

ASSESSING THE IMPACT OF RECENT UNEMPLOYMENT INSURANCE EXTENSIONS IN THE UNITED STATES

Draft

David Grubb, OECD, 14 June 2011

Abstract. In 2008 and 2009, unemployment insurance (UI) benefit durations in the United States were increased from 26 weeks to 99 weeks in most of the larger states. Taking into account other measures that increased benefit levels, expanded coverage and weakened institutional incentives for strict administration, the overall increase in benefit system generosity was about five times greater than it was in the recessions of the 1980s, 1990s and early 2000s. Past econometric estimates for the impact of extended benefits are found to be broadly consistent with each other, and to imply that the benefit-system changes account for most of the recent large increase in the duration of unemployment spells. Administrative data support this interpretation, since rates of exit from the extended benefits have averaged not much above 1% per week in 2010, which is far below the rates of exit from unemployment that arise in the absence of benefit extensions. The availability of more-generous benefits appears to have also provoked a surge in new benefit claims. Together, the different channels of impact identified here can account for at least half of the increase in the unemployment rate in percentage point terms that occurred in 2009 and 2010, explaining why the recession in terms of labour market outcomes has been much deeper in the United States than in most other OECD countries. Ireland and Spain, two countries that sharply increased benefit-system generosity in the mid-2000s, also experienced particularly deep recessions, and an Annex discusses this international pattern which is in line with broad OECD experience since the 1970s. The article analyses in detail a number of arguments, advanced by US economists, for expecting that UI extensions would have either a favourable effect or a relatively small adverse effect on unemployment outcomes. Most of the benefit extension measures in the United States are temporary in nature, and the schedule for their withdrawal suggests that new benefit claims will decline in the second half of 2011 and that much of the increase in unemployment will unwind in 2012.

The views expressed in this paper are those of the author, and do not necessarily reflect the official views of the OECD or of the governments of its Member countries.

TABLE OF CONTENTS

ASSESSING THE IMPACT OF RECENT UNEMPLOYMENT INSURANCE EXTENSIONS IN THE UNITED STATES.....	4
A. Introduction.....	4
B. International experience with labour market policies	5
B.1 Developments since the 1960s and 1970s	5
B.2 Assessing the strength of activation measures.....	7
C. The US unemployment insurance system and history of benefit extensions	7
C.1 Regular, extended and emergency benefits prior to 2008	7
Regular benefits	7
Federal-State Extended Benefit (EB)	8
Emergency Unemployment Compensation	9
C.2 The scale and scope of benefit extensions in 2008-2011	10
The potential duration of benefits.....	10
Further changes in monetary entitlements	12
Changes in activation measures.....	14
National financing of benefits	16
Overall scope and scale of the benefit extensions and related measures	17
D. Microeconomic evidence	18
D.1 International evidence about the impact of similar policies	18
Replacement rates and hazard rates	18
Potential benefit duration.....	19
Entry effects.....	20
International benchmarking of experience with a two-year UI durations	22
International experience with national vs. local management and financing	23
D.2 US evidence about the impact of similar policies	25
The impact of PES interventions	25
The specific impact of EUC on spell duration.....	25
Other US estimates for the impact of benefit duration on the duration of unemployment.....	26
The impact of the availability of extended benefits on exhaustion from regular UI	28
Experience with EUC in the early 1990s.....	29
EUC exhaustion rates in 2009 and 2010.....	30
Unemployment after benefit exhaustion.....	31
Entry effects.....	33
E. Weaknesses in the arguments suggesting that the UI extensions would have a minimal or a favourable impact on unemployment.....	38
Econometric studies estimate only a small impact	38
The level of UI benefit in the United States is too low to act as a significant disincentive.....	40
Benefit disincentives affect transitions to inactivity, not transitions to employment	45
Benefit disincentives are irrelevant in a recession.....	46
Unemployment benefits support aggregate demand.....	48
There is no evidence of mismatch unemployment	53
Micro-econometric studies estimate a large impact but macroeconomic impact will be smaller	53

ANNEX: UNEMPLOYMENT HYSTERESIS Versus THE AMPLIFICATION OF SHOCKS	55
Introduction	55
Econometric evidence for the amplification of shocks.....	56
Interpretation	56
Additional observations	58
BIBLIOGRAPHY	59
Table 1. Quarterly UI caseload and unemployment data, 2007-2011	12
Table 2. Estimated exhaustion rates for the four Tiers of EUC and Extended Benefits	30
Table 3. The timing of changes in the expected level and potential duration of benefits for new claims of regular UI, 2008-2011	35
Table 4. OECD countries ranked by 2002-2008 growth in the employment rate of 60-64-year-old males, with explanations for the cases of rapid growth.....	46
Table 5. Estimated median duration of unemployment according to benefit entitlement and demand conditions in Spain in the 1990s ^a	50

ASSESSING THE IMPACT OF RECENT UNEMPLOYMENT INSURANCE EXTENSIONS IN THE UNITED STATES¹

A. Introduction

In nearly all states of the United States, the maximum duration of the regular unemployment (UI) benefit is 26 weeks. Legislation in 2008 and 2009 increased the maximum duration to 99 weeks, except in some (mainly-smaller) states where the unemployment rate remained relatively low. At the same time, the labour market impact of the recession, whether measured in terms of the increase in the unemployment rate or the decline in the employment rate of the working-age population, was far greater in the United States than in most other OECD countries. Specifically, between 2007 and 2010 the US unemployment rate more than doubled (increasing by over 5 percentage points), and US employment declined by 7%, figures only exceeded in Estonia, Iceland, Ireland and Spain. In other countries of OECD Europe, from 2007 to 2010 unemployment increased by around one-third (exceptionally, it doubled in Denmark), and employment fell by 3% or less (exceptionally a bit more in Denmark and Sweden, but less in 13 other countries and even rising in Austria, Germany and Poland). Currently, most US economists deny that the UI extensions have played a central role in causing the depth of the recession in labour market terms. Among better-known economists, Barro (2010) is almost alone in arguing that the UI extensions are the primary cause, and his opinion is based on rather broad considerations. This paper by contrast aims to provide a more comprehensive review of the issue, referring to a range of detailed evidence.

This paper at one point cites Ireland and Spain, and not only the United States, as countries where the exceptional depth of the recession is linked to unemployment benefit issues which appear to affect employment levels and not only unemployment rates. But since this is not central to the rest of the analysis, it is put into an Annex on “Unemployment Hysteresis versus the Amplification of Shocks”.

In order to provide an overview while remaining readable, the paper gives summary descriptions of policies and evidence about their impact, with references to other studies and some quotations from them. The reader is invited to go through the summary descriptions and if sufficiently interested, access the articles cited (I provide URLs in some cases) to review the original econometric specifications and coefficient estimates, charts and descriptions of the data, etc.

In general it is assumed that other countries’ experiences – both their economic histories, and their detailed research findings about the impact of labour market policies – are relevant for the United States, but at many points the non-US and US evidence are presented in separate subsections. Section B summarises lessons from international experience with labour market policies since the 1960s and 1970s.

¹ This draft cancels and replaces an earlier draft dated 25 May. It may be cited as representing the author’s views and not necessarily those of the OECD or of the government of its Member countries, recognizing its status as a draft subject to further revision [and completion, as regards Section F]. The author thanks without naming them for the moment people who have contributed directly or indirectly to the analysis, and accepts responsibility for remaining errors. Despite some calls for greater readability, the paper is more in the style of a voluminous technical resource including alternative perspectives and lines of reasoning, cross-checks on earlier statements, footnotes and hints about topics for research, etc.: which can serve as background support for a shorter presentation.

Section C.1 summarizes the features of the US UI system and the UI extension policies operated in earlier recessions, and Section C.2 outlines the features of the most recent UI extensions and related measures. Sections D.1 and D.2 cite international and US evidence about the impact of these features. Section E considers several arguments, widely advanced within the United States, according to which the current UI policies might be expected to have only a small negative impact, or a more positive impact than they would do in other countries or at other times, or even a favourable impact on unemployment. [Section F, “Prospects and Policy Options”, which outlines alternative strategies that could have been adopted and remain relevant, and broader issues for the governance of income support, is not yet included].

B. International experience with labour market policies

B.1 Developments since the 1960s and 1970s

Unemployment rates in Europe, along with Australia and New Zealand, were generally lower than in the United States in the 1960s and early 1970s. After the first oil price shock in 1973, unemployment rates rose sharply in some countries but not others. In the late 1970s and the 1980s, the phenomenon of “hysteresis” - whereby unemployment failed to fall back to former levels during an upswing – was widely analysed and economists at first hypothesised that it could be attributed to “real wage resistance” in the face of negative oil price and productivity shocks. But with the passage of time and a huge fall in the real oil price in the 1980s, this perspective gave way to a view that high unemployment was “structural”, and could be attributed to institutions. Research into the role of institutions tended to identify generous unemployment benefits as a prime suspect. Blanchard (2006) tells this story from the point of view of research using quantitative indices, describing how explanations of unemployment in Europe came to focus increasingly upon institutions, particularly unemployment benefits. His account however does not adequately recognize the role of employment service strategies and the definition and implementation of eligibility conditions for benefits, probably because good comparative summary indices for the orientation of these institutions are lacking.²

An early alternative account that does focus on these factors was given by Tsebelis and Stephen (1994), who argue that unemployment rates depend on the duration of unemployment benefits but not on their level because:

most of the theoretical economic literature has ignored the institutional structure governing the administration of unemployment benefits.. [our] model considers unemployment not as the aggregate outcome of the individual decisions of people entering and exiting two pools of employment and unemployment, but as a game between these people and employment agencies... how benefits are administered is as important as (or maybe more important than) the level of benefits... Countries with high benefits do not have different unemployment levels from countries with low unemployment benefits.. [but] countries with high benefits will have a more developed monitoring apparatus.

They present historical studies of developments in seven countries since the 1970s, along with cross-national comparisons using OECD data for a larger number of countries and then argue that:

² Blanchard (2006) states that economists have been better able to explain cross-country differences in unemployment than its evolution through time in terms of institutions. His information base did not include the fact that a drive against enforcing benefit conditionality was influential in the late 1960s, and can account for time-series experiences in some countries which had generous benefits in the 1950s and 1960s but only experienced a rise in unemployment in the 1970s. Historically more-active management of unemployment by the Public Employment Service (PES) in Portugal compared to Spain might also contribute to the disparity of unemployment rates between the countries, a fact that Blanchard identifies as unexplained.

The interpretation of illustrative evidence taken from the historical experiences of a group of countries naturally focuses on experiences that are congruent with our model. There may be other plausible explanations that account for some of them. However, we know of no other theory that accounts for all the evidence presented in the case studies as well for all the cross-national comparisons we present.

In the relatively long term, Tsebelis and Stephen's vision where countries with high benefits do not have higher unemployment rates, but do have a better-developed "monitoring apparatus", is accurate. However, over the medium term many countries have at least once broken away from this pattern by having a moderately high level of benefit generosity without a correspondingly well-developed "monitoring apparatus". This can occur by introducing generous benefits without much "monitoring apparatus", or less obviously starting from a position with effective monitoring but allowing monitoring efforts to slip, or simply by allowing the labour market to develop new practices, such that earlier constraints on benefit claims are no longer effective, without taking corrective action. Whichever is the detailed scenario, growth in unemployment benefit claims generally causes an increase in unemployment according to the labour force survey measure, and administrations eventually introduce reforms, often justifying them by cost rather than incentive considerations: in an area that is so open to controversy, the large and more difficult reforms may well be held up for a decade or more but they have usually in the end restored some balance.

Other strands of analysis identified the treatment of the unemployed as a critical factor. For the United Kingdom, Layard (1986) highlighted a decline in the frequency of benefit sanctions for refusal of suitable employment or "neglecting to avail" after 1968, which accelerated after 1973. He and colleagues in later work identified outwards shifts in the Beveridge (U-V) curve - which meant that unemployment was higher than would be expected on the basis of the level of vacancies - in many countries. These shifts, they suggested, arose because the long-term unemployed were no longer actively seeking work and thus were not part of the effective labour supply.

The United Kingdom implemented a "Restart" process of more intensive administrative engagement with the unemployed in 1986, a "Stricter Benefit Regime" with a focus on enforcing job-search requirements resulting in increased sanctions in the early 1990s, and a type of job guarantee for the long-term unemployed (a policy particularly advocated by Layard) through the New Deals starting in 1998. Throughout the 2000s, the number of benefit recipients was about a third of the levels of the 1980s, a pattern that has often been seen when contrasting caseloads between situations with relatively intensive activation and those with no activation, or only relatively mild and ineffective measures.

Among other OECD countries, some had generous benefit systems in the 1960s, and some introduced them in the 1970s or the 1980s. Some countries in the 1960s and 1970s separated benefit administration from placement services or reduced the enforcement of job-search conditions in other ways. By the 1990s evidence for the analysis set out here had accumulated (Layard *et al.*, 1994, the *Jobs Study*, OECD, 1994, and Tsebelis and Stephen, 1994, were developed separately and published in the same year), and the principles of "activation" (under different names) became more widely recognized. In 1997, the European Employment Strategy called on EU states to offer an alternative to continuing unemployment to all adults after 12 months, and to all youths after 6 months. Since about that time, probably the majority of OECD countries outside North America³ have implemented policies based on the view that unemployment benefits have disincentive effects which can be offset by intensive job-search assistance, monitoring and in some cases the extensive use of active labour market programmes (ALMPs). Grubb (2007) presents evidence that the countries with the highest benefit replacement rates often have disproportionately high expenditure on ALMPs: where benefits are generous, disincentive effects will be large unless something

³ North America has adopted activation policies in relation to social assistance benefits, but not so much in relation to UI benefits, partly due to their relatively short duration.

significant is done to counteract them, and policy-makers often recognise that even high levels of spending on ALMPs are cost-effective.

Based on this background, behavioural coefficients such as the elasticity of unemployment with respect to replacement rates or benefit duration are not expected to be constants. They are liable to vary with the intensity of activation measures.

B.2 Assessing the strength of activation measures

Although no synthetic index for the strength of activation policies - through time and across countries - is available to allow direct econometric testing of its macroeconomic impact, the policy stance can to a large extent be documented by examining the following areas:

- The strictness of non-monetary benefit eligibility conditions: for example, the definition of “suitable work” in legislation, guidelines and jurisprudence.
- The frequency and intensity of administrative contacts with the unemployed: such as job-search monitoring, regular interviews, and direct matching to job vacancies associated with sanctions for failure to apply or refusals of job offers.
- The compulsory nature of referrals to ALMPs, which makes continuation of income support conditional on participation in work, training or similar programmes.
- The institutional integration of the placement and benefit administration functions of the public employment service (PES), such that the placement objective of rapid return to work is supported by benefit sanctions in cases of non-cooperation, and the benefit administration’s objective of enforcing eligibility criteria is implemented through job-search monitoring and referrals to job vacancies and ALMPs.
- The financial resources allocated to ALMPs, particularly the PES and administration, since other types of ALMP may or may not make a big contribution towards reducing unemployment.
- Institutional incentives, in particular whether the organisations or levels of government that finance benefits have effective control over placement and benefit administration work at the local level.

This might seem to be a long introduction, but it frames the approach used here in documenting the facts, interpreting estimates of benefit impact and considering policy options.

C. The US unemployment insurance system and history of benefit extensions

C.1 Regular, extended and emergency benefits prior to 2008

Regular benefits

Since 1936, the effective Federal unemployment tax rate paid by employers throughout the United States has risen slowly from 0.3% to 0.8% of wages up to an annual ceiling which is now \$7000, *i.e.* usually \$56 per employee per year (Miller, 1997). This finances the administration costs of the system, half of the cost of the Federal-State Extended Benefits (EB) Program, and a federal account for loans to the State UI funds (Committee on Ways and Means, 2000). The \$7000 ceiling was last revised in 1983, and in real terms the level of funding for these functions has declined dramatically since then. Most states tax

wages up to a UI tax ceiling which is above \$7000 - but below the earnings of a year-round full-time minimum-wage worker, in a majority of states - and at rates well above 0.8%, and use the excess above the federal unemployment tax rate to fund benefit payments. Although states can take short-term loans from the federal account, financial penalties are in principle imposed on states with prolonged borrowing. States have traditionally built up reserves in good times and worked off deficits by increasing the employer tax rate, although more recently many states have not maintained their reserves at an adequate level.

Federal legislation broadly defines covered employment, but states generally determine individual qualification requirements, disqualifications, weekly benefit amounts and potential weeks of benefit (nearly all states choose 26 weeks⁴), and the state tax structure used to finance all of the regular state benefits and half of EB programme costs. In nearly all states, the annual earnings threshold to qualify for minimum benefits is low (below \$1000 annual earnings, in some cases), but there must be some earnings in each of two quarters to qualify for benefit.⁵ The weekly benefit amount is typically around 50% of previous weekly earnings, up to ceiling (which may be well above the UI tax ceiling). Prior to 1987 the income-tax-exempt status of benefit income significantly increased the net replacement rate, but since 1987 benefits have been fully taxable.

Experience-rating is a well-known feature of UI in the United States. The rate of tax applied to firms is varied up to a maximum of 5.4%, or more in some states, for firms that frequently put workers on temporary or permanent layoff. This motivates firms to contest employees' applications for benefit so that, in contrast to the situation in most European countries, a relatively high proportion of all separations are classed as quits and do not qualify. During temporary layoff, claimants are not generally required to search for other work. These arrangements favour a somewhat bimodal distribution of UI claim durations, with shorter claim durations among workers on temporary layoff, and longer claim durations among workers who have been laid off permanently.

Federal-State Extended Benefit (EB)

Congress established a permanent EB programme in 1970. It provides up to 13 additional weeks of benefit in states where unemployment is relatively high. Since 1992 it can provide a further 7 weeks in states that enact a further optional trigger, although states were quite slow to enact such a trigger. In 2000, the trigger for the payment of EB in most states was a 13-week average state Insured Unemployment Rate (IUR) exceeding 6.0%. Historically EB has been payable mainly during recessions, and in many years EB has not been active in any state.

States have a direct incentive to limit EB claims, since they finance half the cost of EB payments. Moreover, the federal law requires states to deny EB to any claimant who refuses to apply for or accept work that pays at least the state minimum wage and more than the person's average weekly unemployment

⁴ Two states, Washington and Massachusetts, pay regular UI for a maximum 30 weeks; other states paid a maximum 26 weeks until 2010, but reduced the maximum some time in 2011.

⁵ Many states based the weekly benefit amount on earnings in the highest quarter or two highest quarters of a four-quarter period, which tends to increase effective replacement rate. Most but not all states vary the UI duration below 26 weeks in cases when qualifying earnings were relatively low. In 1992, regular UI spells with a potential benefit duration (PBD) of less than 26 weeks accounted for over 80% of regular UI exhaustions in three states, and 43% of regular UI exhaustions on average (averages are unweighted: Woodbury and Rubin, 1997, Table 6.3). The average PBD was 23.5 weeks and the average exhaustion rate was 36.6%. A rough model for this is that 20% of spells have a PBD of 13 weeks with an exhaustion rate of 56.5% and 80% have a PBD of 26 weeks with an exhaustion rate of 32% ($0.32=0.565^2$). The true exhaustion rate for 26-week spells is then about 13% lower than the commonly-reported exhaustion rate, which is an average across spells of various durations: however, the rest of this article will this complication.

compensation, and to any claimant who has been disqualified from receiving state benefits because of voluntarily leaving employment, discharge for misconduct or refusal of suitable work. These conditions for EB are more restrictive than those usually applied to claims for regular UI.

The co-financed EB programme was last used extensively in the recession of the early 1980s. In the early 1990s and the early 2000s it was little used partly due to changes in the trigger mechanisms that made it relatively difficult for EB to be triggered, and partly because Emergency Unemployment Compensation took priority (Nicholson and Needels, 2006). In the late stages of the 1990-1992 recession, state governors were allowed to cancel their EB programmes when EUC became available - which they did, since this shifted the cost onto the federal government. In 2002-3, the sequencing of extended benefit programmes was changed, so that after the exhaustion of regular UI benefit, EUC was paid first and EB was paid only to claimants who had already exhausted EUC, if the EB programme was triggered (Nicholson and Needels, 2004a).

Emergency Unemployment Compensation (EUC)

In contrast to EB, EUC has always been funded at the Federal level.⁶ From 1971 to 1994, Congress voted temporary Emergency Unemployment Compensation (EUC)⁷ benefits payable during the years 1971-1973; 1975-1977 (called Federal Supplemental Benefits, FSB); 1982-1985 (called Federal Supplemental Compensation, FSC); 1991-1994 (Emergency Unemployment Compensation, EUC); and 2002-2004 (Temporary Extended Unemployment Compensation, TEUC).

Before 2008, EUC programmes were introduced only at a rather late stage of the cyclical downturn: 5 quarters after the start of the recession in the mid-1970s, early 1990s and early 2000s, and 4 quarters after the start of the recession in the early 1980s (Nicholson and Needels, 2006). More-recent EUC legislation has included a “reach-back” provision. In 1991, EUC legislation passed in November allowed benefits to be paid to people who had exhausted regular UI in a claim year ending after February 1991, which could include people who had exhausted benefits in August 1990. Claimants who could qualify for EUC on the basis of a past exhaustion of regular UI, but who also could qualify for regular UI on the basis of recent earnings, were allowed to choose between the two. This diverted about 12% to 16% of the EUC funds in 1991-1994 to people who were not in fact long-term unemployed. In the early 2000s this provision was not repeated, *i.e.* claimants qualified for regular UI could not choose EUC instead (Nicholson and Needels, 2004a).

Total federal expenditure on extended benefits (including the federal share of EB) was about a quarter of state expenditure on regular UI (including the state share of EB) in 1982-1985 and 2002-2004, and about a third in 1975-77. It reached 44% in 1991-1994, but this figure needs adjustment for the funding that substituted for regular UI payments (Nicholson and Needels, 2006). As a generalization, it can be kept in mind that in past recessions, over the period that EUC was payable, the cost of EUC payments after the 26th week of regular UI was about one-third of the cost of regular UI payments.⁸

⁶ In the 1990s, the first years of EUC were financed from the Federal Extended Unemployment Compensation Fund, rather than directly from the federal budget; but either way the marginal cost of EUC payments for the states was zero.

⁷ In this paper the term “Emergency Unemployment Compensation” refers generically to the emergency federally-funded programmes, including the current one.

⁸ CBO (2004, Figure 2) charts the spending by component from 1972 to 2003.

79% of EUC spells in the early 1980s and 72% in the early 2000s ended in exhaustion (Nicholson and Needels, 2006). This implies, given the potential duration of EUC payments, that average exit rates were about 2.3% per week in the early 1980s and early 2000s.⁹

C.2 *The scale and scope of benefit extensions in 2008-2011*

The potential duration of benefits

In 2008 and 2009, the potential duration of benefits was increased through the creation of four “Tiers” of EUC: Tier 1 (20 weeks: the first 13 weeks were payable from June 2008), Tier 2 (14 weeks, payable from November 2008), and (from November 2009) Tier 3 (13 weeks) and Tier 4 (6 weeks, in states with an unemployment rate above 8.5%¹⁰). Most states qualified for all four Tiers.

In addition, the federal share in financing EB (previously 50%) was increased to 100% from February 2009 to December 2011 (Whittaker and Isaacs, 2011). This made EB more similar to EUC than to EB in previous recessions. Also the duration of EB was generally extended, conditional on states passing enabling legislation, to 20 weeks. Thus, the overall common maximum duration of extended benefits (EUC plus EB) in 2008-2011 was 73 weeks, which is about three times more than the average of the recessions of the early 1980s, 1990s and 2000s (when the common maximum extensions were 25, 27 and 20 weeks respectively), and a little short of twice the maximum extension in the mid-1970s (13 weeks of EB plus 26 weeks of FSB).¹¹

However in past recessions where EUC was paid, there were many states where, as a function of state unemployment rates and policy parameters, the common maximum was not reached. The weighted average potential duration of EB and EUC combined was only 13 weeks in the early 1980s, 16 weeks in the early 1990s and 14 weeks in the early 2000s (Nicholson and Needels, 2004b, Table 2). By contrast, the weighted average potential duration of UI benefits reached 90 weeks – quite close to the absolute maximum of 99 weeks - in late 2009 (Aaronson *et al.*, 2010). Given that the average extension was much closer to the maximum extension, on a weighted average basis the average extension in 2008-2011 (64 weeks) was about 4.4 times greater than in the three preceding recessions.

In relation to the preceding recessions, even with complete retrospective information researchers have found it difficult to model the changing potential benefit duration faced by unemployed individuals in their data sets, due to multiple legislative changes and extensions triggering on and off with the unemployment rate. In 2008-2011, the availability of extended benefits has been, from the claimant point of view, often

⁹ This calculation uses estimates for the average potential duration of EUC benefits in Needels and Nicholson (2004b, Table 2). That paper cites a low exhaustion rate for the early 1990s, which is discounted here because it includes spells in cases where EUC was paid in place of regular UI, as described above.

¹⁰ Tier 4 can be paid when the unemployment rate (on a labour force survey, CPS, basis) is above 8.5% (or when it is above 6% on an insured unemployment rate basis, but this condition is rarely met since only regular UI beneficiaries are counted as insured unemployed).

¹¹ In the early 1980s EUC was limited to 12 weeks but 13 weeks of EB were often paid as well; in the early 1990s and 2000s EUC durations were longer but EB was hardly used, as explained above. In 2008-2011, all the largest states except for Texas and Washington paid Tier 4 of benefits, and in data to end 2010 about 86% of those who had exhausted Tier 3 were in states that had paid some Tier 4 benefits (<http://workforcesecurity.doleta.gov/unemploy/euc.asp>). EB with 100% federal financing can be paid for 13 weeks when the unemployment rate is 6.5% or higher, and for 20 weeks when the unemployment rate is 8 percent or higher. Not all states have passed the necessary legislation but as of March 26, 2010, 20 weeks of EB were payable in 31 states including all 10 of the largest states by population size and the District of Columbia, and 13 weeks of EB were payable in 7 states and Puerto Rico (NELP, 2010b).

relatively predictable some time (six months or more) in advance of the time they would be claimed.¹² Several large states consistently qualified for the maximum package of federal extensions, and detailed advice about this has been accessible from many websites. On the other hand, during 99-week claims many of the weeks of entitlement depended on federal legislation and renewals, and state enabling legislation for EB that was enacted only after the start of the claim, and state unemployment rates developments, so that at no time did a new claimant on the first week of regular UI know for sure that they would be able to claim 99 weeks – although claimants in 2009 might reasonably have expected something like that to happen.

Since the EUC duration of about 25 weeks (maximum) in earlier recessions resulted in EUC expenditure at about one-third of the expenditure on regular UI over the period when EUC was active, the maximum extension duration of 73 weeks (with a higher rate of implementation) might be predicted to generate expenditure on EUC of around 100% of expenditure on regular UI.¹³

Quarterly caseload and labour force survey (LFS) data (Table 1) reflect these policy parameters. The EUC benefit caseload first appears in 2008Q3 and then increases, with a peak in 2010Q1 reflecting the creation in November 2009 of Tier 3 and Tier 4 EUC benefits: this typically delayed entries to EB for 19 weeks, causing a sharp but brief fall in the EB caseload. However, from 2009 Q3 through to 2011Q1 the main aggregates changed relatively little. Over the six quarters 2009Q3 to 2010Q4, there were averages of nearly 5 million people on regular UI, and nearly 5 million again on EUC and EB, and nearly 15 million unemployed according to the labour force survey, so that the B/U (benefit recipients to unemployed) ratio¹⁴ averaged 0.65 (two-thirds).¹⁵ The 10 million benefit recipients contrast with 2.5 million just before the recession (in 2007Q4), and the 15 million LFS unemployed contrast with 7.5 million just before the recession.¹⁶

¹². There was extensive media coverage of a threatened lapse of EUC at the end of 2010, but the Financial Times of December 3, 2010 reported: “In both earlier cases - after lengthy tugs of war in Congress - the cheques were restored and economists are expecting the same to happen this time round”.

¹³ Assuming that actual EUC spell durations would increase nearly in proportion to potential durations.

¹⁴ This is often called the IU/TU (insured unemployment/total unemployment) ratio, but I prefer to call it the B/U ratio (following Vroman and Brusentsev, 2005, and some other authors). Unemployment benefits are not necessarily insurance benefits, and LFS unemployment is not necessarily a “total” measure of unemployment.

¹⁵ Table 1 shows that in 2010 Q3 and Q4 and 2011 Q1, when the parameters of the extended benefit systems were relatively stable, the EUC caseload was about 80% of the regular UI caseload and the EB caseload was about 19% of the EUC caseload. Modelling caseloads on the assumption that regular UI lasts 26 weeks, EUC lasts 50 weeks, a quarter of EUC exhaustees could not or did not start an EB claim (EB was not available in all states, and the strict eligibility conditions for EB deter some applications) and EB lasts for 20 weeks, these ratios can be generated with an exit hazard of 4.1% per week up to exhaustion of regular UI and 1.3% per week after it (cf. estimates given elsewhere in this paper).

¹⁶ I suggest (as a judgment based on the impact estimates developed in the main text: the analytical reader’s attention should focus on those) that a counterfactual case without the benefit extensions would have involved, on average for these six quarters, a regular UI caseload roughly 0.9 million lower (the availability of EUC increased regular UI spell durations and entries, but in the later quarters EUC substituted for some re-entries to regular UI); EUC and EB together 4.8 million lower; and CPS unemployment roughly 3.8 million lower: as the CPS measure varies 1 for 1 with the regular UI caseload, and 0.6 for 1 with the EUC and EB caseload.

Table 1. Quarterly UI caseload and unemployment data, 2007-2011

Year	Quarter	Average stock of weekly benefit claims*				Labour force survey (CPS) unemployment*		EUC and EB as percentage of all weekly claims	B/U (benefit to unemployed) ratio*
		EUC		EB (Extended Benefits)	Regular UI, EUC and EB	Unemployment level	Unemployment rate		
		Regular UI (unemployment insurance)	Unemployment Compensation (Emergency)						
		Thousands				Thousands	Per cent	Per cent	Ratio
2007	Q1	3019	0	0	3019	6907	4.5	0.0	0.44
	Q2	2419	0	0	2419	6861	4.5	0.0	0.35
	Q3	2381	0	0	2381	7142	4.7	0.0	0.33
	Q4	2541	0	0	2541	7399	4.8	0.0	0.34
2008	Q1	3353	0	0	3353	7625	5.0	0.0	0.44
	Q2	2915	0	0	2915	8198	5.3	0.0	0.36
	Q3	3141	1040	1	4183	9333	6.0	24.9	0.45
	Q4	3915	1120	12	5047	10691	6.9	22.4	0.47
2009	Q1	6125	2033	11	8169	12666	8.2	25.0	0.64
	Q2	6196	2395	357	8947	14341	9.3	30.7	0.62
	Q3	5682	3053	683	9418	14922	9.7	39.7	0.63
	Q4	5115	4052	505	9672	15349	10.0	47.1	0.63
2010	Q1	5583	5649	193	11425	14882	9.7	51.1	0.77
	Q2	4549	4871	365	9786	14872	9.6	53.5	0.66
	Q3	4245	4089	807	9141	14744	9.6	53.6	0.62
	Q4	3998	3832	920	8750	14801	9.6	54.3	0.59
2011	Q1	4569	3651	814	9033	13693	8.9	49.4	0.66
Average									
2009 Q3-2010 Q4		4862	4258	579	9699	14928	9.7	49.9	0.65

*Note that here average weekly claims data are not seasonally adjusted (since seasonal adjustment of EUC data is not feasible) but CPS unemployment data are seasonally adjusted.

Source: www.ows.doleta.gov/unemploy/, <http://data.bls.gov/cgi-bin/surveymost?In>.

Further changes in monetary entitlements

In 2008 and 2009, in addition to the increases in maximum benefit duration, monetary entitlements were expanded in several other ways:

- EUC was introduced in June 2008, just two quarters after the NBER date for the start of the recession. In earlier recessions workers who exhausted regular UI early in the recession, or even before it, had to wait two or three quarters longer before EUC became available. The “reach back” clause reached further back than on previous occasions, providing EUC to workers whose last benefit year terminated in May 2007, which implied that payments of EUC could from July 2008 be made to unemployed workers who had exhausted their regular benefits in November 2006, long before the recession started. These features must have resulted in more beneficiaries starting on EUC, at an earlier stage of the recession, than on previous occasions.
- A benefit supplement of \$25 per week (about 8% of the average weekly benefit amount) was paid from February 2009 through to May 2010 for new claims, prolonged to December 2010 for ongoing claims (Isaacs and Whittaker, 2011). The 2009 budget for this provision was \$8.8 bn (WSJ, 2009) and its cost including extensions may be about \$15 bn.
- The first \$2400 of UI benefit received in 2009 was exempt from federal tax, and the value of this provision to recipients in 2009 was similar to that of the \$25 subsidy (NYSDOL, 2009).¹⁷ This tax concession was not repeated in 2010.

¹⁷ Although WSJ (2009) lists the cost of the tax provision as \$4.7 bn, which is less than the cost of the \$25 per week. In contrast to the fiscal year, the tax year in the United States is the same as the calendar year.

- A subsidy covering 65% of the cost of COBRA health insurance for 15 months was payable to workers who lost their jobs between February 2009 and June 2010. The original 2009 budget, which covered payments for only 9 months, was \$24.7 bn (WSJ, 2009) and its cost including extensions may be about \$34 bn.

Federal legislation also included provisions encouraging states to pass legislation that eases eligibility conditions for regular and extended benefits:

- States were allowed to temporarily change the eligibility requirements of their EB programme in order to expand its coverage during the period of 100% federal funding (Whittaker and Isaacs, 2011).
- The Unemployment Insurance Modernization Incentive Funding Program (created by the American Recovery and Reinvestment Act, ARRA, in February 2009) provided \$7 bn in federal incentive payments to states which change entitlement conditions on a permanent basis (although reversal of the changes through future legislation is not precluded). A first payment was made to states that adopt an “alternative base period”, which makes it easier for workers with short but recent employment records to qualify immediately for UI¹⁸ and a second payment was made to states that introduce benefits for at least two of the following four categories:
 - Claimants seeking part-time work, who until now have been denied benefits because claimants are required to actively seek full-time employment;
 - Individuals who leave work for compelling family reasons, specifically including domestic violence, caring for a sick family member¹⁹ or moving because a spouse has relocated to another location for employment;
 - Workers with dependent family members, who should qualify for a supplement of \$15 or more in weekly benefits per dependent, which could be capped at \$50 in total;
 - Permanently laid-off workers who have exhausted regular benefits and participate in training, who should qualify for up to 26 weeks of additional unemployment benefits.

Before 2009, 19 states had an alternative base period: by September 2010, after an “unprecedented wave of state reforms”, a further 20 states had introduced it. Of the 39 states which then had an alternative base period, most had introduced changes to qualify for the second payment (NELP,

¹⁸ In the United States, employers pay UI taxes on workers’ quarterly earnings. Entitlement to benefit was traditionally determined with reference to earnings in the first four of the five quarters preceding the filing quarter, so that for an individual filing (*i.e.* claiming benefit) towards the end of a quarter, earnings during the most recent five months or more might not be taken into account. In some cases, people who did not qualify on this basis would still be able to make a claim in the next quarter. In states with the “alternative base period”, claims can be made based on earnings in the four quarters preceding the filing quarter (NELP, 2003).

¹⁹ Holmes (2011) claims that in cases where a worker quits a job to care for a sick family member, the state is “prohibited under the US Department of Labor interpretation from requiring verification from a medical doctor in determining the illness or disability”, so that claims following quit with this justification cannot be verified.

2010). However some states did not wish to permanently change their legislation in this way and refused the incentive payment.²⁰

Changes in activation measures

The intensity of job-search monitoring and other activation measures in the United States fell in years before the recession:

- Since the 1990s, states have switched from in-person filing and regular reporting to filing and regular reporting by telephone or through a website. Job-search reporting in the United States in many states became perfunctory, for example with confirmation of job search by pushing buttons on the telephone (O’Leary, 2006). Anderson (2001) highlighted concerns that this procedure was undermining the effectiveness of job-search monitoring. By contrast, a large proportion of other OECD countries require regular in-person attendance to maintain a benefit claim and/or require participation in face-to-face interviews with a moderately high frequency (OECD, 2007). After a period where in-person “signing on” requirements tended to be relaxed, after 1990 in-person attendance requirements were often reinforced with a renewed focus on the placement content of interview.
- Expenditure on the PES and administration function in the United States was already low before the current recession: in 2008 it was 0.04% of GDP. This was 5% of expenditure on unemployment benefits, possibly the lowest ratio ever experienced by an OECD country: on average this ratio is 25%, five times higher (OECD, 2010, Table K).²¹ This expenditure influences the administration’s capacity to effectively monitor and assist job search, other than through computer and phone systems, and it also determines the administration’s capacity to, for example, identify layoffs agreed between small employers and their employees which are in effect voluntary quits.²²
- Although the recession response included support for benefit administration and employment services, the actual amount of additional federal funding for this was too low to raise the ratio of administration expenditure to cash benefits.²³ States that got some untied funds in the form of UI

²⁰ Balducci and Wandner (2009) highlight that the “UI Modernization provisions expand UI eligibility in an unprecedented manner... with less Congressional deliberation than other similar coverage/eligibility expansions (e.g. 1976 UI amendments), and without a public discussion about the long-run state tax consequences”.

²¹ There is some state independent funding of the PES and administration function, not recorded in the OECD statistics, but this probably totals less than a quarter of the federal funding.

²² Owing to experience-rating, state benefit administrations in the past could often assume that an employer would insist on a separation being classified as such whenever possible. However, following benefit extensions, unemployment benefits from a layoff may far exceed the likely cost to the employer of the layoff, so in typical separation situations (e.g. if the employer is dissatisfied with the work, the employee is dissatisfied with the working conditions, and they negotiate) the employer will more often agree to process it as a layoff. Administrative checks (asking the employer to affirm or prove the economic case for the layoff and asking the employee for the story behind the layoff) are needed to minimize payments in such situations.

²³ The provision in the ARRA of February 2009 of additional funding for PES and Administration activities under the headings Employment Services, US DOL Management, Salaries and Wages, and Special Transfer for FY 2009 Administration was \$980 million, less than 1/40 of the additional funding allocated for passive income support (WSJ, 2009). DOL also has an ongoing Reemployment and Eligibility Assessment (REA) initiative (Benus *et al.*, 2008) which (based on earlier DOL studies) demonstrates the

Modernization incentive payments used them mainly to improve the solvency of their UI fund and secondarily for UI administration, with only “minimal use” for financing reemployment services (Chocolaad, 2010).

In the recession, several factors tended to result in further relaxation of job-search monitoring and activation measures:

- There were some moral and intellectual arguments for making benefits widely available;²⁴
- Due to the federal financing of benefits, there was no incentive for states to monitor job search beyond the 26th week of unemployment. There was also a much-reduced incentive for them to place an individual who is close to exhaustion of regular benefits into a position which might renew his/her entitlement to regular UI (which is a common scenario, since unemployed people tend to be repeatedly unemployed). Allowing the individual to exhaust regular UI made it relatively unlikely that he/she would start another claim of regular UI for the next 2 years. Placements of workers early in their spell might generate some savings for the state UI funds, but the expected net savings are lower at times when lengthy federal benefits extensions are available.²⁵

There is also direct evidence that the monitoring and activity requirements applied to individual claimants were weak:

- Holmes (2011) reports that systems to enable easier claims processing have lowered the degree of verification of actively seeking work as a condition of payment, that very few individuals now expect their claims to be denied for failure to seek work, and in many states individuals can “apply on line, submit claims for unemployment compensation on line with electronic self-attestation of their work search activities, and have benefits directly deposited into their bank accounts. The entire ... process may be completed with very little contact by the claimant with a one-stop or employment services office”.
- Holmes (2011) reports that in a recent survey of state unemployment insurance agencies, one state reported that it had no work-search requirement and some others had an exception to the work-search requirement when the state unemployment rate exceeds 8.5% (below the US average unemployment rate at the time).²⁶
- Potential EB claimants are always advised²⁷ that they must extend search to work outside their normal occupation (Texas and some other states say they must “accept any work you are capable of”) and that pays more than the weekly benefit amount and at least the federal or state minimum wage. Although these are only restatements of conditions specified by federal EB legislation, in

impact of various assistance measures: but although funding for this was increased in the recession, it was only \$60 million in FY 2010 (www.doleta.gov/usworkforce/whatsnew/eta_default.cfm?id=2319).

²⁴ I refer to the idea that banks, etc. were bailed out in the financial crisis; and that benefit payments stimulate the economy, which supports weak enforcement of benefit eligibility criteria and not only increased monetary entitlements; but commentators discourage me from dwelling on such psycho-social factors.

²⁵ Moreover, states should in principle administer EUC in the same way as regular UI; so when EUC has a large weight in the overall picture the “optimal” strategy involve a more-liberal approach towards the administration of both.

²⁶ Holmes does not specify how many states apply this exception.

²⁷ This point is based on the author’s online research.

some cases the reader is clearly being warned that EB conditions are stricter than those that have applied to him/her previously while on EUC benefits. It therefore seems that EUC claimants are often formally allowed to restrict their job search to their normal occupation, and perhaps reject minimum-wage job offers, up to the 79th week of unemployment. The formal conditions in nearly all other OECD countries are stricter than this. Some countries allow no occupational restriction of availability for work, and others allow such restrictions at the start of the unemployment spell but require availability for essentially²⁸ all legal employee work after periods ranging mainly from 3 to 12 months.²⁹

- Although the regulations governing the implementation of EB requires claimants to make a “systematic and sustained effort” to obtain work, and provide “tangible evidence” of active job search, many states found that the implementation of this was not practical. Weekly submission of job-search information was required (NASWA, 2010) but it is not clear that it was regularly enforced.³⁰

National financing of benefits

The United States is the only OECD country in which regular UI benefits are financed at the sub-national level. Undoubtedly the national financing of EUC in the 2008-2011 recession determined its political acceptability and take-up by states. The effective disappearance of the EB programme after the recession of the early 1980s demonstrates that state-level politics rarely supports the principle of paying extended benefits when state-level firms and workers would be responsible for even half of its cost.

Where benefits are financed at national level, but administration is in the hands of regional and local governments, local administrations are likely to tolerate high levels of benefit recipiency. Some federal countries have engendered a sense of mutual responsibility among regional governments (similar to the attitudes of individual citizens towards each other, regarding voluntary unemployment to avail of benefits as reprehensible) such that they view exploitation of the UI system by any individual regional government as reprehensible, and concur in measures to suppress it. However in 2008-2011 the official policy position of the National Governors’ Association was that governors:

...support a federal trigger based on the national total unemployment rate, if the benefits are 100 percent federally funded, to provide relief to qualifying jobless workers, regardless of what state they reside or the states' rate of unemployment... Governors continue to support the ability of states to determine the criteria that qualifies jobless workers for federal and state unemployment compensation benefits... Governors also urge Congress make permanent, 100 percent federal funding for all weeks

²⁸ More precisely, exceptions are often allowed for circumstances such as work at workplaces with an industrial dispute, work contrary to religious convictions, work in adult entertainment, and work with very low hours or on a commission-only basis.

²⁹ Among OECD countries with high benefit coverage, occupational restrictions on the definition of suitable work are allowed during the first 3 months of unemployment (Ireland, Finland), three or six months (United Kingdom), 100 days (Sweden), for the duration of UI (in Austria: UI duration is 30 weeks in standard cases), or for 1 year (Spain). In France there is no limit in primary legislation and in Belgium, Czech Republic and Germany, PES referrals are limited to the regular occupation at first and widened later (OECD, 2000; Hasselpflug, 2005). Implementation then depends upon the effectiveness of activation measures.

³⁰ In June 2009, the Board of Directors of the National Association of State Workforce Agencies adopted a legislative proposal to eliminate the requirement for weekly submission of forms by EB claimants, but it was not enacted (NASWA, 2010). Legislation did temporarily suspend the “suitable work” provisions of EB legislation in 1993 and 1994 (Committee on Ways and Means, 2000).

of federally extended benefits, including for state and local governmental entities as well as federally recognized Indian tribes. (NGA, 2010).

The call for 100% federally-financed benefits, with states having the right to determine the criteria that qualify jobless workers for them, suggests that state governments are not mutually supervising other states' efforts to minimize expenditure, or starting their discussions from the principle that their own populations will in the end finance the federal expenditure. A number of individual states disagree with the principle of benefit extensions dependent on federal funding, some effectively refusing part of the federal funding by failing to pass state enabling legislation, and some refusing to enact changes that would qualify them for UI Modernization payments: but their views are not apparent in the NGA position statement.³¹

At the same time, the federal Department of Labor lacks operational powers³² and staff resources for supervision and management of the UI system.³³ It is remarkable that there is no federal administrative activity, comparable to the privately-sponsored survey reported by Holmes (2011) as cited above, that documents or monitors in real time state changes in the formal eligibility criteria and their actual implementation in paying the federally-financed benefits.³⁴

Overall scope and scale of the benefit extensions and related measures

Apart from the increases in benefit duration, other changes in monetary entitlements and in activation measures appear to be similar to increasing benefit expenditure by a further factor of about 1.6 (from February 2009 until mid-2010, though somewhat less after that): 20% because the period covered by EUC (including "reach-back") relative to the length of the recession was greater; 15% related to measures increasing the replacement rate (the \$25 weekly bonus, the exemption from federal tax in 2009, and the

³¹ As federal extensions in some states are triggering off due to falling unemployment, and federal funding looks set to expire early in 2012, an increasing number of states are now cutting back benefit entitlements: see www.americanprogress.org/issues/2011/05/ui_benefits.html for a chart of recent policy initiatives where (as of May 2011) four states are described as improving benefits, seven as actively cutting them, and ten as "failing to take action to maintain current levels".

³² To avoid misunderstanding, I should clarify that the concept of "operational powers" here involves for example getting frequent data reports on new claims, vacancy registrations, placements, and perhaps customer complaints, etc. at the individual office level; investigating the data-reporting procedures and labour market events or administrative procedures that account for any unexpected development; and taking corrective action, perhaps targeted on just one problem office, or an internal circular addressed to all offices, or a management restructuring, or a proposal to the minister for new legislation, etc.; in any event, top management rather directly observing how individual claims are handled and taking corrective action.

³³ As documented by the national audit body (the General Accounting Office), prior to 1982 the DOL closely supervised, managed and monitored local office operations but subsequently it concentrated on monitoring the states' compliance with minimum federal requirements, rather than on monitoring performance (OECD, 2001).

³⁴ The federally-mandated "Benefit Accuracy Management" programme (www.ows.doleta.gov/unemploy/bqc.asp) is a major feature in this area, but it is retrospective and action to minimise the fraud and abuse that is detected is at state discretion, and the accuracy of payments is only one issue in the broad effectiveness of state job-search assistance and activation strategies. The DOL conducts high-quality evaluations and promotes re-employment measures, but on a demonstration basis with limited funding (see the reference to REA above). Among potential lobby groups, employment service staff organisations are not necessarily advocates for tighter benefit administration or increases in staffing levels. This is because restricting access to benefits and providing personalised assistance for disadvantaged workers is a tougher challenge - both for management and for front-line staff - than paying out benefits and maintaining a vacancy register, the activities which take priority in an employment service when staffing levels are low.

subsidy for COBRA health insurance);³⁵ 5% related to the \$7 bn incentive (of which about half was paid out) for states to expand coverage to additional groups of workers; and 20% due to a further reduction in the intensity of activation measures and shift towards a system that is federally-financed but state-managed, which is not form of payment directly to the unemployed but can have a similar impact.³⁶

According to this analysis, the UI extensions together with related measures were equivalent to increasing UI expenditure by a factor of about 3 (= 2.0 for the extended benefit duration x 1.6 for all the other changes) in 2008-2011. This contrasts with the factor of about 1.33 documented above for the three preceding recessions. The *increase* in benefit generosity - above a counterfactual baseline case in which only regular UI was available – on this basis would be about five times greater³⁷ than in the three preceding recessions, and would be expected to have a comparably greater impact on unemployment. Some other estimation methods suggest a somewhat lower multiple, but they are not necessarily more accurate.³⁸

D. Microeconomic evidence

D.1 International evidence about the impact of similar policies

Replacement rates and hazard rates

A relatively large international literature examines the impact of benefit replacement rates and potential benefit duration on hazard rates off benefit and into employment, and the actual duration of unemployment spells. Some impact estimates based on individual variation in replacement rates have a tendency to be biased downwards because factors that result in low replacement rates (limited employment experience, access to alternative sources of income support, unavailability for work for any unobserved reason) also reduce re-employment rates. However, recent estimates based on natural experiments and regression discontinuity techniques are *a priori* relatively reliable, and have tended to estimate higher elasticities of hazard rates with respect to replacement rates, more often approaching or in some cases exceeding -1. They suggest that elasticities of hazard rates with respect to replacement rates do not vary strongly with the economic cycle, or between groups that have higher and lower unemployment rates or between regions that have higher or lower unemployment rates.

³⁵ The budget for these three measures in 2009 (prolongation of the measures into 2010 involved supplementary budgets) was \$39 bn, over a third of the total amount paid as weekly benefits (\$65 bn regular UI, \$42 bn EUC, \$7 bn EB) in the last 10 months of 2009.

³⁶ As mentioned above, the caseload of a benefit without activation measures can easily be as much as three times the caseload of the same benefit with intensive activation measures. However, a much smaller factor would apply to recent changes in the UI system because the benefit has limited duration and activation measures were not very intensive even beforehand.

³⁷ Depending on the basis of calculation, *i.e.* $\log(3)/\log(1.33) = 4$, $(3-1)/(1.33-1) = 6$.

³⁸ Note that the “5 times greater” assessment includes the impact-equivalent of changes in eligibility criteria and activation measures, which have an impact out of proportion to their (not-well-known) budgetary cost. In terms of visibly-budgeted expenditure, EUC, EB and the other stimulus measures together will total roughly \$270 bn through to the end of calendar 2011. Deflating this by factors of 1.6 for price change, 1.2 for labour force increase, and 1.4 for the length of the period covered (3.5 rather than 2.5 years of EUC), the average annual spend is about 4 times greater than it was in the three preceding recessions. Since regular UI payments over the same period will total roughly \$210 bn, the ratio of total spending to regular UI spending will be roughly 2.3: however expenditure on regular UI has itself been increased by the scale of the benefit extensions.

Potential benefit duration

Some OECD countries have no UI benefit, and some have assistance benefits at a similar level to UI, and some have a UI benefit but with limited variation in its duration. Nevertheless, non-US experience does provide some evidence about the impact of the potential duration of UI benefits.

One type of evidence is the “spike” in exits from unemployment around the time of benefit exhaustion. Card *et al.* (2007) presented evidence that this “spike” in Austria almost entirely concerns exits from unemployment with no significant spike in hazard rates to ordinary employment around the time of benefit exhaustion. However, increases in the hazard rate to employment as the date of benefit exhaustion approaches (or sometimes starting at exhaustion, or when the date of exhaustion is first notified to the individual) have been documented in data for many other OECD countries: Belgium (Cockx and Ries, 2004, Figure 3); Canada, where it is estimated that 17% of all benefits are paid to individuals who have already found a job but have not started working;³⁹ Estonia (Lauringson, 2010, Figures 3 and 4); France (Dormont *et al.*, 2001; the key findings are reproduced as OECD, 2005, Chart 4.2);⁴⁰ Japan (Kajitani, 2008, Figure 2); East Germany (little change was observed before benefit exhaustion, but the hazard rate for women not entitled to unemployment assistance was 1.5 to 1.8 times higher after UI exhaustion: Wolff, 2003); Norway (Roed and Zhang, 2005, Figure 2);⁴¹ Poland (Adamchick, 1999, Figure 2); Portugal (Portugal and Addison, 2008, Figure 2); Slovenia (Van Ours and Vodopivec, 2004, Table 3); and Spain (Alba-Ramirez *et al.*, 2006, Tables 3 and 4).⁴² As well as in Austria, there is a relative lack of a “spike” in Finland and to some extent Sweden (Koskela and Uusitalo, 2004, Figure 9). But these cases are exceptional, relating to countries where there is extensive PES management of unemployment spells. The PES tends to operate on a principle of filling new job vacancies with the best candidate regardless of their benefit duration (particularly in Austria), and targets workers who are approaching benefit exhaustion for placement into a labour market programme (particularly in Finland and Sweden).⁴³ The United States clearly would not resemble Austria or Finland in this respect.

Bender *et al.* (2010)⁴⁴ use a German data set for 1975 to 2008 which includes every employment spell in a job covered by social security and every spell of receipt of unemployment insurance benefit (about

³⁹ This is a provisional report, based on the abstract of a paper (<http://sites.google.com/site/mgloiselle/cv>).

⁴⁰ More recently, Deroyon and Barbanchon (2011) identify, holding other things constant, the time-profiles of hazard rates into employment for unemployed French workers who had 7 months PBD as distinct from those who had 15 months PBD, in data for 2000 to 2002: the two time-profiles are very different.

⁴¹ Expenditure on ALMPs is much lower Norway than in either Finland or Sweden, so that as benefit exhaustion approaches, labour market programmes are not so often available as an alternative to open employment.

⁴² For Spain, see also Sanz (2010), Figures 17 to 19. Many of the international examples show only a limited “spike” in the month of exhaustion with, more importantly, an increase in hazard rates for several months before and/or after exhaustion. This tends to confirm an observation made in OECD (2005) that benefit recipients are prepared to lose up to several months of benefit by taking a job before benefit exhaustion, or live for up to several months without benefit after exhaustion, in order to achieve gains in job-match quality, but job-match quality gains seem to be not often regarded as being worth a year’s benefit income. Therefore, public policy should seek to nearly eliminate unemployment spells of such long duration.

⁴³ According to evidence from the 1990s, in Denmark the hazard to regular employment greatly increases as the date of placement into a labour market programme approaches, but in Finland it does not. This contrast probably reflects the fact that participants referred to subsidised jobs (a common destination in both countries) were paid an ordinary wage in Finland (involving higher income, the payment of UI contributions, and exemption from job-search monitoring), but unemployment benefit in Denmark after 1994.

⁴⁴ See Schmieider *et al.* (2011a) for a later version of this paper.

1 billion employment and unemployment spells in all), as well as information on wage and benefit levels. They focus attention on individuals with long employment records who between 1987 and 2004 qualified for a UI benefit, with duration varying by age (e.g. from 1987 to 1999, increasing in steps at ages 42, 44, and 49), and generate regression discontinuity estimates for the impact of potential UI duration on non-employment duration. They simulate the approximate economic environment of February 2010 in the United States, based on behavioural parameters from Germany. They estimate that lowering potential benefit duration from 104 to 26 weeks would have lowered the unemployment rate from 10.4 percent to 8.8 percent, a fall of 1.6 percentage points. When also the probability of receipt of unemployment assistance (UA), which in Germany often follows after exhaustion of UI benefit, is set to zero (so as to simulate the likely greater incentive impact of UI exhaustion in the United States due to the lesser availability of assistance benefits) the simulated unemployment rate falls by a further 1.0 percentage points. Zero may be regarded as an extreme case, but last-resort assistance in Europe does quite systematically allow exhaustees to both eat and pay rent, whereas in the United States they can eat but coverage of a significant rent is uneven or uncertain.⁴⁵ Bender *et al.* (2010) argue that in the US context, the impact would be smaller because not all US unemployed qualify for UI.⁴⁶ However, this difference is roughly offset by another difference *i.e.* extensions of UI duration in the United States were only about 60% of the overall policy package. So these estimates could imply that the US unemployment rate would have been more than 2 points lower, in the absence of the UI extensions and related measures.⁴⁷

Entry effects

The impact of benefit entitlements on aggregate unemployment reflects their impact on inflows to unemployment, as well as outflows or (equivalently) the mean duration of unemployment spells that have already started. The experience of OECD countries provides various examples of the impact of entitlements on inflow rates:

- In Australia, prior to July 2006 single parents with youngest child aged 8 to 15 who newly applied for benefits were granted Parenting Payment Single (PPS), a non-activity-tested benefit. From July 2006, this group was only able to claim Australia's unemployment benefit (Newstart Allowance), which is at a lower rate and is activity-tested. Total inflows to benefit, after an adjustment for comparability of the figures in entitlement terms, were 44% lower in the first year of this policy (DEEWR, 2008, Table 3.2). Also, the proportion of single parents with children in this age range who were still claiming benefit a year after starting a claim fell from about 62% to 49%, again after an adjustment for comparability (DEEWR, 2008, Chart 4.3). The elimination of the non-activity-tested benefit, leaving only the lower activity-tested benefit available, reduced the total long-term caseload by over half but about two-thirds of the impact seems to have arisen through the impact on entries rather than outflows. By contrast, for another group (single parents with youngest child aged 6 or 7) which remained entitled to the higher rate of benefit, but subject to an activity test from July 2006, there was no clear entry effect but the impact on the rate of exit from benefits was larger (DEEWR, 2008, Table 3.1, Chart 4.5). This difference perhaps suggests that the monetary entitlements influenced entry effects and the (newly-compulsory) participation in employment assistance measures influenced exit rates.

⁴⁵ Emergency housing or homelessness assistance programmes may provide help, or the long-term unemployed on full-rate Food Stamps may live in tent and trailer parks; however, for many people not yet in such situations, the prospect of them would remain relatively dissuasive.

⁴⁶ Bender *et al.* (2010) state that only about 50% of unemployed workers receive UI based on a 2004 source, but the share is now larger as seen in Table 1.

⁴⁷ Bender *et al.* (2010) also argue that their data identify a "partial equilibrium" impact (*i.e.* behavioural reactions at the level of a small subgroup of all unemployed): Section E below discusses this.

- In Austria, Winter-Ebmer (2003) estimates that rates of entry to unemployment increased by between 4 and 11 percentage points, from an initial level of about 25%, in response to a law that extended benefit duration in some regions of the country from 50 to 209 weeks for workers aged above 50. The unemployment rate for workers aged over 50 in these regions rose from 5.6% to almost 10%. The comparison between the two increases suggests that 45% of the increase in unemployment was attributable to the increase in entry rates and 55% to the increase in average duration of unemployment spells.⁴⁸ Also in Austria, Lalive *et al.* (2010) study an extension of benefit durations from 30 to 39 weeks (for ages 40 to 49) or from 30 to 52 weeks (for ages 50 and over) in all regions in 1999 (not the same as the region-specific benefit extension studied by Winter-Ebmer). They estimate that the impact of extended benefit duration on inflows accounts for 78% (in the case of the 30 to 39 week extension) or 84% (for 30 to 52 week extension) of the impact from entry and duration effects together.
- Christofides and McKenna (1995) for Canada as a whole in 1988 and 1989 (48 UI regions, with varying employment requirement to qualify for UI) estimate that hazard rates for exit from employment increase by about 40% after individuals reach the duration that qualifies for UI benefit: this finding was also reproduced for 9 of Canada's 10 provinces (with slight variations in the coefficient) using data for each province by itself.
- Sanz (2010) uses a "multiple-spell, event history data set [which] is unusually rich in terms of the variation of entitlement and benefit levels" for Spain in 2005-2008, and finds a spike in the layoff hazard of around 13-15%,⁴⁹ depending on gender at the moment a worker becomes entitled to receive benefits, after which the layoff hazard decreases: outflows from employment that are quits hardly vary with this parameter.
- Hagglund (2009) in data for Sweden finds evidence for some evidence for "an enhanced unemployment risk at the time of meeting the working requirement for all of the three UI regimes investigated... Analyzing the effects in one industry (farmers) and one region (Norrbotten) suggests that the ER [entrance requirement] extension primarily affected sectors where repeated unemployment was relatively common".

Several other countries have experienced large entry effects in the case of older workers. In Finland, until 2005 UI was extended through to retirement for any worker who was aged 57 or more at the date of exhaustion of regular UI. In 2006 and 2007, this age limit was raised to 59. In 2006 the number of unemployed people aged exactly 56 – the first year that would not qualify for the extension – fell by more than half, from over 6000 to less than 3000, about the same as the inflows from the age cohorts 50 to 55 (MEE, 2008, Figure 21). The impact of this policy change on total older-worker unemployment clearly results from an impact on inflows, not outflows. Fitzenberger and Wilke (2010) using data for West Germany, show that the hazard from employment to unemployment doubled on average (quadrupled in manufacturing) for older workers, entitled to longer benefits, in 1995, and that the timing of this "spike" had varied (relative to similar patterns in 1980, 1985 and 1990) as a function of policy changes, and the impact almost entirely concerned entries to unemployment by individuals who did not subsequently re-enter work. Dlugosz *et al.* (2009, Figure 2) then show that in Germany until 2005, there was a large increase in inflows to unemployment after age 57, which largely disappeared by 2007 when benefits were reformed, indicating that the rate of inflow into unemployment for older workers had been roughly doubled

⁴⁸ $\log(1+7.5/25)/\log(10/5.6) = 0.45$. Lalive and Zweimuller (2002) present a range of labour market outcomes associated with the regional extended benefit programme: the Annex here summarizes some of their observations.

⁴⁹ In Spain, the incentive to enter unemployment at the moment when a worker first becomes entitled to receive benefits is relatively weak, since further contributions continue to add to the benefit entitlement.

by the lengthy benefit entitlements that were in place until early 2006. Similarly in the Netherlands, when extended benefits were paid, there was a sharp spike in the inflow rate to unemployment, which doubled just above the age of 57.5 years when claimants became eligible for the payment of benefit through to retirement (Tuit and van Ours, 2010).

Single parents in Australia and older workers in other countries have been targeted by relatively specific policy reforms, so their experience might not be directly applicable to mainstream UI recipients. However, these international examples indicate a real possibility, or risk, that a significant proportion, which can exceed half in some cases, of the total impact on caseloads can arise through entry effects.

International benchmarking of experience with a two-year UI duration

Earnings-related benefits of long duration are particularly likely to prolong unemployment spells because many recipients - around a half of those entering unemployment and perhaps a larger proportion of the long-term unemployed - can rationally anticipate that entry to a new job that is temporary, or might turn out to be temporary, will involve lower wages and thus, a devaluation of their existing entitlements. Duell *et al.* (2009) discuss the impact of the 500-day (100-week) UI duration in Finland as follows:

Few OECD countries now pay earnings-related benefits for as long as 24 months without intensive activation, and those that do tend to face high benefit costs and unemployment rates. In the standard case, represented by a 40-year-old worker with a full record of contributions:

- Two OECD countries, the Netherlands and Switzerland, reduced the duration of earnings-related benefits to below 24 months in the 2000s;
- Norway, Denmark, and Sweden pay earnings-related benefits for more than 24 months, but Norway activates recipients relatively intensively at all points in the spell, and Denmark and Sweden systematically require participation in measures by the long-term unemployed; and
- France, Portugal⁵⁰ and Spain, the other OECD countries that pay long-duration earnings-related benefits without intensive activation, have relatively high unemployment rates (higher LFS unemployment than Finland, in 2007).

Although Finland and France are characterised as countries without intensive activation, they maintain in-person contact with unemployed workers, and have high levels of spending on training and related labour market programmes for the unemployed.⁵¹ A further consideration is that entitlement to two years of earnings-related benefit for a 40-year-old worker arises only after 5 years of contributions in Portugal, and 6 years in Spain.⁵² Such comparisons indicate that the US combination of a two-year benefit duration with short contribution conditions and very weak activation measures would generate a high structural unemployment rate if it were maintained. It might not be clear *a priori* that much of this impact could arise in the short term, but in practice the impact from US UI extensions has been quite rapid.

⁵⁰ In 2011, Portugal announced a reduction in the maximum duration of benefits from 3 years to 18 months.

⁵¹ For example, Finland in 2007 sanctioned about 5% of its caseload for refusal of a job, and 20% for refusing or failing to complete a training programme or other individual action (Duell *et al.*, 2009).

⁵² Also, no benefit is paid in cases of voluntary quit and unemployment was, and still partly is, concentrated on youths with little work record: and until 2002, firms generally had to make severance payments at penalty rates if they laid off permanent workers without administrative authorisation (which had to be justified by economic reasons), making individual layoffs of permanent workers quite rare.

International experience with national vs. local management and financing

Four OECD countries other than the United States have devolved powers over the management of employment services to regional or local government while also financing UI benefits at the national level: Belgium, Canada, Spain, and Switzerland.

- In Canada, along with the devolution of responsibility for management of employment services to the provinces progressively from the late 1990s, the duration of UI benefits was restricted especially in the larger provinces, so that a large proportion of all unemployed in Canada are in the locally-financed systems of social assistance; and provinces strive to avoid overt exploitation of the national UI fund.⁵³
- In Switzerland, although employment services are under direct management by the cantons, the modern employment service was created through federal (1996) legislation and has a national IT system and system of performance rating down to local office level. Cantonal practices that overtly exploit the national UI fund have been vigorously contested and suppressed.⁵⁴
- In Belgium, authority to manage employment services was granted to regions in 1980. The Walloon region in the 1990s (and probably in the 1980s) rejected the principle that its employment service should report job-search or work-availability infractions to the federal UI administration. The country experienced a large increase in unemployment and huge shift in the Beveridge (U-V) curve in the 1980s and, despite some greater co-operation and federal intervention in recent years, continues to have a high unemployment rate.⁵⁵

⁵³ A detailed evaluation by Gray (2003) reported that “explicit and purposeful cost-shifting is not a common practice. Both the provincial governments and the federal government were anxious to at least give the appearance that ‘federalism works’ and can exhibit innovative flexibility. .. Since the federal government reserves the right to terminate LMDAs [agreements that devolve federal powers to the provinces], and thus essentially to regain its powers in ALMP, the provincial agencies would be unlikely to jeopardize the LMDA itself, or at least a deepening of it, by engaging in blatant cost-shifting practices that the federal government would view as retrograde and counter to the spirit of the new policy initiative.” However, municipal government practices are difficult to control: a 1983 Amendment to federal legislation targeted the practice of laying off all teachers, even permanent ones, in the summer so that they could collect UI (<http://recueil.fja-cmf.gc.ca/eng/2006/2006fca27/2006fca27.html>), but claims are still made on the basis that individuals have a non-regular contract, or are categorized as school assistants rather than teachers, etc.

⁵⁴ Swiss cantons came under strong pressure to abolish the practice of creating jobs for assistance benefit recipients that would create or renew entitlement to federally-financed UI benefits. In 2004 Carlo Lamprecht, the federal counsellor for the economy and employment, suggested that Geneva would face a specific federal ban if it did not desist from this practice (www.interet-general.info/spip.php?article2917). In 2007, the federal ministry argued in the high court that the payment of UI contributions for participants in cantonal temporary jobs did not create an entitlement to UI (www.lecourrier.ch/index.php?name=News&file=article&sid=436302), but lost the case. Later that year Geneva passed a law that reportedly stopped the use of cantonal temporary jobs (www.tsr.ch/info/suisse/1146033-geneve-a-une-nouvelle-loi-sur-lechomage.html). Nevertheless, the 4th revision of the federal UI Act (enacted in 2010, after a national referendum), specified that contributions on publicly-financed temporary jobs, except for those with normal employee status, would not generate entitlement to benefit, and this provision was expected to save the UI fund 90 million CHF per year (www.seco.admin.ch/themen/00385/01880/02734/index.html).

⁵⁵ Belgium’s unemployment rate was already relatively high before the employment service was formally split between regions in 1980; there was probably a degree of *de facto* regionalisation long before then but the formal split did not help.

- In Spain, where management responsibility for the employment service was devolved to the autonomous communities over 1998-2002, the volume of UI claims increased greatly over the following decade, despite a strong macroeconomic environment with falling unemployment until 2007.⁵⁶

A somewhat similar situation exists in Finland where local employment offices enjoy a high degree of autonomy from national management, and decisions about individual eligibility for UI benefits are made by local committees rather than a national body: historically, attempts at implement job-search monitoring have tended to fail, whereas there has been a tendency to tackle unemployment through job-creation measures, which involve central government financing of local government services, which is much more popular at the local level. Overall, international experience suggests that regional and local management of employment services when UI benefits are nationally financed leads to high benefit caseloads, although this can be mitigated when regional and local governments feel themselves to be in a fishbowl of mutual and federal scrutiny and some of the mechanics necessary for federal supervision are in place.

Countries that have indefinite-duration flat-rate unemployment assistance benefits financed at national level include Australia, Finland, France, Germany, Ireland, New Zealand, and the United Kingdom. Many other countries (Belgium, Canada, Denmark, Finland, Japan, the Netherlands, Norway, Spain, Sweden, and Switzerland) have indefinite-duration social assistance benefits which may be available (depending on the strictness of administration, which in some cases can exclude people who seem to be able to work. The nationally- and mainly-nationally-financed systems have experienced far higher peak caseloads, as a percentage of the working-age population, than locally- and mainly-locally financed systems, even though the latter offer comparable and often more generous benefit levels. The difference in caseloads can be partly explained by the greater role of national UI systems in countries where assistance is locally-financed, but in my view after allowing for this factor, there remains a tendency for caseloads of comparable assistance benefits to be higher where entitlements are nationally financed.⁵⁷

Two countries recently operated a substantial shift in responsibility for the financing of assistance benefits. In Finland, in 2006 municipalities became liable to pay half the cost of unemployment assistance benefits (Duell *et al.*, 2009). In the Netherlands, the national government had for many years paid 90% of the cost of social assistance benefits and in 2004 this subsidy was reduced to zero. In both cases, the central government introduced formula grants to local authorities that vary according to cost indicators (such as the industry structure of employment and demographic characteristics of the local population), but not according to the actual amount of benefit paid by local authorities. These changes were followed by a falling trend in unemployment (see OECD, 2009, for some further discussion).

Overall, international experience suggests that the caseload impact of EUC is liable to be greater than that of regular UI due to the financing arrangements. State UI administrations and politicians, in particular, are very conscious of the distinction between state-funded and the federally-funded benefits, and as described by Tsebelis and Stephen (1994), outcomes depend on administration and not only individual responses to the level of benefit.

⁵⁶ In Canada and Spain the principle of benefit conditionality has lacked popular support, but this itself is probably related to federal/national financing: when the federal government seems far away, each local success in terms of claiming more federal money tends to be hailed as a victory, so individuals or politicians who demonstrate awareness of the resulting distortion and waste are likely to be unpopular. See the Annex to this paper for further discussion of recent developments in Spain.

⁵⁷ This tendency arises because national administrations partly lose *de facto* control over local services, even where these services are nominally under national control. Also, when financing is local, fears of “welfare migration” promote strict administration.

D.2 US evidence about the impact of similar policies

The impact of PES interventions

Non-US microeconomic literature on this topic is not summarized in this article: evaluations that appear in academic journals are typically included surveys of the impact of ALMPs. In relation to US unemployment insurance, Director and Englander (1988) used data from New Jersey in 1971 to 1981 to estimate the impact of a policy change in October 1975 that removed the requirement for UI claimants to register with the state Employment Service. In this case, the state UI Administration continued to monitor eligibility and the number of benefit denials for unavailability for work or refusal of work only fell by 20%. They estimate that mandatory registration with the Employment Service reduced the UI exhaustion rate by about 10% (6 percentage points, since the baseline was relatively high – this was at a time of deep recession) and average weeks claimed per spell by 10%. Johnson and Klepinger (1994) report the findings of the Washington Alternative Work Search experiments, which were “designed to provide valid evidence on the cost-effectiveness of alternative work-search policies”. Not surprisingly, treatment D, which involved sending a letter to those who were still unemployed after four weeks instructing them to attend a two-day job-search workshop, reduced claim durations by an average 0.5 weeks. Treatment A, which involved elimination of regular reporting (with recipients required to call the UI office only when they had earnings to declare) increased claim durations by an average 3.3 weeks from the control-group mean of 14.5 weeks, and increased the UI exhaustion rate by 12.5 percentage points. See O’Leary (2006) for a table summarizing a number of US studies of the impact of PES interventions.

These findings confirm, more specifically for the US UI system, that the impact of a major reduction in claim monitoring or in the obligation to participate in employment assistance can be comparable in magnitude with the impact of a major increase in benefit system generosity (see estimates of this below), in line with the international microeconomic evidence and historical experience summarized in Section B above.

The specific impact of EUC on spell duration

Grossman (1989) uses data from the early 1980s when there was extensive variation in the duration of EUC (FSC, at that time) “not only because potential durations changed automatically with changes in the unemployment rate, but three times during the duration of the programme Congress changed the relation between the unemployment rate and maximum durations”. Grossman estimates that the duration of unemployment increases by 0.91 weeks for each additional week of potential EUC duration, and concludes that “the estimated work disincentive effect is greater than most previously estimated disincentive effects which have primarily examined the effect of total potential duration on samples dominated by short-term recipients”. She also cites earlier estimates, based on the EUC programme of the 1970s (FSB):

Using the FSB sample, Moffitt estimated that unemployment spells lengthened by between 0.62 and 1.04 weeks for each additional week of potential FSB benefits. Using the combined UI and EB recipient sample, he estimated that an additional week of UC lengthened spells by 0.15... From Moffitt's work, we also calculated an estimated work disincentive of EB... Contrary to what we expected, the estimated work disincentive effect of EB was smaller than that found for the FSC program. The average hazard rate for EB recipients decreased by 0.11 percentage points with each additional week of potential benefits, whereas it is estimated to decrease 0.27 with the FSC program.

It is not clear why Grossman expected a different finding: on the basis that EB was 50% financed by the states, and also federal legislation imposes strict eligibility conditions, it should be closer to regular UI than to EUC, in terms of impact.

The maximum 12-week entitlement to FSC was associated with dramatically lower hazard rates ($0.27 \times 12 = 3.24$ percentage points) in Grossman's data; this was probably a reduction by more than half, since hazard rates off regular UI averaged 4% to 5% (exhaustion rates from regular UI were around 30%, and $0.3^{(1/25)} = 0.955$). Other observations that suggest EUC has always had a large impact on spell durations are the high rates of EUC exhaustion reported by Nicholson and Needels (2006), and a remark by Jurajda and Tannery (2003) that in their sample "For a majority of workers who collected either EB or FSC, larger entitlement led to increases in unemployment for at least as many weeks as benefits were available, as the exhaustion rates for the benefits extension programs reached far over 60% in both regions" (although these authors did not notice a difference between EB and EUC).

Recent literature has hardly mentioned Grossman's estimate, possibly related to the reasoning by Nicholson and Needels (1994a) that the 0.91-week finding was "implausibly large".⁵⁸ However, Grossman's 0.91-week finding refers to the impact on expected future weeks across individuals who have already started an EUC claim. By contrast, a standard summary statement from the US literature is given by Woodbury and Rubin (1997), who present a table with 17 estimates (or estimated ranges) from 10 US studies published from 1979 to 1995, and conclude that increasing PBD by one week increases the average duration of unemployment by 0.2 week or less. Such coefficients do not (as an average reader might imagine) refer to the impact of extended benefits on the behaviour of people who receive extended benefits: they refer to impact on the average duration of unemployment across all individuals who start a regular UI claim - many of whom leave unemployment long before 26 weeks (also, some reach 26 weeks but do not then start on extended benefit). Allowing for this major conceptual difference, Grossman's estimate is on the high side but is not implausibly larger than other estimates with which it may be compared - there is no particular reason for doubting that it accurately captures behaviour within the data set that was used to estimate it. The recent UI extensions, combined with weak activation and recession conditions, result in a higher proportion of all initial claims moving into EUC which will, *a priori*, tend to increase the 0.2 coefficient, given the way it is defined.

Schwartz (2010) makes regression-discontinuity estimates for the impact of the EB programme in the early 1990s (EB was used in enough places to generate some data), estimating that it increased unemployment durations by 0.08 week for each week of additional benefits, which tends to confirm that its impact is relatively small. Schwartz also points out also that the triggering-on of EB was relatively unpredictable and localised, and potential users were less likely to be informed (through press coverage) about it as compared to other tiers of the UI system. However his estimates, like Grossman's, give some support to the idea that EB has less incentive impact than EUC.

Other US estimates for the impact of benefit duration on the duration of unemployment

Katz and Meyer (1990) estimate that the average duration of unemployment is increased by 0.16-0.20 weeks for each additional week of potential benefit duration (PBD), and this is the most-widely-cited estimate for the likely impact of EUC in 2008-2011. The 0.16 and 0.20 estimates are based on two equations, Specifications (1) and (2) in their article, which are used to simulate the impact of extending PBD from 26 to 39 weeks. Neither specification allowed the baseline hazard to be different between regular UI, EB and EUC, although multiple duration-spline dummy variables did allow for some flexibility in the pattern of hazard rates by week of the claim.

- In Specification (1), the impact of potential benefit duration (PBD) is estimated only from coefficients on dummy variables (splines) that represent an individual's remaining weeks to

⁵⁸ "If we eliminate the Grossman (1989) estimate as being implausibly large and disregard the Card and Levine (2000) estimate because of the very short time that the New Jersey program was in effect, we arrive at..", etc.

benefit exhaustion. The simulated effect of increasing PBD by 13 weeks is to push back the timing of the “spike” in hazard rates (this spike leads to about 25% more unemployed leaving in the last 6 weeks of their benefit period) by 13 weeks, with little impact on hazard rates in the first 20 weeks of employment. This is a specification that could be estimated when there is no variation of PBD in the data (e.g. if all recipients had a PBD of 39 weeks), so Specification (1) coefficient estimates could mainly be driven by the static structure of the spike, rather than any correlation between PBD and actual spell durations that exists in the data.⁵⁹ In the Specification (1) simulation with PBD at 39 weeks, less than half the individuals who start an extended claim (those claiming in week 27) are still claiming 12 weeks later (in week 39), which seems well below the average exhaustion rates from extended claims reported by Nicholson and Needels (2006).

- Katz and Meyer’s Specification (2) is less restricted and includes in particular a coefficient on the PBD measured in weeks⁶⁰ with an estimated coefficient -0.0247. This implies a highly non-linear response of actual duration to PBD: increasing the PBD from 39 to 99 weeks reduces the exit hazard rate in all weeks by three-quarters ($=1-\exp(-0.0247*60)$). Based on Specification (2), assuming a single type of individual and calibrating the baseline hazard, I reproduced to a good approximation Katz and Meyer’s simulations for PBDs of 26 and 39 weeks,⁶¹ such that this extension increases mean weeks compensated by 1.8, *i.e.* 0.14 weeks per week of PBD (close to the increase of 0.16 in the original simulations). Extending this simulation to 99 weeks,⁶² the 73-week increase in PBD (from 26 to 99 weeks) is predicted to increase mean weeks compensated by 31.7, *i.e.* 0.39 weeks per week of PBD. Allowing for individual heterogeneity, Katz and Meyer’s original simulation can be replicated more precisely, and then the simulated impact for the extension from 26 to 99 weeks is 0.43 weeks per week of PBD.⁶³
- For Specification (2) simulated with one type of individual and 99 weeks of PBD, the regular UI exhaustion rate is 60%, and 36% of individuals who claim in week 27 also claim in week 79 *i.e.* fully exhaust all four Tiers of EUC. These outcomes are broadly similar to those actually experienced in 2010 (the regular UI exhaustion rate peaked at 56% in March 2010, and survival rates through all Tiers of EUC are discussed below), tending to confirm that recent low hazard rates and unprecedented duration of unemployment spells were broadly

⁵⁹ Katz and Meyer’s Specification (1) estimates a coefficient on a spline term for 41-54 weeks to benefit exhaustion. According to the estimated equation, the hazard rate is almost flat between 6 and 39 weeks of benefit remaining, but it then falls so that with 54 weeks remaining the hazard rate is about 30% lower (change in log hazard = $0.021*14$). In this sense, Specification (1) does indicate that there is an empirical tendency in the data for the availability of extended benefits at the end of a spell to be associated with low hazard rates at the start of a spell.

⁶⁰ This refers to total potential benefit duration, which should not be confused with a time (weeks) to exhaustion variable (see Katz and Meyer’s footnote 20).

⁶¹ My simulation has 11.5 weeks compensated and a 14.6% benefit exhaustion rate when PBD is 26 weeks, and 13.3 weeks compensated and 9.0% benefit exhaustion rate when PBD is 39 weeks, close to the simulation by Katz and Meyer (1990), Table 4.

⁶² In Katz and Meyer (1990) Specification (2), the coefficient on the spline for 41 to 54 weeks to exhaustion is zero and I assume that this applies also for 55 to 99 weeks to exhaustion.

⁶³ Assuming two types of individual, one having a baseline hazard slightly more than twice the other, and calibrating, my simulation replicates the Katz-Meyer finding of 0.16 weeks per week of PBD, when comparing the 26-week and 39-week cases.

predictable from this estimated equation, leaving little scope for an explanation primarily in terms of weak labour demand.⁶⁴

The upper-bound estimate by Aaronson et al. (2010) is that the UI extensions could account for as much as 3.1 weeks of the 12-week increase in the average duration of LFS unemployment that took place during 2008 and 2009. Similarly, a “back-of-the-envelope” estimate by Elsby et al. (2010) is that “EUC can account for as much as 15 to 40 percent of the rise in aggregate unemployment duration... which corresponds to between 0.7 and 1.8 percentage points of the 5.5-percentage-point rise in the unemployment rate.” However, both of those estimates are based on an assumption of 0.16-0.20 weeks of unemployment per week of PBD, so their upper limits need to be at least doubled.

The impact of the availability of extended benefits on exhaustion from regular UI

Needels and Nicholson (1999), using state-level 1978-1996 data, estimate an equation for the average duration of regular UI spells with several control variables (including the LFS unemployment rate) and a “Dummy Variable for Years in Which FSC or EUC Benefits Were Available”. In years where these extensions were available, the average duration of spells in terms of weeks of regular UI was higher by 0.5 of a week. Since the level of the average duration was 14 weeks, this is an increase of 3.6%. Some readers may be misled by the apparent small size of such an impact estimate, but its implications can be interpreted as follows:

- In years in which EUC benefits were available, they were probably available for about 0.8 of the year on average,⁶⁵ so impact in a year in which EUC was available throughout the year would be slightly larger, about 0.625 weeks or 4.5%.
- Simulating a UI spell with a constant exit hazard and benchmarking it so that for each initial week claimed there are 14 regular UI weeks in total up to the 26th week, the weekly exit hazard is 5.5% and the UI exhaustion rate is 24.3%. Repeating with 14.625 regular UI weeks, the weekly exit hazard is 5.067% and the regular UI exhaustion rate is 27.3%. The 4.5% change in the average duration of regular UI spells implies a 7.9% reduction in the weekly exit hazard and a 3 percentage point (12.1%) increase in the regular UI exhaustion rate. Movements in the average duration of spells in terms of regular UI weeks are dampened by truncation of the observations at 26 weeks, and correspond to larger movements in other outcome variables.⁶⁶

⁶⁴ Katz and Meyer seem to have not noticed – in any case, they did not warn users or policy-makers - that their estimate would imply an impact of this size in the case of a large benefit extension, although this is an unsurprising consequence of the industry-standard proportional hazard specification. Katz (2010) even stated that “previous estimates of larger impacts of unemployment durations of UI extensions for the United States (Katz and Meyer 1990) are based on data from the 1970s and early 1980s [...] with much of the responsiveness coming from firms and industries using temporary layoffs and the sensitivity of recall dates to unemployment insurance benefits. This layoff-recall process is much less important today than it was in the 1970s and early 1980s downturns.” In fact, according to survey (PSID) data in their paper, relatively few returns to work by UI recipients from the 26th week onwards were recalls so the simulations already related largely to permanently laid-off workers. Even ignoring the issue of federal financing, a potential week of extended benefits *a priori* has a greater impact on spell durations than a potential week of regular benefits due to the lack of experience-rating for EUC: extended benefits have their impact partly by increasing permanent layoffs (since these often qualify for EUC) at the expense of temporary layoffs (which rarely qualify).

⁶⁵ Assuming EUC was available for about 10 quarters, with varying timing relative to the calendar year.

⁶⁶ The estimated equation also has a coefficient of 0.122 on average PBD in weeks, which as the authors remark is “close to estimates of the disincentive effects of additional potential duration found in many

- Multiplying the change in the log hazard rate by five – given that the overall package of UI extensions and related measures in 2008-2011 was about five times greater than in the three previous recessions – and running the simulation again, the regular UI exhaustion is 39.5%, a further increase of 12.2 percentage points.

Thus, the impact of the availability of EUC on behaviour during the regular UI period estimated by Needels and Nicholson (1999), although it is apparently small, is able to predict the entire increase in the regular UI exhaustion rate that occurred in 2008-2011 (see www.doleta.gov/unemploy/chartbook.cfm).

Based on earlier independent data sources, Nicholson (1981) reported that “ceteris paribus, exhaustion rates were four-five percentage points higher during periods when EB was in effect than when it was not... Additional results, not reported here, indicated that availability of benefits beyond those provided by EB (such as those provided in 1975 and 1976 under the Federal Supplemental Benefits program) increased exhaustion rates under regular UI still further. For example, FSB was estimated to have increased exhaustion rates by about two percentage points.” According to those estimates, the availability of EUC and EB in the mid-1970s increased the regular UI exhaustion rate by 6 to 7 percentage points.⁶⁷ Since the potential duration of EUC and EB on that occasion was about twice its average potential duration in the next three recessions, this helps to confirm that the relationship between extension weeks and the regular UI exhaustion rate has been linear and stable, and able to make approximately-accurate out-of-sample predictions.

Although these findings imply that UI extensions can account for all of the increase in the regular UI exhaustion rate in 2008-11, the recession must have played some role. A consideration here is that, as noted above, at no time did a new claimant on the first week of regular UI know for sure that they would be able to claim 99 weeks. Plausibly new claimants, taking into account the likelihood of extensions, on average expected around 50 weeks of extended benefits rather 73 weeks. This leaves room for weak demand conditions to explain about a third of the rise in exhaustion rates that was experienced, based on either the Needels and Nicholson (1999) estimates or the Katz and Meyer (1990) equation, since their predictions are similar.

Experience with EUC in the early 1990s

Referring to some of the literature, policy-makers could have expected the impact of EUC in the 1990s to be fairly small. However, the Committee on Ways and Means (2000) describes outcomes from Extended and Emergency Unemployment Compensation in the 1991-1994 recession as follows:

A comparison of cost estimates at the time of enactment with later reviews shows that actual costs far exceeded anticipated costs due to three factors: exhaustions from the regular State programme were unexpectedly near record levels; claimants were staying on EUC longer than expected; and large numbers of claimants eligible for both regular benefits and EUC were choosing EUC. As a result, for the periods fiscal year 1992 and fiscal year 1993 alone, the Office of Management and Budget (OMB)

other studies (Woodbury and Rubin 1997)”. But here again the definitional issue is important: the dependent variable is average unemployment weeks with the observations truncated at 26 weeks, and the implied impact on the average duration of unemployment spells counting all weeks of unemployment (simulated as described in the main text) is 1.84 times greater, *i.e.* 0.22 weeks per week of PBD.

⁶⁷ Nicholson (1981), like Nicholson and Needels (1999), uses data for 50 states, resulting in precise coefficient estimates. Nicholson (1981) cites another study using data for Pennsylvania and Georgia which gives a similar impact estimate. Also, Director and Englander (1988), using New Jersey data from 1971 to 1981, estimate that the presence of extended benefits increased the exhaustion rate by 13 percentage points, but with a large standard error.

cost estimates rose from \$11.4 billion on the dates of enactment to \$12.8 billion in July 1992, \$18.2 billion in January 1993, \$23.4 billion in April 1993, \$23.8 billion in July 1993, and finally \$24.3 billion in January 1994 - 113 percent higher than originally estimated.

Differences between initial estimates and actual amounts (budget outturns, in UK terminology) in government administration usually reflect behavioural responses, when estimates have been constructed on an “ex ante” basis (*i.e.* assuming the duration structure of unemployment, etc. that prevails before the policy change) and “ex post” outcomes differ to the extent that behaviour has changed. Although a breakdown between the different factors involved is not given, this account suggests that an “entry effect” was important, and that about half of the unemployment-weeks compensated by EUC were weeks where the person would not have been unemployed in the absence of EUC.

EUC exhaustion rates in 2009 and 2010

Although fully-accurate exhaustion rates in 2008-2011 can only be calculated using individual records and defining the statistical treatment of complex cases (e.g. where a Tier of benefit is shorter than usual⁶⁸ or longer due to interruption by a period in temporary work, or a switch into a new Tier occurred before exhaustion of the previous one), exhaustion rates can be estimated by comparing, for example, the number of final payments of EUC Tier 1 with the number of first payments of EUC Tier 1 20 weeks earlier. Table 2 estimates exhaustion rates by this method, using data on final payments from the different Tiers through to end 2010.

Table 2. Estimated exhaustion rates for the four Tiers of EUC and Extended Benefits

	Tier 1	Tier 2	Tier 3	Tier 4	Extended Benefits (EB)
Potential benefit duration (PBD), weeks	20	14	13	6	20
Exhaustion rate ^a	0.681	0.722	0.810	0.908	0.822
Weekly exit hazard (%) ^b	1.91	2.30	1.61	1.60	0.97

a) Exhaustion rates are estimates based on the ratio of final payments to initial payments for the same Tier of benefit offset by 20, 14, 13, 6 and 20 weeks for Tiers 1 to 4 and EB, respectively. For Tiers 1 to 4 the ratio is calculated using data for final payments in the last nine months of 2010 (more months could be used for Tier 1 and Tier 2, not Tiers 3 and 4). For EB the ratio is calculated using data for final payments in the last six months of 2010 (earlier final payments could not have arisen from 53 weeks on EUC followed by 20 weeks of EB). Lags in weeks are converted to months assuming 4.3 weeks per month, using weighted averages over two months to estimate part-month lags. Monthly data fluctuate due to differences in weeks per month and probably differences in state filing dates and reporting procedures.

b) Exit rates per Tier overstate the average exit rate over all four Tiers of EUC: see text discussion.

Source: <http://workforcesecurity.doleta.gov/unemploy/euc.asp> and estimates by the author.

Although the exhaustion rates for Tiers 1 to 4 shown in Table 2 imply average off-benefit hazard rates of nearly 2% per week, transition rates from the exhaustion of Tier 1 into the start of Tier 2 and from the exhaustion of Tier 2 into the start of Tier 3 appear to have averaged about 1.07, which cannot be right. It seems that people sometimes moved into a higher Tier without a final payment from the previous Tier being reported, so that Table 2 overstates true rates of exit from benefit.⁶⁹

⁶⁸ Weeks on a given Tier could be shortened for workers whose regular UI entitlement was less than 26 weeks due to low earnings, although it is not clear that this shortening was done systematically.

⁶⁹ Features that allow such an apparent anomaly to arise as regards entries to Tier 3 are (a) many people who exhausted Tier 2 relatively early started on Tier 3 only when it was enacted in November 2009; and (b)

An alternative basis of calculation, that abstracts from some of the details of switches across Tiers, is available as follows. In the last 8 months of 2009 4.93 million people started on Tier 1 EUC, and in the last 8 months of 2010, 2.073 million people received a final week's payment of Tier 4 EUC. This implies that the nationwide average rate of survival through all four Tiers, which have in principle a total duration of 53 weeks, was 42%. An adjustment is needed for the fact that about 15% of Tier 3 exhaustees were in states that were not eligible for Tier 4. After this adjustment, in the aggregate data 50% of individuals who started Tier 1 in a state that paid Tier 4 went on to exhaust Tier 4. Repeating this calculation for California where unemployment was particularly high, 64% of individuals who started Tier 1 went on to exhaust Tier 4. These figures imply an average exit hazard during 53-week spells of EUC of about 1.3% per week nationwide, and 0.85% per week in California. The 50% exhaustion rate means that individuals who started on EUC received on average 9 months of their total 12-month entitlement to EUC (not including EB). This again confirms the picture that the longer entitlements have led to increases in unemployment for (nearly) as many weeks as benefits were available.

The EB exit hazard in Table 2 is somewhat understated because in some states the PBD was 13 weeks rather than 20 weeks. Another possible explanation for the low hazard rate off EB is that some (probably more-employable) workers tend to be dissuaded from claiming EB by the strict formal conditions (transition rates from exhaustion of Tier 4 into EB seem to be rather low).

Unemployment after benefit exhaustion

Detailed econometric estimates for the impact of UI often use administrative data for compensated unemployment, and thus they report the impact of benefit system parameters on compensated unemployment. A statement about unemployment in the counterfactual case where benefits are not extended cannot be based on this type of administrative data. It can be based either on labour force survey data,⁷⁰ or on administrative (or survey) data for entries to employment, using these as an indicator for exits from unemployment.

Estimates using labour force survey data

In 2009 and 2010, in the absence of EUC, in weeks 21 to 40 of unemployment spells, the rate of exit from unemployment on the LFS definition would have been about 35% per month (19% moving into employment, and 16% out of the labour force), according to Fujita (2011, Table 3 counterfactual case).⁷¹

“States have the ability to... pay tier III before tier II if doing so would aid in prompt payment of EUC08 benefits” (Isaacs and Whittaker, 2011).

⁷⁰ Indeed a paradox and source of confusion in the analysis of the impact of benefits is that the policy interest is in the LFS unemployment rate, yet in most countries no accurate information is available about whether the individuals unemployed in the labour force survey are benefit recipients, or whether their LFS unemployment duration corresponds to their benefit duration. Conclusions about impact on LFS unemployment require some kind of judgment about how the two unemployment concepts are related. One source for this is the study of historical trends in LFS unemployment as compared to trends in benefit caseloads - some comparisons of this kind have appeared in OECD publications. Also, detailed patterns in LFS data (see the discussion here of Fujita, 2011) indicate that during long unemployment spells, survey respondents report an inactive status in some months, whereas unemployment benefit recipient status is not so often interrupted.

⁷¹ Fujita (2011) estimates a relationship between hazard rates and the vacancy rate, and then simulates hazard rates in 2009 and 2010 in the absence of EUC based on 2004-2007 data with an adjustment for demand conditions. Fujita estimates that the difference between the actual 2009-2010 outcome and the counterfactual case corresponds to an impact of 1.2 percentage points, but the hazard rate profiles in Fujita's Table 3 appear to imply a larger impact. An issue here is that in the case of U-N-U (unemployment, inactive, unemployment) monthly transitions (or U-N-N-U, etc.), when the person returns

This is equivalent to about 9.5% per week ($0.905^{4.3} = 0.65$). Fujita uses data for males only, but data for females would be similar. These estimates imply that in the absence of EUC, the mean completed spell duration after exhaustion of regular UI would have been about 10.5 weeks (2.4 months), only slightly more than a quarter of the mean completed duration of spells on EUC (about 9 months, see above) and well below a quarter of the mean completed duration of spells on EUC plus EB (about 11 months). Although Fujita's adjustment for the weak demand conditions in 2009 and 2010 may not have been exact,⁷² in OECD historical experience it is extremely unusual for a recession to lead to even a doubling in the average duration of unemployment spells.⁷³ The great majority of unemployment-weeks supported by EUC could not have been weeks unemployed, at least not in the same spell of unemployment, in the absence of EUC.

Although benefit exhaustees in the absence of EUC would have left unemployment about 2.4 months after benefit exhaustion on average, a certain proportion of them would have cycled back into unemployment. The extent of this feature is not documented by Fujita (2011) or other easily-available sources. However, allowing for this feature, it still seems likely that at least half the weeks covered by EUC and EB (the first 73 weeks after exhaustion of regular UI) would not otherwise have been weeks of unemployment. This would have reduced LFS unemployment during the EUC period in Table 1 (from 2009 Q3 through to end 2010) by at least one sixth (1.6 percentage points), through the duration effect not yet allowing for the entry effect.

Administrative and survey data for re-employment rates after benefit exhaustion

Jurajda and Tannery (2003) used UI data for the early 1980s matched with administrative employment records, making it possible to observe hazard rates from unemployment to employment after UI exhaustion (although not hazard rates from unemployment to inactivity). In their pooled estimate for Pittsburgh and Philadelphia (Table 2), there is a "spike" from three weeks before to two weeks after benefit exhaustion. However, they also estimate that the baseline hazard to new jobs⁷⁴ from the 2nd week after benefit exhaustion is 2.1 times the baseline hazard more than 3 weeks before benefit exhaustion. When

to unemployment he/she is likely to report an unemployment duration referring back to the last job held. In this case, if the last month of the four-month CPS rotation is a "U" month, earlier "N" observations are overwritten with a "U" in the course of Fujita's data-cleaning process: but an "N" observation falls in the last month of the rotation, it is not overwritten. Each four-month CPS rotation provides only three observations on monthly transitions. I estimate therefore that if the CPS used a much longer rotation period, about twice as many "N" observations altogether would be overwritten, the cleaned data would have overall fewer "U-N" transitions, and impacts estimated by Fujita's method would be correspondingly larger (according to Fujita's estimates, most of the fall in U-E transition rates was attributable to EUC, but EUC had little impact on U-N transition rates).

⁷² CBO (2004) provides a plausibility check using data from the Survey of Income and Program Participation (SIPP), concerning workers who lost their jobs during the 2001 recession but prior to the enactment of EUC. 51% of male and 49% of female UI exhaustees were in work three months after exhaustion, which implies a U-E (unemployment to employment) hazard rate of 21% per month, slightly above Fujita's estimate for 2009 and 2010.

⁷³ Exceptionally, in Finland the average duration of unemployment rose from 4 months in 1989 to 9.3 months in 1993: but in this case the unemployment rate rose from 3% to 16%.

⁷⁴ US studies of the incentive impact of benefits often distinguish between individuals who are recalled and those who return to work in a new job.

potential benefit duration is 26 weeks, the expected further duration of spells that have already reached the 22-week point (the point at which the “spike” starts) is only 11 weeks.⁷⁵

In their simulations using non-pooled estimates, new job hazard rates after benefit exhaustion stayed at about 4% per week in Philadelphia and 6% per week in Pittsburgh, through to the end of their data window (the 65th week of unemployment). Unemployment in their early-1980s sample was high (peaking at 9.9% in Philadelphia and at 16.9% in Pittsburgh). These rates are again similar to the Fujita (2011) counterfactual case for the “U-E” transition rates in 2009 and 2010 in the absence of EUC.

Woodbury and Rubin (1997), Table 6.5, summarise findings from four studies of re-employment rates after benefit exhaustion. One of these, the “four-city” study of benefit exhaustees in Atlanta, Chicago, Baltimore and Seattle, shows a relatively low re-employment rate (about 2.0% per week). NELP (2010c) claims - since this is the only one of the four studies that was carried out in a downturn - that this is “evidence... that labor market slackness matters”. Unfortunately the presentation of the “four-city” study findings alongside the other three was rather misleading,⁷⁶ because when the sample was drawn in October 1974 most of the Seattle participants had had already exhausted EB as well as regular UI, and within a few weeks most of the sample in all cities were either on a new regular UI claim, on the first weeks of a new EUC claim, or had applied for EUC and were expecting payments to start very soon.⁷⁷ In the other three studies, 33.5% to 44.0% of workers had re-entered employment after 12 weeks, implying re-employment rates of 3.6% to 4.7% per week,⁷⁸ similar to those reported by other sources.

Entry effects

US experience

A key finding in US studies of the impact of Welfare Reform has been (Moffitt, 2008):

much of the decline in welfare use and caseloads arose because of decreased entry instead of increased exit... Although it is unquestionable that welfare reform induced more women who were initially on welfare to leave, both because of increased government subsidies to work off welfare (e.g., from the Earned Income Tax Credit) or because of the “push” of welfare work requirements, sanctions, and time limits, it is also the case that many women who would ordinarily have gone onto welfare when faced with a decline in income or earnings – possibly a temporary one – instead stayed off welfare after the reform. It would not be surprising if this were a result, as well, of the increased

⁷⁵ Based on a simulation assuming that all exits from unemployment are exits to employment with the baseline hazard calibrated so that 43% of spells reach week 22, and 23% of spells reach week 26.

⁷⁶ This is acknowledged by Stephen Woodbury, in correspondence with the author.

⁷⁷ On 10th December (at which time it was probably not entirely a surprise), a bill was introduced in Congress to create EUC benefits and “...by the date of the Wave II interview [in February 1975], the emergency benefits had undoubtedly affected behavior in a major way”: as well as some being on a new regular UI claim, 70% of the whites and 51% of the nonwhites remaining unemployed were either already receiving or had applied for EUC (Nicholson and Corson, 1976).

⁷⁸ One of the four studies summarized by Woodbury and Rubin (1997, Table 6.5) reports point-in-time employment status by week after exhaustion (the others appear to report whether the person has ever been employed since exhaustion, a different concept). In this study, the employment rate of exhaustees rises to 37.5% by 16 weeks after exhaustion, but rises no further through to 52 weeks after exhaustion (the data relate to good demand conditions, in the 1960s). This suggests that low re-employment rates after the 16-week point were restrained more by individuals being out of the labour force a large proportion of the time, than by inability to find work after continuous job search.

work requirements, sanctions, and time limits on welfare, which would naturally be thought to make welfare less attractive.

This is in line with the international evidence cited above. A few studies have identified entry effects for UI benefits in the United States:

- Anderson and Meyer (1994) estimate the impact of unemployment insurance taxes and benefits on layoffs, concluding “Our preferred estimates imply that incomplete experience rating is responsible for over twenty per cent of temporary layoffs”. However, they did not estimate the impact of UI on permanent layoffs on the grounds that “it is likely that for temporary layoffs the UI component of layoff costs is more important, while permanent layoffs would involve hiring and training costs that far exceed the UI component”.⁷⁹
- Jurajda (2002) uses a data set with information from the mid-1970s through to 1979 on individual UI status, employment status and earnings to determine the moment at which individuals after leaving one unemployment spell regain entitlement to UI. Across several specifications, the log hazard rate for layoffs increases by about 0.45 once the individual becomes entitled to benefits. Based on estimated equations for both the layoff hazard and the hazard for exit from unemployment, Jurajda estimates the relative importance of entry effects vs. duration effects in reducing the time that workers spend employed: “the UIC eligibility effect of shortening employment durations is roughly equal in size (but opposite in sign) to the effect of suspending (triggering off) an extended benefits programme for all workers in the sample on shortening unemployment durations.” Since the entry effect from the whole of the UI system is similar in size to the duration effect from “an extended benefits program”, the entry effect from the extended benefit programme itself would presumably be somewhat smaller than the duration effect from the same programme, but it remains relatively significant.
- Meyer and Mok (2007) study the effect of a 36 percent increase (from \$180 per week to \$245 per week) in the UI benefit ceiling in New York State during the 2nd quarter of 1989. In the first quarter of 1989, entries to unemployment from the “high-earnings group” (the group with earnings high enough to fully benefit from the increase in the ceiling) were 7% lower than a year earlier; in the third and fourth quarters they were 40% higher than a year earlier. Entries for the “low-earnings group” increased to a lesser extent so that according to a differences-in-differences estimate, entries from the “high earnings group” increased by about 25%. The mean duration of claims for the high-earnings group fell by about 5%,⁸⁰ so that the entry effect was responsible for all of the apparent impact of the increased entitlement upon the unemployment rate of the affected group.

Trends in initial claims in 2008-2011

⁷⁹ A clear-cut distinction of this kind seems to me unlikely, because the UI contribution requirement for permanent layoffs is as short as it is for temporary layoffs, and an employer contemplating permanent layoff will often not have invested much in firm-specific training. In 2008-2011, with 8 quarters of benefits payable after 2 quarters of earnings, benefit entitlements typically exceeded the total earnings on which claims are based, so hiring and training costs could hardly be a barrier to entry effects.

⁸⁰ Meyer and Mok (2007) attribute the fall in the mean duration of claims for the high-earnings group to a change in the composition of claims, *i.e.* after the benefit amount was increased (specifically for higher earners, not others), people with higher employability or who expected to re-enter work quickly were more likely to make a claim. They rule out the possibility that shocks to particular industries or regions were responsible for this result, although they cannot exclude the possibility that some other shocks disproportionately affected high-wage workers.

The main changes that might generate entry effects over 2008-2011 are listed in Table 3.

Did these changes have an identifiable impact? As an indicator, I consider the four-week average of seasonally-adjusted initial claims for regular UI, relative to the average over the preceding 26 weeks (<http://workforcesecurity.doleta.gov/unemploy/wkclaims/report.asp>). This reached local peaks of 73000 in the 4 weeks ending 16 August 2008 (up from 32000 5 weeks earlier); 114000 in the 4 weeks ending 20 December 2008 (up from 89 000 five weeks earlier); and 129000 in the 4 weeks ending 21 February 2009 (up from 65000 five weeks earlier). The last two peaks plausibly match the announcements of benefit extensions and related measures enacted in November 2008 and February 2009. Note here that it is “not news” that a surge of applicants moved onto the newly-created Tiers of EUC as they were enacted, but it “is news” that there was a surge of applicants for regular UI, who would not benefit from the newly-created Tiers of EUC for another 26 weeks. The indicator stayed close to zero through most of 2010, and fell to -39000 in the four weeks ending 11 December 2011 and recovered to -18000 in the first four weeks of January 2011, which might be a reaction to the fears that EUC would not be extended and the subsequent news that it was extended.

Table 3. The timing of changes in the expected level and potential duration of benefits for new claims of regular UI, 2008-2011

Date	Change in the availability of benefits following a new claim
June 2008	Creation of a 13-week period of EUC
November 2008	Creation of Tier 1 (20 weeks) and Tier 2 (13 weeks)
February 2009	100% federal financing of Federal-State Extended Benefits, \$25 per week federal supplement for all benefits, 2009 tax concession and COBRA subsidy
November 2009	Creation of Tier 3 (13 weeks) and Tier 4 (6 weeks)
July 2010	\$25 supplement expires, and new claims no longer benefit from the COBRA subsidy
Late November 2010	Increasing doubts about whether EUC would be extended into 2011, which were resolved in the second week of December 2010
Late February	New claims will no longer be able to benefit from Tier 2 EUC*
Early July 2011	New claims will no longer be able to benefit from Tier 1 EUC*

* Assuming no further extensions, i.e. no Tier of EUC can be started after the first week of 2012.

Source: Isaacs and Whittaker (2011).

The increase in weekly initial claims by about 60000 in February 2009 probably represents only the incremental impact from the full package of UI extensions and related measures. Plausibly the announcements of Tiers 1 and 2 in June and November 2008 had already increased inflows by about 60000, so that the total impact on weekly initial claims from the full package of UI extensions and related measures in February 2009 was about 120000. In favour of this hypothesis, it can be noted that initial claims (4-week averages are cited here) were about 315000 until August 2007 and only increased by 73000 to reach 388 000 by end June 2008. Then the first EUC programme was enacted and weekly initial claims increased much faster, reaching 643 000 by March 2009. Only one previous recession since 1966 (the recession of 1974-75) involved a doubling of initial claims on a trough-to-peak basis (see <http://research.stlouisfed.org/fred2/series/ICSA>).

From early 2009, the interpretation of trends in weekly initial claims is complicated by the fact that people who would, in the absence of EUC, have been repeatedly unemployed were likely to have stayed on EUC and thus not filed a new initial claim for regular UI. Already by March 2009, this factor might have

been reducing weekly initial claims by about 40000, so that this series in a sense understated the size of the entry effect.⁸¹

Overall, in the light of the international and US evidence on entry effects and the detailed trends in initial claims, weekly initial claims through much of 2009 would quite likely have been lower by about 100000 to 200000 (one sixth to a third) in the absence of the benefit extensions and related measures. This would have lowered the unemployment rate in 2009 and 2010 by 0.8 to 1.6 percentage points, in addition to the impacts via the duration of unemployment spells.⁸²

Another perspective on entry effects is that they arise from layoffs by agreement between the employer and the employee which are more likely in small firms, where the employer and employee know each other and may be able to make cross-payments (e.g. pay an extra month without work, or work an extra month without pay) to facilitate the minimization of joint social insurance contribution and tax payments, along with the maximization of UI and other benefits. However, even in large firms, section heads strive to be a “good boss”, and may sometimes help staff in matters of layoff. Monthly job growth in firms with less than 50 employees averaged about 0.2 percentage points less than in larger firms from December 2007 to June 2009, and 0.4 percentage points less than in larger firms from June 2009 to November 2010, a cumulative decline relative to larger firms of 10 percentage points over a 3-year period (Krueger, 2011). If June 2007 to May 2008 (just before the first UI extension) is taken as the pre-recession baseline, in January 2009 to November 2009 layoffs from establishments with fewer than 50 employees increased by about 40%, an average of 300 000 per month, and layoffs from establishments with 50 or more employees increased by less than 20%, an average of 150 000 to 200 000 per month (Krueger, 2010; Krueger and Charnes, 2011). In larger establishments, there was a “spike” in layoffs in January and February 2009,⁸³ rather like the spikes often seen in UI literature (e.g. the spike in entries in the Netherlands when cohorts of individuals reached the age of 57.5 years and first became entitled to lengthy unemployment benefits: see Tuit and van Ours, 2010). Based on, for example, quarterly GDP, or JOLTS vacancy data or Help Wanted Online data, the economy was in a trough from 2009Q1 to 2009Q3, but not specifically in January and February 2009. The concentration of layoffs on smaller firms, as well as the precise timing of the spike for large-firm employees (who were probably the main beneficiaries of the COBRA health insurance subsidy⁸⁴), seem consistent with entry effects from extended benefits and related measures, with the ARRA package as the strongest factor motivating the entries.

⁸¹ Claims for one Tier or another of EUC rose rapidly throughout 2009 to reach a level of about 500 000 per week by December, and then levelled off. Initial weekly claims for regular UI fell from 640000 in March 2009 to 480000 in December 2009, and then levelled off. Assuming that about one in four grants of a new EUC Tier substitutes for an initial claim of regular UI (which seem plausible, and is in the range suggested by these trends), the rate of initial weekly claims in March 2009 adjusted for cases where an EUC Tier substituted for an initial claim would have been about 40 000 higher, since EUC claims were already running at about 160 000 per week.

⁸² $10\% \cdot (1/6) \cdot 0.65 = 1.1\%$ and $10\% \cdot (1/3) \cdot 0.65 = 2.2\%$, but these are the increases in unemployment that would arise in a steady state after two years with a higher entry rate. The 0.8% to 1.6% range makes some allowance for the fact that the periods during which entries were at peak levels were not greater than the typical duration of the subsequent unemployment spell.

⁸³ Although it was enacted in February 2009, the Recovery Act, foreseeing federal financing for 20 weeks of EB, the \$25 per week benefit supplement and premium assistance for COBRA benefits, was published on 6th January.

⁸⁴ COBRA enrollment rates among those laid off from large employers doubled to reach 38% (www.businessinsurance.com/apps/pbcs.dll/article?AID=/20110315/BENEFITS02/110319936). If enrollment rates averaged about 30% overall, the average amount of COBRA subsidy for its users may have been often nearly as large as the UI benefit payment itself.

US small businesses in the past were often sole proprietorships, but between 1985 and 2009 the number of “S-corporations” increased from 725 000 to 4.5 million. A typical S-corporation is small, with on average less than two shareholders and less than \$60000 annual net income per shareholder in 2007. In contrast to a sole proprietor who cannot make employee tax contributions on a spouse hired as an employee, the owner-manager of a S-corporation who hires his/her spouse as an employee (which is a widely-recommended arrangement⁸⁵) pays employee taxes, including UI contributions. There seem to be no specific exclusion clauses, so there would often be a business case for laying an employee spouse off for the duration of EUC. Probably some of the UI entry effect involves S-corporation owners laying off spouses, family members, and long-term business associates. Also, especially when there are no other employees, owner-managers are frequently employees of their own business and are entirely free to lay themselves off and claim UI, perhaps also paying themselves high salaries in the quarters before making the claim, except that state UI administrators then need to determine whether to treat the layoff as a voluntary quit and to check for evidence of salary manipulation.⁸⁶ For many owners, having made UI contributions for many years and having employee-based health insurance that perhaps could be continued with the COBRA subsidy, early 2009 would have been the best time for years to make a claim. It is likely, in such cases, that the decline in the firm’s output will be minimal, or at least not proportional to the decline in its employment; and this can hardly be described as “undeclared work”, because there is in any case no external surveillance of the hiring of spouses or the work done by them.

The Bureau of Labor Statistics (BLS) earnings data series for “Nonfarm business real hourly compensation”, which features in BLS news releases as the broadest measure of earnings, is based on data for wages and salary earners from the Quarterly Census of Employment and Wages (QCEW), with adjustments to include the self-employed (Meisenheimer, 2005). Real earnings on this measure increased slightly in 2008 Q4, and during 2009 Q1 to Q3 were about 3.2% higher than a year earlier, in contrast to 2001 to 2008 when growth averaged less than 1% per year. This is remarkable for a time when business was supposedly in deep recession. Nonfarm business hourly compensation in 2009 Q1 to Q3 was about 3.8% higher relative to private sector wage and salary weekly earnings (as reported in the QCEW) and relative to earlier years, suggesting that there was a surge in the reported earnings of self-employed workers. This might arise if small businesses lay employees off with little impact on the total earnings of the business.

Another outcome that may be indirect evidence of an entry effect around February 2009 is that an (indicator for) the average duration of regular UI claims⁸⁷ increased from 8.33 in 2008Q2 and 9.29 in 2009Q1, to 10.34 in 2009Q2, two successive unprecedented quarter-on-quarter rises. This suggests that the people who made up the large additional inflow to regular UI around February 2009 had particularly low

⁸⁵ “Running the numbers usually reveals the continuing benefit of having a spouse as an employee covered under a health plan in which the rest of the family, including the owner-spouse, are covered as dependents. And although the wages of the spouse are subject to FICA [Federal Insurance Contributions Act], the spouse is able to build up Social Security and Medicare credits.” (www.ucosbdc.org/library). Other information in this paragraph is drawn from www.usa-federal-state-company-tax.com/s_corporation.asp, www.accountingtoday.com/ato_issues/24_9/current-planning-with-s-corporations-54812-1.html and www.hireyourspouse.com/questions.html.

⁸⁶ Various blogs and www.forbes.com/2009/08/06/small-business-unemployment-entrepreneurs-law-taxation-unemployment.html describe this situation.

⁸⁷ The indicator cited is the ratio of weekly continued claims to the average of weekly initial claims in the current quarter and the previous quarter (initial claims in one quarter are relevant for continued claims the next quarter). Since not all initial claims result in a first benefit payment and the timings cannot be matched exactly, this is not a true average-duration number but it should be reasonable as an indicator.

exit rates from regular UI. In the early 1990s and the early 2000s, when EUC was introduced later in the recession, a peak in this indicator also occurred later.⁸⁸

The above observation highlights that UI extensions or other changes in benefit system affect (a) the volume of inflows to unemployment (b) the average employability of the individuals who make up the inflow to unemployment and (c) hazard rates among the existing pool of unemployed. Many high-quality impact estimates (for example Roed and Zhang, 2003) will only capture impacts of type (c), and partly miss an impact of type (b) because the hazard-rate equation controls for observed individual characteristics. An impact of type (b) seems not implausible: for example, workers in their 60s who were intending to retire soon, or workers who feel stressed by their current job but know that their re-employment prospects are poor, may have arranged to be laid off when the benefit package available became more attractive.⁸⁹ By contrast, the simple approach used by Needels and Nicholson (1999) - a regression of state-level average compensated weeks on a dummy for whether EUC was available - does in principle capture impacts of types (b) and (c), although not type (a).

E. Weaknesses in the arguments suggesting that the UI extensions would have a minimal or a favourable impact on unemployment

To summarize the previous sections, several approaches suggest that the UI extensions and related measures increased the unemployment rate in the six quarters to end calendar 2010 by about 1.8 or 2.0 percentage points through an impact on average spell durations. The evidence from Nicholson (1981) and Needels and Nicholson (1999), which implies that up to almost the whole of the recent increase in the regular UI exhaustion rate could easily have been predicted as an outcome from the UI extensions, adds confidence that such figures are not overstated. There is also quite strong evidence for entry effects of a magnitude that would lead to a further increase of about 1.2 percentage points. Duration and entry effects together then account for over half of the actual increase⁹⁰ in the unemployment rate.

Against this background, this section examines – by contrast - some arguments for opposite case *i.e.* arguments that the UI extensions would not be expected to increase, or even would reduce, the unemployment rate.

Econometric studies estimate only a small impact

US experience with Welfare Reform should have warned policy-makers that isolated microeconomic studies tend to capture only a small proportion of the total impact from a large policy reform:

- The National Evaluation of Welfare to Work Strategies found that the best of many strategies implemented in random-assignment experiments reduced welfare caseloads by about 15%; perhaps if the best model was taken and refined, an impact of 20% could have been expected. However, the aggregate welfare caseload, in terms of adult recipients, actually declined from about 3% of the working-age population in the 1970s through to the early 1990s, to 1% and

⁸⁸ A cross-tabulation of exit hazard rates by current week and by claim start week, if suitable data can be found, would allow more-certain identification of the specific impact of claim start week *versus* week-by-week changes in demand conditions.

⁸⁹ Researchers may be able to tabulate the age and other detailed characteristics of workers who entered unemployment each month during this period, using CPS data or perhaps another source.

⁹⁰ The entry effect and duration effects have been calculated on a base of a 10% unemployment rate and are not strictly additive, *i.e.* if without the duration effect unemployment would be 1.8 points lower; and without the entry effect it would be 1.2 points lower; then without either it would be 2.784 points lower (=10*(1-0.82*0.88)).

less by 2000 and thereafter (see <http://aspe.hhs.gov/hsp/newws/5yr-11prog01/chapter5.htm> for impact evaluations; and OECD, 2003, Chart 4.6 and Bitler and Hoynes, 2011 for caseload developments). The random-assignment experiments captured at best 1/5 of the total impact⁹¹ - channels of impact not captured by random-assignment experiments accounted for 4/5.

- As welfare caseloads fell rapidly during the 1990s, it was widely believed that much of the fall was due to “the economy”, *i.e.* favourable demand conditions. The Council of Economic Advisers estimated in 1997 that about 45% of the decline in caseloads through to 2006 was accounted for by improved labor market conditions, about 30% by welfare waivers (*i.e.* policy changes), and the remaining 25 percent was explained by “other factors”. This was not entirely plausible in a longer-term historical perspective, because the welfare caseload before the 1990s was not strongly cyclical. After 2000, the economy entered recession and welfare caseloads continued to fall, demonstrating that nearly all of the caseload decline should have been attributed to Welfare Reform and other policy variables (such as EITC), and very little apart from possible effects on timing to “the economy”.

Many factors can lead to underestimation of the impact of policy changes:

- When governments engage in a policy drive, they implement a number of different policies working in broadly the same direction. Welfare Reform in the 1990s involved a fairly wide range of policy changes, and an evaluation of the impact of just one of the changes would fail to capture the impact of the others. Some of the changes – such as changes in institutions, expectations and motivations, and street-level practice – are typically not measured by any statistical indicator, so that even if everything quantified is taken into account there is still a bias towards underestimation of the total impact.
- The impact of a given policy through the channels that are less-well-understood and documented need not always reinforce the impact through known and easily-documented channels. However, when there is an incentive that works clearly in a particular direction - as in the case of a cash benefit programme with federal funding but local administration - impacts through the easily-documented channels and the less-easily-documented channels do tend to operate in the same direction. Again, estimates based on the easily-documented channels of impact detect an impact in the right direction, but underestimate its size. The discussion above of how incentives may affect the composition (and not just the volume) of inflows to benefit is an example of a channel of impact that is rarely discussed elsewhere. The impact of unemployment benefits on wage bargaining is an example of a channel of impact (and strand of economic literature) that exists but is not discussed here. This consideration alone suggests a need for caution before concluding, based on even a large number of studies that focus on one thing at a time, that total impact will be small.⁹²

⁹¹ Calculated as $\log(0.8)/\log(1/3)$

⁹² This is why research time and reader attention is best directed towards assessing the detailed meaning of a few widely-cited findings, such as “a 1-week extension of benefits increases the mean duration of an unemployment spell by approximately 0.16-0.20 week”. There would be no point in including here a summary table of many econometric studies illustrating that “there is a wide range of impact estimates in the literature” (see Woodbury and Rubin, 1997, for such a table): the wide range mainly indicates that each impact estimate needs careful assessment (cf. the discussion in Section D.2 here). By contrast, the listing of studies that report an increase in employment hazard rates around the time of benefit exhaustion done here in the main text is a valid procedure, because scrutiny of each study will not usually cast doubt on the validity of the point being made.

- Errors in the measurement of explanatory variables bias coefficient estimates towards zero. In social sciences, explanatory variables that are measured formally without error are still only indices or indicators or proxies for an ideal summary measure whose exact definition is not even known *a priori*, so measurement error is systematically present. Also, for reasons of simplicity and in the absence of strong evidence to the contrary, researchers often specify that y is a function of x , when in fact y it is a function of $\log(x)$, or of a distributed lag of x over several quarters or years, or x interacted with a variable z for which data are not available: and such specification errors on average resemble measurement error and again bias coefficient estimates towards zero.
- Random assignment experiments and near approximations to them (e.g. matching estimates, in some cases) give biased estimates if individuals are not sure of the difference between the treatment and control group, or not sure which group they are in, or if social interaction effects are important (when my neighbour is unemployed, I don't mind being unemployed). For example, if the treatment involves referral to a programme after 13 weeks of unemployment, individuals in the treatment group may be told that they will be referred but still doubt this because they have a friend who was not referred; conversely, individuals in the control group may not be told that they will be referred but will hear from a friend who was referred; in either case, the impact estimate from the experiment is biased downwards⁹³ - in the sense that if the treatment is implemented nationwide it will have greater impact.

Impacts can also be overestimated, because included variables are forced to proxy for omitted variables, and due to “data mining” and “publication bias” (*i.e.* a tendency for “significant” coefficient estimates to be retained and published), as well as bias where researchers aim to support their prior belief or theoretical prediction (although in the case of benefits, perhaps as many researchers are looking for small coefficients as for large ones). Still the biggest problem for the policy evaluation is the use of crude indicators and weak proxies and ignoring policies for which no data are available: data about policies tend to be much weaker, and harder to construct or collect, than data about outcomes and this does tend to result in underestimation. Readers of this article may find it obvious that the estimates for the impact of the UI extensions in the United States should include entry effects, but in fact few if any earlier studies have done this. Economists should suspect that undocumented channels of impact may be important, even before they are explicitly identified.

The level of UI benefit in the United States is too low to act as a significant disincentive

The average weekly UI benefit amount in 2008-2011 is about \$300, and the argument is that this is too low to have a significant disincentive impact. As JEC (2010a) put it: “Unemployment benefits are not particularly generous – average weekly benefits are just 74 percent of the poverty threshold for a family of four. So it is unlikely that extended unemployment benefits inhibit individuals’ job search efforts. Simply put, even a low-paying job is likely to provide more support than that offered by UI.”

⁹³ The 1994 experimental evaluation of alternative of work-search requirements in Maryland (Klepinger et al., 2002) used two control groups, one of which was informed that they were participating in the experiment, to test whether there was a “Hawthorne” effect (none was detected). However, this is not the same as learning that, for example, a neighbour was required to participate in a 4-day workshop or a six-month work experience programme to maintain their entitlement to benefit. It is true that impact estimates from random-assignment evaluations may also be biased upwards, due to negative externalities, e.g. if the treatment is a counselling interview in which clients are matched to specific job vacancies, the treatment group may have better outcomes than the control group solely because it gets priority access to a fixed pool of job vacancies.

However, simple reasoning misses the complex and varied nature of benefit incentive effects, detailed here under subheadings “general considerations”, “coverage issues”, “effective tax rates” and “international experiences”.

General considerations

- \$300 may seem low to analysts, but if only a minimum-wage job is available, \$300 is the alternative to doing 41 hours of work.
- Due to the lack of an unemployment assistance benefit in the United States, the short duration of regular UI has a greater incentive effect than it would do elsewhere, so conversely UI extensions will have a greater disincentive effect.
- Related to the character of EUC as a temporary measure lacking an operational management structure, there has been some uncertainty about its detailed provisions and limited optimisation of them. A particularly perverse feature was that if recipients during an EUC claim had enough part-time or temporary earnings to qualify for a new spell of regular UI, they had to start that new spell with a benefit level related to quarterly earnings in these part-time or temporary jobs, rather than moving to a new Tier of EUC with a benefit level related to earnings in their original permanent full-time job. This feature was (partly) corrected by amended federal legislation of 22 July 2010 (Issacs and Whittaker, 2011b).
- Committee on Ways and Means (2000) states that weekly benefit amounts generally replace between 50% and 70% of the individual’s average weekly pretax wage, up to some state-determined maximum, and that the national average weekly benefit amount was 35% of the average weekly covered wage. However, since US wage dispersion is high and unemployed workers have relatively low wages, the average replacement rate defined as the pretax average weekly benefit as a percentage of the average weekly wage of the same worker before layoff could be somewhat higher. Also, many states base benefits on earnings in the quarter or two quarters with highest earnings, so that when earnings fluctuate the replacement rate relative to annual average earnings can be much higher than the nominal rate.
- Based on the system in the state of Michigan, where weekly benefits are 4.1% of high-quarter average wages (*i.e.* quarterly benefits are 53% of quarterly wages) and the average weekly benefit payment is close to the national average, the average initial net replacement rate (averaged across four cases: single person and one-earner couple, with no children or with two children) in the United States in 2008 was in 28th position out of 29 countries for a worker at 2/3 of the average wage (or 28th out of 30 in a ranking that includes Mexico, which has no unemployment benefit). However for a worker at the average wage level, eight other OECD countries had lower replacement rates, because their benefit rates are either invariant to wages or are wage-related but capped by a low ceiling (www.oecd.org/els/social/workincentives). In both cases, the net replacement rate in the US (Michigan) is about 10% to 20% below the 29-country average: the generosity of UI benefits in the United States remains much closer to the international average level than it is to zero.

Coverage issues

- In several other countries that have relatively low net replacement rates, the unemployment benefit is a flat-rate assistance benefit, so that secondary earners are not entitled (or in some cases, qualify only for reduced rates). By contrast, in the United States the earnings of a spouse or an unmarried partner are an important source of family income for a large proportion of UI

recipients. This makes it easier for UI recipients to strategically use their maximum entitlement: staying unemployed does not cause hardship and even at low levels the UI is better than nothing.⁹⁴

- In contrast to many other OECD countries, in the United States entitlement to UI benefits is not subject to an age limit. Depending on state laws, workers can receive UI benefits combined with various types of retirement income (www.ehow.co.uk/info_7904029_can-security-retirement-benefits-together.html). CBO (2004) notes: “anecdotal evidence suggests that some workers use UI benefits either as a temporary supplement to their retirement income or as a bridge to retirement... about 7 percent of the former recipients who had not returned to work reported that they were receiving Social Security or pension income three months after their UI benefits had ended.” This no doubt explains why older-worker unemployment increased at the time of the UI extensions.⁹⁵ There is also at least one report of EUC being paid to full-time students,⁹⁶ although in most OECD countries full-time students (except for those in labour market training approved by the PES, not regular university students) are disqualified.
- In at least one state, the “disregard” for earnings while on EUC is generous: in Pennsylvania recipients can earn up to 40% of their benefit amount from part-time work:⁹⁷ above this, earnings are deducted dollar for dollar. If the replacement rate is 50%, this implies that net income on EUC is invariant to earnings in the range of 20% to 70% of their former wage. For individuals who are unable to find a full-time job paying well over 70% of their former wage, the incentive is to work only part-time and keep the EUC payment. This type of situation no doubt explains why, in the January 2010 Displaced Worker Survey, about 18% of male workers who had lost a full-time job were working part-time whereas in all previous surveys since 1984 the proportion has been around 9% (Farber, 2011).

Effective tax rates

Interactions of UI with means-tested benefits are poorly-documented but have probably now become significant. Needels and Nicholson (1999) describe rates of receipt of means-tested benefits among UI recipients as “quite low”, but that was based on old studies. A person who is part-year employed in the

⁹⁴ “Today, however, many workers are in families in which at least one other member works, and some are in families that receive income from financial assets and other sources, such as Social Security and pensions.. half of former recipients [who] lived with someone employed..” (CBO, 2004).

⁹⁵ “Five years ago, almost half of unemployed workers aged 65 or older moved out of the labor force (presumably to retirement)... The U-N transition rate fell from 44 percent in 2006 to 27 percent in 2009..” (Farber, 2010).

⁹⁶ www.nowinnofeeclaims.biz/can-you-collect-federal-emergency-unemployment-compensation-euc-if-you-attend-college-full-time/.

⁹⁷ www.ehow.com/info_7812559_pennsylvania-unemployment-benefits.html. There is a free area of 1/3 of the weekly benefit amount in Massachusetts (www.mass.gov > Claimants > UI > How to File Weekly Claim) and 20% of the benefit amount in several other states. In Michigan, 50% of earnings up to the weekly benefit amount are deducted from the weekly benefit amount (www.ehow.com/info_8298932_unemployment-benefits-michigan.html). In California, amounts between \$25 and \$100 per week are deducted from the weekly benefit, but they remain available for future use (www.edd.ca.gov/pdf_pub_ctr/de1275a.pdf).

United States can - more than in the past - be affected by the withdrawal of a range of other means-tested benefits.⁹⁸ To see the full significance of this, an overview of means-tested benefits is needed.

Ellwood (1999) wrote:

Most Americans are somewhat aware of welfare reform—after all, caseloads nationally are down by nearly half since 1994—yet virtually no attention has been paid to the extraordinary increases in government supports for low income workers and their families... It is true that low-income working families now qualify for the Earned Income Tax Credit, food stamps, Medicaid, and sometimes subsidized child care.

Reciprocity rates for means-tested benefits other than AFDC/TANF have increased enormously since about 1990, so the incidence of high effective marginal tax rates from the combination of UI with at least one means-tested benefit must have increased.⁹⁹ These means-tested benefits involve a benefit withdrawal rate, or a “cliff”, as benefits are suddenly withdrawn, that acts as a tax on additional earnings. EITC is withdrawn at a rate of 16% to 21% on annual earnings between about \$15000 and \$35000 (Meyer, 2009). Food Stamps are paid when net income is below the Federal poverty line, with the calculation of net income based on detailed rules about what income is to be counted and what deductions are to be applied. Medicaid thresholds depend on family and medical circumstances, and state of residence, with eligibility often being lost when monthly income exceeds a threshold of around \$1000 for a single individual and \$2000 for a couple. In addition to these three widely-available benefits, when income increases some individuals will partly lose, or risk full loss of, child care subsidies, housing benefits – subsidised rents in Section 8 or Public Housing (HUD), or mortgage payment relief linked to inability to pay (Mulligan, 2008)¹⁰⁰ - Pell Grants¹⁰¹ and scholarships based on private endowments (which are often related to parents’ federal income tax returns). As a result, UI recipients might be subject to the withdrawal of up to seven relatively major other benefits if they spend a larger proportion of the year in work. Some families receive even more types of income-tested benefit (e.g. places in Head Start for young children, and school lunches for older children) and income-testing of these will add even more to the benefit total that is subject to means-testing.

Due to the multiplicity of institutions that pay benefits at the federal level (Food Stamps are paid by the Department of Agriculture, for example) and the extensive decentralization of programmes (with states fixing many detailed entitlement parameters), no national institution in the United States (other perhaps

⁹⁸ For example in 2005, over 60% of low-education single mothers entering unemployment received Food Stamps and when UI was received, this was clearly often in conjunction with Food Stamps (Shaefer and Wu, 2011).

⁹⁹ Ellwood (1999) shows a near tenfold increase in federal outlays on low-income families not receiving cash assistance. In 1999 he was concerned that take-up of these programmes had been falling: “even though virtually every poor and near-poor American qualifies for food stamps, participation in the programme has dropped much faster than the poverty rate. As welfare offices have pushed to get people off government-funded assistance, many families apparently have dropped off food stamps as well, even though they remain eligible... without major changes Medicaid may never escape its welfare roots, and thus will continue to fail at providing health care to poor working families.” But since then, the federal Medicaid budget and the Food Stamp budget have multiplied by about 2.5 times and 3 times respectively (OMB, 2010).

¹⁰⁰ According to Mulligan and other sources, government pressure led banks to create a renegotiation programme that “enables delinquent borrowers to get a modified mortgage that lowers payments to no more than 38 percent of their gross incomes”.

¹⁰¹ Pell Grants are granted mainly to students with a total family income below \$20000 and just occasionally much higher (www.thepellgrant.com/pell-grant-eligibility.shtml).

than the IRS, which gets information retrospectively and has no responsibility for managing the benefits) has close to a full picture of each individual's benefit situation, making effective strategic management of benefit disincentive issues virtually impossible.¹⁰² Individuals and families must be equally unable to actually predict what earning more will do to their potential benefits with any high degree of reliability. However, human beings do not respond only to incentives that they can explicitly model the way as economists do – they are more intelligent than that, especially when social learning effects operate.

Statistics reported by Rector & al. (2009) suggest that means-tested benefits may be creating very major disincentives. They report that “only a small amount of means-tested aid goes to families with non-welfare income above 200% of the federal poverty level”, which for FY 2007 works out to \$44400 for a family of four. They also report that families with children and with income below twice the poverty level have an average of \$16000 in earnings, and \$23000 in means-tested aid. Assuming that non-welfare income consists only of earnings, these outcomes are difficult to model (in terms of one equivalent benefit, its means-testing schedule, and a plausible distribution of families by amount of earned income) unless means-tested aid at zero earnings, for this family with two children, is at least \$35000 - about 1.6 times the poverty level – with an implied an effective marginal rate on all earnings between \$0 and \$44400 that averages 80%. No doubt the data items cited here are not exact and their coverage does not precisely match, but since direct modeling of all means-tested aid benefits would be near-impossible, this estimation method based on aggregate statistics should urgently be pursued to give a clearer reading on just how high replacement rates and effective marginal tax rates now are, taking into account all types of means-tested benefit.¹⁰³ According to OECD calculations (www.oecd.org/els/social/workincentives) in 2007 a married couple with two children and no earnings received far less - about \$15000. But these OECD calculations do not include Medicaid, education grants and the wide range of minor programmes (e.g. child lunches) – that together represent well over half of total means-tested expenditure - so the \$35000 estimate I give above may not be entirely wrong. For a family that uses medical care, or has an older child in school, or values a young child's place on Head Start, etc., these are just as much part of the means-tested benefit package.

Because effective tax rates apply to combined family earnings, high rates particularly promote labour market withdrawals by females with low education¹⁰⁴ and growth in the incidence of the “jobless families” (an issue that is much-discussed in countries such as Australia and the United Kingdom, where most

¹⁰² Even for countries with near-fully-unified administrative arrangements, the provision of adequate basic income protection while at the same time minimizing disincentive effects is a huge policy challenge. But for the United States, Lindert (2004) writes “Different sets of rules and regulations govern benefit eligibility across the 80-some programs that serve low-income individuals and families. When viewed as a whole, the proliferation of programs has given rise to longstanding concerns that the nation's ‘safety net’ is more of a ‘patchwork quilt’ that is fragmented, difficult and costly to administer and too complex for the poor to navigate.” This is not only a problem for poverty, but also a problem for incentives: individuals in various corners of such a patchwork quilt face combined marginal tax rates far higher than any that appear in any of the fragmented legislation.

¹⁰³ And in such a study, as well as publicly-funded means-tested benefits, the total amounts of mortgage interest forgiveness and income-related scholarships based on endowment funds, along with some estimates for the upper income limits or proportional tax rates that are used to phase out eligibility for them, should be included.

¹⁰⁴ Women who are single in the statistics must often be partnered in practice, especially in the younger age groups. A trend towards falling labour force participation among women with low education has developed after about 1990 for some demographic groups, and after 2000 for single women with at least one child (Macunovich, 2010). Effective marginal tax rates must be contributing to these trends – although it is not obvious why participation rates have fallen for low-educated married women without children as much as for those with children. Possibly Welfare Reform probably did something to sustain participation rates among mothers with children, even married ones.

benefits are means-tested). UI is certainly only one element in the overall pattern of effective tax rates, but for low-income families that in any case are subject to high effective tax rates, a gross UI replacement rate of 35% or 50% could well correspond to a much higher net replacement rate such as 70% or 90%.

International experiences

International experience does not support a general idea that, in countries with low benefit replacement rates or low benefit coverage, the benefits available will have little incentive effect.

- In a typical OECD country around 15% of people of working-age are neither employed nor qualified for any type of income-replacement benefit. These people could potentially claim an unemployment benefit with a low replacement rate, depending on how weak the work-history and availability-for-work conditions for the benefit are. This actually happens: for example, in the 1990s, enforcement of job-search conditions for Finland's unemployment assistance benefit was weak and its caseload (additional to an even larger caseload on UI benefit) was in many years around 7% of the labour force (Duell *et al.*, 2009). Recipients of an unemployment benefit with lax job-search monitoring quite often report some search in LFS interviews, so that although not all are classified as unemployed in the labour force survey, this is the case for half or more of them.
- In the United Kingdom, the caseload of the unemployment assistance benefit “doubled every seven or eight years, on average, between 1950 and 1972, and this rapid growth only stopped definitively in the 1980s”. Despite the low level of the assistance benefit, its caseload - even though it temporarily fell back after each recession, perhaps feeding an illusion that the problem was only cyclical - grew from about 50 000 in the early 1950s to 1.6 million in the 1980s, as its character as a strictly-last-resort benefit was slowly eroded (OECD, 1994).
- In Japan, the UI system pays only three months of benefit for workers aged less than 45 and with less than 5 years' tenure, and the B/U (benefit recipients to unemployed) ratio in the 2000s has been about a quarter, well below the US level, related to design features that tend to restrict coverage.¹⁰⁵ The Japanese system nevertheless experiences serious disincentive effects in some respects,¹⁰⁶ and in the early 2000s the growing deficits of the UI fund motivated restrictive reforms targeted on these (Duell *et al.*, 2010).

Benefit disincentives affect transitions to inactivity, not transitions to employment

UI benefits or activation measures typically influence flows between the employment statuses that are common for each demographic group: e.g. for prime-age males, benefit incentives mainly influence transitions between unemployment and employment. There is much evidence that benefit incentives affect employment, and do not only provoke substitution between unemployment and inactivity.

- Card *et al.* (2007) claimed that “Studies that focus on time to next job find little evidence of an increase in reemployment rates prior to benefit exhaustion”, but this stands as one of the most

¹⁰⁵ In particular, workers aged 65 and above are not covered, and until 2009 workers who are not expected to be employed for a year or more were not covered and most separations were classified as a voluntary quit, subject to a three-month waiting period.

¹⁰⁶ These disincentive effects concern (concerned) low rates of exit from unemployment before benefit exhaustion, and a high incidence of unemployment claims by older workers who reached the maximum (10-month) entitlement to benefit.

thoroughly discredited generalizations in economics: in country after country, economists who have no particular axe to grind collect relevant data and report the opposite.¹⁰⁷

- For the United States, Fujita (2011) presents a convincing case that the UI extensions mainly affected, in 2009 and 2010, U-E (to employment) transitions rather than the U-N (to inactivity) transitions.

Table 4. OECD countries ranked by 2002-2008 growth in the employment rate of 60-64-year-old males, with explanations for the cases of rapid growth

Country	Ratio of employment rate in 2008 to employment rate in 2002			Explanatory factors
	60-64-year-old men	15-64-year-old men	60-64-year-old men, relative to 15-64	
Slovak Republic	2.78	1.12	2.48	The male pension age was still 60 in 2004 and was raised to 62 in 2006 (Bednarik and Skorpik, 2007; OECD, 2011)
Austria	1.70	1.03	1.66	The 2003 pension reform terminated the possibility to enter early retirement on account of unemployment, and raised discounts for early retirement on account of long insurance histories (OECD, 2005b)
Finland	1.51	1.04	1.44	Until 2005, UI was extended through to retirement for any worker who was aged 57 or more at the date of exhaustion of regular UI. By 2007 this age limit was raised to 59 (MEE, 2008)
Netherlands	1.42	1.01	1.41	Follow-up (unlimited duration for workers becoming unemployed after age 57.5) was abolished in 2003; exemption from the job-search requirement for workers aged over 57.5 was abolished in 2004; maximum duration for older workers was reduced from 60 to 38 months in 2006 (Bloemen et al., 2011)
Germany	1.43	1.06	1.35	In February 2006, UI entitlement for workers aged more than 56 was reduced from 32 to 18 months (Dlugosz et al, 2010)
Czech Republic	1.36	1.02	1.34	The retirement age for males has been increasing by 2 months each year since 1995 (Bednarik and Skorpik, 2007)
Belgium	1.25	1.00	1.25	From July 2004, the widely-used provision for receipt of unemployment benefits without availability for the labour market was restricted to workers aged 58 and above; from January 2008, access to conventional early retirement was restricted: etc. (Jousten et al, 2008)
United Kingdom	1.21	1.00	1.21	(Partial factor) falling active membership of occupational pension schemes which allow early retirement, and increases in their pension age (Arkani and Gough, 2007; ONS, 2009)
Australia	1.22	1.04	1.17	The caseload for NSA (unemployment benefit) and MAA (the same for 60-64-year-olds but without work conditions) fell from 48000 (10% of population) in 2003 to 11000 in 2008 as MAA was phased out (www.deewr.gov.au/Employment/LMI/Pages/LMRP.aspx)
Hungary	1.16	1.00	1.16	(Unclear, but unlikely to be related to unemployment benefit)
Sweden, Japan, Israel, Chile, New Zealand			1.10 to 1.15	
Norway, Canada, France, Ireland, United States, Spain, Korea, Slovenia, Switzerland, Luxembourg, Greece			1.00 to 1.09	
Denmark, Mexico, Portugal, Italy, Poland, Iceland, Turkey			Below 1.00	

Source: as cited, and the online employment database at www.oecd.org/els/employment

- In the mid-2000s, a number of OECD countries either shortened the duration of UI benefits for older workers, or abolished older-worker exemptions from job-search requirements for UI. Table 4 ranks OECD countries in terms of growth in the employment rate of 60-64-year-old males from 2002 to 2008. At the top of the ranking is the Slovak Republic, where an increase in the male pension age from 60 in 2004 to 62 in 2006 is the likely cause. But for the next four countries in this ranking, as well as Belgium and Australia slightly lower down the ranking, a reform of unemployment benefits for older workers is the probable main cause of the growth in

¹⁰⁷

In the examples I cite, a further increase in hazard rates after benefit exhaustion can (especially where undeclared work is probably a factor) be more marked than the early increase before exhaustion, but in general both features are present. Card *et al.* in 2007 knew studies by Jurajda and Tannery (using US data) and van Ours and Vodopivec (using data from Slovenia) which identify a “spike” in re-employment rates, but - arguing that there was an error in the US study, and that behaviour seen in Slovenia could not arise in more-developed countries - they persuaded themselves that their findings for Austria must apply to the rest of the world and found an enthusiastic audience in, for example, JEC (2010a).

the employment rate. Observations of this kind add plausibility to the idea that movements in aggregate employment - such as the falls after 2007 in the United States, Spain and Ireland – are often linked to changes in benefit-system generosity (see the Annex to this paper as regards recent experience in Ireland and Spain).

Benefit disincentives are irrelevant in a recession

Two non-US evaluations, using high-quality data sets that span periods with a range of demand conditions, have directly estimated how the behavioural impact of benefit entitlements or ALMPs varies between different points of the economic cycle:

- The data set used by Bender *et al.* (2010) (already described above) allows separate regression-discontinuity estimates to be made in each year's data. Their findings “suggest a weak decline in the effect of extended UI on non-employment in recessions. In contrast, we find that the effect of UI extensions on benefit duration increases significantly in recessions, mainly driven by a rise in the exhaustion rate. All of these findings are very robust to how we measure business cycles, to how we correlate cycles with our regression discontinuity estimates, and to variation in the composition of the unemployed over the cycle.” At the more detailed level: “the effect of UI extensions on benefit duration correlates more strongly with the change in unemployment rates or the unemployment rates in $t + 1$. .. Since benefits last at least 12 months and up to 26 months in our sample, the unemployment rate at exhaustion matters.” Applied to US experience, this means that the extensions introduced early in the 2008-2011 recession will have had a relatively large impact because they discouraged job-finding at a time when the unemployment rate was still quite low: then by the time that the extended benefits were approaching exhaustion, unemployment was high, prolonging the unemployment spell further.¹⁰⁸
- Roed and Zhang (2003) use Norwegian data for all workers below 60 years of age who became unemployed during the 1990s, and who had a full-time job prior to the unemployment spell and were eligible for unemployment benefits. Again, this very large sample allows estimation of coefficients on multiple factors with a high degree of precision. In these estimates, “disincentive effects seem to be either non-cyclical or even counter-cyclical. The latter implies that the benefit elasticity is larger (in absolute terms), the worse are the business cycle conditions...”

Roed and Zhang (2003) recognize that two earlier studies “suggested that economic incentives were virtually irrelevant during economic slumps (in which the demand constraint on labour dominated the supply constraint)”. However, the data from Norway and Germany appear to have greater statistical power than the earlier estimates. Also Bover *et al.* (2002), discussed further below, use a similar methodology (*i.e.* regression discontinuity estimates for individual years, so that coefficients for boom and recession years can be directly compared), and find that impacts are just slightly smaller in recession years.

For the United States, Jurajda and Tannery (2003) (already described above) note that when unemployment is lower, the exhaustion-week “spike” in the new-job hazard is higher: this is because workers find it easier to start a new job when benefits end, but they are also more likely to wait until benefits lapse before returning to work – in this sense, the disincentive effect is higher when unemployment is low. However, they also note: “Contrary to our theoretical conjecture, and despite dramatic differences in demand conditions between the two areas we examine, we find only weak support for the presence of stronger UI disincentive effects in tighter labor markets.. Over 28% of claimants even

¹⁰⁸ In the six months from March to August 2010, nearly 2 million spells of Tier 4 benefits ended (<http://workforcesecurity.doleta.gov/unemploy/euc.asp>).

in the depressed Pittsburgh labor market were able to find work as soon as benefits ended, and two-thirds of this group found new jobs.”

More generally, US econometric estimates, cited above, which imply that UI extensions will have caused half or more of the recent increase in unemployment spell durations, were by definition (since benefits are only extended during a recession) estimates for impact under recessionary conditions,¹⁰⁹ not under low-unemployment conditions.

The idea that benefits have relatively little impact when unemployment is high also seems inconsistent with the view that benefits have an impact through “hysteresis”. According to this idea, non-labour-market shocks (e.g. oil price or asset price shocks) cause the initial rise in unemployment during a recession and benefit disincentives prevent adjustment after unemployment has already reached its peak, e.g. “In countries in which benefits are indefinitely available, employment is much less likely to rebound after a major downwards shock” (Layard *et al.*, 1994, p.62).

A variant of this argument also arises at the local and implementation level. Its statement by Woodbury and Rubin (1997) is representative of hundreds of others:

Requiring EB claimants to satisfy a more stringent (and uniform) federal work search test makes little sense if indeed there are few job vacancies during periods when EB is activated. State UI administrators and employers alike would prefer to waive the work search test for EB in regions where it is clear that job vacancies are scarce. Imposing the work search test in such regions has little value and is costly to both administrators (who are expected to enforce the requirement) and to employers (who may get job inquiries from claimants who are merely trying to satisfy the work test without any serious hope of gaining reemployment). These findings are reflected in one of the recommendations of the Advisory Council on Unemployment Compensation, which suggested that “Each state should be allowed to determine an appropriate work search test, based on the conditions of its labor market”...

When countries experience long periods in which unemployment levels are many times job-vacancy levels, the desire to escape from this situation usually wins out in the end, and they face up to the effort and contradictions involved in requiring job-search where - according to some observers - there are no jobs. It may almost be said that most of Europe has been a region where the unemployed and the employment service (and, perhaps, employers) once agreed that job-search monitoring was futile, and the benefit system should preferably make payments without such complications. But more vigorous activation strategies, in some cases including benefit cuts, were often eventually developed and unemployment rates did then fall.

Unemployment benefits support aggregate demand

In 2008-2010, as well as playing down the disincentive effects from UI extensions, many US economists reasoned in terms of the high propensity to spend from unemployment benefits. Estimates by the President’s Council of Economic Advisers that every dollar spent on unemployment insurance benefits raises gross domestic product (GDP) by \$1.60 were widely cited (JEC, 2010b):

The nonpartisan Congressional Budget Office reports that increasing aid to the unemployed is more cost-effective in terms of boosting economic growth and employment than a variety of other policies, including tax breaks.

¹⁰⁹ The CWBH dataset used by Katz and Meyer (1990) refers to individual unemployment histories in 12 states in 1979-1983, when the sample average unemployment rate was 8.7%., and the national unemployment rate peaked higher than it did in 2008-2011.

In most other OECD countries, this argument has little resonance: the argument that unemployment benefit expenditure will reduce unemployment thanks to demand effects is scarcely heard. Different perspectives on the all-demand are detailed here under subheadings “modelling considerations”, “macroeconomic outcomes”, “hazard rate analysis”, “outcomes in 2009-10” and “broader perspectives”.

Modelling considerations

- Sherk and Campbell (2008) present several microeconomic reasons for thinking that the \$1.60 estimate for the fiscal multiplier in relation to UI spending is too high. For example, the unemployed without benefits dis-save, so the payment of benefits increases the net savings rate in the economy.
- Although in a static model the theory of fiscal multipliers may seem simple, empirical research findings and modelling suggests a complex picture, much more uncertain than the findings in the UI literature (when properly interpreted). The impact on GDP of a one-off \$1 payment depends on the economy’s openness to international trade and the rigidity or flexibility of its exchange rate and monetary policy, and may or may not be mainly spread 8 or more quarters into the future (Ilzetzki *et al.*, 2009). And since few people claim that continuous stimulus spending at every stage of the cycle would be beneficial, the case for it in a recession depends on its impact “now” being better than its impact at other times, but it is rare to see a model or estimate that identifies where this starts and ends.

Macroeconomic outcomes

- Sherk and Campbell (2008) also cite several empirical studies that conclude, using US data, that UI does not act as an automatic stabilizer to a significant extent.
- In comparisons across OECD countries, as discussed in the Annex here, cyclical fluctuations in unemployment are found to be on average much larger in countries with generous benefit entitlements. This is no doubt because demand stabilisation is not the key channel by which unemployment benefits influence macroeconomic outcomes, particularly unemployment outcomes. As identified by Tsebelis and Stephen (1994), countries with generous benefit entitlements rely on strict benefit administration and active employment assistance to contain benefit disincentives. In a recession, the average numbers of unemployed per counsellor or per ALMP place and above all per open job vacancy rise, limiting PES capacity to counteract benefit disincentives. The impact of a temporary negative shock tends to be larger in those countries where generous benefits are, in normal times, counteracted by strict administration.¹¹⁰

Hazard rate analysis

Using data from Spain from 1987 to 1994, Bover *et al.* (2002) estimate the impact on the median duration of an unemployment spell of both benefit entitlement and demand conditions, shown in Table 5.

¹¹⁰ In relatively extreme cases, a shock may even tip the economy over into a new equilibrium where unemployment stays permanently higher because it is no longer possible to effectively enforce benefit eligibility conditions (Ljungqvist and Sargent, 1995).

Table 5. Estimated median duration of unemployment according to benefit entitlement and demand conditions in Spain in the 1990s^a

Year	GDP growth ^b	Potential benefit duration (B)			
		B=0	B=4	B=8	B=12
	%	in months			
1991	2.3	3	6	10	14
1993	-1.6	5	9	14	14

a. For a reference individual who is a household head, aged 30–44, with primary education.

b. Results for 1991 are the same as for another year when GDP growth was 5.4%.

Source: Bover et al. (2002), Table 5.

This table summarizes three things at the same time - the impact of aggregate demand conditions, the impact of benefit entitlements, and to what extent if at all benefit incentives are irrelevant in a recession. It shows that in Spain even a huge stimulus, that succeeded in converting a year of recessionary conditions into a year of rapid growth, would have a smaller impact on unemployment spell durations than any major change in benefit entitlements (unless benefit coverage remains low, *i.e.* unless B=0 continues to be the most frequent case: in the early 1990s in Spain, the B/U ratio was about 0.5). The estimates for Spain are not necessarily particularly accurate or representative of outcomes in other countries:¹¹¹ however, economists should estimate tables of this kind so far as possible for each country, so that they will be less inclined to make a purely “Keynesian” claim – ignoring knowledge derived from careful empirical research - that increases in unemployment benefits can reduce unemployment.

Outcomes in 2009-10

As it turned out, US aggregate employment and unemployment performance in 2009 and 2010 was poor as compared with plausible benchmarks:

- The employment and unemployment performance of other OECD countries, noted above;
- The expectation by Zandi (2009) that with stimulus spending the unemployment rate would peak at 9%, and the expectation by the chair of the Council of Economic Advisers that with stimulus spending the unemployment rate would stay below 8% (Washington Post, 2010);
- The level of GDP, which according to past experience (an estimate of Okun’s law) implied an unemployment rate about 2 percentage points lower than it actually was in the last quarter of 2009 (Daly and Hobijn, 2010);
- The level of job vacancies, which according to past experience (an estimate of the Beveridge curve) implied that unemployment in October 2010 should be 3.6 percentage points lower than it

¹¹¹ In Spain, after the first month of unemployment, hazard rates into a job are only 4%-6% per month until benefit exhaustion, and they approximately quadruple in the first four months after benefit exhaustion (Sanz, 2010): so that even a typical or average unemployment spell continues for almost as many months as benefits are available. In the United States, hazard rates from regular UI into employment are much higher, but they still (at least, in estimated equations with econometric controls) approximately double after exhaustion, and in the case of EUC claims their unemployment does continue for almost as many weeks as benefits are available. A US version of Table 5 would show a smaller impact from benefits, but still enough to predict that extensions on the 2008-2011 scale would overwhelm any plausible impact from demand stimulus.

actually was.¹¹² The shift seems too large and prolonged to be a normal “loop”: Hall (2010) only concludes that “the adverse shift of the Beveridge curve is in part a normal response of the labor market and not entirely the result of some special force tending toward higher unemployment.”

- Temporary work (interim) agency employment, which had clawed back about two-thirds of its recessionary fall by April or May 2010 and about 80% by early 2011 (www.americanstaffing.net/statistics/graph_52_weeks.cfm).
- Outflows from TANF, which appear to have fallen by about 20% in the recession,¹¹³ in contrast to outflows from aggregate unemployment which fell by 50% (see Elsbey and Smith, 2010, Figure 4). Better data are needed, but it looks as if TANF administrations may have maintained job-entry rates through the recession much better than UI administrations did: in 2010, state administrations suffered a “marked decline in performance in Facilitation of Reemployment”, as measured against performance targets that take into account the state’s unemployment rate and the percentage of claimants not on temporary layoff (Chocolaad, 2010).

Some observers also claim that the Phillips curve relationship has broken down:

In the deep economic slump of the mid-1970s, the average hourly pay of rank-and-file workers — who make up four-fifths of the work force — fell 6 percent, adjusted for inflation. In the early 1980s, the average wage fell 3 percent. Even in the mild 1990-91 recession, it fell almost 2 percent. But since this recent recession began in December 2007, real average hourly pay has risen nearly 5 percent. (Leonhardt, 2010)

[The] Phillips curve has flattened out completely over the past two years, however, since the sharp rise in unemployment failed to prevent further increases in the nominal wage.... in the mid-1970s, both components [jobs and real wages] made virtually equal contributions not only to the decline in real wage costs in the downturn but also to the increase in the recovery. By contrast, the lowering of real wage costs in the most recent recession was achieved to a very large extent by means of a massive reduction in jobs. (Deutsche Bundesbank, 2011).

Also, Shimer (2010) noted that the United States experienced an unprecedented increase in the real wage from the first to the fourth quarter of 2009 and, citing the unprecedented extension of benefits, concluded “the prognosis for a strong labour market recovery without a large preemptive change in labour market policy is poor”.¹¹⁴

It is true that different measures of earnings have moved differently (see the discussion of the real hourly compensation versus QCEW data above) and from mid-2010 real earnings tended to level off or fall in more of the data series available, but the 2009 earnings data arguably show a supply shock.

¹¹² “Since July 2009 the job openings rate has risen from 1.8% to 2.5%. However, during that same period the unemployment rate has not gone down. It actually initially increased from 9.4% to 10.1% and has since come down to 9.6% in October 2010. ...at the current job openings rate, the actual unemployment rate is 3.6 percentage points higher than the one implied by the Beveridge curve.” (Barnichon *et al.*, 2010).

¹¹³ Based on monthly data for the TANF adult caseload (including separate state programmes), using TANF applications approved as a proxy for inflows (www.acf.hhs.gov/programs/ofa/data-reports/index.htm), and calculating exits as last month’s inflow plus last month’s stock less the current month’s stock. This calculation is somewhat approximate since there is not exactly one adult per TANF application approved.

¹¹⁴ Despite this bold statement, Shimer’s estimate for the contribution of benefits to the increase in unemployment was 1 to 1.5 percentage points (www.liquida.com/robert-shimer), well below Barro’s.

These observations do not contradict the idea that fiscal stimulus, including spending from unemployment benefits, did something to raise GDP and aggregate labour demand – in terms of many indicators aggregate labour demand suffered a blip but soon recovered. They illustrate – in line with the realisation in other countries that “institutions matter” – that labour demand is far from being the only thing to influence unemployment.

Broader perspectives

- At the start of the recession, policy options were considered with some reference to US experience in the 1930s, but hardly any to the unemployment experiences of many other OECD countries from the 1970s until now, long periods with a vast and varied range of contexts and policy experiences. Therefore little attention was given to the relatively-mainstream view that “institutions” - albeit interacting with demand shocks – are critical.
- In a model where demand effects and supply effects are allowed to coexist,¹¹⁵ the supply-side effects from UI extensions may influence unemployment levels faster than demand-side effects.¹¹⁶ People who expect to spend a long time on benefits, even rather generous benefits, are likely to switch to a more-frugal lifestyle. And when employers face reduced availability of labour, as compared what would be expected from the level of unemployment, firms are less able to meet deadlines or guarantee quality in competitive markets, so that exports are lower. Recognising that such mechanisms can operate, it is not clear that large increases in benefit payments support aggregate demand at all; the idea may be largely wishful thinking.
- Benefit disincentives can increase GDP per worker, because they disproportionately affect employees with low productivity¹¹⁷ and because in small firms employees work undeclared (or only declared on a part-time basis, consistent with continued receipt of benefit) for their former and/or future formal employer, contributing to the firm’s measured output but not to its measured employment.¹¹⁸
- Some countries in Europe in the 1990s introduced early retirement measures based on the argument that this would free jobs for younger workers, but this argument is now discredited, because it led to a reduction in older-worker employment rates with no apparent impact on younger-worker employment rates. The idea that aggregate employment is strictly determined by aggregate demand and is therefore invariant when one type of labour supply is reduced seems to hold only rather briefly and weakly even in the relatively short run.

¹¹⁵ In microeconomic estimates, hazard rates are typically modelled as a function of potential benefit duration, current replacement rate, and the local unemployment rate or vacancy rate – *i.e.* they are a function of both demand-side and supply-side variables.

¹¹⁶ For example, “entry effects” by definition operate quickly, and Barnichon *et al.* (2011) observe that “the U.S. labor market has such fast dynamics that it very quickly tends towards its flow steady state”, whereas fiscal stimulus effects may tend to be spread out over two years or more.

¹¹⁷ As is well known, some European countries with regulated labour markets and high taxes have relatively low employment and average hours, but enjoy relatively high productivity on a per-hour basis.

¹¹⁸ The sharp “spike” in hazard rates to employment in Slovenia at the point of UI exhaustion (see Van ours and Vodopivec, 2004) is seen as evidence that unemployed workers are already working informally and return to the formal sector when their benefits expire. However this will often involve merely a shift from undeclared to declared work within an ongoing cooperative employer-employee relationship. US data show a spike that is smaller in magnitude, but otherwise similar, to the spike in Slovenia.

- The United States was until recently one of the last highly-industrialized countries to have had few if any large short-term changes in benefit policies and labour regulations, so that a Keynesian macroeconomic model - where exogenous variables “I” and “G” shift the IS-LM curve and employment follows – was perhaps not such a bad approximation to reality, at least in terms of nationwide average statistics. But in many OECD countries, labour market policies are expected, for example, to help achieve competitiveness thanks to wage restraint, or increase GDP by increasing female labour supply or by limiting early retirement or by improving the skills of unemployed workers; it is almost taken for granted that they are instruments of macroeconomic policy.

*There is no evidence of mismatch unemployment*¹¹⁹

Delong (2010) argues against the idea that high unemployment is “structural” on the basis that there is no evidence of mismatch between the industry structure of labour supply and labour demand: but he goes on to infer that a shortfall of demand is the cause of the problems. However, extensive earlier research also found little evidence that structural unemployment was caused by industry, occupational or regional mismatch, e.g. “...existing empirical measures of mismatch indicate little, if any increase in mismatch during the 1980s. As presented in Jackman, Layard and Savouri (1991), Layard, Nickell and Jackman (1991) and country papers edited by Padoa-Schioppa (1991), recent international evidence even suggests the opposite” (Entorf, 1996). Or “if the relevant mismatch indices are computed, it turns out that they have not risen at all since the early 1970s in Britain or in most other European countries” (Layard *et al.*, 1994, p. 58). After researching this and other hypotheses, Layard and colleagues leaned more in the direction of attributing high unemployment to the generosity of unemployment benefits and the application of the “work test”, so Delong’s inference that demand must be the problem is scarcely justified.

Micro-econometric studies estimate a large impact but macroeconomic impact will be smaller

The regression discontinuity estimates presented by Bender *et al.* (2010, Table 7) imply - for an economy with 10.4% unemployment, 104 weeks of UI, and no assistance benefits, and behavioural parameters based on German data - that a reduction in the duration of UI to 26 weeks will reduce the unemployment rate by 2.4 percentage points. However Schmieder *et al.* (2011b) argue that this should be seen as a partial equilibrium effect, and that general equilibrium effects taking into account search externalities (congestion effects) may be only half as big. Two arguments against this reasoning are:

- When individuals present themselves on the labour market with an average degree of job-search intensity this causes a one-for-one increase in employment (or rather, 0.95 for 1, if the average unemployment rate is 5%) in the long run, not offset by congestion (“crowding”) effects. The microeconomic impact of a policy that increases effective labour supply, which Schmieder *et al.* (2011b) call the “partial equilibrium” effect, is clearly also its long-run macroeconomic impact. Conversely, Schmieder *et al.* (2011b) assume that the adjustment of total employment to changes in effective labour supply does not occur on a relevant time-scale during a recession,¹²⁰

¹¹⁹ The previous arguments were advanced by many US economists and key advisory bodies (including the Congressional Budget Office, Joint Economic Committee, and the Council of Economic Advisers). The “mismatch” argument advanced by Delong (2010) and the “congestion” argument by Bender *et al.* (2010) have not been advanced so broadly.

¹²⁰ “as one group searches less for jobs due to longer UI durations, the other group is more likely to find one (assuming they do not adjust their search intensity correspondingly and firms do not respond by offering more vacancies, but this should be a second order effect”; “as long as the vacancy effect is small, which seems very likely in a recession, presence of search externalities through the matching function implies that the effect of reduction of search intensity has a reduced effect on the hazard of leaving unemployment”.

so that when one unemployed person takes a job vacancy the number of job vacancies available for others is reduced and they call this the “general equilibrium” response. But it is only the short-run response, for as long as total employment has not adjusted. Since individual unemployed people can find work more or less rapidly even in a recession depending on incentives, individual employers can probably adjust their payrolls as well: the speed of adjustment in a recession should be seen as an empirical issue, with a need to cite evidence before assuming results, and some of the remarks above about the fixity of aggregate demand are applicable.

- Shimer (2001) finds empirically that US states with a larger youth labour supply have lower youth unemployment rates. His model to explain this is that “firms will find creating jobs in younger states to be more profitable, boosting job creation and reducing the unemployment rate of both young and prime age workers”. The same might be argued for unemployment more generally, *i.e.* firms find job creation to be more profitable at times when there are many unemployed searching intensively for work. Economic geography highlights that the economy develops a balance between “congestion” and “agglomeration” effects, so the “congestion” effects will not necessarily dominate even in the short run.

Another consideration mentioned in OECD (2005) is that there is evidence for quite large “social interaction” effects influencing individual unemployment behaviour. When the unemployment rate of a given subgroup is a function of the unemployment rate of neighbouring subgroups as well as its own incentives, the general equilibrium impact of a policy change is larger than the partial equilibrium impact (the impact as estimated when the policy applies to only one subgroup), not smaller.

Empirically, benefit-incentive coefficients estimated in macroeconomic data seem to be if anything slightly larger than comparable coefficients estimated in microeconomic data:

- Meyer (2002) in a survey article concludes “Overall, the combined effect of benefits on unemployment through incidence and duration is suggested to be near one by these [microeconomic] studies. This result is consistent with the aggregate analysis of 20 OECD countries by Nickell (1998), who finds an elasticity of unemployment with respect to the replacement rates of close to one.”

As noted above, Needels and Nicholson (1999) report time-series regressions using data for 51 UI jurisdictions (50 states and the District of Columbia) over the period 1978-1996 and they estimate a coefficient of 0.122 on PBD with weeks of regular UI as the dependent variable, which implies a higher coefficient (about 0.23, based on simple model) in terms of impact on total weeks of unemployment. This is slightly above the top of the range that is often cited as summarizing the findings of studies that use microeconomic data (e.g. Woodbury and Rubin, 1997).

ANNEX: UNEMPLOYMENT HYSTERESIS VERSUS THE AMPLIFICATION OF SHOCKS

Introduction

This paper argues that the depth of the recent recession in the United States fits into a broader pattern. Many countries slightly reduced net replacement rates in the 2000s¹²¹ as part of a widespread development of activation strategies,¹²² and experienced only a limited cyclical rise in their unemployment rate in the current recession.¹²³ However Ireland operated an exceptional increase in its replacement rates, moving from a below-median position in the all-OECD ranking in 2002 to the equal-highest position in 2009;¹²⁴ and Spain experienced rapid growth in unemployment benefit claims during the boom years of the mid-2000s, so that the benefit coverage of unemployment by 2007 was much higher than ever before.¹²⁵ In both countries, activation measures have long been weak, little was done to tackle this issue in the good economic conditions of the mid-2000s, and then the rise in unemployment was particularly large.

It is also noticeable that in the current recession, GDP per hour worked (as measured from the GDP peak to the GDP trough in 2008-09) rose in Ireland, Spain and the United States (by as much as 4% in Spain and the United States), contrasting with falls in productivity (“labour hoarding”) which helped to contain the rise in unemployment in nearly all other OECD countries.¹²⁶ Referring to simple economic theory – which suggests that a negative demand shock will reduce real wages and a negative supply shock will increase them – this suggests that a demand shock was the main factor in most countries whereas in Ireland, Spain and the United States the increase in benefit disincentives was a more-significant factor.

¹²¹ In terms of the “Average of net replacement rates over 60 months of unemployment, including social assistance” indicator (see www.oecd.org/els/workincentives), between 2001 to 2009 replacement rates were reduced by about 12%, or 8 percentage points on average, in Australia, New Zealand, Denmark, Finland, Norway, Sweden, and Switzerland; and by 17% in Czech Republic and Poland and more in the Slovak Republic.

¹²² The cuts in benefits cited above were usually part of a broader activation strategy, although the best-known strategy was arguably the Hartz reforms in Germany (which also cut benefits, but not so much as many neighbouring countries, according to the indicator cited).

¹²³ Except for Denmark, where unemployment unfortunately doubled.

¹²⁴ In terms of the same indicator.

¹²⁵ In early 2002 the government attempted to curb growth in benefit coverage by disqualifying certain types of job separation and introducing new availability-for-work requirements for those already on benefit: but after a general strike on 20 June, these features were withdrawn and it was made considerably easier for firms to lay workers off without judicial authorisation. Benefit claims then continued to steadily increase during the years of economic upswing. The ratio of benefit recipients to LFS unemployment (B/U) rose from 39% in 1999 to just over 80% in November 2007, and was still about 67% in June 2010 (Martin, 2002; Conde-Ruiz *et al.*, 2010; www.mtin.es/estadisticas/bel/PRD/index.htm).

¹²⁶ In the United States, some measures of earnings increased sharply in 2009 (see the main text). Duell *et al.* (2009) remark that in Finland’s recession through to 1993 (see below for a description of the benefit system that was introduced shortly beforehand), earnings at the bottom of the wage distribution increased relative to the median.

However, a large part of the recessionary rise in unemployment in Ireland and Spain had already occurred by the end of 2009: can such rapid increases at the start of a recession be influenced by the generosity of unemployment benefits?

The conventional interpretation of the oil-price-related recessions of the 1970s and 1980s, or the recessions in Finland and Sweden in the 1990s, has always been that the initial increase in unemployment was caused by a demand shock, and it was only afterwards that long-duration unemployment benefits (or in Finland and Sweden, the automatic renewal of wage-related benefit entitlements through participation in a labour market programme) and perhaps other factors caused unemployment to persist at a high level – “hysteresis”. To explain the large size of the recent rises in unemployment in Ireland and Spain a different principle, the “amplification of shocks”, could be operating.

Econometric evidence for the amplification of shocks

Bassanini and Duval (2006), using 1970-2003 data for 19 countries, regress unemployment on its own lagged value (the estimated coefficient measures unemployment persistence) and dummies for each year (representing OECD-wide unemployment-rate troughs such as 1989 or 1990 and peaks such as 1992 to 1994). They add the feature that both the persistence parameter and the year dummies are multiplied by a function of national “institutions”. The OECD summary measure of benefit generosity - entered as a multiyear average value – is found to have no influence on the persistence parameter but, by contrast, a large influence on the country-specific impact of the year-dummy variables. The estimated amplification coefficient, 0.035, means that the impact of each year-dummy on the unemployment rate in a country with the summary measure one standard deviation (13.34 points) above the international mean is 2.7 times its impact on the unemployment rate in a country with benefit generosity one standard deviation below the mean [$2.7 = (1+0.035*13.34)/(1-0.035*13.34)$]. The basis for such an estimate can be seen in the fact that, for example, Italy or Japan have had (on average, over this long period) low benefit generosity, and small short-term unemployment responses in percentage-point terms to the world economic cycle. Bassanini and Duval (2006) repeat this regression with “observed shocks” (a linear function of time-varying measures of TFP shock, terms of trade shock, interest rate shock and labour demand shock variables) in place of the year dummies (“unobserved shocks”). This specification change reduces the amplification effect of benefit generosity (the 2.7 multiple cited above falls to 1.7), but the estimated impact of benefit generosity on persistence becomes slightly more negative, with a t statistic of -1.0. There is no evidence here that benefit generosity results in hysteresis, although this finding perhaps remains somewhat surprising.

Interpretation

Bassanini and Duval (2006) remark that *a priori* high unemployment benefits would be expected to buffer the shock, but as described in the main text, benefit incentive and monitoring considerations imply the opposite.

In a perspective where “entry effects” (and not only behaviour after unemployment spells have started) are important, workers who are anxious to keep their jobs may avoid layoff by negotiating a pay cut or short-time-working arrangements; in the weeks or months before layoff, they may set up another employee job or a self-employment activity, or book travel to a country where there is still work, or apply for early retirement, all steps that avoid entry to unemployment; or if they do register unemployed but then find benefits are low, they may assess the situation and soon leave unemployment in one way or another. Then benefit generosity could have its maximum impact at the moment when inflows to unemployment, and the level of short-term unemployment, are at their peak *i.e.* in the early stages of a recession. This interpretation appear to in line with the finding by Bender *et al.* (2010), already cited, that “.the effect of UI extensions on benefit duration correlates more strongly with the change in unemployment rates or the unemployment rates in $t+1$ ”.

In real-world episodes, the apparent amplification or non-amplification of shocks could also depend on whether unemployment before the recession was above or below its equilibrium level, relative to the current level of benefit generosity and activation regime. As mentioned previously, in the late 1960s probably many OECD countries relaxed the enforcement of benefit eligibility criteria, but by 1973 unemployment levels had only partly reacted to this policy change: this can explain why increases in unemployment in the mid-1970s were correlated across countries with the level of the OECD summary measure of unemployment benefit entitlements (OECD, 1994).

OECD (1994) and OECD (2003) cite a number of historical cases where the caseload of a new assistance benefit grew quite rapidly for around 15 years (most often for 10 to 20 years, but over 30 years in the UK case). Large increases in the caseload of an assistance benefit involve changes in household structure (the concentration of joblessness in “jobless families”, whereas in countries where little assistance is available the unemployed rely on family support), and running down household assets to levels that qualify for assistance. These would be relatively long-term processes. In the case of UI benefits, the caseload response appears to have taken time to develop in Canada because it depended on firms increasing their offer of seasonal jobs in response to the favourable UI treatment of seasonal work (Lemieux and MacLeod, 1990; Riddell and Kuhn, 2010). A caseload response may also take time to develop if entitlement depends on the spread of particular types of employment contract (e.g. fixed-term contracts) or layoff procedures, or on the accumulation of many years of contributions to qualify for maximum benefit (up to 6 years in Spain, and up to 20 years in Japan). Due to such factors, labour markets can often be in a situation where the adjustment process to earlier policy changes is not yet complete, and then a recession might accelerate or at least not derail the continuing adjustment: for example, Australia and Germany implemented major activation policy reforms in the mid-2000s and favourable trends in their unemployment outcomes in 2008-2011 probably largely reflect that, and not only how they responded to the recession.

The Austrian model

Austria’s regional extended benefit programme (REBP), in force from June 1998 to 1993, illustrates some of the same features that seem to be observable at international level, when countries adopt different benefit policies. Benefits were greatly extended (to 209 weeks) for all older workers in the regions of Austria that were hardest hit by an international steel industry crisis. In these “treated” regions, the duration of unemployment spells greatly increased for all types of unemployed older workers, but there was also a very strong entry effect (with, in particular, a peak in layoffs shortly before the REBP was scheduled to be abolished) that was mainly confined to steel industry workers (Lalive and Zweimüller, 2002). Because this entry effect did not arise for steel industry workers in the regions without extended benefits, it supports the idea of interaction: the entry effect only became large where there were both generous benefits, and a perceived collapse in demand. Total employment in the steel sector fell sharply in the regions with the REBP, but not in others.

Objective evidence for the “international steel crisis”, much-discussed in Austria in these years, is weak. There was a dip in world steel production in 1986, which gives some substance to the idea of an international steel crisis in the mid-1980s: but after 1988 world steel production outside the USSR/CIS region grew steadily. Austria’s steel output fell during the REBP years and recovered soon after the REBP was abolished, relative to output in other EU15 or other (non-CIS) countries generally (www.worldsteel.org/?action=stats_search). It may be suspected that the REBP partly caused not only Austria’s temporary fall in steel industry employment, but also much of the temporary fall in steel output, and fed a nationwide belief in a the supposed continuation of an “international steel crisis” when more-objectively nothing very dramatic was happening. This is a possible model for how economists and politicians and journalists in the United States and to some extent elsewhere have perceived a “Great

Recession”, even though from a more arms-length perspective it looks more like an ordinary recession combined with a large supply-side effect from the exceptional changes to the benefit system.

Additional observations

- In countries with low benefits, people can to some extent at any time voluntarily quit and try to claim benefits; monitoring is often fairly weak, and with a reasonable excuse or an arrangement with their employer they quite likely can qualify. The US entry effects documented by Jurajda (2002) show this happening. But in countries with high benefits, monitoring tends to be stricter, and the risk of losing benefit is a more-powerful disincentive to quitting. In such cases, a limited but significant proportion of employees are “layoff-constrained”: they would prefer to be laid off (with a UI entitlement) but cannot (reasonably) provoke such a situation.¹²⁷ For them, a recession opens a window of opportunity. A classic case would be that their employer calls for volunteers for redundancy, and - since he/she can point to a 30% drop in orders - the overworked benefit administration finds it difficult to argue, and agrees to treat these as involuntary layoffs, qualified for UI.
- The previous point implies that in countries with relatively generous UI benefits, short-time working arrangements, particularly in the early stages of a recession, may be cost-effective because they block access to regular UI claims that - once started - would often become long-term.
- Finland’s recession in the early 1990s may appear to show evidence of both an amplification effect (since Finland experienced the largest short-term rise in unemployment in post-war history) and a persistence effect (since unemployment was still above a “normal” level at the end of the 1990s). Duell *et al.* (2009) provide a detailed benefit-policy history for these years. Under 1987 legislation, which was implemented in 1988 and 1989, even the long-term unemployed (those unemployed for 12 months) with no work record, receiving only an assistance benefit, were legally guaranteed a job with normal pay and conditions, often in local government services, for six months. After these six months they went onto the earnings-related UI benefit. Assuming that the potential obligation to work for six months out of every 18 was not seen as excessively onerous, this benefit system could be regarded as the most generous in history, which could therefore explain the depth of the recession of the early 1990s. In 1992, the job guarantee system was revised: but wage-related benefits with no decline in the benefit level (conditional on participation in a subsidised job, which after 1992 was only necessary after 2 years on benefit) were maintained until 1997, and assistance benefits with few job-search requirements and hardly any obligation to participate in an ALMP were maintained even slightly beyond then. Still in 1999-2000, Finland had the lowest incidence of self-reported job-search among the unemployed among OECD countries that have such data. Thus, hysteresis in the benefit-system settings may be able to explain the persistence of high unemployment, without a need to invoke hysteresis as a distinct behavioural phenomenon. This experience in Finland might be a model for why economists have often seen evidence of hysteresis, and on the other hand statistical testing finds support for an amplification-of-shocks mechanism.

¹²⁷

A blogger in Spain - where voluntary quit formally leads to the total loss of entitlement to unemployment benefit - claims “there are many cases of workers who want to leave their jobs voluntarily, but reach an agreement with their boss to pretend a fake layoff, so that they can collect unemployment aid. An absolute lack of control allows such fraud of law to abound in the system.” (www.megaspora.net/en/2008/09/07/spains-fake-unemployment-rates/).

- The summary measures of benefit generosity available for this type of analysis are crude. In Spain, according to the OECD summary measure, benefit system generosity reached approximately its current (fairly high) level in the 1980s, but in practice additional features of the system (described elsewhere in this article) kept benefit coverage low for many years. Similarly, the summary measure does not take into account job-creation measures that generate or renew entitlements to benefit, although they have had some importance in Switzerland and probably great importance in Finland. In principle, more comprehensive summary measures of benefit generosity may be possible, but for the moment information about all the more-idiosyncratic features of national systems is only available from country-specific documents and research. In such a context, economists need to carefully consider which types of international comparative evidence are more or less valid: regression studies have some value, but the input data are so crude that findings need careful interpretation.

BIBLIOGRAPHY

- Aaronson, Daniel, Bhashkar Mazumder, and Shani Schechter (2010), “What is behind the rise in long-term unemployment?”, *Economic Perspectives*, Federal Reserve Bank of Chicago, Second Quarter.
- Adamchick, Vera (1999), “The Effect of Unemployment Benefits on the Probability of Re-Employment In Poland”, *Oxford Bulletin of Economics and Statistics*, Vol. 61, No. 1.
- Alba-Ramirez, Alfonso, José M. Arranz-Munoz and Fernando Munoz-Bullón (2006), “Exits from Unemployment: Recall or New Job”, Universidad Carlos III de Madrid, Business Economics Working Paper 06-03.
- Anderson, Patricia M. (2001), “Monitoring and Assisting Active Job Search”, in OECD (2001).
- Anderson, Patricia M. and Bruce D. Meyer (1994), “The Effects of Unemployment Insurance Taxes and Benefits on Layoffs Using Firm and Individual Data”, NBER Working Paper No. 4960.
- Arkani, Sepideh and Orla Gough (2007), “The Impact of Occupational Pensions on Retirement Age”, *Journal of Social Policy*, Vol. 36, No. 2, pp.297-318.
- Balducci, David E. and Stephen A. Wandner (2009), “Unemployment Insurance (UI) Modernization and the Recovery Act: Federalism with New Strings”, www.nawrs.org/Papers/The_Implications_of_UI_ModernizationIII.pdf.
- Barro, Robert (2010), “The Folly of Subsidizing Unemployment”, *Wall Street Journal*, August 30.
- Barnichon, Regis, Michael Elsby, Bart Hobijn and Ayşegül Şahin (2010), “Which Industries are Shifting the Beveridge Curve?”, Federal Reserve Bank of San Francisco Working Paper 2010-32, www.frbsf.org/publications/economics/papers/2010/wp10-32bk.pdf.
- Bassanini, Andrea and Romain Duval (2006), “Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions”, OECD Social, Employment and Migration Working Papers No. 35, www.oecd.org/els/workingpapers.

- Bednárík, Rastislav and Jan Škorpík (2007), “Transition from Work to Retirement in the Czech Republic and Slovakia”, European Centre of Social Welfare Policy and Research Policy Brief, <http://pdc.ceu.hu/archive/00004283/>.
- Bender, Stefan, Johannes F. Schmieder, and Till von Wachter (2010), “The Effects of Extended Unemployment Insurance over the Business Cycle on Labour Supply and Search Outcomes”, 7th ECB/CEPR Labour Market Workshop on Unemployment Developments After the Crisis, Frankfurt am Main, December, www.ecb.int/events/conferences/shared/pdf/labourmarket/schmiederfinal.pdf.
- Benus, Jacob, Eileen Poe-Yamagata, Ying Wang and Etan Blass (2008), “Reemployment and Eligibility Assessment (REA) Study: FY 2005 Initiative, Final Report”, Impaq International, www.impaqint.com/publications/project-reports/default.html.
- Bitler, Marianne P. and Hilary W. Hoynes (2011), “The State of the Social Safety Net in the Post–Welfare Reform Era”, *Brookings Papers on Economic Activity*, Fall 2010.
- Blanchard, Olivier (2006), “European unemployment: the evolution of facts and ideas”, *Economic Policy*, January 2006, pp. 5–59.
- Bloemen, Hans, Stefan Hochguertel and Marloes Lammers (2011), “Job Search Requirements for Older Unemployed: Transitions to Employment, Early Retirement and Disability Benefits”, Tinbergen Institute Discussion Paper TI 2011-008/3.
- Bover, Olympia, Manuel Arellano and Samuel Bentolila (2002), "Unemployment Duration, Benefit Duration and the Business Cycle", *Economic Journal*, Vol. 122, April, pp.223-265.
- Card, David, Raj Chetty and Andrea Weber (2007), “The Spike at Benefit Exhaustion: Leaving the Unemployment System or Starting a New Job?”, *American Economic Review*, Vol. 97, No. 2, pp. 113-118.
- CBO – Congressional Budget Office (2004), “Family Income of Unemployment Insurance Recipients”, www.cbo.gov/doc.cfm?index=5144.
- CEA – Council of Economic Advisors (1997), “Explaining the Decline in Welfare Receipt, 1993-1996”, <http://clinton4.nara.gov/WH/EOP/CEA/Welfare/Report.html>.
- Chocolaad, Yvette (2010), "Early Implementation of the Unemployment Insurance Provisions of the Recovery Act", presentation at the NASWA annual conference, September 22, www.naswaconference2010.com/presentations/recoveryAct.ppt.
- Christofides, Louis and Christopher McKenna (1995), “Unemployment insurance and moral hazard in employment”, *Economics Letters*, Vol. 49, pp. 205-210.
- Cockx, Bert and Jean RIES (2004), “The Exhaustion of Unemployment Benefits in Belgium: Does it Enhance the Probability of Employment?”, IZA Discussion Paper No. 1177.
- Committee on Ways and Means (2000), *2000 Green Book*, U.S. House of Representatives, www.gpoaccess.gov/wmprints/green/2000.html.

- Conde-Ruiz, J. I., F. Felgueroso and J. I. Garcia Pérez (2010), "Las reformas laborales en España: un modelo agotado", Fundación de Estudios de Economía Aplicada (FEDEA) Colección Estudios Económicos 11-2010, www.fedea.es.
- Daly, Mary and Bart Hobijn (2010), "Okun's Law and the Unemployment Surprise of 2009", Federal Reserve Bank of San Francisco Research Letter 2010-07.
- DEEWR – Department of Education, Employment and Workplace Relations (2008), "Welfare to Work Evaluation Report", Research Branch and Evaluation and Program Performance Branch, www.workplace.gov.au/workplace/Publications/ProgrammeEvaluation/
- Delong, J. Bradford (2010), "Is Today's Unemployment 'Structural'?", *Economists' Voice*, September.
- Deroyon, Thomas and Thomas Le Barbanchon (2011), "The effect of potential unemployment benefits duration on unemployment exits to work and on job quality", DARES Document d'Etudes No. 160 www.travail-emploi-sante.gouv.fr/etudes-recherche-statistiques-de,76/.
- Deutsche Bundesbank (2011), "The US labour market in the current cycle", Monthly Reports, April, pp. 35-51, www.deutsche-bundesbank.de/volkswirtschaft/vo_mba_aktuell.en.php.
- Director, Steven and Frederick Englander (1988), "Requiring Unemployment Insurance Recipients to Register with the Public Employment Service", *Journal of Risk and Insurance*, Vol. 55, No. 2, June, pp. 245-258, www.jstor.org/stable/253326.
- Dormont, Brigitte, Denis Fougère et Ana Prieto (2001), « L'effet de l'allocation unique dégressive sur la reprise d'emploi », *Economie et Statistique*, No. 343, www.insee.fr/fr/publications-et-services/sommaire.asp?codesage=ECO343.
- Dlugosz, Stephan, Gesine Stephan and Ralf A. Wilke (2009), "Fixing the Leak: Unemployment Incidence Before and After the 2006 Reform of Unemployment Benefits in Germany", ZEW Discussion Paper No. 09-079.
- Duell, Nicola, David Grubb and Shruti Singh (2009), "Activation Policies in Finland", *OECD Social Employment and Migration Working Paper No 98*, www.oecd.org/els/workingpapers.
- Duell, Nicola, David Grubb, Shruti Singh and Peter Tergeist (2010), "Activation Policies in Japan", *OECD Social Employment and Migration Working Paper No 113*.
- Ellwood, David T. (1999), "The Plight of the Working Poor", Brookings Children's Roundtable Report, No.2, November, www.brookings.edu/comm/childrenroundtable/issue2.pdf
- Elsby, Michael, Bart Hobijn and Aysegül Sahin (2010), "The Labor Market in the Great Recession", *Brookings Papers on Economic Activity*, Spring 2010, pp. 1-48, http://muse.jhu.edu/journals/brookings_papers_on_economic_activity/summary/v2010/2010.1.elsby.html.
- Elsby, Michael W.L. and Jennifer C. Smith (2010), "The Great Recession in the UK Labour Market: A Transatlantic Perspective", *National Institute Economic Review*, No. 214, October, <http://ner.sagepub.com/content/214/1/R26>.
- Entorf, Horst (1996), "Do Aggregate Measures of Mismatch Measure Mismatch? A Time Series Analysis of Existing Concepts", <http://129.3.20.41/eps/lab/papers/0312/0312006.pdf>.

- Farber, Henry (2010), "Job Loss and Unemployment in the 21st Century: The Great Recession in Labor Market Perspective", revised November 30, presented at the Federal Reserve Bank of Philadelphia, 3-4 December, www.philadelphiafed.org/research-and-data/events/2010/labor-markets/papers/Henry%20Farber%20paper.pdf.
- Farber, Henry (2011), "Job Loss in the Great Recession: Historical Perspective from the Displaced Workers Survey, 1984-2010", IZA Discussion Paper No. 5696, May.
- Fujita, Shigeru (2011), "Effects of Extended Unemployment Insurance Benefits: Evidence from the Monthly CPS", Federal Reserve Bank of Philadelphia Working Paper No. 10-35/R.
- Gray, David (2003), "National versus Regional Financing and Management of Unemployment and Related Benefits: The Case of Canada", OECD Social Employment and Migration Working Paper No. 14, www.oecd.org/els/workingpapers.
- Green, David A., and Craig W. Riddell (1997), "Qualifying for Unemployment Insurance: An Empirical Analysis", *Economic Journal*, Vol. 107, No. 440, January, pp. 67-84.
- Grossman, Jean Baldwin (1989), "The Work Disincentive Effect of Extended Unemployment Compensation: Recent Evidence", *Review of Economics and Statistics*, Vol. 71, No. 1, February, pp. 159-164.
- Grubb, David (2007), "Labour Market Policies at Different Benefit Replacement Rates", paper presented at a Thematic Review Seminar of the European Employment Strategy, Brussels, www.mutual-learning-employment.net.
- Hall, Robert (2010), "The Labor Market in the Current Slump", November 10, www.stanford.edu/~rehall/Labor%20Market%20Current%20Slump%202010.pdf.
- Hasselplüg, Soren (2005), "Availability Criteria in 25 Countries", Ministry of Finance Working Paper No. 12, www.fm.dk.
- Holmes, Douglas J. (2011), "Testimony before the Subcommittee on Human Resources Committee on Ways and Means", U.S. House of Representatives, Hearing on Improving Efforts to Help Unemployed Americans Find Jobs, 10 February, www.waysandmeans.house.gov/News/DocumentSingle.aspx?DocumentID=228810
- Ilzetzki, Ethan, Enrique Mendoza and Carlos Vegh (2009), "How big are fiscal multipliers?", CEPR Policy Insights, www.cepr.org.
- Isaacs, Katelin P. and Julie M. Whittaker (2011), "Temporary Extension of Unemployment Benefits: Emergency Unemployment Compensation (EUC08)", Congressional Research Service Report for Congress, 11 February, http://assets.opencrs.com/rpts/RS22915_20110304.pdf
- Isaacs, Katelin P. and Julie M. Whittaker (2011b), "Unemployment Insurance: Programs and Benefits", Congressional Research Service Report for Congress, March 1, www.workforceatm.org/getmore_crs_reports.cfm.
- JEC – Joint Economic Committee (2010a), "Does Unemployment Insurance Inhibit Job Search?", Report by the U.S. Congress Joint Economic Committee, July, <http://jec.senate.gov/public/index.cfm?p=Reports/>

- JEC (2010b), “Extending the Federal Unemployment Insurance Benefits Program: Critical to Keeping the Economic Recovery On-Track”, Report by the U.S. Congress Joint Economic Committee, November.
- Johnson, Terry and Daniel Klepinger (1994), “Experimental Evidence on Unemployment Insurance Work-Search Policies”, *Journal of Human Resources*, Vol. 29, No. 3 (Summer), pp. 695-717, www.jstor.org/stable/146249.
- Jousten, Alain, M. Lefèbvre, S. Perelman and P. Pestieau (2008), “The Effects of Early Retirement on Youth Unemployment: The Case of Belgium”, IMF Working Paper WP/08/30, www.imf.org/external/pubs/cat/wp1_sp.aspx
- Jurajda, Štěpan (2002), “Estimating the Effect of Unemployment Insurance Compensation on the Labor Market Histories of Displaced Workers”, *Journal of Econometrics*, No. 108, pp. 227-252.
- Jurajda, Štěpan and Frederick J. Tannery (2003), “Unemployment Durations and Extended Unemployment Benefits in Local Labor Markets”, *Industrial and Labor Relations Review*, Vol. 56, No. 2, January, pp. 324-348.
- Kajitani, Shinya (2008), “Does Skill-Development Make Elderly Japanese More Marketable?”, *Japan Labor Review*, vol. 5, no. 2, Spring, www.jil.go.jp/english/JLR/bi_index.htm
- Katz, Lawrence (2010), “ Long-Term Unemployment in the Great Recession”, Testimony for the Joint Economic Committee of the U.S. Congress, 29 April, www.economics.harvard.edu/faculty/katz/files/jec_testimony_katz_042910.pdf
- Katz, Lawrence F., and Bruce D. Meyer, 1990, “The impact of the potential duration of unemployment benefits on the duration of unemployment”, *Journal of Public Economics*, Vol. 41, No. 1, February, pp. 45–72.
- Klepinger, Daniel, Terry Johnson and Jutta Joesch (2002), “Effects of Unemployment Insurance Work-Search Requirements: The Maryland Experiment”, *Industrial and Labor Relations Review*, Vol. 56, No. 1, October, pp. 3-22, www.jstor.org/stable/3270646
- Koskela, Erkki and Roope Uusitalo (2004), “Unintended convergence – how Finnish unemployment reached the European level”, Bank of Finland Discussion Papers 6-2004, www.suomenpankki.fi/en/tutkimus/tutkimusjulkaisut/.
- Krueger, Alan (2010), “Written Statement by Alan B. Krueger, Assistant Secretary for Economic Policy and Chief Economist U. S. Department of the Treasury, before the Joint Economic Committee”, May 5, http://jec.senate.gov/public/?a=Files.Serve&File_id=6f298a71-cac8-44fa-95cb-7a47fcae63ee.
- Krueger, Alan (2011), “Policy Lessons from the Great Recession”, address to the Society of Labor Economists, April 29, <http://client.norc.org/jole/soleweb/2011KruegerPolicyTalk.pdf>.
- Krueger, Alan and Sarah Charnes (2011), “ JOLTS as a timely source of data by establishment size”, *Monthly Labor Review*, May, pp.16-24.
- Lalive, Rafael and Josef Zweimuller (2002), “Benefit Entitlement and the Labor Market: Evidence from a Large-Scale Policy Change”, CESifo Working Paper No. 694, www.cesifo-group.de/portal/page/portal/ifoHome/b-publ/b3publwp/CESifoWP.

- Lalive, Rafael, Jan C. van Ours and Josef Zweimüller (2010), “Equilibrium Unemployment and the Duration of Unemployment Benefits”, *Journal of Population Economics*, Vol. 23, No. 3, pp. 933-962.
- Lauringson, Anne (2010), “Disincentive Effects of Unemployment Insurance Benefits: Maximum Benefit Duration Versus Benefit Level”, University of Tartu Faculty of Economics and Business Administration Working Paper No. 70/2010, www.mtk.ut.ee/research/workingpapers.
- Layard, Richard (1986), *How to Beat Unemployment*, Oxford University Press.
- Layard, Richard, Stephen Nickell and Richard Jackman (1994), *The Unemployment Crisis*, Oxford University Press.
- Lemieux, Thomas and W. Bentley MacLeod (1990), "Supply side hysteresis: the case of the Canadian unemployment insurance system", *Journal of Public Economics*, No. 78, pp.139-170.
- Leonhardt, David (2010), “For Those with Jobs, a Recession with Benefits”, New York Times, August 10, www.nytimes.com/2010/08/11/business/economy/11leonhardt.html.
- Lindert, Kathy (2005), “Implementing Means-Tested Welfare Systems in the United States”, World Bank Social Protection Discussion Paper No. 0532, <http://go.worldbank.org/HGGIYW2RX0/>.
- Ljungqvist, Lars and Thomas Sargent (1995), “The Swedish unemployment experience”, *European Economic Review*, Vol. 39, pp. 1043- 1070.
- Macunovich, Diane (2010), “Reversals in the patterns of women’s labor supply in the United States, 1977–2009”, *Monthly Labor Review*, November, pp. 16-36.
- Martin, S. Gil (2002), “An overview of Spanish labour market reforms, 1985-2002”, Instituto de Políticas y Bienes Públicos (IPP), Unidad de Políticas Comparadas (CSIC), Working Paper 02-17, www.ipp.csic.es.
- MEE – Ministry of Employment and the Economy (2008), *Employment Report 2007*, Helsinki, www.tem.fi/files/19650/TEM17_2008_aktiivinen_2.pdf.
- Meisenheimer, Joseph (2005), “Real compensation, 1979 to 2003: analysis from several data sources”, *Monthly Labor Review*, May, pp. 3-22.
- Meyer, Bruce (2002), “Unemployment and Workers’ Compensation Programmes: Rationale, Design, Labour Supply and Income Support”, *Fiscal Studies*, Vol. 23, No. 1, pp. 1–49.
- Meyer, Bruce D. (2009), “The Effects of the EITC and Recent Reforms”, Harris School of Public Policy Studies Working Paper 09.10, December, <http://harrisschool.uchicago.edu/about/publications/working-papers/browse.asp>.
- Meyer, Bruce D., and Wallace K. C. Mok (2007), “Quasi-Experimental Evidence on the Effects of Unemployment Insurance from New York State”, NBER Working Paper No. 12865.
- Miller, Michael (1997), "Appendix to Chapter 8", in Christopher J. O'Leary, and Stephen A. Wandner, eds. *Unemployment Insurance in the United States: Analysis of Policy Issues*, Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

- Mulligan, Casey B. (2008), “Don’t forgive that way!”, http://articles.chicagotribune.com/2008-12-05/news/0812040799_1_family-income-income-tax-borrowers.
- Moffitt, Robert (2008), “Welfare reform: the US experience”, IFAU Working Paper No. 2008:13, www.ifau.se.
- NASWA – National Association of State Workforce Agencies (2010), “NASWA Issue Update: September 2010”, www.workforceatm.org/sections/pdf/2010/2010_issues_update.pdf
- Needels, Karen, Walter Corson and Walter Nicholson (2001), “Left Out of the Boom Economy: UI Recipients in the Late 1990s: Final Report”, Mathematica Policy Research, Inc., www.ows.doleta.gov/dmstree/op/op2k1/op_01-01.pdf.
- Needels, Karen and Walter Nicholson (1999), “An Analysis of Unemployment Insurance Durations Since the 1990-1992 Recession: Final Report”, Mathematica Policy Research, Inc., <http://wdr.doleta.gov/research/pubord/pub818.cfm>.
- NELP – National Employment Law Project (2003), “What Is An "Alternative Base Period" And Why Does My State Need One?”, Unemployment Insurance, State Material, www.nelp.org/page/-/UI/abpfactsheet041003.pdf.
- NELP (2010), “Recovery Act’s Unemployment Insurance Modernization Incentives Produce Bipartisan State Reforms in Eight States in 2010”, www.nelp.org/page/-/UI/2010/modernization.update.pdf.
- NELP (2010b), “Extended UI Benefits”, www.nelp.org/sites/unemployedworkers/index.php/resources/resource_entry/extended_benefits.
- NELP (2010c), “Beyond Sound Bites—Understanding the Impact of Unemployment Insurance on the Severity of Unemployment”, www.nelp.org/page/-/UI/DisincentiveUI.pdf.
- NGA – National Governors’ Association (2010), “NGA – National Governors’ Association (2010), “Employment Security System Policy”, Statement ECW-11 by the Education, Early Childhood and Workforce Committee, www.nga.org.
- Nicholson, Walter (1981), “A Statistical Model of Exhaustion of Unemployment Insurance Benefits”, *Journal of Human Resources*, Vol. 16, No. 1 (Winter), pp. 117-128, www.jstor.org/stable/145223.
- Nicholson, Walter and Walter Corson (1976), “A Longitudinal Study of Unemployment Insurance Exhaustees: Final Report on Waves 1 and 2”, Mathematica, report sponsored by the Department of Labor, Office of Research and Development, www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED120425.
- Nicholson, Walter and Karen Needels (2004a), “Extended Unemployment Benefits: A Review of the Literature”, Draft, www3.amherst.edu/~wenicholson/EBLITREVIEWrev.pdf.
- Nicholson, Walter and Karen Needels (2004b), “Optimal Extended Unemployment Benefits: Draft”, Mathematica Policy Research, Inc., http://www3.amherst.edu/~wenicholson/Optimal_UI.APPAM.pdf.
- Nicholson, Walter and Karen Needels (2006), “Unemployment Insurance: Strengthening the Relationship between Theory and Policy”, *Journal of Economic Perspectives*, Vol. 20, No. 3, Summer, pp. 47–70.

NYSDOL – New York State Department of Labor (2009), “Are You Unemployed? The 2009 Federal Economic Stimulus Plan Can Help You”, Factsheet P804 (3/09), www.tomorrowworkplace.org/documents/Flyers/uibenefitsandstimulus.pdf.

OECD (1994), *The OECD Jobs Study: Evidence and Explanations: Part II, The Adjustment Potential of the Labour Market*, Paris.

OECD (2000), “Eligibility Criteria for Unemployment Benefits”, Chapter 4 in *Employment Outlook*, Paris, www.oecd.org/els/employmentoutlook.

OECD (2001), *Labour Market Policies and the Public Employment Service: Proceedings of the Prague Conference*, Paris.

OECD (2003), “Benefits and Employment, Friend or Foe? Interactions Between Passive and Active Social Programmes”, Chapter 4 in *Employment Outlook*, Paris.

OECD (2005), “Labour Market Programmes and Activation Strategies: Evaluating the Impacts”, Chapter 4 in *Employment Outlook*, Paris.

OECD (2005b), *Economic Surveys: Austria*, Paris.

OECD (2007), “Activating the Unemployed: What Countries Do”, Chapter 5 in *Employment Outlook*, Paris, www.oecd.org

OECD (2009), “Maintaining the Activation Stance During the Crisis”, background paper for OECD Labour and Employment Ministerial Meeting, Tackling the Jobs Crisis: The Labour Market and Social Policy Response, Paris, www.oecd.org/dataoecd/54/48/43766121.pdf.

OECD (2010), *Employment Outlook*, Paris.

OECD (2011), *Pensions at a Glance*, Paris.

O’Leary, Stephen (2006), “State UI job search rules and reemployment services”, *Monthly Labor Review*, June, pp. 27-37

OMB – Office of Management and Budget (2010), *Historical Tables Budget of the U. S. Government: Fiscal Year 2010*, www.budget.gov.

ONS – Office for National Statistics (2009), *Occupational Pension Schemes: Annual Report 2008*, www.statistics.gov.uk.

Portugal, Pedro and John T. Addison (2008), “Six Ways to Leave Unemployment”, www.qub-efrg.com/download/fs/doc/working-papers/Portugal_and_Addison_SJPE_nov_29_2007.

Rector, Robert, Katherine Bradley and Rachel Sheffield (2009), "Obama to Spend \$10.3 Trillion on Welfare: Uncovering the Full Cost of Means-Tested Welfare or Aid to the Poor", Heritage Foundation, www.heritage.org/Research/Welfare/sr0067.cfm.

Riddell, Chris and Peter Kuhn (2010), “The Long-Term Effects of Unemployment Insurance: Evidence from New Brunswick and Maine, 1940-1991”, *Industrial and Labor Relations Review*, Vol. 63, No. 2.

- Røed, Knut and Tao Zhang (2003), “Does Unemployment Compensation Affect Unemployment Duration?”, *Economic Journal*, Vol. 113, January, pp. 190–206.
- Røed, Knut and Tao Zhang (2005), “Unemployment duration and economic incentives - a quasi random-assignment approach”, *European Economic Review*, Vol. 49, pp. 1799–1825.
- Sanz, Yolanda Rebollo (2010), “Does the design of the Unemployment Insurance System increase labor market rotation in Spain?”, paper presented at the European Economic Association 25th Annual Meeting, 23-26 August, www.eea-esem.com/files/papers/EEA/2010/1393/UB-EEA-150210.pdf.
- Schwartz, Jeremy (2010), “Do Temporary Extensions to Unemployment Insurance Benefits Alter Search Behavior? The Effects of the Standby Extended Benefit Program in the United States”, paper presented at the 9th IZA/SOLE Transatlantic Meeting of Labor Economists, 27-29 May, www.iza.org/conference_files/TAM2010/schwartz_j6037.pdf.
- Shaefer, H. Luke and Liyun Wu (2011), “Unemployment Insurance and Low-Educated Single Working Mothers Before and After Welfare Reform”, Upjohn Institute Working Paper No. 11-173, http://research.upjohn.org/up_workingpapers/.
- Shimer, Robert (2001), “The Impact of Young Workers on the Aggregate Labour Market”, *Quarterly Journal of Economics*, No. 116, pp. 969-1007.
- Shimer, Robert (2010), “Comment” on Elsby et al. (2010).
- Schmieder, Johannes, Till von Wachter and Stefan Bender (2011a), “The Effects of Extended Unemployment Insurance Over the Business Cycle: Evidence from Regression Discontinuity Estimates over Twenty Years”, online document, March 2011, www.columbia.edu/~vw2112/papers/rduicycle_schmieder_vonwachter_bender.pdf.
- (2011b), “Web Appendix”, www.columbia.edu/~vw2112/papers/WebAppendix.pdf.
- Sherk, James and Karen Campbell (2008), “Extended Unemployment Insurance – No Economic Stimulus”, Report of The Heritage Center for Data Analysis (www.heritage.org).
- Tsebelis, George and Roland Stephen (1994), “Monitoring Unemployment Benefits in Comparative Perspective”, *Political Research Quarterly*, Vol. 47, No. 4, December, pp. 793-820, http://sitemaker.umich.edu/tsebelis/files/monitoring_unemployment_benefits_1994_prq.pdf.
- Tuit, Sander and Jan van Ours (2010), “How Changes in Unemployment Benefit Duration Affect the Inflow into Unemployment”, *Economics Letters*, Vol. 109, pp. 105–107.
- van Ours, Jan and Milan Vodopivec (2004), “How Changes in Benefits Entitlement Affect Job-Finding: Lessons from the Slovenian ‘Experiment’”, IZA Discussion Paper No. 1181.
- Vroman, Wayne and Vera Brusentsev (2005), *Unemployment Compensation Throughout the World: A Comparative Analysis*, Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Washington Post (2010), “Economist Christina Romer regrets saying jobless rate would stay below 8 percent”, August 7th, www.washingtonpost.com/wp-dyn/content/article/2010/08/06/AR2010080606271.html.

- Whittaker, Julie M. and Katelin P. Isaacs (2011), "Extending Unemployment Compensation Benefits During Recessions", Congressional Research Service Report for Congress, 4 January, www.workforceatm.org/getmore_crs_reports.cfm.
- Winter-Ebmer, Rudolph (2003), "Benefit Duration and Unemployment Entry: A Quasi-experiment in Austria", *European Economic Review*, Vol. 47, pp. 259 – 273.
- Wolff, Joachim (2003), "Unemployment Benefits and the Duration of Unemployment in East Germany", Ludwig-Maximilians Universität, Sonderforschungsbereich 386, Discussion Paper No. 344, http://epub.ub.uni-muenchen.de/1720/1/paper_344.pdf.
- Woodbury, Stephen and Murray Rubin (1997), "The Duration of Benefits", in Christopher O'Leary, and Stephen Wandner (eds.), *Unemployment Insurance in the United States: Analysis of Policy Issues*, pp. 211–283, http://research.upjohn.org/up_bookchapters/534.
- WSJ - Wall Street Journal (2009), "Getting to \$787 Billion", 17 February, http://online.wsj.com/public/resources/documents/STIMULUS_FINAL_0217.html.
- Zandi, Mark (2009), "The Economic Impact of the American Recovery and Reinvestment Act", Moody's Economy.com, January 21, www.economy.com/mark-zandi/default.asp.