Australian Unemployment Protection:
Challenges and New Directions

by Wayne Vroman*
and
Vera Brusentsev**

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* Economist, The Urban Institute, Washington, D.C.
** Assistant Professor of Economics, Gettysburg College, Gettysburg, Pennsylvania.
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Executive Summary

This paper examines Australia's scheme of unemployment protection and makes some comparisons with unemployment protection in the United States of America. A major concern of the paper is to understand the differences in unemployment duration between these two economies. Policies followed in the United States intended to reduce duration are reviewed for possible applicability in Australia.

Because unemployment protection arrangements in the two countries are very different, the paper initially describes two broad systems: unemployment insurance (UI) and unemployment assistance (UA) as alternative ways to protect workers against the effects of unemployment. Australia operates a UA system of unemployment protection that limits eligibility to unemployed persons and families with low income. Its system of UA protection has existed for more than 50 years. The United States has operated unemployment insurance (UI) since the late 1930s.

The paper focuses on two topics: costs and labor market disincentives. It presents a framework for assessing the costs of unemployment protections (Part III) and examines comparative cost data for selected countries (Part IV). The discussion of labor market disincentives identifies the types of disincentive issues present in UI and UA systems (Part II), developments in Australia (PartVII) and potential interventions to shorten benefit duration in Australia (Part VIII).

Four conclusions are reached. 1) Even though UA systems base eligibility on family income, the costs of such systems (per percentage point of the unemployment rate) are not necessarily lower than the costs of UI systems. Examples of high cost and low cost UI systems are identified as are examples of high cost and low cost UA systems. For the cost comparison of main interest here, UA in Australia is considerably more expensive than UI in the U.S.. 2) In comparing Australian and U.S. labor markets over the past four decades, major contrasts are found in the growing disparities in the duration of unemployment and the duration of unemployment benefits. All duration measures in Australia are much longer than their U.S. counterparts. 3) While selected policy interventions could be considered to shorten UA benefit duration in Australia, many approaches have already been tried with only limited success. 4) Two initiatives might be worth considering in Australia, undertaking a new system for verifying the measurement of family income and placing a limit on maximum potential UA benefit duration.

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Introduction

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I. UI and UA: Eligibility and Administration

Unemployment insurance (UI) and unemployment assistance (UA) as systems of unemployment protection have fundamentally different primary objectives. Payments of UI benefits are intended to smooth income by replacing a portion of an eligible worker's lost wages attributable to unemployment. Payments of UA benefits are intended to eliminate or reduce poverty among low income families where unemployment occurs. Thus while both make payments occasioned by unemployment, UI is paid to eligible individuals regardless of income while UA is paid only to families with unemployment whose income and assets fall below designated thresholds.

Contrasts between beneficiaries of UI and UA are sharpest in situations where unemployment is of short duration. Recipients of UI can have high income since payments are made to partially offset the earnings losses experienced by the individual regardless of total family income. Because payments of UA, in contrast, are limited just to families whose income and assets satisfy a means test, benefit payments are received mainly by those towards the bottom of the income distribution. Thus the share of UA benefits that goes towards poverty reduction is generally higher than for UI payments.

This contrast (UI paid to the individual workers, UA paid to low income families) becomes less clearcut in situations of long term unemployment. Because earnings typically constitute the bulk of family income, long term unemployment often causes a large reduction in family income. Thus many of the long term unemployed who receive payments under a UI program would also be compensated under a UA program where a means test is used to determine eligibility. Payments from both programs reduce poverty in such situations.

From a macro perspective, UI and UA both make cash payments that respond strongly to cyclical developments. Both undertake activities of payments administration, e.g., decisions about eligibility and payment levels, and these activities are often similar. Internationally, UI is far more common than UA. To our knowledge UA systems are present in just four countries (Australia, New Zealand, Hong Kong and Estonia) while UI programs exist in more than sixty countries.[1]

[1] Counts are based on U.S. Social Security Administration (1999).

A brief comment about the classification of unemployment protection systems may be appropriate. In several counties UI and UA benefit payments are both present with UI available first and UA then available for UI exhaustees and/or UA is available for those who do not qualify for UI. When both are present, periodic UA payments are typically lower than UI payments. Some countries also have a third tier of protection for the unemployed, an income-conditioned social assistance (or general assistance) program with benefits payable after UA entitlements have been exhausted. Gornick (1999) describes the types of unemployment protections offered in OECD countries. Section 1 of Schmid and Reissert (1996) also provides a summary of UI and UA classification issues.

For present purposes the various "mixed" systems where UI is the initial port of entry for claimants are treated as UI systems. The cost comparisons in Part IV are restricted to a comparison of UI (including mixed systems) with stand-alone UA as an alternative program for the unemployed.

Table 1 summarizes UI and UA activities in two broad areas of benefits administration: initial entry and continuing eligibility. For both areas, the table lists the requirements the claimant must satisfy and the decisions (determinations) made by program administrators. The table compares stylized UI and UA programs. If actual countries were identified, a more varied picture would be observed. Specific eligibility requirements and administrative activities are identified with X's. Several rows have X's for both unemployment protections. Key differences between UI and UA are identified in the rows where only a single X is present.

Both protections make payments for partial unemployment as well as total unemployment,[2] and both specify an explicit waiting period between filing for benefits and receiving an initial payment. However, UI typically requires the claimant to have substantial previous work experience (signaled by a required threshold level of previous earnings (USA), weeks worked (Germany) or hours worked (Canada)) whereas UA can compensate those with little or no previous work experience. The reason for the job separation is important for UI eligibility while UA eligibility determinations focus heavily on family income and assets. Both programs make yes-no decisions about initial

[2] Partial unemployment is usually more prevalent in UA programs but some paid work while in receipt of benefits is permitted by both UI and UA.

eligibility and the level of the periodic payment, but only UI specifies potential benefit duration at the time of initial entry into benefit status. A UA program may or may not limit potential duration. Potential duration is unlimited in Australia, but in Germany UA duration for many (all but UI exhaustees) is limited.

To continue in benefit status, the claimant must be able to work and available for work. Increasingly countries are requiring claimants to provide evidence of active work search and/or other socially beneficial activities. The latter requirement has various names, e.g., activation, reciprocal obligation or mutual obligation. While country practices regarding activation vary widely, merely waiting until a "suitable" job is offered is generally becoming less acceptable for maintaining continuing benefit eligibility. Enforcing work search requirements, judging the suitability of job offers and monitoring job refusals are administrative tasks common to UI and UA. Both programs also monitor the receipt of other income that may reduce entitlements. In UI, the other income is typically linked to previous work, e.g., severance pay and pension benefits. In contrast, all of family income is considered in administering the means test for UA. Monitoring family income is not simple, especially if a spouse works. If income monitoring is effective, changes in the spouse's earnings will alter the UA payment.

As noted, many countries offer both UI and UA with the latter available either after the claimant exhausts UI or for those not eligible for UI at the onset of unemployment.[3] In these situations, the contrasts between UI and UA are smaller than suggested by Table 1. In effect, UI acts as a screen for some workers who later move into UA benefit status, but the transition to UA is made by only some of the long term unemployed, i.e., those with low income. Typically those who move from UI to UA are paid a lower periodic benefit while on UA.

A priori, UI and UA would be expected to have contrasting patterns of administrative costs. Of the two, UI pays more attention to the claimant's work history and to the circumstances of the job separation, since entitlement presumes a lengthy

[3] See, for example, Charts 4.1-4.5 in Chapter 4 of OECD (1998). Tables 1 and 2 in Gornick (1999) show that of the 18 OECD countries with UI programs as of the mid 1990s, nine also had UA. The nine were Austria, Finland, France, Germany, Ireland, the Netherlands, Spain, Sweden, and the United Kingdom.

period of prior employment and an acceptable reason for the job separation.[4] UA, on the other hand, focuses more on the current fact of unemployment and whether or not the claimant satisfies the means test. While UI will review certain types of income for possible offsets against UI payments (severance pay and pension benefits), UA has to make a complete assessment of family income. Also, changes in income, e.g., the earnings of a spouse, need to be monitored to verify continuing UA eligibility. Both have to monitor job search and work availability as conditions for continuing eligibility.

Of the two systems, administrative costs would usually be higher under UA because of the costs of monitoring income (initial income assessments for new claims and income monitoring for ongoing claims). These costs would typically exceed the costs of UI initial eligibility determinations which are one-time costs per claim. The costs of monitoring availability and work search are likely to be similar in the two systems. While the administrative costs of UA are likely to be higher, we have not tried to assemble comparative cost data to provide empirical support for this inference.

II. Disincentive Issues

The two forms of unemployment protection generate problems of labor market disincentives. However, the disincentive problems in the two systems are different.

Unemployment Insurance**.**

For unemployment insurance three disincentives can be identified. First, there are entry incentive effects. When the work histories of recipients are studied, a bunching of claimants who satisfy minimum eligibility requirement is often found. Prior to 1997, Canada based eligibility on previous weeks of employment. Each year a consistent bunching at the minimum weeks threshold was observed. Now that Canada uses hours worked in determining eligibility (from 420 to 700 depending on provincial unemployment), a bunching at the minimum hours threshold has been observed.

[4] If a claimant quits a job there will usually be both an investigation of the reason for the quit and assessment of a quit penalty that precludes receipt of benefits for a number of weeks.

Second, there may be high replacement rates, i.e., high ratios of weekly benefits to weekly earnings. High replacement rates encourage longer spells in benefit status. Estimates of the size of replacement rate effects differ, but the direction of the effect is clear. As claimants suffer a smaller income loss from unemployment (higher replacement rate), they prolong periods of recipiency.

At least three factors that contribute to high replacement rates can be singled out. 1) Progressive benefit formulas provide for higher replacement among workers paid low wages.[5] 2) Workers subject to high marginal income tax rates often experience high net wage loss replacement. 3) Paying dependents' allowances increases replacement rates. A compounding of these factors occurs among secondary workers with children who are members of high income families.

Third, long potential benefit duration can contribute to increases in actual benefit duration. While empirical estimates vary, each added week of potential duration adds from 0.1 to 0.2 weeks to actual duration (studies from the United States).[6]

Unemployment duration has many determinants besides UI potential benefit duration. An increased pace of dislocation and permanent job loss associated with globalization has probably played a role in increased unemployment duration in the U.S.. Several measures show that average unemployment duration increased in the 1980s and 1990s relative to earlier decades. Increases are observed in both household labor force survey data and in data from the UI program.[7]

The increase in unemployment duration in the U.S. during the 1980s and 1990s has occurred in a period when UI benefit generosity has, if anything, declined. Average replacement rates are now somewhat lower than in the late 1970s (details vary from state to state) while potential benefit duration has not increased. These time series patterns suggest that developments in unemployment duration in the U.S. have not been driven by developments in UI statutory provisions.

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[5] In California, the weekly benefit for beneficiaries at the minimum is 65 percent of the average weekly wage while for high wage workers the replacement rate is 39 percent.

[6] Summaries of the U.S. empirical literature are given in Woodbury and Rubin (1997) and Vroman and Woodbury (1996). Katz and Meyer (1990) provide estimates of the effects of potential on actual duration. Atkinson and Micklewright (1991) and Ham, Svejnar and Terrell (1998) summarize international evidence. See also the analysis of determining social assistance support levels in Chapter 3 in OECD (1998).

[7] See Chapter IV of Vroman (2001a) for a summary of trends in unemployment duration in the U.S. from 1950 through 1999. Decade averages of U.S. duration data also appear in Table 3 of the present paper.

An important component of increased unemployment in Western Europe since the early 1970s has been a lengthening of unemployment duration. Several studies have examined the linkage between increased duration and the provisions of the UI systems (and other aspects of employment security) in these countries. Since long UI potential duration usually predated the increase in unemployment of the mid-1970s, the linkage between UI provisions and increased duration is not transparent. A recent investigation by Blanchard and Wolfers (2000) argues that an interaction between institutions, e.g., unemployment protection provisions such as the replacement rate and the maximum potential benefit duration, and macroeconomic shocks have combined to produce the higher unemployment and lengthened duration observed in many countries since the mid 1970s. Many researchers have found an effect of UI provisions on unemployment duration and additional research on the linkage can be anticipated.

Unemployment Assistance**.**

Because UA conditions eligibility on the family income of the unemployed individual, the static labor supply-income framework provides a useful point of departure for a discussion of disincentives. For a given family member, family income is given by:

(II-1) $Y = X + W*H$ where,

Y = family income,
X = income from assets plus the earnings of all other family members,
W = the person's wage rate and
H = hours of work.

When family income falls below Y*, the income guarantee, UA is paid to the family.[8] Five aspects of the payment are noteworthy. 1) The guarantee (Y*) may depend (positively) on family size. Thus for a given level of Y, larger families receive larger payments. 2) *Ceteris paribus*, a low wage rate will cause the UA payment to be larger. Low wage workers with both hours of unemployment and hours of employment, could receive a UA payment even with substantial hours worked. 3) *Ceteris paribus*, low hours worked will cause UA payments to be larger. Points 2) and 3) taken together imply that a large share of UA recipients could be working and receiving payments simultaneously. 4)

[8] The asset test for UA eligibility is not explicitly treated in the present discussion.

Ceteris paribus, the largest payments are received by persons with zero earnings. If the guarantee level is set too high in an environment where people have substantial control over their unemployment, UA could encourage a lengthening of unemployment duration.

5) Payment of UA benefits to an unemployed family member can influence labor supply decisions of other family members. Wives with unemployed husbands, for example, may be less likely to work since their earnings could either make the family totally ineligible for UA or reduce the size of the payment. Concern over this possible effect on family labor supply motivated changes in Australia's UA system in the mid-1990s. Part of the reason for Australia changing to a more individualized UA system in 1995 was to encourage work among other persons in families (often wives) where one member is unemployed. These changes are discussed in Section VII.

Empirical evidence supports the presumption of a labor supply effect on other family members. Terrell, Lubyova and Strapec (1996) found that the presence of an unemployed spouse lowered the hazard rate of exit to employment by 72 percent for women and 82 percent for men in an analysis of data from the Czech Republic. Boeri (1997) reports similar findings in data from Poland.

Brief consideration of these five points suggests that serious disincentive issues could arise within UA programs. To minimize artificial prolongation of unemployment, the work search activity of UA recipients needs to be actively monitored.

Another disincentive issue could arise from worker-initiated job turnover, i.e., quits. Quit-to-unemployment flows cause family income to decline. Thus the reason for unemployment may have to be monitored by a UA program and entitlement limited to "acceptable" reasons for unemployment.

Youth unemployment may also present problems for a UA program. If new workers can collect UA without demonstrating a substantial job history, some youth might appear as unemployed for purposes of collecting UA when they are not seriously searching for work or engaged in training. Again, this would present a monitoring problem for UA program administrators.

Because UA programs occur with much less frequency than UI programs, there has been less research on disincentive problems in UA. However, another body of literature is relevant, analyses of the work disincentives of welfare programs. That

research has emphasized high effective marginal tax rates[9] and poverty traps as impediments to work by the welfare population. Recent policy initiatives in the U.S. have made mandatory work requirements a prominent feature of a "reformed" welfare system. At a minimum, advocates of UA as a less costly program than UI would have to present cogent responses to questions about disincentive effects in a program that conditions eligibility upon family income. Part VII revisits UA disincentive questions in the context of the Australian system of unemployment protection.

III. The Cost of Unemployment Protection

Payments of unemployment protection benefits can be compared across countries using a common metric. This paper examines benefit payments measured as a percentage of total wages. It first derives a framework and then examines costs for selected countries in Sections IV, V and VI.

Benefit payments to the unemployed can be expressed as:

(III-1) TBen = AWBen*NBen*52 where,

TBen = total annual benefit payments,
AWBen = average weekly benefits,
NBen = the average weekly number of beneficiaries and 52 converts weekly benefit payments to an annual benefit flow.

The right hand terms in (III-1) can be rewritten equivalently as:

(III-1a) TBen = (RRate*AWW)*((NBen/Unemp)*(LF*URate))*52 where

AWW = the average weekly wage,
RRate = the replacement rate (average weekly benefits as a ratio to AWW),
Unemp = average weekly number unemployed,
LF = the labor force and
URate = the unemployment rate (unemployment as a proportion of the labor force, also commonly termed the TUR, shorthand for the total unemployment rate).

[9] High effective marginal tax rates arise from three sources: 1) the phase-out rate of UA benefits when family income exceeds the maximum allowed for the receipt of full UA benefits, 2) the marginal payroll tax rate on earnings and 3) the marginal income tax rate for the recipient's family income. A review of the U.S. literature, prior to welfare reform of 1996, is given by Moffitt (1992).

Note that the replacement rate in (III-1a) measures benefit payments relative to the economy-wide average weekly wage. Since the incidence of unemployment is higher among low skilled workers, the average weekly wage of beneficiaries will be lower than the overall average weekly wage. Thus RRate in (III-1a) could be expressed as the replacement rate for beneficiaries times the ratio of their weekly wage to the overall weekly wage. In U.S. data, the weekly wage of UI beneficiaries ranges from 80 to 90 percent of the overall weekly wage. This alternative representation would have the advantage of showing an average replacement rate more directly relevant to labor supply decisions of beneficiaries.

A convenient metric for examining the costs of unemployment benefit protections is annual wage and salary payments. This can be expressed as:

(III-2) Wages = Emp*AWW*52 where,

Wages = total annual wages or the wage bill,
Emp = annual average employment and
AWW = the average weekly wage.

This expression for the annual wage bill can be rewritten as:

(III-2a) Wages = LF*(1 – URate)*AWW*52 where the terms in (III-2a) have already been introduced.

Dividing (III-1a) by (III-2a) yields an expression for unemployment benefit costs measured as a fraction of the wage bill:

(III-3) TBen/Wages = RRate*(NBen/Unemp)*URate/(1 – URate).

This benefit cost rate can be expressed as a fraction or as a percentage. In the graphical exposition of Section IV below, B (= TBen/Wages) is shown as a percentage.

The left hand side of expression (III-3) is the cost of unemployment benefits expressed as a fraction (or percentage) of the wage bill. This cost rate has three determinants: 1) the replacement rate, 2) the share of the unemployed who are compensated and 3) the unemployment rate. The latter is largely a macro phenomenon that reflects the overall functioning of the economy. The replacement rate and the share who receive benefits, in contrast, are influenced by policy choices made by a country. Statutory provisions and administrative procedures influence both payment levels and the share of the unemployed who receive benefits.

Up to this point, the discussion of unemployment benefit costs has not distinguished UI from UA systems. Regardless of the kind of unemployment protection offered by a country, total payments can be represented as in expression (III-3). Because the expression is generic, it can be helpful in making comparisons between UI and UA and showing the cost of each relative to the total wage bill.

One other feature of expression (III-3) should also be pointed out. The ratio (NBen/Unemp) is a summary measure of benefit availability, but NBen is not nested within Unemp. Since both UI and UA can make payments to persons with earnings, NBen is not a subset of Unemp. In the United States, for example, almost 10 percent of weeks compensated by the UI program goes to persons with earnings who receive a so-called partial unemployment benefit. In Australia, nearly one fifth of UA recipients have earnings in the same period when benefits are being received, and, as will be seen, NBen has exceeded Unemp in some years. Thus the (NBen/Unemp) ratio is best thought of as a macro indicator of benefit availability where some recipients may be employed.[10]

In providing unemployment protections, a country may make explicit or implicit decisions regarding the replacement rate and the share of the unemployed to be compensated. The product of RRate and (NBen/Unemp) determines how costly unemployment protection is per percentage point in the unemployment rate. This product can be termed a generosity index (G). i.e., G = RRate*(NBen/Unemp).

Several combinations of RRate and (NBen/Unemp) can combine to yield a given G. For example, a G of 0.25 can arise when both RRate and (NBen/Unemp) equal 0.50 or when RRate equals 0.25 while (NBen/Unemp) equals 1.00. Countries have wide choice in setting the two components that combine to determine G. Thus the U.K. and the U.S. have similar levels of G (See Chart A in Part IV) but RRate is much higher in the U.S. while (NBen/Unemp) is much higher in the U.K.. If a country wanted to make a cost-neutral change in its unemployment program, this could be accomplished by changing RRate but modifying (NBen/Unemp) in the opposite direction.

[10] The usual convention in labor force surveys is to count people as unemployed only if they have been looking for work but had no hours worked during the reference week. In other words, people with both hours worked and hours of unemployment during the reference week are counted as employed. Persons in these situations are described as underemployed. Note that underemployment is a broader concept that can also be applied to persons working full time but at a skill level below that for which they were trained.

Regardless of the system used to provide unemployment protection, UI or UA, the costs of benefit payments per percentage point of unemployment can be characterized with G, the generosity index. Empirical examples from UI and UA systems are explored in Part IV while the cost of Australia's UA system is examined in Part V.

The coefficient G also has macroeconomic significance. It is a gradient that shows how much the cost of unemployment protections increases when the unemployment rate changes. Individual countries may select a smaller or larger G depending upon factors such as affordability and the size of perceived disincentive effects. As will be seen in Part IV, a wide variety of choices have, in fact, been made.

IV. Some Empirical Examples

To make the preceding discussion more concrete, this section displays graphs that illustrate the costs of unemployment protections. All charts plot benefits as a percent of wages against the unemployment rate.

Twelve Countries in 1992.

Chart A displays data from twelve countries in 1992. The data are derived from a study by Schmid and Reissert (1996).[11] Their analysis combined UI and UA payments in countries like France and Germany where both protections are present. The constituent elements of G, i.e., RRate and (NBen/Unemp), were also examined in their analysis, but are not emphasized here.

Three factors stand out in Chart A. First, costs and unemployment rates vary widely across the twelve countries. Three countries had 1992 cost rates (B%) that exceeded 3.5 percent of wages while two had cost rates below 0.5 percent of wages. Second, of the high income countries, the U.S. and the U.K. rank near the bottom in terms of absolute cost levels (B%) and both are low in terms of G, the generosity index. The average gradient linking B% to the unemployment rate across the twelve countries is

[11] Their paper expresses unemployment benefit costs as a percent of GDP. These have been converted to an estimated percent of wages by assuming wages represent 70 percent of GDP.

roughly 0.20-0.25 while the gradients in the U.S and the U.K. are closer to 0.10. Third, and probably most surprising, there is no statistically significant association between the unemployment rate and B% for these twelve countries in 1992. The adjusted R^2 in a homogeneous regression across the twelve is -0.02.[12] In 1992 variation in replacement rates and the share of the unemployed who were compensated were so wide that they overwhelmed the association that would be expected between the unemployment rate and the cost of providing unemployment protections.

The variation across countries is startling. Arrays from the origin for Sweden and Denmark suggest values of G of 0.697 and 0.506 respectively. The corresponding estimate for Greece is 0.032. The slope of the highest gradient (Sweden) exceeds that of the lowest gradient (Greece) by a factor of about 22.

The Costs of UI in the United States.

The UI program in the U.S. is administered by individual states that determine the key benefit provisions. While there is federal (national) oversight of state activities, the federal performance standards relate primarily to the timeliness of administrative determinations and financial transactions. There are no federal standards affecting benefit provisions such as the minimum benefit, maximum benefit or the statutory replacement rate. As a consequence, benefit generosity varies widely across individual states.[13]

Chart B summarizes the evolution of UI costs in the U.S. between 1957 and 1999. This chart vividly illustrates the low level of UI costs in the U.S. compared to most of the economies depicted in Chart A. Only three years had a cost rate of 1.2 percent or higher. For the full 43 years, the gradient linking benefits as a percent of wages (B%) to the unemployment rate as determined by a regression was 0.110. For the two sub-periods 1957-1980 and 1981-1999, however, the slopes were 0.123 and 0.098 respectively. Per percentage point of unemployment, UI costs in the U.S. are less than half the average cost shown for the twelve countries in Chart A.

Chart B distinguishes the data points from the two sub-periods: Xs for the earlier years (through 1980) and Rs for the later years. The predominance of Rs towards the

[12] The regressions shown at the bottom of all charts follow equation III-3 of the text. TUR is shorthand for the total unemployment rate. Similar results obtain when the unemployment rate enters linearly.
[13] Interstate variation in UI costs for the year 1997 is examined in Section IV of Vroman (2001b).

bottom of the envelope of data points is apparent. A formal test for equality of coefficients for the two periods was rejected at the 0.01 level.

The literature on recipiency in the U.S., e.g., Burtless and Saks (1985), Corson and Nicholson (1988) and Vroman (1991), has consistently shown a decrease in UI recipiency in the early 1980s. Policies enacted by several states experiencing financing problems as well as national initiatives contributed to the decrease in recipiency. Chart B shows that decreased recipiency is reflected in UI costs as well.

The Cost of Unemployment Assistance

Four countries compensate the unemployed with an unemployment assistance program. Chart C summarizes the cost experiences of Australia, New Zealand, Hong Kong and Estonia using five year averages of data spanning the period 1975 to 1999. For a given unemployment rate, these countries display a wide range of benefit costs. Australia and New Zealand operate reasonably expensive systems while Hong Kong and Estonia operate very low cost systems. The data in Chart C show a clear rank ordering of costs with New Zealand having the most expensive UA program and Estonia having the least expensive program.

The regression that summarizes UA costs explains about forty percent of the variation in the benefit cost rate. Note that the slope in Chart C (0.201) is similar to the slope from the earlier Chart A showing UI costs for 12 countries in 1992 (0.197). The slope in Chart C is strongly influenced by one Estonian data point (shown just above the 10 percent unemployment rate). Removing this data point causes the regression slope to increase to 0.24, and the adjusted R^2 increases to 0.69.

Based on these data, a most interesting finding emerges. Even though UA programs condition payments with a means test, there is no assurance that UA is less expensive than UI in providing unemployment protection. Per percentage point of unemployment rate, Australia and New Zealand experience benefit costs similar to those of European countries such as France, Germany and the Netherlands.

V. The Cost of Unemployment Assistance in Australia

Australia has administered a program of unemployment assistance (UA) for over 50 years. Of the countries where UA is the primary program for unemployment protection, Australia has the largest population. Its UA program has undergone several changes and continues to be subject to periodic modifications.

Australia provides a full set of social protections through pensions, allowances and other kinds of support.[14] As a rule, pension payments are larger than allowances. Over the past two decades, age pensions and UA allowances respectively have averaged about 25 percent and 20 percent of the average male wage. Age pensions, the largest of the individual programs, are received by over 80 percent of those aged 65 and older. Traditionally, pensions have been provided as federally-supported payments. In the future, public pensions are to be supplemented by superannuation payments from individual accounts financed through payroll-based mandatory employer contributions and voluntary employee contributions. For persons of working age, there are invalidity (permanent disability) payments, payments for short term sickness and work injuries, mature age (pre-retirement) allowances, parenting payments, support payments for training and higher education and rental subsidies.

The philosophy behind the social protection programs is to provide means tested benefits. Except for the superannuation scheme (a comparatively recent innovation) and workers' compensation, the other programs condition payments on the levels of family income and family assets (exempting family residences that are owned). Because of its heavy reliance on means testing, Australia is unique within OECD countries in targeting payments to the low income families and individuals. Roughly 60 percent of cash benefits are paid to those in the bottom three deciles of the income distribution.[15]

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[14] Table 1 in Whiteford (2000) lists five kinds of pensions (age, disability support, wife of pensioner, carer and parenting payments), eight kinds of allowances (newstart (for unemployment), partner, parenting payment, youth allowance widow, newstart (short term sickness), mature age and special benefits), two kinds of "other programs" (child care assistance and public housing) and eleven kinds of family payments, allowances and supplements.

[15] Comparative data for 13 OECD countries in 1995 show the overall share of transfers going to the bottom three deciles ranged from 20.8 percent in Italy to 58.0 percent in Australia with the second highest

Also unusual is Australia's reliance on general revenues to finance social payments. Typically OECD countries rely mainly on payroll taxes. Because most payments are income-conditioned in Australia, issues arise in structuring payments so that work incentives are appropriate. Effective marginal tax rates are often high for individuals who contemplate working more hours to increase their earnings and income.[16]

During the past 40 years certain evolutionary changes have occurred in Australia leading to heightened concerns about family income disparities, labor market outcomes and the structure of the social protection system. Five developments have been particularly noteworthy. 1) Among two parent families, there has been sizeable reduction in the share with one working adult and simultaneous growth in the share with two adult earners and the share with zero adult earners. Growth of the latter group has prompted a public discussion about "work-poor" families and the exclusion of some from the economic mainstream. 2) Much of the growth in employment has been in part-time jobs. Roughly one job in four is part-time with about 40 percent of women working part-time. 3) Economic recoveries have been characterized by stickiness in unemployment. Unemployment rates have declined during recoveries, but never to the levels experienced prior to 1975. 4) There has been a noticeable growth in the share of the working age adult population (ages 15 to 64) who receive income support payments. The percentage was about 5 percent in the late 1960s, but has varied between 20 to 24 percent since 1991. 5) The average duration of unemployment, of UA payments and of some other social protection payments have all increased substantially. In recent years, the median duration of unemployment as measured both in the labor force survey and in UA beneficiary data has hovered around one year. These developments should be kept in mind as the experiences of Australia's UA program are reviewed.

Table 2 displays annual financial year data on unemployment and UA benefits. Between 1960 and 1974 the estimates of total unemployment ranged between 68,000 and 153,600 representing from 1.6 percent to 2.7 percent of the labor force. Since 1991, in

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percentage being 53.5 percent in France. Conversely the top three deciles in Australia received 7.4 percent of transfers, the lowest percentage across the same 13 countries. See Figures 7 and 8 in Whiteford (2000).

[16] Clear discussions of effective marginal tax rates in Australia are provided in Appendix 4 of Interim Report of the Reference Group on Welfare Reform (2000) and in Section 2.4 in Whiteford (2000).

contrast, the annual averages have ranged between 656,300 and 938,000, and unemployment rates have ranged from 6.9 percent to 11.0 percent.

During the years covered by Table 2, the number of UA beneficiaries has grown even more rapidly than unemployment. Consequently the (NumBen/Unemp) ratio, which had ranged from 0.15 to 0.38 between 1960 and 1974, has exceeded 0.60 in every year since 1976 and has exceeded 1.00 in the years since 1995. In a typical week during the most recent five years there have been as many UA recipients as the number unemployed reported in the labor force survey.

Data on UA recipients for recent years indicate that 15-20 percent are working and also receiving payments. This suggests that about 80-85 percent of the unemployed as counted in the labor force survey receive UA payments. What seems to make this possible is the strong negative effect of long term unemployment on family income. Among those with long term unemployment, it seems that family income is typically low enough to satisfy the means test for UA eligibility. What appears to be a paradox, i.e., most of the unemployed collect UA benefits even though eligibility is means tested, is at least partially resolved by the fact that so many of the unemployed are long-term.

Estimates of average weekly benefits and average weekly wages also appear in Table 2. UA benefit levels were raised substantially in the early 1970s. Average payments tripled between 1972 and 1976 and replacement rates increased. Since the mid 1980s, the maximum payment has been indexed to the CPI with semi-annual adjustments. Prior to 1995, weekly benefits also included an allowance for dependent partners. Typically these allowances were included in from one third to one half of payments to unemployed male UA beneficiaries.

Note in Table 2 that between 1986 and 1994 the estimated replacement rates fall into the 0.30-0.34 range. As part of a reform package effective in 1995, payments to dependent partners of unemployed individuals were discontinued. Observe that replacement rates decline after 1994 and hover around 0.25 from 1996 onward. This decrease reflects the discontinuation of payments to dependent partners. Between June 30, 1994 and June 30, 1995 the number of unemployed recipients decreased by about 75,000, but payments to 218,000 dependent partners also ceased. Thus the total recipients

paid by the UA program decreased by nearly 300,000.[17] Total payments of UA benefits declined by about $1.25 billion between financial years 1995 and 1996.

Much of this decline in payments was merely a relabeling phenomenon. Dependent spouses, mainly women, often were eligible to collect a partner allowance where eligibility depended on the unemployed spouse receiving UA benefits. The revised treatment of dependent partners was part of a reform package that emphasized increased "individualization" of payments to the unemployed. This will be discussed in Part VII.

The final columns of Table 2 display estimates of G and B%. The generosity index, G, fell below 0.10 in all years before 1975, but has equaled or exceeded 0.25 in all years since 1984. Note that the index declined noticeably after 1995, a change that parallels the decrease in the replacement rate.[18] Because the (NumBen/Unemp) ratio has hovered around 1.0 in recent years, however, this high ratio has prevented G from declining to lower levels despite the reduction in the replacement rate. Australia's generosity index has been consistently higher than the average for the 12 countries depicted in Chart A even though it conditions payments on income and assets.

The combination of high unemployment rates and a reasonably high generosity index have yielded a high cost of unemployment protection in Australia in recent years. Unemployment benefits as a percent of wages (B%) averaged 2.35 percent between 1983 and 1999 and fell below two percent of wages in just three years (1989, 1990 and 1999). The Australian cost rate for these 16 years averaged more than three times the U.S. rate (0.65 percent). As noted above, having a means tested UA system for the unemployed is not necessarily less expensive than a UI system.

Chart D summarizes Australian experiences since 1963 by plotting benefit costs (B%) against the unemployment rate. The historical record falls into two periods, the twelve years from 1963 to 1974 and the years after 1974.[19] The association between benefit costs and the unemployment rate was highly significant in regressions fitted for both sub-periods. Note that the slope during 1975-1999 was twice the slope during 1963-

[17] These statements about beneficiary counts are based on data not shown in Table 2. The beneficiary counts in Table 2 include just unemployed individuals, not dependent partners.
[18] Again, much of the change was more apparent than real as spouse benefits often became partner allowances with little or no change in the amount paid to the family.

1974 (0.309 versus 0.155). The larger slope reflects both the higher replacement rate and the higher share of the unemployed receiving benefits during 1975-1999. The regression for these later years also indicates that Australian costs exceeded the average for the twelve countries displayed in Chart A.

VI. Unemployment and Benefit Availability in Australia and the U.S.

A direct comparison of unemployment and unemployment benefit availability in Australia and the U.S. reveals several interesting contrasts. Table 3 displays summary data by decade for the unemployment rate, unemployment duration, unemployment benefit recipiency, unemployment benefit duration and (for the U.S.) unemployment benefit exhaustions. The bottom panel shows Australia/United States ratios for the various series extending from the 1960s through the 1990s.

Over these years the Australian unemployment rate increased sharply relative to the U.S. rate. During the 1960s the Australian/U.S. ratio averaged less than 0.50 whereas during the 1990s the ratio exceeded 1.50. A sustained increase in this ratio occurred across the past four decades.

The unemployment rate can be expressed as the product of the inflow rate (new occurrences relative to the labor force) and average duration. Table 3 displays mean and median duration estimates based on the same labor force surveys that generate the unemployment rate estimates. Note that the change in the relative duration ratios are even larger than the changes in the relative unemployment rates. Australian mean and median unemployment duration were both more than three times their U.S. counterparts during the 1990s. The suggestion is that unemployment occurrences are less frequent (relative to the labor force) in Australia than in the U.S., but the product of the occurrence rate times duration has yielded a higher unemployment rate in recent years. Note also that average duration in the U.S. was higher in the 1980s and 1990s than in earlier decades. Several duration series in the U.S. show this pattern. (See Chapter IV in Vroman (2001a).)

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[19] The earlier of the two periods could be extended backward prior to 1963 with outcomes similar to those depicted for 1963-1974. For earlier years, however, data limitations become more serious. For example, the labor force survey was started in 1960 but initially covered only urban areas.

The likelihood of receiving unemployment benefits has also undergone a sharp change over the past four decades. During the 1960s about one in four among the unemployed received benefits in Australia compared to roughly 4 in 10 in the U.S.. In subsequent decades the benefit recipiency rate increased in Australia, but decreased in the U.S.. By the 1990s the Australian/U.S. ratio of recipiency rates averaged more than three. Fewer than one in three received unemployment benefits in the U.S. compared to more than 9 of 10 in Australia.

Associated with higher benefit recipiency in Australia has been a major increase in unemployment benefit duration. Mean benefit durations were similar during the 1960s but during the 1990s Australian duration averaged more than four times U.S. duration. The increased ratio occurred despite increased benefit duration in the U.S.. However, whereas the increase between the 1960s and 1990s in the U.S. was 2.4 weeks (19 percent), the change in Australia was much larger. The increase in the Australian mean was 59.4 weeks (499 percent) while the median increased by 34.0 weeks (466 percent).

The final column in Table 3 shows one consequence of increased benefit duration in the U.S., namely increased benefit exhaustions. The regular UI program in the U.S. most typically allows 26 weeks of benefits. Nationwide, average potential duration has averaged about 24 weeks over the past four decades. As a consequence of increased actual benefit duration but unchanging potential duration, an increasing fraction of UI recipients exhaust benefits. The exhaustion rate which averaged 0.23-0.25 in the 1950s and 1960s was 0.36 in the 1990s. More than one of three UI recipients in the U.S. collect their full entitlement and are terminated from benefit status. A low fraction of such persons (fewer than one in ten) move on to some other form of public income support.[20]

For both economies the rate of unemployment occurrences has decreased while unemployment duration has increased. However the scale of the increases in duration in Australia swamp the much smaller increases that have taken place in the U.S.

Chart E provides a visual representation of the evolution of unemployment duration in the two economies. It displays centered five year averages of the means and medians from the labor force surveys. Since the mid 1980s the Australian means have

[20] The two most common income support programs for UI exhaustees are welfare (now termed Temporary Assistance for Needy Families or TANF) and food stamps. Following welfare reform of 1996, TANF caseloads have decreased by about one half and food stamps caseloads by about one third.

consistently exceeded 45 weeks. Because of the large scale of the Australian changes, the changes for the U.S. seem modest. However, the U.S. means from the mid 1980s and mid 1990s exceeded 15 weeks for several consecutive years. Increased unemployment duration has occurred in both economies, but on much different scales.

VII. Disincentives and Policy Changes in Australia

Disincentives and the phenomenon of long duration in benefit status have been recognized as problems in Australia for many years. Several changes in the terms of benefit eligibility have been implemented but problems persist. Our purpose here is to briefly describe some salient developments.

Since the mid 1990s increased emphasis has been placed on the principal of mutual obligation. Those who receive financial (and other) support from public resources are encouraged to become financially independent and to pursue activities that contribute to the Australian community. Mutual obligation is an Australian variant of a policy direction now pursued in several OECD countries and described variously as "activation" and "reciprocal obligation."

Structure of the benefit phase-out

The earliest form of the means test on family income featured a dollar for dollar reduction in benefits when family income exceeded the guarantee threshold. For age pensions, this was modified in 1969 with the introduction of a tapered means test coupled with a free area. [21] Some earnings were allowed with no reduction in pensions (the free area) followed by a 50 percent reduction rate when earnings exceeded the amount allowed by the free area. Subsequent modifications over the next decade widened the free area, eliminated the test for those 75 and older, then for those 70-74 and then eliminated the asset element of the means test.[22] Most of the latter changes were reversed between

[21] While there is an assets test, it is applied to restrict payments relatively infrequently, in situations where there are high assets but low income. See footnote 4 in Whiteford (2000).

[22] One description of these developments is given in Section 2.4 in Whiteford (2000).

1978 and 1985, but key features were retained, e.g., a free area and a phase-out with an effective tax (benefit reduction) rate of 50 percent.

Means testing of UA benefits followed a similar history but with changes occurring later. The dollar-for-dollar benefit reduction was in place through 1979. The free area and the 50 percent reduction followed by a 100 percent reduction were introduced in 1980 and several more modifications occurred between 1982 and 1994.[23] Throughout this period the UA income test was based on family income.

Major changes were then instituted in 1995. First, the basis of entitlement to UA benefits was changed from family income to individual income (each person's earnings plus their share of other countable income). Second, payments to dependent partners of the unemployed were ended, but replaced by partner allowances in most situations. Third, the 100 percent phase-out range was replaced with a 70 percent phase-out range (while the free zone and the 50 percent phase-out were retained, although the size of the free zone was reduced). Thus as benefits were being reduced due to increased earnings, the phase-out was restructured so that income (earnings plus UA benefits) would always be higher as a result of higher earnings.

The change to "individualization" was made in order to improve incentives for combining work with receipt of UA benefits, particularly among women who often work part-time. Previously, working women were frequently precluded from UA benefits while unemployed due to earnings and other income of their spouse. While it became more likely that an unemployed wife could now collect UA benefits, individualization did not mean that husbands' earnings became irrelevant in eligibility determinations. Husbands' earnings equal to or exceeding 60-62 percent of national average earnings would preclude an unemployed wife from eligibility.[24] The net effect of the change in many situations was to allow receipt of UA benefits and to encourage part-time work (due to the lower, 70 percent, phase-out), particularly at higher levels of earnings. One analysis using data for the two and a half years following the changeover suggested this effect did take place. (Chapters 4, 5 and 6 of Warburton, et.al., (1999)).

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[23] A concise description of these changes is given in Section 2.1 and Table 2.1in Warburton, et.al. (1999).

[24] The threshold on spouses' allowable weekly earnings in August 1999 was roughly $500 compared to a national average for full-time workers of about $800.

While the analysis of the effects of individualization by Warburton, et.al. (1999) suggest positive effects on earnings and labor force participation, the size of the impacts appears to have been modest. Chart F traces aggregate labor force participation rates and part-time work proportions for women by financial year from 1966-1967 through 1999-2000. Developments in participation rates during the 1990s were dominated by cyclical factors and long term trends while women's part-time work proportions increased at quite a regular pace.[25]

Job search and mutual obligation

Australia has undertaken a variety of initiatives to promote activation among recipients of allowances and specifically among the unemployed. Mutual obligation is the term used to describe situations where the recipient's right to cash payments (or other support) is acknowledged, but the receipt of payments is conditioned on the discharge a reciprocal obligation. Registration with the employment service and engaging in active job search are two traditional obligations that have been placed on the unemployed. More recently the scope of mutual obligation has been expanded with additional changes slated for implementation in 2002.

The scope of activities falling under mutual obligation is now quite wide, and it differs according to the type of benefit or allowance being received. Persons in receipt of benefits may (depending on the type of payment): search for work, undertake training, do unpaid community work, care for the young, engage in physical rehabilitation or undertake life skills training. These activity requirements show that the recipient is either looking for work, improving skills or contributing something to the community.

For the unemployed, several changes in the administration of the work search requirement have been implemented. Throughout, there has been a continuing requirement that the UA recipient must be unemployed (able to work, available for work and actively seeking work) and registered as a job seeker.

Until 1982 the agency with primary day-to-day responsibility for administering the work test was the Commonwealth Employment Service (CES). The CES, part of the

[25] Regressions conducted within a trend cycle framework using annual data showed a strong effect of unemployment on labor force participation and part-time work by women but no breaks at financial year 1995-1996.

Employment Department, acted as an agent for the Department of Social Security (DSS) which administered the payment of UA cash benefits. In 1982 DSS assumed direct responsibility for work test administration. Responsibility was returned to CES in 1991 though DSS had a partial role in 1993-1994.

Reforms of 1995 altered the administrative structure for the delivery of benefits and services to the unemployed. A new administrative entity, Centrelink, was established in December 1996 to deliver of social security entitlements. Centrelink was also to perform a gateway function for the unemployed, i.e., registering people as unemployed and assessing their degree of labor market disadvantage. Other labor market services previously discharged by CES such as job matching and case management became the responsibility of Job Network, a semi-privatized "market" with government, non-profit and for-profit organizations competing to provide employment services.[26] Registration and job search continue to be required within this revised service delivery structure.

The approach to "activate" the unemployed has also undergone several modifications. Prior to the large increase in unemployment of the mid 1970s, emphasis was placed mainly on the acceptance of suitable work. During these years, the number of vacancies listed with the CES represented some one third to one half of UA registrants. Thus CES could offer jobs to a meaningful share of registrants. This changed when unemployment-vacancy ratios moved from roughly 2.0 upwards to 20.0 and higher in the mid 1970s. In line with this development, there were changes in the definition of suitable work which could be refused while retaining an entitlement to benefits. Guidelines were broadened in 1976 to require (after 12 weeks) acceptance of work in line with local job availability even if it meant a reduction in wages and/or status. By 1989, this definition had been further modified to require acceptance of casual, part-time or temporary work.[27]

Work search requirements also have become more formal with increased emphasis on evidence of active search. Changes effective in 1991 required both the short-term and the long-term unemployed to satisfy an activity test. For those unemployed less than twelve months (receiving a payment termed a Job Search Allowance) the activity

[26] In October 1998 the Department of Family and Community Services (FaCS, the entity that subsumed functions previously discharged by the Department of Health and Family Services) was created. Its responsibilities included child care, disability and housing programs, i.e., benefits and services to families.
[27] This evolution prior to 1995 is described in Chapter 7 of Department of Social Security (1995)

test included active work search or participation in labor market or vocational training approved by the Department of Employment, Education and Training (DEET) as likely to improve job prospects or the effectiveness of job search. For the long term unemployed (12 or more months in benefit status, payments termed a Newstart Allowance)[28] there was a requirement to participate in an activity agreement intended to secure reemployment but tailored to individual circumstances. Several possible activities were to be considered, e.g., work search activity acceptable for the Job Search recipients plus other activities including paid work experience and activities proposed by the recipient, e.g., unpaid volunteer work. One intention of this change was to reallocate CES administrative resources to target the long-term segment of the unemployment pool.

Further changes in the activity test became effective in 1995. Increased emphasis was placed on early identification of likely long term UA recipients. The attempt to identify long term recipients was perhaps influenced by new administrative practices in the U.S. that "profile" likely UI exhaustees.[29] Also, a wider range of acceptable search activities could be considered. These changes have not had a noticeable effect on measured duration which, if anything, has been higher since their implementation.[30]

New initiatives including enhanced mutual obligation requirements intended address long term unemployment were implemented in 1999. Phased in initially with younger workers, recipients must undertake one of a set of approved activities besides job search. Approved activities include paid part-time work, voluntary work, education or training, relocation, work for the dole (WfD, mandatory participation in temporary public employment) and several other activities. A Welfare Reform Reference Group was established in late 1999, and issued reports in March and August 2000. It made recommendations both to provide added services to the unemployed and to require enhanced application of the principal of mutual obligation. Many of the Reference Group's recommendations have been endorsed and will be implemented in phases through 2004. Increased budget support for the associated reemployment activities has also been committed.

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[28] Since September 1996 the term Newstart Allowance has applied to both long term and short term UA recipients.

[29] Part VIII discusses profiling as practiced in the U.S..

Older unemployed workers have generally not faced the activity test requirements applied to younger workers. Those aged at least 50, but younger than retirement age frequently have been exempted from active search and have been allowed a wider range of acceptable alternatives to searching for paid work. The Mature Age Allowance, paid since 1995, goes to dislocated workers aged 60 and older and effectively functions as an early retirement benefit. Older workers consistently exhibit the longest average durations of all age groups. In recent years, percentages as high as 40 percent of older workers who leave UA benefit status have exited to become recipients of invalidity (disability) pensions. Relative to UA benefits, these payments have higher guarantees and carry no obligation for active job search. In 1995, disability pensions were received by 15 percent of men aged 55-59 and by 25 percent of men aged 60-64.

Looking back over the past thirty years, it seems that activation has not been very successful in Australia, at least as reflected in macro labor market indicators. Unemployment duration (in both the labor force survey and in UA beneficiary data) remained stubbornly high during the economic recoveries of the 1980s and the 1990s. While the ultimate goal of the changes in the activity test and the principal of mutual obligation has been to speed the movement of people from unemployment to employment, achievement of the goal has proved elusive.

VIII. Initiatives to Affect Unemployment Benefit Duration in Australia

The duration of unemployment benefits in Australia seems unusually lengthy, especially in comparison to benefit duration in the U.S. In the following paragraphs we discuss policy interventions that might significantly alter benefit duration. The discussion is organized into three areas: 1) entry eligibility, 2) ongoing benefit eligibility and 3) limiting potential benefit duration. Since one the authors is from the U.S., much of the discussion will draw upon U.S. experiences.

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[30] Medians computed by the authors based on data for June 30th averaged from 7.9 to 8.9 months between 1992 and 1996, but increased to 11.9 months in 1997, 14.0 months in 1998 and 16.6 months in 1999.

Entry eligibility

Two ways to restrict entry into UA would involve changes in means testing. First, the income and asset thresholds used in the means test could be reduced. Second, procedures to verify the income of applicant households could be modified. This second area will be examined in later paragraphs in a discussion of the Benefit Accuracy Measurement program currently utilized in the U.S..

The present analysis will focus on profiling. Is it possible to identify within the pool of eligibles those especially likely to become long term UA beneficiaries? Our discussion briefly summarizes U.S. experiences with profiling.

The central idea behind profiling is straightforward. The pool of eligibles is heterogeneous and those most likely to collect unemployment benefits for long periods can be identified on the basis of observable characteristics. A profiling algorithm is developed using data from an earlier period where claimant characteristics and the actual duration of benefits are observed. The algorithm estimates parameters in a multivariate statistical model, e.g., a logit regression, where the dependent variable is a 0-1 variable (= 1 when the person exhausts benefits or when benefit duration exceeds a predetermined threshold). The same algorithm is then used to assign scores among current applicants. Applicants are ranked and those with high scores, indicating a high likelihood of exhaustion (or long benefit duration), are subjected to different administrative treatments than applicants with low scores. The treatments are intended to shorten benefit duration. Persons refusing to participate in the treatments may be denied benefits.

Profiling is required in all states but enjoys mixed support by UI administrators. Among the questions raised by profiling, four seem especially important. 1) How well can the potentially long term unemployed be identified? 2) Does profiling intervene at the right time, i.e., at the start of the unemployment spell? 3) Can effective treatments be fashioned? 4) Can effective treatments be fashioned for the long term unemployed? Questions 3) and 4) may have quite different answers. It is conceivable that the most cost effective interventions operate on the short-term end of the duration distribution. Thus job search assistance can help to shorten duration among those likely to become reemployed relatively sooner. Under this hypothetical scenario, job search assistance could be effective, reduce total weeks claimed, but result in increased average benefit

duration because it helps (removes from the unemployment pool) those whose normal experiences would be characterized by below-average benefit duration.

Evidence on the first of the four questions suggests that the long term unemployed can be effectively identified. However, Berger, Black and Smith (2000) argue that the most effective identification algorithms require the use of more variables than typically utilized by states. Particularly import are: a) longitudinal variables that incorporate past experiences with the UI program and b) variables reflecting local labor market demand conditions. Using data from Kentucky, they present persuasive evidence on the improved ability to discriminate among claimants according to potential duration.

Question 2 also has interesting ramifications. The presumption of profiling is that early interventions work better than later interventions. This assumption is reasonable if the previous job has truly disappeared and will not be available to the claimant in the near future. However, in many situations there is a chance that the previous job will become available at a later time. If the claimant secures a new job, this may permanently sever the former job match and preclude return to the former job. A recent paper by Woodbury and Anderson (2001) finds that some claimants who wait do return to former jobs and at high wages. Their results also indicate, however, that among those who wait, overall reemployment rates are lower than for those who start to search for new jobs sooner. These two findings make the timing of job search a statistical decision problem. Some should wait (those who eventually return to former jobs) while others should start to search as soon as possible. Within the claimant pool, some experience net gains while others experience net costs from waiting.

The presumption of profiling is that claimants are either job attached (and exempt from profiling treatments) or not job attached (and placed in the profiling pool). In actual labor market situations what appear to be permanent separations sometimes turn out to be just temporary. Among some claimants with high profiling scores, not waiting has net costs because the previous job match is permanently severed.

What are the profiling interventions? Data from 1999 were examined with the following summary results. The total number profiled was 6.5 million or about 70 percent of all new initial claims for UI benefits.[31] Almost 2.2 million claimants were identified as

[31] These statistics refer to 1999 calendar year summaries for all 53 "state" UI programs.

likely exhaustees while nearly 0.8 million were actually referred for services. The reporting system identifies seven service categories. Total counts in 1999 were as follows: orientation - 0.44 million, assessment - 0.40 million, counseling - 0.20 million, job search workshops - 0.25 million, placement services - 0.67 million, education and training - 0.14 million and the self-employment program (present in just a few states) - 0.01 million. The total number of services offered totaled 2.1 million, but the bulk (1.29 million) were very short term interventions (orientation, assessment, counseling and job search workshops). Education and training measures, the most significant long term intervention, totaled less than 0.15 million. Placement services and education and training measures had completion rates of about 70 percent compared to nearly 100 percent for the quartet of very short term (typically one-shot) interventions.

From the preceding, three summary comments seem appropriate. 1) More than half of those identified as likely exhaustees through profiling were not even referred to a labor market service. Constraints on the availability of services explain why so many do not receive services. The low ratio of referrals among likely exhaustees (0.8 million of 2.2 million or 0.37) occurred in 1999, a year of strong labor markets. Lower ratios would be expected in a period of high unemployment. 2) The services obtained were typically very short term, usually involving a single meeting. Long term services were received by a comparatively modest proportion (0.13-0.15) of those who were referred and completed at least one service. 3) For some claimants, profiling may cause productive job matches to be severed because it is applied at the start of the spell of unemployment when it is not yet certain that the job separation is permanent.

It seems there is a mismatch between services offered to potential exhaustees and the services needed if duration is to be shortened significantly. A rule of thumb for the effect of profiling on duration is a reduction of 0.50-0.75 weeks among those referred to services (Corson, et. al., 1989). Since less than 10 percent of initial claimants are referred to services, the effect of profiling on duration in the U.S is probably less than 0.1 week.

Ongoing benefit eligibility

Two areas of activities related to ongoing eligibility in the U.S. have potential for reducing average duration in benefit status. The first involves periodic face to face

contact between the beneficiary and local office employees. The second involves measuring the accuracy of eligibility determinations with information gained from small samples that repeat all administrative aspects of the original eligibility determinations.

Individual states differ widely in their reliance on eligibility review interviews (ERIs) and other reporting requirements. These meetings convey information to claimants, assess their reemployment strategies and demonstrate active administrative oversight of search and other reemployment activities. The meetings represent a proactive approach to program administration that goes beyond the typical declaration of job search made by claimants when they file for a continuation of benefit payments. Failure to participate in such meetings is a basis for denying a claim for UI benefits.

In a typical continued claim, the beneficiary answers five or six questions about receipt or earnings, other deductable income, e.g., severance pay, and availability for work for the upcoming two week period on the front side of a claim form. On the back side of the same form the names and addresses of employers contacted for possible jobs during the most recent two week period are supplied. [32]

ERIs and other reporting requirements may occur at set intervals during a claim or following complaints (from, say, a neighbor or a former employer) or when requested by staff of the administering agency (at random or in light of new case-specific information). Certain states such as Georgia, New Hampshire and North Carolina add state monies to federal monies for UI administration to ensure adequate staffing and that the meetings occur with high frequency. In states that monitor ongoing eligibility most actively, the first meetings will typically occur 4 or 6 weeks after the start of benefits.

These meetings entail some inconvenience for the claimant, but they also help many to develop an improved understanding of their current unemployment situation. The meetings have elements of both help to the claimant and a threat to continuing eligibility. One consequence in the three states just mentioned is that benefit duration is much shorter than the national average, e.g., 9-11 weeks compared to a national average of 13-15 weeks.

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[32] The same questions can posed and answered by telephone within an interactive voice response (IVR) framework. Increasingly new claims and continued claims are transacted by telephone in the U.S..

This approach to case administration has ample precedent in Australia, but with a clear difference in the timing of the initial meeting. Prior to 1999, duration of one year would trigger increased administrative oversight. More recently, interventions may occur after three or six months in UA benefit status. It may be appropriate for Australia to consider requiring even earlier face to face meetings.

For more than a decade the accuracy of UI administrative determinations have been assessed in each state through a program of Benefit Accuracy Measurement (or BAM).[33] The measurements initially focused on benefit overpayments (for both initial eligibility determinations and determinations of continuing eligibility). Since the mid 1990s BAM has also examined the accuracy of employer UI tax payments. At present, UI program administration is extending BAM to include measurement of the accuracy of denied benefit claims.

The BAM system selects small samples in each state and undertakes an intensive review of all elements that contributed to the administrative decisions. It detects errors, estimates the size of errors (computing both case error rates and dollar error rates) and pinpoints the source(s) of errors. In benefit payment activities, errors arise from three sources: the claimant, the employer and the administrative agency. BAM helps agencies identify problem areas, both staffing limitations and specific administrative procedures that need attention. The data can help in program management within a state and provide information on interstate differences in the accuracy of administrative determinations.

The concept of benefit accuracy measurement may be worth considering in Australia. Because UA considers both labor market activities and family income in decisions about initial eligibility and continuing eligibility, a BAM system would encompass more measurement elements than in the U.S.. However, it might provide insights into long unemployment duration not available from current administrative records. BAM investigations review all elements that entered original decisions with reference to a specific time period, e.g., the original decision to award (or deny) benefits or a specific (two week) period of benefit receipt.

In Australia, a full investigation of continuing eligibility would encompass not only the customary work activity trio (able, available and actively seeking work), but also

[33] This measurement system was formerly known as Quality Control (or QC).

other requirements of mutual obligation and all components of family income. Family income will often vary in the short run depending on the work activity of individual family members.

In investigations of income eligibility, it is important to secure information from electronic sources. This pertains to wage earnings, provisional self employment income, various cash transfers, interest income and subsidies for housing services, transportation and health services. Since several types of information are reported using tax identification numbers, matching electronic information would be straightforward in most situations. Information from these sources could then be compared with the information used by Centrelink in its eligibility determinations. These investigations could yield important insights in to claimant fraud and administrative errors.

It is likely that changes in family income occur with high frequency, especially among families with two or more persons of working age. BAM investigations could identify the frequency of income changes and the types of income especially prone to reporting errors and/or fraud.

Since UA allowances are financed by general revenues, the potential scope of BAM in Australia would not include program revenues. However, benefit accuracy activities should extend to erroneous denials as well as possible overpayment errors. As U.S. measurement of wrongful denials moves to nationwide implementation in the last half of 2001, there may be problems that can be avoided by tracking U.S. experiences.

With improved income measurement it probably would be possible to address a seeming paradox in Australia's provision of unemployment protection. The program uses a means test to determine eligibility, but yet the ratio of UA beneficiaries to labor force survey unemployment has averaged close to unity in recent years (Table 2). If roughly 20 percent of UA recipients are employed under labor force survey definitions, that still leaves a ratio of 0.8 in comparing unemployed UA recipients with labor force survey unemployment. There are at least two possible explanations for such a high ratio. 1) Long duration unemployment causes such a large reduction in family income that families in such situations satisfy the means test. 2) The measurement of family income and assets is deficient so that the means test does not make accurate eligibility determinations. A BAM measurement system could provide key insights into these two possible explanations.

Limiting potential benefit duration

One of the strongest contrasts between the Australian and U.S. approaches to unemployment compensation relates to potential benefit duration. Recipients of UA in Australia can remain in benefit status for as long as they satisfy the requirements job search, other requirements of mutual obligation and the means test. Recipients of UI in the U.S., in contrast, typically face a maximum potential duration of 26 weeks during a benefit year of 52 weeks duration.[34] Studies with micro data on benefit duration, e.g., Katz and Meyer (1990), have consistently found that exit rates among UI beneficiaries increase even before the maximum entitlement limit is reached. At the point of exhaustion, some UI recipients exit the labor force while others secure jobs.

Since Australia's UA program is means tested, the experiences of U.S. means tested programs is also germane to this discussion. Temporary Assistance for Needy Families (TANF), the most important of these programs, has been operating with time limits since 1996 and caseloads have dropped sharply. The number of recipient families which averaged 5.05 million in 1994 averaged just 2.64 million in 1999, a decrease of 48 percent. While some of this decrease can be attributed to the strong economic performance of the late 1990s, the sustained economic recovery of 1983-1989 was not accompanied by large caseload reductions in the earlier AFDC (Aid to Families with Dependent Children) program. Recipient families averaged 3.65 million in 1983 and 3.77 million in 1989. Since AFDC did not have time limits, this provides a further indication that time limits have a strong effect on caseloads in means tested programs.

Two distinct approaches to time limits are followed in the U.S. 1) For UI, the time limit of 26 weeks applies during a twelve month benefit year, but is renewable. A person could collect UI for 26 weeks during the current benefit year and do so during the next year as well. Recidivism is common, especially in seasonal industries such as food processing and construction. However, to establish eligibility for the next year requires

[34] In Massachusetts and Washington, the maximum potential duration is 30 weeks. In most states many claimants are entitled to fewer than 26 weeks due to variable duration formulas which yield shorter durations for claimants with low wages and/or irregular work patterns. Nationwide, potential benefit duration has averaged close to 24 weeks since the 1960s.

having a threshold level of earnings and/or work in the current year.[35] 2) For TANF, the time limit is a lifetime limit. Entitlements used during each year count towards the lifetime limit. Once the lifetime limit is reached, one is precluded from further eligibility. The national welfare reform legislation of 1996 specified the lifetime limit at 5 years, but allowed states to impose shorter limits. Several states now have shorter limits. Because the TANF authorizing legislation was so recent, the real consequences of lifetime limits are not yet obvious. As noted, caseloads have decreased sharply, but there has not yet been a recession to test the immutability of lifetime time limits when large numbers actually exhaust their TANF entitlements.

The UI program in the U.S. has devised procedures to alter (increase) the 26 week time limit during recessions. Two programs can extend benefits when unemployment is high. Both use the 26 week program (so called regular UI) as the port of entry for lengthened entitlements. 1) The Extended Benefits (EB) program is automatically triggered "on" when an unemployment rate exceeds a predetermined threshold. When EB is "on" the claimant can collect up to 13 additional weeks of benefits at the same weekly rate as for regular UI. Setting the appropriate trigger threshold for EB presents a serious operational problem in the U.S.. Present thresholds are so high that EB would be very difficult to trigger "on" in most states.[36] During the 1990-1992 downturn, only nine states paid any EB benefits. 2) National legislation can extend UI benefits on a temporary emergency basis during recessions. The most recent program, Emergency Unemployment Compensation (EUC), paid benefits during the 30 months between November 1991 and April 1994. These emergency programs are fully federally financed and EUC provided half as much in payouts during 1992 and 1993 as the regular UI program. Emergency national programs have been enacted in every recession since 1958. While details have varied from one recession to the next, they all have had automatic sunset provisions and several have had one or more extension of the original benefit period. All have extended potential benefits for finite periods such as 13 or 26 weeks.

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[35] The UI terminology is that the person must have sufficient earnings in the base period to meet monetary eligibility requirements. Like the benefit year, the base period is also a twelve month period. The administrative principle for successive base years is that earnings in one base year cannot be used again in the subsequent base year.

[36] Thresholds are based on UI claims data in nearly all states. The share of claimants that collect benefits is highly varied from one state to the next. Also, threshold formulas vary by state.

To summarize, three comments about time limits can be offered. 1) Time limits can be renewable so that the 26 week maximum in regular UI programs has reference to a single 52 week year, not a longer time period. 2) Recidivism occurs, especially among workers in seasonal industries. 3) Potential duration can be extended during recessions either by some automatic mechanism (EB) or through ad hoc emergency legislation (most recently EUC). Under both EB and EUC programs, however, the extensions eventually sunset. Thus, to secure a renewed entitlement to UI, the individual has to return to work and generate earnings sufficient to satisfy the monetary eligibility requirement for a later benefit claim. In most (nonrecessionary) situations the claimant has a finite, but renewable entitlement to UI benefits.

Summary

The preceding pages examined three aspects of UA benefit duration in Australia mainly from a U.S. prism. Our summary assessment of possible applicability in Australia is as follows. 1) Profiling is a comparatively cheap intervention, but, at least as implemented in the U.S., one that offers faint hope of significantly affecting UA benefit duration. 2) Implementation of a BAM system on a pilot basis might yield very useful insights into the accuracy of means testing among UA recipients. 3) Limiting potential benefit duration could have strong effects on actual duration.

There seems to be a logical sequencing of the latter two interventions. Test a BAM system first and assess its potential impact on UA caseloads and benefit duration. Placing a time limit on benefits would represent a more radical departure from current and past practice in Australia. This might be considered later, after the efficacy of BAM is better understood.

IX. Conclusions

This paper has compared two types of unemployment benefit systems, UI and UA. The analysis of Parts I through IV was undertaken at the a rather general level. The latter sections of the paper focused specifically on a single UA system (Australia) and a single UI system (the U.S.). Key differences between Australia and the U.S. are found in

the duration of unemployment and the duration of unemployment benefits. Parts VII and VIII examined historical developments and specific aspects of program administration with particular attention to unemployment benefit duration in Australia.

A most interesting finding of the paper relates to UA program costs. Part IV examined cost data from twelve countries with UI programs and four countries with UA programs for the unemployed. Two of the latter four countries, Australia and New Zealand, have had costs in recent years that can be described as somewhat above-average when compared to the costs of UI programs for a sample of 12 OECD countries. The other two UA systems, in Hong Kong and Estonia, have exhibited costs similar to the costs of the lowest-cost UI system examined here (Greece).

Thus the conclusion about comparative costs of UA versus UI is “it depends.” One would need to specify exact statutory and administrative provisions of the UA and UI system being compared before making inferences about their comparative costs. Australia’s UA program is roughly three times more expensive per percentage point of unemployment when compared to the U.S. which operates a low cost UI system.

The finding that UA has high costs in Australia points to a seeming paradox. Australia conditions eligibility on income but still most of the unemployed, especially the long term unemployed, receive UA benefits. While the level of support payments is modest (about one fourth of the average weekly wage), many recipients experience long term periods in benefit status. A lower income guarantee probably would result in shorter spells of unemployment. Two factors could be contributing to this outcome. 1) A number of Australians could be prolonging their spells of unemployment to satisfy the income and asset eligibility conditions for UA. This could suggest there is a degree of control over unemployment duration for at least some recipients (moral hazard). 2) Some claimants may be able to misrepresent their income and/or assets in order to satisfy the UA means test. Both factors could be contributing to a situation where the number of fully unemployed UA recipients represents about 80 percent of all persons measured as unemployed in the Australian labor force survey.

This could suggest that FaCS needs to invest more resources in income and asset verification activities. Part VIII discussed a specific type of measurement system to

improve the measurement of family income. Improved measurement could provide valuable insights into the long UA benefit duration characteristic of Australia.

Part VIII also explored some details of placing time limits on benefits. This too has potential for shortening average UA benefit duration in Australia. Most of the discussion of Part VIII was based on U.S. experiences. The discussion yielded a more pessimistic assessment of profiling, at least as currently practiced in the U.S..

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Table 1. Eligibility for UI and UA Benefits

	UI Programs	UA Programs
Initial Entry Eligibility		
Requirements on the claimant		
1. Total or substantial unemployment	X	X
2. Substantial prior work experience	X	
3. Acceptable reason for separation	X	
4. Serve a waiting period	X	X
5. Low family income (and assets)		X
Administrative agency determinations		
1. Initial Entitlement, Yes-No	X	X
2. Level of periodic payment	X	X
3. Maximum potential duration	X	
4. Family Income Assessment		X
Continuing Eligibility		
Requirements on the claimant		
1. Able to work	X	X
2. Available to work	X	X
3. Active work search	X	X
4. Low family income (and assets)		X
Administrative agency oversight		
1. Work search	X	X
2. Suitable job offers	X	X
3. Disqualifying and/or deductable labor income, e.g., pensions	X	
4. Family income monitoring		X

Table 2. The Cost of Unemployment Protection in Australia, 1959 to 1999

Financial Year	Labor Force	Unemp	U Rate TUR%	NumBen Ann Avg	NumBen/ Unemp	Total UA Benefits	Weekly Benefits	Weekly Wage	Rep. Rate	G	B%
1960	4109.5	68.0	1.7			9					
1961	4198.5	88.5	2.1			9					
1962	4282.0	116.0	2.7			30					
1963	4381.0	104.0	2.4	39.7	0.382	21	10	41	0.254	0.097	0.230
1964	4524.5	85.0	1.9	25.9	0.305	13	10	43	0.234	0.071	0.134
1965	4715.0	73.5	1.6	13.7	0.187	7	10	46	0.208	0.039	0.061
1966	4851.5	77.0	1.6	14.9	0.194	8	10	48	0.210	0.041	0.065
1967	4962.2	90.8	1.8	20.7	0.227	11	10	51	0.204	0.046	0.085
1968	5084.1	95.4	1.9	21.5	0.226	11	10	54	0.186	0.042	0.079
1969	5204.6	92.8	1.8	17.8	0.192	9	10	58	0.173	0.033	0.059
1970	5379.0	93.7	1.7	13.2	0.141	9	13	63	0.206	0.029	0.051
1971	5563.3	97.1	1.7	15.0	0.154	11	14	69	0.200	0.031	0.054
1972	5666.5	126.6	2.2	29.1	0.230	26	17	76	0.225	0.052	0.115
1973	5834.1	153.6	2.6	39.6	0.258	47	23	83	0.272	0.070	0.185
1974	5990.3	127.3	2.1	34.1	0.268	58	33	96	0.341	0.091	0.194
1975	6103.1	247.1	4.0	116.6	0.472	252	42	120	0.345	0.163	0.659
1976	6230.9	301.6	4.8	191.7	0.636	514	52	138	0.375	0.238	1.152
1977	6290.6	325.1	5.2	216.9	0.667	618	55	155	0.354	0.236	1.221
1978	6400.9	389.6	6.1	265.8	0.682	794	57	170	0.338	0.231	1.405
1979	6464.9	408.7	6.3	306.2	0.749	910	57	183	0.313	0.234	1.481
1980	6600.7	407.6	6.2	306.3	0.752	925	58	200	0.290	0.218	1.345
1981	6757.1	395.9	5.9	310.0	0.783	996	62	227	0.272	0.213	1.247
1982	6863.4	423.5	6.2	332.0	0.784	1224	71	263	0.270	0.212	1.306
1983	6953.8	624.9	9.0	540.2	0.864	2249	80	292	0.274	0.237	2.130
1984	7067.6	680.1	9.6	619.6	0.911	2912	90	317	0.285	0.260	2.502
1985	7198.7	619.4	8.6	581.7	0.939	2984	99	338	0.291	0.274	2.355
1986	7451.4	591.5	7.9	559.2	0.946	3122	107	359	0.299	0.283	2.248
1987	7679.5	635.1	8.3	574.4	0.904	3454	116	381	0.304	0.275	2.272
1988	7866.8	610.5	7.8	502.5	0.823	3375	129	404	0.320	0.263	2.043
1989	8076.3	536.0	6.6	429.4	0.801	3136	140	431	0.326	0.261	1.732
1990	8346.3	515.3	6.2	385.0	0.747	3068	153	460	0.333	0.249	1.538
1991	8498.8	710.3	8.4	535.9	0.755	4561	164	487	0.336	0.254	2.121
1992	8526.0	882.0	10.3	771.4	0.875	6736	168	501	0.335	0.293	3.034
1993	8539.0	938.0	11.0	883.0	0.941	7492	163	511	0.319	0.301	3.302
1994	8672.0	916.8	10.6	905.7	0.988	7598	161	526	0.307	0.303	3.205
1995	8847.0	799.5	9.0	847.0	1.058	7061	160	544	0.295	0.312	2.819
1996	9055.5	766.0	8.5	812.8	1.058	5812	137	557	0.247	0.261	2.208
1997	9151.8	797.5	8.7	811.4	1.015	6207	147	574	0.256	0.260	2.267
1998	9228.0	766.8	8.3	794.0	1.036	5916	143	592	0.242	0.251	2.082
1999	9363.8	725.3	7.7	767.0	1.058	5882	147	606	0.243	0.258	1.995
2000	9542.5	656.3	6.9					621			

Source: Department of Family and Community Services (FaCS), Australian Bureau of Statistics and OECD. Labor force, unemployment and beneficiaries in thousands. Total benefits in millions. Benefit data exclude mature age allowances from 1994 and payments to dependent partners after 1995. Estimates of the labor force and unemployment for 1960-1964 based on OECD data. Beneficiaries in 1994-99 estimated from a regression of the annual average on the simple average of June data for current and past financial year.

Table 3. Comparative Unemployment Data - Australia - U.S.

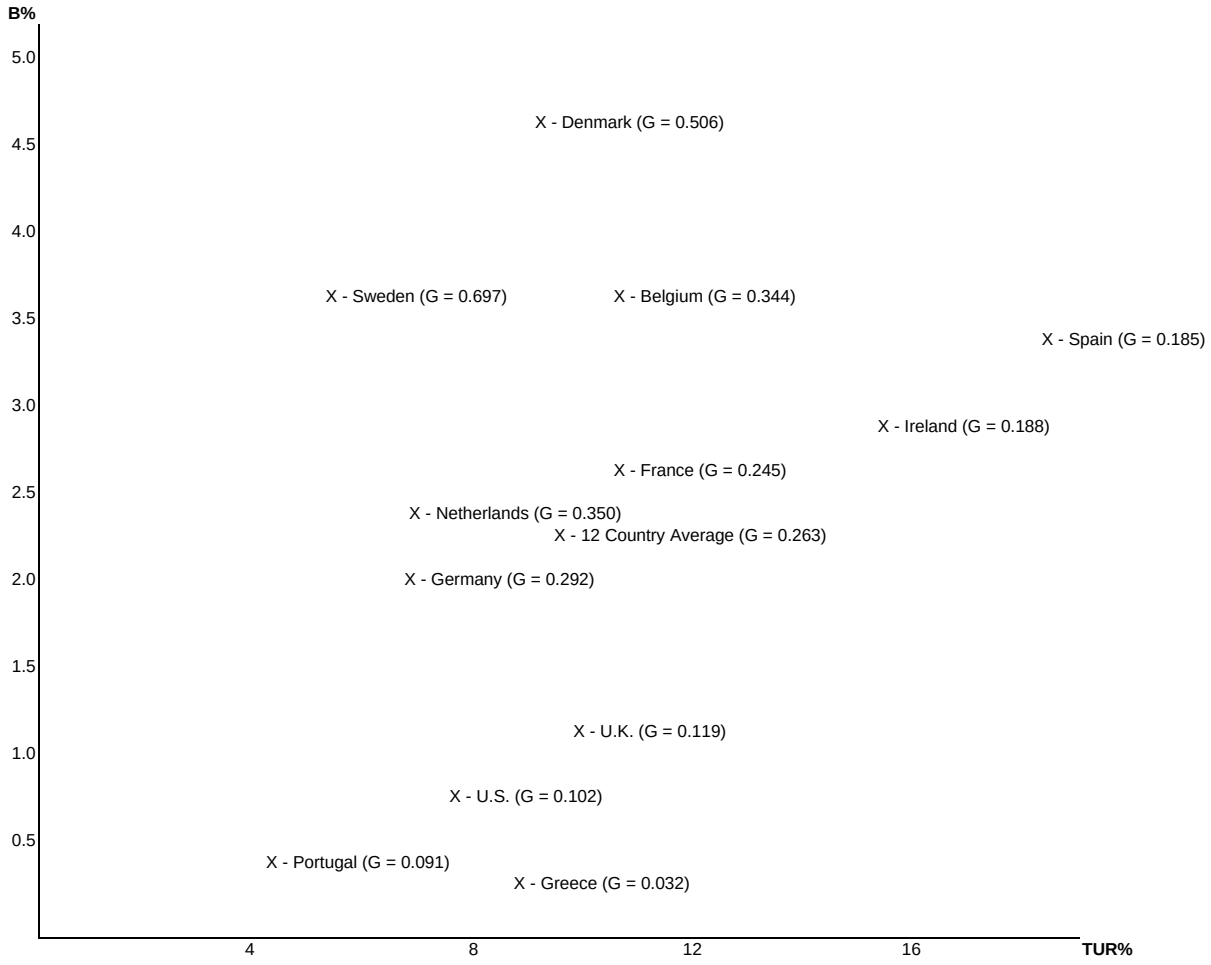
	Unem-ployment Rate (percent)	Mean Unemp. Duration (weeks)	Median Unemp. Duration (weeks)	Unemp. Benefit Recipiency Rate	Mean Unemp. Benefit Duration (weeks)-a	Median Unemp. Benefit Duration (weeks)-a	Unemp. Benefit Exhaustion Rate
			Australia				
1960s	2.0	4.3-b		0.24-c	11.9-b	7.3-b	
1970s	3.9	14.2	9.9-d	0.43	18.6	11.2	
1980s	7.6	42.9	19.9	0.85	56.0	27.1	
1990s	8.9	52.2	23.4	0.95	71.3	41.3	
			United States				
1950s	4.5	11.3		0.42	12.0		0.25
1960s	4.8	11.8		0.36	12.5		0.23
1970s	6.2	11.9	6.3	0.34	13.8		0.29
1980s	7.3	15.0	7.1	0.29	14.7		0.33
1990s	5.8	15.7	7.6	0.31	14.9		0.36
			Australia/United States				
1960s	0.41	0.36		0.68	0.96		
1970s	0.63	1.19	1.57	1.26	1.35		
1980s	1.05	2.86	2.80	2.92	3.81		
1990s	1.54	3.32	3.08	3.07	4.80		

Source: Australian data from the Australian Bureau of Statistics and Department of Family and Community Services. U.S. data from the Bureau of Labor Statistics and Office of Workforce Security of the U.S. Department of Labor.

a - Means and medians for Australia computed by the authors.

b - 1966-1969, c - 1963-1969, d - 1974-1979.

Chart A. Benefit Costs, Benefit Generosity and Unemployment Rates in Selected OECD Countries, 1992.

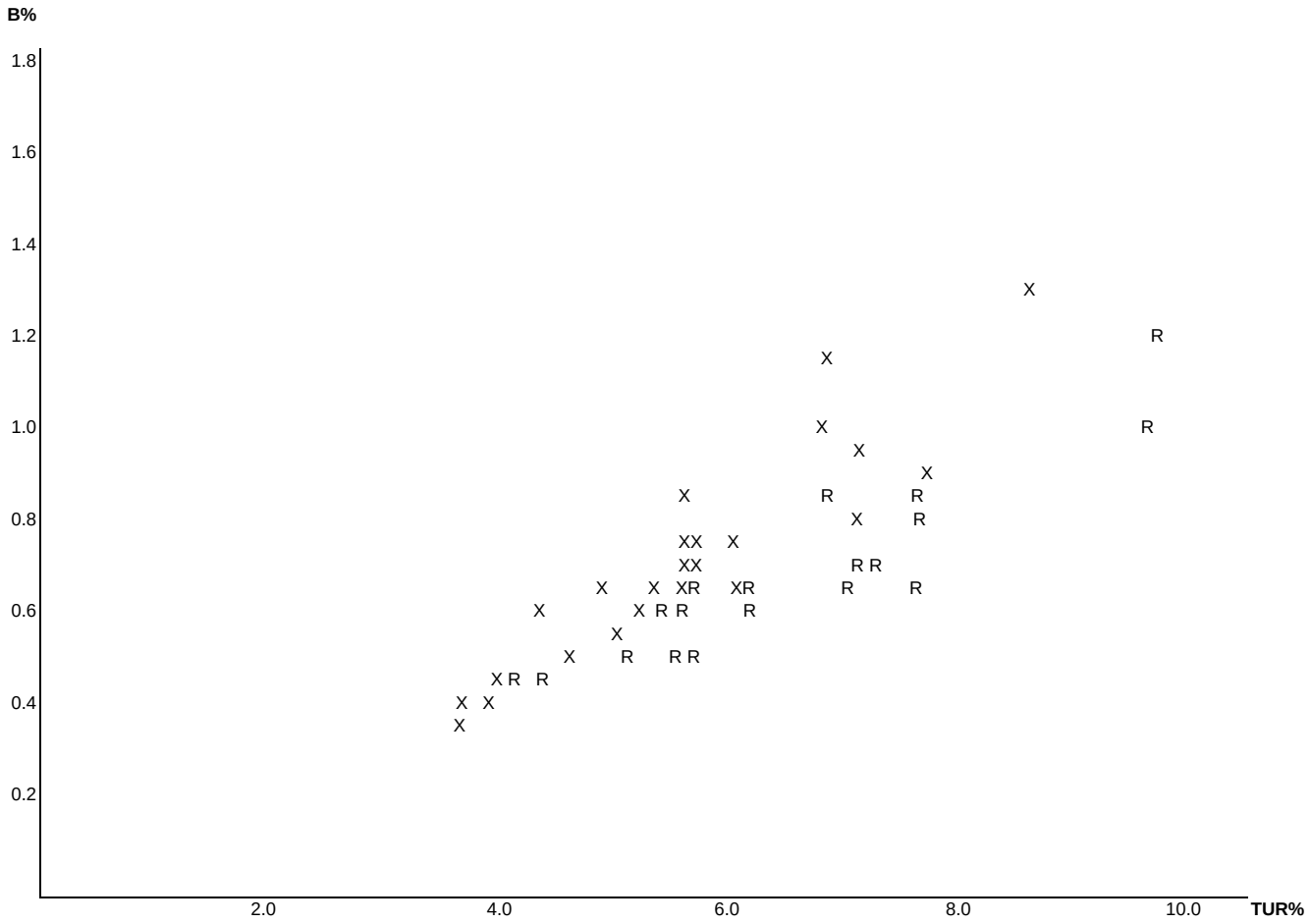


B% = (RRATE*(NBen/Unemp))*(TUR/(1-TUR))%
B% = G*(TUR/(1-TUR))%

Regression
B% = 0.197*(TUR/(1-TUR))%
Adj. R2 = -0.02

Max - Sweden B% = 0.697*(TUR/(1-TUR))%
Min - Greece B% = 0.032*(TUR/(1-TUR))%

Chart B. Benefit Costs, Benefit Generosity and Unemployment Rates in the U.S., 1957 to 1999

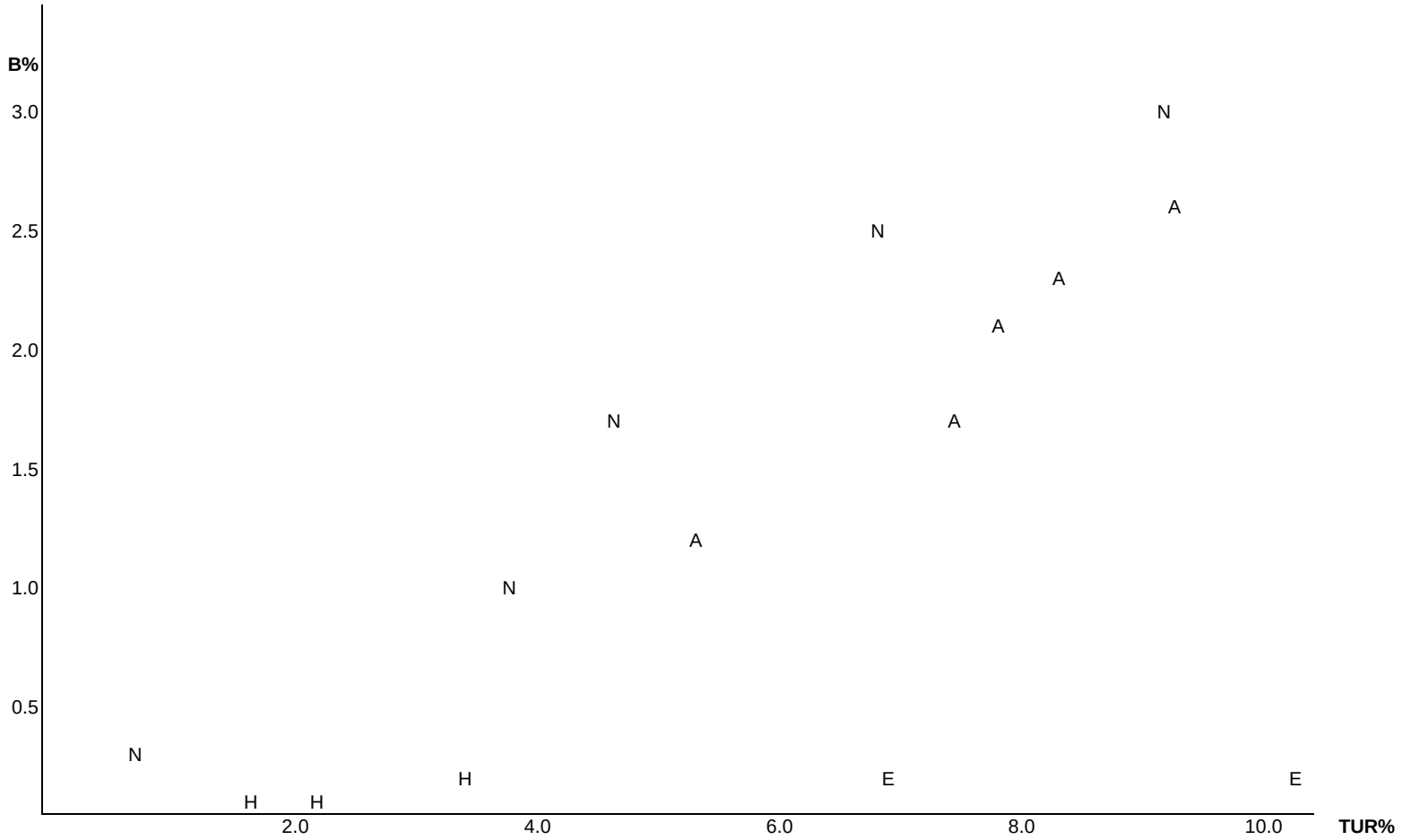


B% = (RRATE*(NBen/Unemp))*(TUR/(1-TUR))%
B% = G*(TUR/(1-TUR))%

1957-1980 Xs B% = 0.123*(TUR/(1-TUR))%
Adj. R2 = 0.82

1981-1999 Rs B% = 0.098*(TUR/(1-TUR))%
Adj. R2 = 0.87

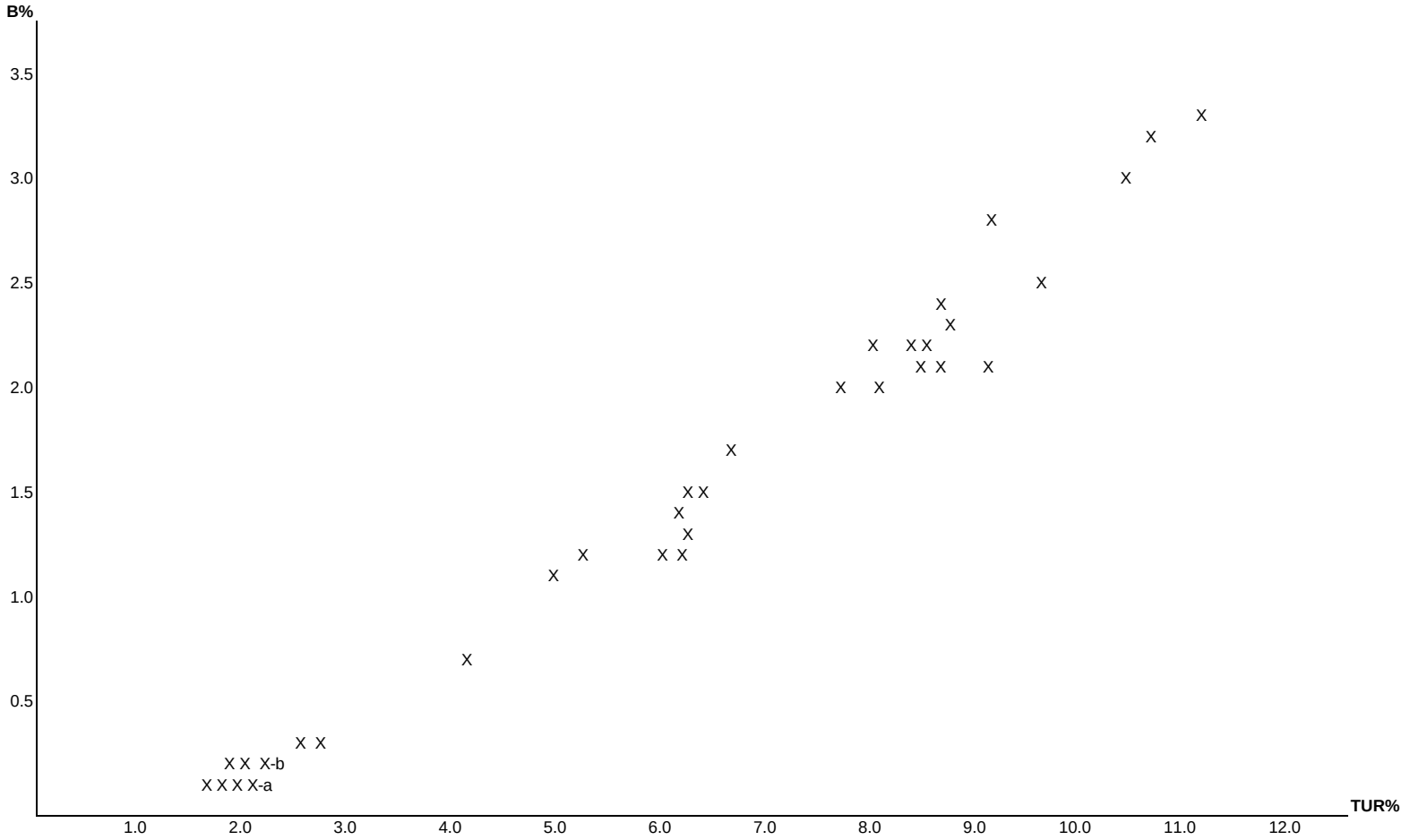
Chart C. Benefit Costs, Benefit Generosity and Unemployment Rates in Countries with UA Programs
(Five year averages, 1975-1979 through 1995-1999)



A = Australia
E = Estonia
H = Hong Kong
N = New Zealand

Regression. B% = 0.201*(TUR/(1-TUR))%
Adj R2 = 0.39

Chart D. Benefit Costs, Benefit Generosity and Unemployment Rates in Australia, 1963 to 1999

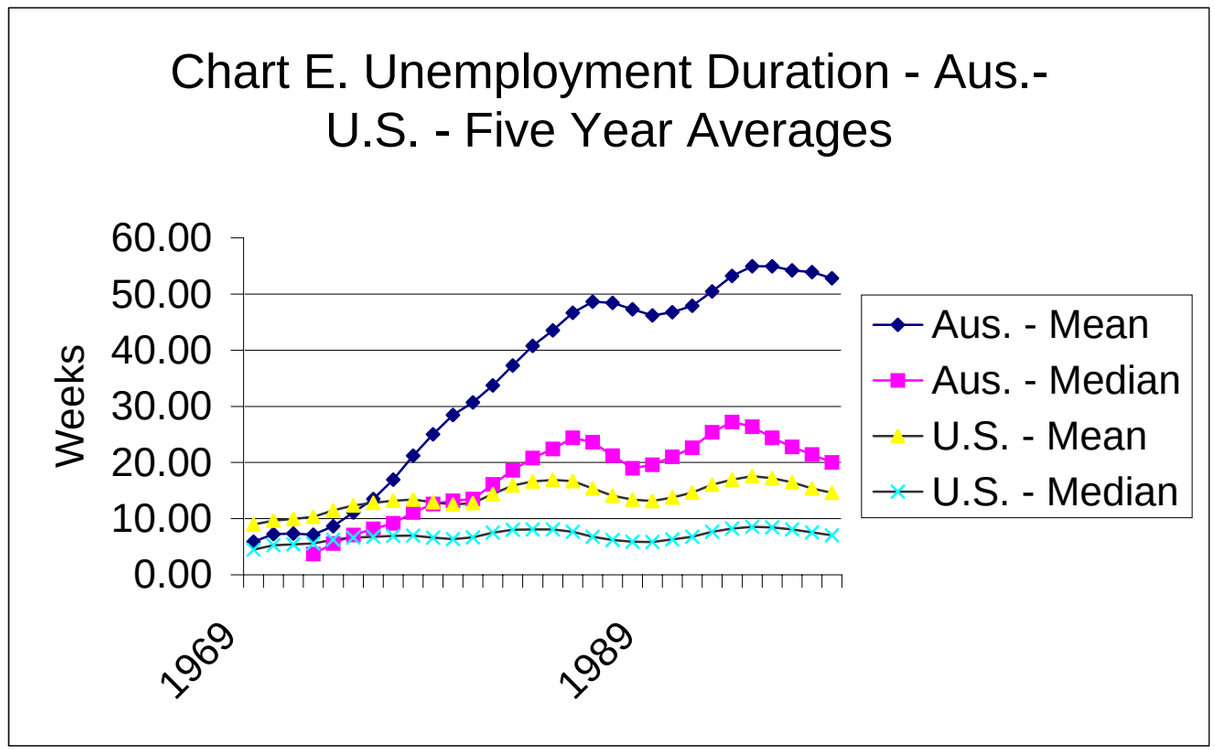


a - Six years, not four as shown
b Four years, not three as shown

Regression 1963-1974. B% = -0.198 + 0.155*(TUR/(1-TUR))% Adj R2 = 0.681

Regression 1975-1999. B% = -0.585 + 0.309*(TUR/(1-TUR))% Adj R2 = 0.955

	Aus. - Mea	Aus. - Med	U.S. - Mea	U.S. - Median
1969	5.88		8.96	4.48
	7.24		9.62	5.26
	7.36		9.94	5.40
	7.16	3.70	10.34	5.56
	8.66	5.58	11.46	6.26
	11.12	7.08	12.36	6.64
	13.52	8.20	12.82	6.80
	16.94	9.16	13.20	6.94
	21.20	11.10	13.40	6.98
	25.00	12.61	12.94	6.60
1979	28.48	13.19	12.52	6.34
	30.70	13.48	12.78	6.68
	33.74	16.08	14.40	7.52
	37.28	18.60	15.88	8.02
	40.78	20.80	16.62	8.08
	43.52	22.40	16.88	8.08
	46.66	24.40	16.66	7.64
	48.64	23.60	15.36	6.80
	48.44	21.20	14.10	6.18
	47.28	19.00	13.38	5.88
1989	46.16	19.60	13.12	5.86
	46.74	21.00	13.76	6.30
	47.90	22.60	14.66	6.78
	50.46	25.40	16.04	7.66
	53.22	27.20	16.96	8.26
	54.94	26.40	17.56	8.56
	54.92	24.40	17.18	8.42
	54.22	22.80	16.48	8.10
	53.88	21.40	15.40	7.54
1998	52.80	20.00	14.60	7.06



	LFPR	PPT
1967	0.37	0.24
	0.38	0.25
	0.38	0.26
	0.39	0.26
	0.40	0.26
	0.40	0.26
	0.41	0.28
	0.42	0.29
	0.43	0.32
	0.44	0.33
	0.44	0.34
1978	0.44	0.34
	0.43	0.34
	0.44	0.34
	0.45	0.35
	0.45	0.35
	0.45	0.35
	0.45	0.36
	0.46	0.37
	0.48	0.38
	0.49	0.38
	0.49	0.39
1989	0.50	0.39
	0.52	0.40
	0.52	0.40
	0.52	0.41
	0.52	0.42
	0.52	0.42
	0.53	0.43
	0.54	0.43
	0.54	0.43
	0.54	0.43
	0.54	0.44
2000	0.54	0.44