study – so reducing the incentive to search for temporary work or to work at all.

Even commercially available time management software empowers the employer more than the employee. For example, businesses where demand for workers fluctuates through the course of the week or month, may guarantee workers a number of hours work in each period, but will only define exactly when these hours with very short notice. Many potential workers will not be in a position to undertake this type of job because of the uncertainties involved, while businesses using systems like these may also face problems in managing absences and the motivation of employees called in at times that they consider inconvenient. Box 2 provides some background on one of the currently available time management packages.

SoT overcomes this asymmetry of power in the short-term job market by allowing potential workers to specify their availability and to vary the pay rates demanded to reflect their desire to work particular hours. From an employer's point of view there are likely to be gains in terms of certainty of the availability of staff, the motivation of staff during those hours of work and of permanent staff who gain more certainty over their own hours of work.

Box 2: Current systems to manage short-term scheduling are employer focused

Frontline Labor Management is a business system that addresses the planning, tracking and analysis of your organization's labor force. The process begins with a complete analysis of the way your business schedules your labor force and how the employees' hours are distributed and tracked. Based on this analysis recommendations are made to collect the hourly data, schedule employee hours, implement company policies and procedures and move the data to the payroll system.

An automated labor tracking system will help you to manage attendance in your organization and it will apply your policies objectively and fairly. The automated system is much more accurate than any manual system since the data is collected on a real time basis. Another important goal for any data collection system is to speed the processing of the data by automatically calculating employee hours and sending the time for each employee for each pay category to your payroll system.

Data Collection - There are many data collection alternatives. The most popular is the badge terminal. Kronos systems also allow for web browser data entry, scanned time sheets, hand held devices and the new TkTalk Interactive Voice Response System developed by J&H Office Equipment.

Scheduling - Kronos Frontline Labor Management includes a scheduling module that allow supervisors to set precise schedules for employees or allow flexible scheduling for employees with differing types of schedules. With the scheduling module the company is able to track employees on the premises, employees on the road, employees on sick leave or holiday.

Reporting - One of the most powerful features of the Kronos system is it's ability to report daily work, employees approaching overtime, employees who are periodically or regularly tardy as well as many management reports. Other reports help determine who is absent, who is early or late, when will my department hit overtime or what is my leave liability. Source: <http://www.jhoe.com/digital-solutions/software/time-labor-management/>

4.4. Benefit traps

The interaction of the benefits system and work is complex and often results in major disincentives to the workless undertaking any work at all. In effect this results in a binary situation that leaves an individual in an equivalent monetary position whether completely reliant on benefits or whether in full-time work, but worse off if in less than full time work. Thus to enter work a jump has to be made from worklessness to full-time employment. This fails to recognise that some work is better than none for personal development, and that it may not be possible for many recipients of benefits – for example whether through their role as carers or because of incapacity to move into full-time work.

Boxes 3 and 4 set out background to benefit rules and some example of the nature of these benefit traps and how they distort the workings of the labour market.

Box 3: Benefit rules			
Primary Benefits	Recipient qualification and general information	Earnings Limit	Entitlement to secondary benefits
Job Seeker's Allowance	Recipient receives JSA if they are unemployed and can sign on for work. JSA falls into two categories - income based and contributions based	Earnings disregard is £5 per week (£10 for couples). Thereafter earnings are taken off the amount of benefit that the recipient receives. Recipient can work up to 16 hours and remain on JSA depending on their earnings. Partner can work up to 24 hours if the client is on income based JSA	As long recipient receives JSA, they can receive full Council Tax Benefit and Housing Benefit (unless there are non dependents in their household), plus free school meals and health benefits. They will continue to get them until they no longer receive JSA. Note there is a separate earnings disregard for Housing and Council Tax Benefit.
Incapacity Benefit	Incapacity Benefit is contribution based. Recipient receives if they are sick or disabled.	Earnings limit for permitted work is £81 per week.	Income on IB may impact other benefits, eg Housing Benefit and Council Tax Benefit, although these benefits also have a £20 a week earnings disregard for sick/disabled claimants.
Income Support	Income Support (IS) is a means tested "top up" benefit. It is available for candidates who are sick, carers, and lone parents. Candidates may receive Income Support if their earnings are not high enough.	Earnings disregard for Income Support is £20 per week. Thereafter earnings are taken off the amount of benefit that the recipient receives.	If the recipient is in receipt of Income Support (minimum payment 10p a week), they still receive full Council Tax Benefit and Housing Benefit (unless they have non dependents in their household), plus free school meals and health benefits. They will not lose these benefits unless they stop getting IS altogether.
Incapacity Benefit & Income Support	Some recipients may receive a combination of IB and IS, because their entitlement to IS is more than their IB (for example because they have a family, or pay a mortgage).	Earnings disregard is £20. Earnings over this amount may impact the benefit that the recipient receives. Issue: some recipients do not know what types of benefit they are receiving.	If the recipient is in receipt of Income Support (minimum payment 10p a week), they still receive full Council Tax Benefit and Housing Benefit (unless they have non dependents in their household), plus free school meals and health benefits. They will not lose these benefits unless they stop getting IS altogether.

Box 4: Benefit traps – removing incentives

Doug Pauley has been offered two jobs on the strength of his computer skills. The unemployed 26-year-old from Wetherby in West Yorkshire has had to turn both chances down.

"This is the reason", says Doug as he glances down towards his wheelchair.

"It is nothing to do with accessibility or even transport.

"I get caught by an earnings rule.

"If I am paid more than £20 a week, then everything after that is taken by the government to pay for the care home I live in."

Doug tells Politics Show for Yorkshire and Lincolnshire of the frustration and anger he feels at being caught in a benefits trap which means he has to turn down jobs which he is qualified and able to do.

"It is certainly no incentive to work," he says.

"What is so annoying is the way disabled people are often portrayed as being happy to live on benefits.

I would love to work but what is the point if it does not make me better off?"

Doug's view is echoed by Tim McSharry who runs Access Leeds, a group fighting for the rights of disabled people in the city.

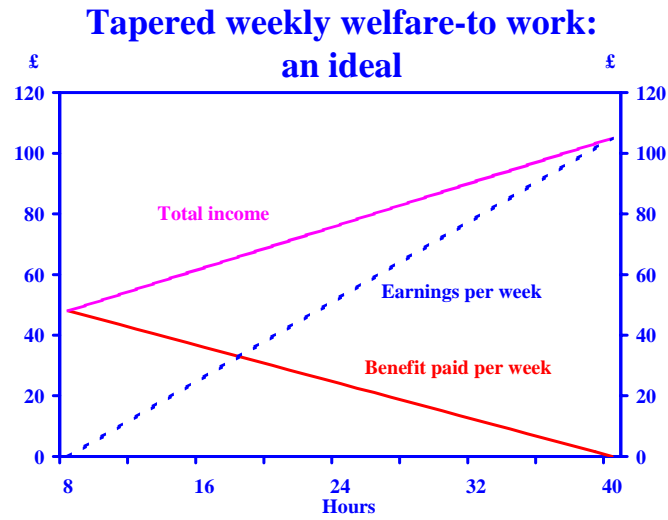
Mr McSharry said: "We come across this all the time."

"Just because people have a disability and require support or specialist housing does not mean that they should be impoverished because of it.

"Many have the skills and ability to hold down a job but find virtually every penny would be clawed back by the Government."

Source: http://news.bbc.co.uk/1/hi/programmes/politics_show/3742662.stm

SoT, because of its use of technology, can assist in breaking down these distortions. Information on earnings from work is integrated into the SoT database. This offers the prospect of using this information to create a benefit system that allows those on benefits to gain from work by tapering the removal of benefits at a rate that provides a higher total income if some work is undertaken rather than none. Chart 1 provides a schematic of how an improved benefit system might be integrated with work in a way that could incentivise many of the currently workless to undertake some paid employment.



5. Why Slivers of Time needs a catalyst

While SoT can help to address market failures that hamper the working of the labour market, it is also the case that widespread use of SoT by potential stakeholders – potential workers, recruitment agents, employers – will not develop quickly if left to market forces alone.

To deliver its benefits for the working of the labour market SoT requires critical mass in any individual local labour market. Without a large number of sellers with demonstrable track records in work, large private sector employers have little incentive to utilise the SoT approach. Equally there is no incentive for potential workers to learn and utilise the SoT system if there are few potential buyers of their services using SoT. As with any network as the number of users grows the benefits to all users grows exponentially, but a catalyst is needed to start the process.

The public sector is in an ideal position to act as this catalyst. First as a provider of training and other services aimed at moving the workless into work JobCentre Plus and related agencies are in a position to provide familiarisation and training on the SoT system for those among the workless who have no IT skills. This will lead to spin-off benefits by introducing many job seekers to information technology and the internet for the first time, all in a setting where there is an immediate payback from learning. JobCentre Plus and local libraries also have a role to play in the providing access to PCs on which those seeking employment through SoT can manage their work offers.

Secondly in its role as a purchaser and employer the public sector has the power to kick-start the SoT marketplace. For example this could be for the employment of short-term labour within regeneration projects, or as part of the agenda to make mainstream public funding more focused on deprived areas; more flexible and devolved to the level of neighbourhoods.

6. The benefits and costs of Slivers of Time

6.1. Economic benefits

A number of economic benefits would flow from a fully operational SoT system. These include:

- a more flexible, productive labour force
- removal of a number of market imperfections in the labour market
- higher levels of economic activity
- less dependency on benefits and a larger tax base
- a potential easing of pressures on front-line services
- an increase in local participation
- increased female participation rates
- prevention of loss of soft “workplace” skills among the long-term unemployed
- a pathway to full-time work
- a means to securing a better work-life balance for those in work but attracted to a SoT way of working
- a reduction in non-benefit costs of inactivity (eg health, crime)
- a decrease in rates of social exclusion

6.2. Costs

By reducing the average cost to employers of additional marginal hours of work, a fully functioning SoT would stimulate extra demand for labour. Nevertheless it would also have some displacement effects. There would be a reduction in demand for existing full-time and part-time workers – for example from reduced scope for overtime working. Displaced workers with appropriate skills who do not find alternative employment might however benefit from SoT and gain more control over their working hours, though losing the certainty of a “conventional” job. With labour markets across the UK still generally tight, and unfilled vacancies found in most localities, this displacement offset is likely to be relatively small in the medium-term.

There will also be some deadweight associated with SoT in the sense that some of those that would have moved into economic activity via other routes will use SoT. This may be particularly true of students and the recently retired who are both more employable and more familiar with the world of work. However this deadweight is unlikely to result in a waste of public resources and SoT will offer many of these groups a superior solution in terms of job choice and hours of work than current labour market structures.

Finally there are the running costs of SoT. Some of these are internalised within the SoT market – for example the payment to SoT from the agency commission on each job contract which pays for the maintenance and development of the system. But there are

other running costs. All the participants in SoT will bear small costs. For employers and agencies arguably these costs are lower than the existing ways of sourcing workers. For the workers selling into the SoT system there are costs related to ownership of a mobile phone and perhaps a computer with an internet connection. The public sector costs relate to training and supervision of new entrants to the system from currently targeted groups such as those in receipt of Job Seekers Allowance and the disabled, and the capital and running costs of public access to the internet in libraries and resource centres. However these are not necessarily net new costs since programmes to assist the workless into employment and a commitment to internet access within libraries is already in place, and the SoT system is a means to increasing the return to this investment.

6.3. A cost benefit analysis

The exact impact of SoT is difficult to gauge and with no precedents to work with, setting out the potential benefits and costs of SoT is necessarily a speculative exercise. Market research work points to significant interest in SoT working among target groups, particularly the young². However it is not clear how this interest would convert into sustained use of SoT. Accordingly a range of scenarios is presented below, all based on conservative assumptions. As these show, even without taking account of the dynamic effects (for example as a ramp to full-time work) and social impacts, a developed SoT market offers considerable net benefits to SoT users and the government. In particular, even a relatively modest use of SoT across the country could add significantly to the proportion of the population engaging in some economic activity.

6.3.1. Base assumptions

Tables 2 below (see Annex for full spreadsheet) summarises the results of a stylised cost benefit analysis based on a number of simplifying assumptions (see Annex for full spreadsheet).

First it is assumed that SoT is operating on a UK basis and that it attracts users from a number of groups – JSA, incapacity benefit, lone parent, carer and bereaved claimants, along with the retired, the inactive who currently say they do not wish to work and students. JSA claimants and students are assumed to be the largest users, with more modest use from those on incapacity benefits, lone parents, and low use from the retired and the inactive not seeking a job. These rates of take up have been varied across the variants (see below). The base numbers for these groups have been taken from the two different sources – DWP³ and LFS⁴, except for the Accenture⁵ estimate of the number of in receipt of state pension benefits under the age of 75 who do not have part-time or full time jobs. For the pool of unemployed for whom SoT may be relevant the claimant numbers have been used rather than the wider ILO definition.

The public finances benefit to the extent that income by claimants replaces benefits. No attempt has been made to integrate the intricacies of the benefits system in to the cost benefit analysis, rather it has been assumed that there is a withdrawal of benefits that

² A survey in the Borough of Newham found that 68% of the target groups for SoT would be interested in participating in SoT. See "Potential Take Up Of Slivers Of Time Working" School of Health and Social Sciences, Middlesex University Dr. Mel Evans Lee Farenden-Smith Danaa Nantogmah February 2006

³ DWP Quarterly Statistical Summary, January 2006

⁴ Labour Market Statistics Feb 2006 Tables 12 & 13

⁵ "NEMs Scoping Slivers-of-Time Working", Accenture, September 2005

does not completely offset the income from work. Again the variants apply different benefit taper rates.

There are also benefits to the public purse from income tax and National Insurance (NI). These receipts are calculated from the average SoT earnings for participants in SoT from the different categories of user, (applying 2005/06 income tax allowances and NI contribution bands).

It is assumed that all SoT users have relatively low incomes and that as a result all income is spent. This increases VAT and Excise Duty receipts, with the increase estimated on the basis of the ratio of total VAT and Excise Duty receipts on consumption to overall consumers' expenditure.

If a range of the public sector tasks is undertaken by SoT workers instead of by more expensive full-time workers then there will be additional expenditure savings. For the purposes of the calculation it has been assumed that this replacement of full-time workers in the public sector by SoT workers does not take place.

Recruitment agencies are assumed to enjoy increased earnings from the increase in their business driven by SoT. This has an impact on Corporation Tax. For the sake of the exercise it is assumed that on average recruitment agencies pay this tax at the lower rate of 19% applied to small and medium sized businesses.

Finally on the benefit side of the equation employers are assumed to be able to reduce their employment costs. This leads to higher profits in the private sector and so further Corporation Tax gains and to savings in public spending. In this case it is assumed that the private sector beneficiaries are large corporates that pay Corporation Tax at the 30% rate.

There are a number of offsets and costs that need to be taken into account too. Not everyone using SoT would have been without paid work over the course of the year. An estimate of this so-called "deadweight" has to be subtracted from the SoT benefits since this employment would have occurred without SoT. The degree of this deadweight is varied across the three scenarios.

There are also impacts in the labour market. For example, employers who use SoT to tailor their workforce to hour-by-hour demand, may reduce the number of permanent staff that they employ. It is assumed that these job losses occur through normal job turnover and there is no impact from these losses on unemployment or inactivity. It also seems reasonable to expect a reduction in overtime working as SoT workers replace the employees who would otherwise have worked extra hours. This reduction in overtime working reduces income taxes and VAT from associated spending from overtime earnings. Again the simplifying assumptions are made that all the "lost" earnings flow directly to reduced expenditure and reduce VAT and Excise Duties pro rata to their share of overall consumers' expenditure.

Implicit in these calculations is the assumption that SoT earnings from the operation of the system cover its costs, that public spending on schemes assisting the workless into work is unaffected by the operation of SoT (though the nature of that spend is likely to be different from the status quo) and that the participants in SoT do not have costs other than those already identified above.

6.3.2. Scenario 1

This scenario is the most pessimistic of the three. It assumes:

- low take up rates across each of the categories and a low number of the available hours contracted – 5% of JSA claimants and students participate in SoT, with the take up rate from other groups 2.5% or less
- a low rate of reduction in benefits for those earning through SoT working
- SoT workers only achieve the minimum wage (£5.05 per hour) but replace relatively expensive overtime hours (£15.80 per hour – the mean rate of overtime pay in 2005)
- that the deadweight associated with SoT is relatively high – 33% for JSA claimants and students, 20% for all other categories, except the currently inactive who do not want a job, but are drawn in to work by the attractions of SoT
- there is a high displacement rate of 50% of overtime hours.

6.3.3. Scenario 2

The second scenario reduces size of the deadweight for each category – to 20% for JSA claimants and students and to 10% for most other categories – while the displacement effect on overtime hours is reduced to 25% from 50% in Scenario 1. All other assumptions are unchanged.

6.3.4. Scenario 3

The final most optimistic scenario broadly doubles the take up rate of SoT across the different groups, and sees some take up of SoT working among the disabled and those on income benefits, increases the benefit savings from 20% to 50% for most of the groups in receipt of benefits and assumes both higher hourly earnings for SoT workers (£6 per hour) and a lower pay rate (£10 per hour) for the overtime hours that are replaced.

Table 2: SoT cost benefit summary			
	Scenario 1	Scenario 2	Scenario 3
	Low take up	Low take up	Higher take up
	Low benefit offset	Low benefit offset	Higher benefit offset
	SoT minimum wage	SoT minimum wage	SoT above min wage
	High overtime pay	High overtime pay	Lower overtime pay
	High deadweight	Low deadweight	Low deadweight
	High displacement	Low displacement	Low displacement
Net public financing benefit £m	55	105	433
Percentage point increase in 16+ population engaging in some economic activity	0.9%	0.9%	1.9%
% additional annual hours	0.05%	0.17%	0.6%

As shown in Table 2 each of the scenarios yields net benefits to the Exchequer – ranging from just over £50m under scenario 1 assumptions to over £400m under scenario 3. Perhaps the best way to interpret these results is to view them as the potential that SoT offers, rather than forecasts of an expected outcome.

This analysis also allows the impact of other scenarios to be judged. For the public finances not to benefit from SoT would require some combination of very low replacement of benefit by SoT earnings, a large gap between overtime pay rates and the rates achieved by SoT workers, high displacement of overtime working and displacement of permanent jobs by SoT. However such a scenario would also imply that significant labour market imperfections have been removed and would a bigger impact on overall labour supply in the UK - a long-term positive for growth, living standards and the public finances. Equally the assumptions on the tax take from SoT workers and the deadweight and displacement effects may all be pessimistic – if this is the case the direct impact from SoT on the public finances would be greater than shown in the table. Nor does this analysis take account of the social benefits from SoT or its impact as a ramp into full-time employment for many of its participants.

7. Recommendations

A SoT marketplace offers a step-change in the way that employers interact with the workforce. As demonstrated by the cost benefit scenarios there are considerable benefits to be had. To grasp these benefits there are a number of steps that government should take:

1. Move the agenda on the re-integration of the workless into paid work away from a sole focus on full-time employment, including a new Public Service Agreement that recognises that flexible working reduces economic inactivity, and places an explicit target on the increase in employment rates this can drive. This is an important paradigm shift that rebalances power and information asymmetries that currently exist between employers and the workless and which dovetails with the increased emphasis on localism and the involvement of the community in the shaping and delivery of public services.
2. Modify the benefits system to recognise that some work is better than none, by ensuring that those within the benefits system do not see any earnings from work offset in entirety by reduced benefits
3. Develop new models of support for the transition into work in tandem with the SoT marketplace to assist individuals climb the rankings within SoT
4. Use public procurement, particularly in geographic areas where inactivity is high to catalyse the SoT marketplace and realise the benefits that will flow to the economy as a whole from a deep, liquid SoT marketplace
5. Give profile and credibility to SoT in announcements, speeches and initiatives.

8. Annex 1: Cost benefit analysis

Annex Table 1 SoT cost benefit: Scenario 1	Benefit claimants								Other inactive				Total
	Job seeker	Incapacity benefits	Lone parents	Carer	Other income related benefit	Disabled	Bereaved	Working age retired	Retired (older than retirement age but less than 75)	Inactive - don't want a job	Students		
Average 2005 (000s)	859	2730	789	360	153	300	141	610	5300	5864	1829	18935	
Proportion using SoT	5%	2.5%	2.5%	1%	-	-	2.5%	2.5%	1%	2.5%	5%		
Numbers using SoT 000s	43	68	20	4	-	-	4	15	53	147	91	444	
Proportion of total annual hours worked	40%	10%	10%	10%	-	-	10%	10%	10%	10%	20%		
Hours worked	28810	11442	3305	603	-	-	589	2556	8884	24574	30659	80764	
Aggregate earnings (millions) at minimum wage of £5.05 per hour	145	58	17	3	-	-	3	13	45	124	155	563	
Average earnings per participant	3,386	847	847	847	-	-	847	847	847	847	1,693		
Benefit taper rate	20%	20%	20%	20%	-	-	20%	0%	20%	0%	0%		
Benefits saved (millions)	29	12	3	1	-	-	1	-	9	-	-	54	
Tax on SoT generated income (millions)	-	-	-	-	-	-	-	-	-	-	-	-	
NI on SoT generated income	-	-	-	-	-	-	-	-	-	-	-	-	
Impact on consumers' expenditure	145	58	17	3	-	-	3	13	45	124	155	563	
Impact on VAT & Excise Duties	27	11	3	1	-	-	1	2	8	23	28	103	
Additional income to recruitment agencies	25	10	3	1	-	-	1	2	8	22	27	98	
Net additional profit for recruitment agencies	6	3	1	0	-	-	0	1	2	5	7	25	
Additional corporation tax	1	0	0	0	-	-	0	0	0	1	1	5	
Deadweight													
Proportion of hours that would have been worked without SoT	33%	20%	20%	20%	-	20%	20%	20%	10%	0%	33%		
Deadweight loss	-19	-5	-1	0	-	-	0	0	-2	0	-10	-37	
Displacement													
Jobs displaced (000s)	4	7	2	0	-	-	0	2	5	15	9	44	
Overtime hours displaced (000s)	14405	5721	1653	302	-	-	295	1278	4442	12287	15329	55711	
Overtime earnings displaced (millions)	216	86	25	5	-	-	4	19	67	184	230	836	
Income tax "loss" from displacement (millions)	-48	-19	-5	-1	-	-	-1	-4	-15	-41	-51	-184	
NI "loss" from displaced overtime hours (millions)	-24	-9	-3	0	-	-	0	-2	-7	-20	-25	-92	
Impact on consumers' expenditure	-216	-86	-25	-5	-	-	-4	-19	-67	-184	-230	-836	
Impact on VAT & Excise Duties	-40	-16	-5	-1	-	-	-1	-4	-12	-34	-42	-153	
Improvement in profits of private sector companies using SoT from reduced overtime costs (millions)	90	36	10	2	-	-	2	8	28	77	96	349	
Corporation tax on increased private sector profitability	27	11	3	1	-	-	1	2	8	23	29	105	
Public sector savings on overtime working	39	15	4	1	-	-	1	3	12	33	41	149	
Net impact on public finances (millions)	-7	0	0	0	-	-	0	-2	2	-15	-28	55	
Impact on activity rate	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.9%	
Increase in hours worked	0.03%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.03%	0.05%	
Variable assumptions													
Working weeks	45												
Working hours per week	37.25												
Agency commission	20%												
SoT commission	2.5%												
Agency profit rate	25%												
Corporation tax rate on agencies	19%												
Job displacement rate	10%												
Overtime hours displaced	50%												
Overtime pay rate per hour	15												
SoT pay rate	5.05												
Population over 16 (000s)	48,000												
Corporation tax on private sector users of SoT	30%												
Weekly total UK hours (million)	921												

Annex Table 2 SoT cost benefit: Scenario 2													
	Benefit claimants								Other inactive				
	Job seeker	Incapacity benefits	Lone parents	Carer	Other income related benefit	Disabled	Bereaved	Working age retired	Retired (older than retirement age but less than 75)	Inactive - don't want a job	Students	Total	
Average 2005 (000s)	859	2730	789	360	153	300	141	610	5300	5864	1829	18935	
Proportion using SoT	5%	2.5%	2.5%	1%	-	-	2.5%	2.5%	1%	2.5%	5%		
Numbers using SoT 000s	43	68	20	4	-	-	4	15	53	147	91	444	
Proportion of total annual hours worked	40%	10%	10%	10%	-	-	10%	10%	10%	10%	20%		
Hours worked	28810	11442	3305	603	-	-	589	2556	8884	24574	30659	111423	
Aggregate earnings (millions) at minimum wage of £5.05 per hour	145	58	17	3	-	-	3	13	45	124	155	563	
Average earnings per participant	3,386	847	847	847	-	-	847	847	847	847	1,693		
Benefit taper rate	20%	20%	20%	20%	-	-	20%	0%	20%	0%	0%		
Benefits saved (millions)	29	12	3	1	-	-	1	-	9	-	-	54	
Tax on SoT generated income (millions)	-	-	-	-	-	-	-	-	-	-	-	-	
NI on SoT generated income	-	-	-	-	-	-	-	-	-	-	-	-	
Impact on consumers' expenditure	145	58	17	3	-	-	3	13	45	124	155	563	
Impact on VAT & Excise Duties	27	11	3	1	-	-	1	2	8	23	28	103	
Additional income to recruitment agencies	25	10	3	1	-	-	1	2	8	22	27	98	
Net additional profit for recruitment agencies	6	3	1	0	-	-	0	1	2	5	7	25	
Additional corporation tax	1	0	0	0	-	-	0	0	0	1	1	5	
Deadweight													
Proportion of hours that would have been worked without SoT	20%	10%	10%	10%	-	-	10%	10%	5%	0%	20%		
Deadweight loss	-11	-2	-1	0	-	-	0	0	-1	0	-6	-22	
Displacement													
Jobs displaced (000s)	2	3	1	0	-	-	0	1	3	7	5	22	
Overtime hours displaced (000s)	7203	2861	826	151	-	-	147	639	2221	6143	7665	27856	
Overtime earnings displaced (millions)	108	43	12	2	-	-	2	10	33	92	115	418	
Income tax "loss" from displacement (millions)	-24	-9	-3	0	-	-	0	-2	-7	-20	-25	-92	
NI "loss" form displaced overtime hours (millions)	-12	-5	-1	0	-	-	0	-1	-4	-10	-13	-46	
Impact on consumers' expenditure	-108	-43	-12	-2	-	-	-2	-10	-33	-92	-115	-418	
Impact on VAT & Excise Duties	-20	-8	-2	0	-	-	0	-2	-6	-17	-21	-76	
Improvement in profits of private sector companies using SoT from reduced overtime costs (millions)	45	18	5	1	-	-	1	4	14	38	48	174	
Corporation tax on increased private sector profitability	14	5	2	0	-	-	0	1	4	12	14	52	
Public sector savings on overtime working	19	8	2	0	-	-	0	2	6	16	21	75	
Net impact on public finances (millions)													
	23	11	3	1	-	-	1	0	10	4	0	105	
Impact on activity rate													
% increase in hours worked	0.05%	0.02%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.04%	0.05%	0.17%	
Variable assumptions													
Working weeks	45												
Working hours per week	37.25												
Agency commission	20%												
SoT commission	2.5%												
Agency profit rate	25%												
Corporation tax rate on agencies	19%												
Job displacement rate	5%												
Overtime hours displaced	25%												
Overtime pay rate per hour	15												
SoT pay rate	5.05												
Population over 16 (000s)	48,000												
Corporation tax on private sector users of SoT	30%												
Weekly total UK hours (million)	921												

	Benefit claimants								Other inactive				Total
	Job seeker	Incapacity benefits	Lone parents	Carer	Other income related benefit	Disabled	Bereaved	Working age retired	Retired (older than retirement age but less than 75)	Inactive - don't want a job	Students		
Average 2005 (000s)	859	2730	789	360	153	300	141	610	5300	5864	1829	18935	
Proportion using SoT	10%	5%	5%	2.5%	2.5%	2%	5%	5%	2.5%	5%	10%		
Numbers using SoT 000s	86	137	39	9	4	6	7	31	133	293	183	927	
Proportion of total annual hours worked	50%	20%	20%	20%	10%	10%	20%	20%	20%	20%	30%		
Hours worked	72026	45768	13221	3015	643	1,005	2357	10225	44421	98295	91976	382951	
Aggregate earnings (millions) at minimum wage of £5.05 per hour	364	231	67	15	3	5	12	52	224	496	464	1934	
Average earnings per participant	4233	1693	1693	1693			1693	1693	1693	1693	2540		
Benefit taper rate	50%	50%	50%	50%	50%	50%	50%	-	1	-	-		
Benefits saved (millions)	182	116	33	8	2	3	6	-	112	-	-	461	
Tax on SoT generated income (millions)	-	-	-	-	-	-	-	-	-	-	-	-	
NI on SoT generated income	-	-	-	-	-	-	-	-	-	-	-	-	
Impact on consumers' expenditure	364	231	67	15	3	5	12	52	224	496	464	1934	
Impact on VAT & Excise Duties	67	42	12	3	1	1	2	9	41	91	85	354	
Additional income to recruitment agencies	64	40	12	3	1	1	2	9	39	87	81	338	
Net additional profit for recruitment agencies	16	10	3	1	0	0	1	2	10	22	20	85	
Additional corporation tax	3	2	1	0	0	0	0	0	2	4	4	16	
Deadweight													
Proportion of hours that would have been worked without SoT	20%	10%	10%	10%		10%	10%	10%	5%	0%	20%		
Deadweight loss	-50	-16	-5	-1	-	0	-1	-1	-8	0	-18	-100	
Displacement													
Jobs displaced (000s)	4	7	2	0	0	0	0	2	7	15	9	46	
Overtime hours displaced (000s)	18006	11442	3305	754	161	251	589	2556	11105	24574	22994	95738	
Overtime earnings displaced (millions)	180	114	33	8	2	3	6	26	111	246	230	957	
Income tax "loss" from displacement (millions)	-40	-25	-7	-2	0	-1	-1	-6	-24	-54	-51	-211	
NI "loss" from displaced overtime hours (millions)	-20	-13	-4	-1	0	0	-1	-3	-12	-27	-25	-105	
Impact on consumers' expenditure	-180	-114	-33	-8	-2	-3	-6	-26	-111	-246	-230	-957	
Impact on VAT & Excise Duties	-33	-21	-6	-1	0	0	-1	-5	-20	-45	-42	-175	
Improvement in profits of private sector companies using SoT from reduced overtime costs (millions)	35	22	6	1	0	0	1	5	22	48	45	188	
Corporation tax on increased private sector profitability	11	7	2	0	0	0	0	2	7	14	14	56	
Public sector savings on overtime working	15	10	3	1	0	0	0	2	9	21	19	80	
Net impact on public finances (millions)	135	101	29	7	2	2	5	-1	106	4	-14	433	
Impact on activity rate	0.2%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.6%	0.4%	1.9%	
Increase in hours worked	0.11%	0.07%	0.02%	0.00%	0.00%	0.00%	0.00%	0.02%	0.07%	0.15%	0.14%	0.60%	
Variable assumptions													
Working weeks	45												
Working hours per week	37.25												
Agency commission rate	20%												
SoT commission	2.5%												
Agency profit rate	25%												
Corporation tax rate on agencies	19%												
Job displacement rate	5%												
Overtime hours displaced	25%												
Overtime pay rate per hour	10												
SoT pay rate	6.00												
Population over 16 (000s)	48,000												
Corporation tax on private sector users of SoT	30%												
Weekly total UK hours (million)	921												