



Inequality

The IFS Deaton Review

Transfers, taxes, and tax credits for those on low incomes: beyond Mirrlees

Robert Moffitt

An IFS initiative funded by the Nuffield Foundation

Transfers, taxes, and tax credits for those on low incomes: beyond Mirrlees

Robert Moffitt (Johns Hopkins University)¹

Introduction

In this commentary, for the IFS Deaton Review of Inequalities, on transfers, taxes, and tax credits for those on low incomes, I bring a US perspective to the long-standing question of how to structure the tax-and-transfer system in order to provide income support to families at the bottom of the income distribution, but while simultaneously providing incentives to work and attempting to improve the level of earnings that individuals in those families can achieve. This is a topic of decades of research and thinking by economists. I divide my commentary into three parts, with each section building on the previous one: (1) the Mirrlees problem; (2) conditionality; and (3) training and human capital policies. The title of the commentary refers to my suggestion that thinking about the design of transfer programmes goes beyond the Mirrlees framework and considers programmes with types of conditionality and types of training and human capital programmes.

The Mirrlees problem

The most fundamental advance in economics in thinking about how to design a tax-and-transfer system was made by the celebrated Nobel Laureate English economist, James Mirrlees, who proposed a conceptual framework in 1971, now called the Mirrlees model (Mirrlees, 1971). While there is now a large body of research on his proposed framework, modifying it in many ways, the issues in designing an optimal tax-and-transfer system in current discussions are not far different than those he raised.² Mirrlees proposed that a society consider a system that provides transfer benefits to low-income families but would phase those benefits out as incomes rose. The 'tax rate' is the term used by economists for the rate of phase-out because, in monetary terms, having benefits reduced as income rises is the same as imposing a tax. But Mirrlees also assumed that, if the tax rate is high enough, individuals will reduce their work effort as the gain to additional work is less than in the absence of the programme because benefits are now reduced for any additional income. In the terminology of the model, the term 'elasticity' refers to how much of such reduction takes place, with a high elasticity referring to a large reduction in work effort as the tax rate rises and with a small elasticity referring to only a modest or zero reduction in work effort. Mirrlees also considered higher-income families who would have to pay taxes to pay for any transfer programme for low-income families, and their tax rates might also reduce work effort.

Mirrlees set up a mathematical model to determine what the best, or optimal, tax rates up and down the income distribution should be. The calculation requires two inputs: (i) some knowledge, or estimate, of the size of those elasticities; and (ii) some socially driven decision of how much to redistribute from higher-income families to low-income families, which he also expressed mathematically in what economists call a 'social welfare function'. Mirrlees calculated that, in general, the solution would have the form of what is called a negative income tax, with a lump-sum transfer given to those with the lowest incomes but combined with positive tax rates throughout the income distribution. The tax rates at the bottom of the income distribution would

¹ I would like to thank Tom Waters for assistance in understanding the UK tax-and-transfer system and correcting errors about that system in a first draft. I also thank Jonathan Cribb, Carl Emmerson, and Laura van der Erve. Burt Barnow, Harry Holzer, and Jeff Smith provided useful information on US training programmes and community colleges. Presentations by Jesse Rothstein and James Ziliak at a September 2020 Deaton Review conference were also helpful.

² These issues were discussed in the Mirrlees Report (Adam et al., 2010) and, especially, by Brewer, Saez and Shephard (2010).

be in the form of a phase-out of benefits and, at higher incomes, in the form of traditional income taxes.³

While the research literature on relaxing various Mirrlees assumptions is vast (Auerbach and Hines, 2002; Piketty and Saez, 2013), perhaps the major additional contribution is that of Saez (2002), who, following earlier work by Diamond (1980), showed that with strong enough workforce participation elasticities – that is, with large numbers of non-workers who would go to work and participate in the labour force if it were financially attractive to do so – it could be optimal to have negative tax rates for those with the lowest incomes (and with small guaranteed benefits for non-workers). Those negative tax rates could be implemented by tax credits or subsidies for those with the lowest incomes, credits or subsidies that rise with income over some range.⁴

One possible contribution that US research can make to the UK discussion is to summarise what has been found from the large body of research on the labour supply effects of the various programmes and the sizes of the relevant elasticities. This research shows that work disincentives cannot be ignored and therefore that the Mirrlees framework, which assumes that those disincentives exist, is highly relevant. Work incentives in the old US open-ended, entitlement programme, called the Aid to Families with Dependent Children (AFDC) programme for lone mothers, ranged from 1 to 10 hours per week (Moffitt, 1992). While many studies of the Food Stamp programme show little or no effects on labour supply (Currie, 2003; Hoynes and Schanzenbach, 2016), one study with a particularly credible research design showed a large 19 percentage point reduction in the employment rate and a reduction of 393 annual hours for lone mothers (Hoynes and Schanzenbach, 2012).⁵ Credible designs for subsidised housing programmes show negative effects of 4 percentage points on the employment rate and 11% on earnings (Jacob and Ludwig, 2012). In addition, the negative income tax experiments from the 1970s reinforce these findings (Burtless, 1987). On average, across the several experiments, husbands reduced their work effort by 7% while married women and lone mothers reduced theirs by about 17% in response to the programme. While the response of men may seem small, this is partly because the stimulus (i.e. the size of the benefit) was small. In fact, for married couples, the experiment only increased income by \$1 for every \$3 in payments to those families, because two-thirds of the payment was a result of reduced earnings.

There is much research evidence on the US Earned Income Tax Credit (EITC), which generates negative tax rates at low earnings and zero or positive rates at higher earnings levels (Eissa and Liebman, 1996; Hotz and Scholz, 2003; Nichols and Rothstein, 2016; Hoynes and Patel, 2018; Schanzenbach and Strain, 2021). The programme has positive effects on the work effort of lone mothers with responses concentrated at the extensive (employment) margin. This is consistent both with high participation elasticities for lone mothers found in past work (Meghir and Phillips, 2010) and with the fact that their hours-worked distribution is concentrated at the low end, where the EITC should have its major positive effects. Married men appear to respond very little to the EITC, whereas married women appear to have small negative effects on employment and hours worked. The former finding is generally interpreted as the result of low elasticities for men while the latter is usually interpreted as the result of relatively high elasticities for married women combined with the family basis for taxation, which puts many married women in the phase-out region of the EITC.⁶

Having established that labour supply disincentives are in many cases non-trivial, the problem with the Mirrlees framework is that it always leaves the question of optimal design mostly to an unsatisfying trade-off between labour supply effects (and transfers) to different parts of the income distribution. This is simply because, holding the size of the transfer budget to the low-income population fixed, lower marginal tax rates in one portion of the low-income distribution will necessarily require higher rates in some other part of the distribution. This is easily illustrated

³ Mirrlees' original calculations found zero or small marginal tax rates at the bottom, but this was because he assumed positive non-labour income and only intensive margin elasticities (Brewer et al., 2010).

⁴ See Chone and Laroque (2011) for later work.

⁵ These are the mid-points of the ranges they estimated.

⁶ The results for men seem to be inconsistent with those from the negative income tax experiments. But it is possible to reconcile the two when it is understood that the men in the negative income tax experimental groups received a high guarantee while the control group received essentially no guarantee, because the US system at that time offered almost nothing for childless men. The EITC has a guarantee of zero, so the response of men to negative income tax may simply be the result of income effects.

by the US EITC, which has, at least for families with children, made most tax rates at the bottom negative, as low as -32% for lone mothers, for example. But the inevitable result is that tax rates are larger at somewhat higher earnings points. In the US, as a result of the EITC being phased out at the same time as other programmes are being phased out and at the same time as the positive income tax starts to kick in, marginal tax rates are almost always above 70% or 80% and often as high as 110% or 120% (Kosar and Moffitt, 2017). It is hard to generate much enthusiasm for a transfer system that generates those tax rates, but the Mirrlees framework forces negative marginal tax rates to be paid off with higher tax rates elsewhere. While a slower phase-out is certainly possible, that would raise marginal tax rates at higher earnings levels while lowering them in the current phase-out region. Although most optimal tax models that propose significant in-work credits assume intensive margin elasticities to be relatively modest, I know of no direct evidence showing that there are no significant labour supply disincentives in response to tax rates in the 70%–120% range.

Much depends on the magnitude of the elasticities, and where they are large and where they are small. Optimal design suggests making tax rates high where the substitution elasticities are small and low where they are large. Brewer et al. (2010) propose a general reduction in the tax rates in the UK transfer system (as it was at that time) but especially at the extensive margin, where elasticities are the highest. Their proposals would extend eligibility higher up the earnings distribution and result in higher tax rates for many working families, so the optimality of that reform requires low elasticities in those upper ranges. In addition, their proposals would require an additional £9 billion expenditure, which would have to be financed in some way.⁷ In a study of lone mothers in the UK, Blundell and Shephard (2012) find, as did Saez (2002), that optimal tax rates are low at the bottom of the earnings distribution unless redistributive preferences are high. However, they find that the optimal tax rate schedule above the very bottom is highly non-linear, with tax rates alternately rising and falling as earnings increase. They also find that, if tax rates are conditioned on the age of a child, lone mothers with the youngest children should face higher tax rates than those with somewhat older children because the latter have higher elasticities.⁸ The authors cite Akerlof (1978) for the idea of tagging – that is, assigning different tax schedules to groups with different demographic characteristics – by the age of a child as a social-welfare-improving design.⁹ In general, it is possible that with an artful design that imposes different rates on different demographic groups with different elasticities, some efficiencies can be gained, although how large those additional gains are is difficult to determine without specific information on how elasticities vary across groups, and our research knowledge on that issue is not very deep.

Further, especially at the extensive margin, keeping guarantees modest where income elasticities are large would presumably be desirable. In this light, the US has kept its guarantees quite low compared with those in the UK, which probably reinforces the positive labour supply effects at the bottom in the US, but at the cost of lesser support for the poorest of the poor.¹⁰ In fact, the introduction of the EITC and its generally pro-work results have been accompanied by a reduction in support for those out of work, with the result being a regressive trend in the distribution of transfers, with more going to relatively better-off families and less going to the worst off (Moffitt, 2015). This is consistent with the trade-offs inherent in the Mirrlees framework.¹¹

The current UK system faces the same Mirrlees dilemma. Tax rates when combining universal credit, National Insurance Contributions and income tax are in the range of 70%–80%. In

⁷ The authors suggest that increases in the income tax rate, reductions in child benefits, or increases in the VAT or National Insurance could be considered.

⁸ The elasticities rise when children reach school age, which provides child care (personal communication from R. Blundell).

⁹ Brewer et al. (2010) also discuss tagging by the age of children and discuss the other considerations that need to go into such tagging, such as possible endogeneity of fertility and social welfare weights for those with different child ages. See also Weinzierl (2011).

¹⁰ However, guarantees in the UK are considerably below those in Europe (Hoynes, Joyce and Waters, 2023).

¹¹ 'Strengthening incentives to enter low-paid work must increase support for low-paid workers (broadly the lower-middle of the income distribution) at the expense of the poorest and the rich: there is no escaping these distributional consequences' (Mirrlees et al., 2011, p. 100). The UK seems to have moved in the opposite direction in recent years with the gradual erosion of in-work credits, as transfer spending to families just above and below the poverty line has fallen over time (Hoynes et al., 2023, table 2).

addition, out-of-work benefits are relatively high, at least compared with the US.¹² This high-G, high-t system can also be seen as one result consistent with a Mirrlees solution, where either labour supply elasticities of the low-income population are extremely low or where social welfare weights for those at the bottom are very high. Given the US evidence, I would be sceptical of the former explanation. In fact, it could be argued that the US experience shows that any marginal tax rate above 30% or 50% is probably too high and will have strong work disincentives.¹³

At the same time, simply lowering the tax rate in the UK system would require either increasing total expenditures or avoiding too large an increase, by reducing guarantees or increasing tax rates in some other part of the transfer system. And the Mirrlees problem inherent in all reforms based on negative income tax, which is that tax rate reductions cause new work disincentives to appear for those at higher earnings levels, would have to be addressed.¹⁴

While it is perhaps an overly general conclusion, I would venture that a reasonable solution to the problem is to put ceilings on tax rates and to keep guarantees modest. Based on the US evidence, I would suggest that tax rates should be kept below 50% and preferably no larger than 30%, if possible, for all families at all earnings levels. Given the evidence on participation elasticities, tax rates considerably below this at the extensive margin would be warranted. This may require reducing guarantees to keep expenditures at acceptable levels.¹⁵

Conditionality

Conditionality in the UK takes place almost entirely through its unemployment insurance system for those out of work, called Job Search Assistance (JSA).¹⁶ However, because JSA has been more broadly defined in the UK than in the US unemployment insurance system – the UK has an income-conditioned portion for those who have low income and who have insufficient National Insurance Contributions to qualify for the social insurance ('contributory') portion – coverage for out-of-work individuals is much greater.¹⁷ Imposing requirements to search for work, with sanctions levied for failure to comply, began in small form in the 1980s and 1990s but accelerated with the creation of JSA in 1996 and its more serious job search requirements. Requirements were expanded with the New Deal, especially for young people where the focus was greatest, although much more job search assistance was provided (as well as some training and education) than had been the case previously.¹⁸ The New Deal was scrapped in 2010 and replaced by a smaller mandatory Work Programme, which was terminated in 2017. Beginning in 2008, with what was called the Lone Parent Obligations, the age of the youngest child below which lone parents were allowed to receive out-of-work benefits unconditionally was gradually lowered from age 16 to age 5. The rollout of universal credit has lowered that age further to age 3 and imposed a soft requirement on those with children aged 1–2.¹⁹ Universal credit now also includes many benefits that were previously provided separately, and these new benefits in universal credit have these same requirements. Along with these increases in conditionality have come

¹² See Brewer and Hoynes (2019) and Brewer et al. (2019) for discussions of universal credit and how it compares to the previous system.

¹³ In the US AFDC programme, for example, the tax rate in the programme was 100% for most of its history, but then was lowered to two-thirds in 1967. The tax rate was increased back to 100% in 1982. But the research on those reforms show no discernible effect on labour supply (Moffitt, 1992), suggesting that varying the tax rate in this range does not make much difference. The rate was lowered to an average of 50% in 1996 but combined with other reforms (work requirements, time limits) that have made it difficult to discern its effect alone. However, the studies showing little effect of the Food Stamp programme on labour supply could be interpreted as showing that a 30% tax rate may be low enough not to discourage work.

¹⁴ A very clear non-technical discussion of this familiar problem can be found in Chapter 4 of Mirrlees et al. (2011).

¹⁵ I am referring only to the tax rates faced by those in the lower part of the income distribution. What the tax rates should be on the higher-income population if tax revenues need to be raised is a separate matter.

¹⁶ I do not include in-work credits as examples of conditionality even though the credits are conditioned on work. This section is only concerned with mandatory requirements.

¹⁷ These formal categories have been abolished and replaced with 'New Style' JSA, which is similar to a contributory programme, requiring a period of prior work and sufficient National Insurance Contributions. Income-based JSA has been replaced by universal credit, where benefits are about the same as they were under the old-style JSA. See <https://www.gov.uk/jobseekers-allowance>.

¹⁸ The New Deal for Lone Parents did not have mandatory job search requirements but did have a mandatory annual work counselling interview.

¹⁹ See <https://www.turn2us.org.uk/Your-Situation/Bringing-up-a-child/Single-parents-and-Universal-Credit>.

greater rates of sanctions, starting particularly in the late 2000s and early 2010s (Hoynes et al, 2023).

The US has a completely different system, with a much smaller unemployment insurance programme that is entirely contributory. It has similar conditionality requirements, but these have never been strictly enforced and sanctions are rare. Instead, the most important US work requirements have been imposed on its traditional income transfer programmes, most notably the AFDC and Temporary Assistance for Needy Families (TANF) programmes and for some subgroups in the Food Stamp programme. The administration that just left office also tried to impose requirements on the Medicaid programme, but failed when court challenges successfully stopped them. Equally important, the requirements, while varying by state of residence, usually require that recipients eventually find work on their own; job search is not sufficient forever. Moreover, enforcement with sanctions has been fairly rigorously instituted. This makes the US system of conditionality much more severe than that in the UK.

My view is that models of optimal transfer policy have struggled with rationalising conditionality of this kind with modified Mirrlees models. Cuff (2000) shows that workfare can be optimal if individuals have heterogeneous preferences for leisure and the social planner prefers not to redistribute in that direction. Beaudry, Blackorby and Szalay (2009) show that work requirements can be optimal if they can successfully screen low market productivity workers out and into higher non-market productivity.²⁰ But most of those who find work requirements to be optimal give up on welfarist criteria and adopt some other criterion, such as poverty alleviation with zero weight given to leisure (Besley and Coate, 1992) or just put recipient work directly into the social welfare function, effectively a form of paternalism (Moffitt, 2006).

Probably the best rationale for work conditionality is by considering it as a form of tagging under imperfect information (Blackorby and Donaldson, 1988; Diamond and Sheshinski, 1995; Parsons, 1996). The government uses what observable characteristics it has in order to estimate the individual's true market wage, and then treats those with high and low estimated wages differently. Type I and Type II errors occur, which leads to welfare losses but, as usual in tagging models, aggregate welfare can be increased if the welfare losses are smaller than the welfare gains. However, given that most welfare agencies, at least in the US, put almost no effort into seriously attempting to estimate the market wage or ability to work, this model would seem of questionable relevance to actual practice.²¹

A common argument in the US among work requirement advocates is that work will increase recipient earnings, raise incomes, and lower poverty rates. Labour economists are typically sceptical of learning-by-doing models of human capital formation for the disadvantaged because their age-earnings profiles are notoriously flat, signalling little human capital content to their jobs. In addition, research on lone mothers who left welfare after 1996 reforms typically found that the loss of benefits was, on average, about the same as the gain in earnings, leaving income levels and hence poverty rates unchanged (Grogger and Karoly, 2005; Ziliak, 2016). In addition, randomised controlled trial (RCT) evidence on mandatory work programmes in the early 1990s showed those programmes to typically increase poverty rates for both lone mothers and married couples, particularly for the latter (Greenberg, Deitch and Hamilton, 2009).²² Finally, it is not surprising that imposing work requirements on the recipients of a programme lowers the value of participating in that programme, leading to departures from the rolls. Massive reductions (60% within four years) in US welfare caseloads occurred after the imposition of work requirements in 1996 and, while average income in the low-income lone parent population did not change, the lower tail of the distribution had lower incomes than before because their increased earnings were not large enough to make up for the loss of benefits.

²⁰ Beaudry et al. also show that workfare can be optimal if it is more productive than regular market work, but that is not consistent with the evidence (cited below that workfare has very low earnings returns).

²¹ Most of these models also find that optimal programmes provide benefits to both the tagged and the untagged, but with different levels and tax rates. In the US, the untagged often are terminated from the programme completely.

²² For lone mothers, mandatory job-search-first programmes lowered the net discounted present value of family income over five years, subsequent to the programme, as much as \$-2,729 (Greenberg et al., 2009, Table B.5 in Appendix B). For married couples, RCT evidence found that mandatory work programmes led to reductions in family income as large as \$-1,949 after five years (Riccio, Friedlander and Freedman, 1994, Table 7.8).

It appears that similar results may have occurred in the UK in the gradual reduction of the age of the youngest child appropriate for out-of-work benefits. Avram, Brewer and Salvatori (2018) found that this reform led some lone mothers to move into employment but others to move on to disability benefit or out of the transfer system and out of work altogether. Among the larger population of JSA recipients, Manning (2009) and Petrongolo (2009) found that the 1996 creation of JSA mandatory search requirements led to either no increase in inflows to employment or even a decline, and possibly a decline in earnings, especially for youth.

Despite this negative evidence on the impact of conditionality, there are four reasons it could be argued that conditionality deserves to play a role in the transfer system. One piece of evidence is that the New Deal for Young People (NDYP), which imposed conditionality, appears to have had a positive impact on employment of youth (Blundell et al., 2004; De Giorgi, 2005; Dorsett, 2006). This may be because the NDYP provided much more intensive assistance to youth than did the earlier JSA, but it may also be that imposing conditionality on disadvantaged lone mothers (where much of the US evidence, at least, comes from) is more likely to generate negative effects. So it may not be conditionality per se that generates negative effects, but the type of conditionality imposed and the types of recipients upon whom it is imposed.

A second argument comes from the striking US evidence from RCTs in the 1990s showing that RCTs with work requirements alone had no positive impacts on net income and poverty rates but that RCTs with work requirements and financial incentives (i.e. a reduction in the tax rate on earnings) had positive impacts on income and negative impacts on poverty (Grogger and Karoly, 2005). Thus, it may be that combining those requirements with a strong financial incentive – say, of the size of the US EITC or some of the UK in-work credits in years past – may reverse the negative effects of conditionality per se.²³ Behaviourally speaking, it would not be surprising if mandates that offer a positive financial income to those subject to a mandate lead to a more receptive response to compliance if there is a financial gain, rather than loss, to complying.

A third argument, again based on US evidence from RCTs in the 1990s, is that mandatory programmes that have 'mixed initial activity' have positive impacts on recipient income while those that have 'job search first' or 'education first' have negative effects (Greenberg et al., 2009, Table ES.1). Mixed initial activity programmes are those that evaluate each recipient as they come in the door and then assign them to different programmes, depending on their level of skill, employment history and general background. This comes considerably closer to the tagging framework discussed above where individual needs are assessed based on observable characteristics and different assignments made on this basis. Indeed, the NDYP had elements of this approach as well, and it could be argued that these contributed to its generally positive effects.²⁴

Finally, there were many observers of the US 1996 reforms who argued that the more aggressive approach to moving welfare recipients into some form of education, training, or job search assistance had a psychologically positive effect on many lone mothers. This is essentially a behavioural economics approach to the problem, which is difficult to prove empirically. However, it has some plausibility once it is understood that, prior to 1996, those kinds of education, training, and job search programmes were merely offered to recipients, without particular encouragement or provision of information, which is a very passive approach and appears not to have had much impact. Combined with the idea of offering programmes that have positive financial payoffs, the psychological 'push' of conditional programmes may have an independent, reinforcing effect. Hence, it is the combination of Mirrlees-style work incentives arising from the tax schedule discussed in the previous section, with some conditionality as discussed in this section, that may be superior to either one alone.

²³ The NDYP also offered training bonuses and subsidies for job placement, though modest in size relative to general in-work credits.

²⁴ This tagging argument could be taken in a different direction to suggest that mandates might only be imposed on those who are estimated to benefit from it the most. This would be philosophically different from strict conditionality, which typically imposes mandates on entire groups, regardless of whether there might be some who would not be helped by it. Voluntary rather than mandatory programmes are one polar case of this distinction, where presumably volunteers for a programme are those who perceive it to be beneficial to them.

Training

The UK, like the US, has a set of training programmes, including work experience, apprenticeships and traineeships.²⁵ It is possible to become eligible for these programmes for those who are on health-conditioned programmes or on JSA, but receipt of universal credit is also sufficient for eligibility if unemployed. The attractiveness of these types of programmes is that increases in market wages are presumably the best long-run solution to reducing programme caseloads, reducing poverty and reducing wage inequality. However, while programmes that promote work per se, either through in-work credits or job search requirements or something similar, may increase human capital through a learning-by-doing channel, rates of return to that channel are probably low.²⁶

The US has over 40 years of history of tying benefit receipt to education and training components in its welfare programmes. The old AFDC programme introduced small-scale human capital programmes in the 1970s, but they were voluntary and take-up was low. A series of more formally structured but still small-scale programmes was introduced in the early 1980s. These were evaluated with RCT methods and often found to have positive and significant, albeit small in size and short-lived, impacts on employment and earnings (Gueron and Pauley, 1991).²⁷ A major change of direction took place in 1988 with a reform requiring the states to establish much larger scale education and training programmes to the caseload, and which provided major funding for them to do so. But the reform was a major failure, as state governments failed to be capable of setting up and administering programmes of that type on that scale. The 1996 reforms were in part a reaction to that failure, shifting to simple work requirements without any presumption of human capital content, and education and training were explicitly prohibited from counting as meeting those requirements in the 1996 law. The US Food Stamp programme has long had essentially voluntary work programmes with some human capital content, but these, too, have not been engaged on a large scale and do not enrol a large fraction of the caseload (Kogan, Paprocki and Diaz, 2016). Today, there is little human capital content to most work programmes in the US means-tested transfer system.

There is some evidence on the impact of human capital programmes from US RCTs in the early 1990s, prior to the 1996 reforms, when different states tested Labor Force Attachment (LFA) programmes – essentially emphasising immediate employment – versus Human Capital Development (HCD) programmes – emphasising education, skills development and training (Grogger and Karoly, 2005). The results showed that, in the short run, LFA programmes reduced welfare participation and increased employment more than the HCD programmes, probably simply because LFA emphasised immediate employment while HCD programmes kept recipients in training. In the longer run (five years on), however, both programmes had about the same positive impacts on employment and earnings. But the effects were quite small – an increase of about 3 percentage points in employment and an increase of about \$300–\$400 in annual earnings (1990 dollars).

The US has a more general set of job training programmes that have been in existence since the 1960s, but have gone through numerous transformations and changes of names (Holzer, 2013; Barnow and Smith, 2016). These programmes hit their high-water mark in the late 1970s and early 1980s, when both public sector employment and education–human-capital approaches were dominant. Since then, the training programmes have experienced major funding reductions, have moved more toward employment services than human capital, and public sector employment has been decisively rejected. Current training programmes have been extensively evaluated and show some positive employment and earnings effects (e.g. \$1,200 per year) – however, these fade out. Women appear to have larger gains than men. The rapid fade-out may be because most of the earnings increases come from increased hours rather than wage rates. Most programmes show no impact on youth employment and earnings, with the exception of the Job Corps, an expensive non-residential location programme, which has had

²⁵ See <https://www.gov.uk/browse/working/finding-job>.

²⁶ An exception to this general observation is in the NDYP, which offered an education component to young people receiving JSA. However, the education component may not be the component response for the positive employment effects of the NDYP (Dorsett, 2006).

²⁷ US Senator Daniel Moynihan, after hearing testimony before Congress by Judith Gueron on these findings, dubbed her 'Our Lady of Modest but Positive Results'.

larger impacts for youth, but which also appear to fade out quickly. Overall, the US experience with training programmes has not been particularly favourable.

Another issue with US training programmes for present purposes is that they are not particularly focused on low-income families and individuals. In fact, most government programmes have a checklist of criteria to establish eligibility, sometimes with priorities associated with each, and having a low income is only one among many and it is not given the highest priority. Nor is being on benefit particularly high in the priority list. More priority is given to those with low earnings and a high unemployment history, those suffering dislocations from their firms or industries, and other events. Only a minority of those completing these programmes are high school dropouts, and many with college educations and higher degrees are served (Barnow and Smith, 2016, Table 8.3). These programmes do not serve the most disadvantaged individuals with the lowest skills and the largest number of barriers to work, but rather those with some skills already and a reasonable degree of employability.

Against this history and set of results are two US developments that hold some promise for the future. One is the increasing role of local-government community colleges in workforce training. The community college sector in the US has grown rapidly in the last two decades and has provided an important avenue for education and skills improvement for individuals who emerge from high school with major skill deficiencies but who are not prepared or interested in a regular four-year educational experience. Arguably, the community college sector is now where much job training takes place, not at the more well-known government training programmes. In addition, many government training programmes have undertaken partnerships with community colleges, contracting with the colleges to provide training courses for students with funding from the government training budget. Indirectly, this represents a shift of government support for training away from traditional training programmes and more toward the education sector. While there is relatively little empirical evidence to date on the impact of community colleges as a source of job training per se, it holds some promise as a new direction with potential significant impacts.²⁸

However, for the same reason noted earlier – that is, most job training programmes are not focused on those receiving benefits – the community college and educational route for training is likewise not directly connected to, or aimed at, those receiving means-tested transfers. The emphasis of current US transfer programmes on immediate job placement rather than training or education makes human capital efforts de-emphasised. A more direct coordination between job training programmes, the educational sector and individuals on benefit would appear to be worth further investigation.

In the UK, there are Colleges of Further Education that provide post-secondary training and education, and apprenticeships that pay a wage, for individuals who have not completed advanced levels of education, including those with very low levels (e.g. fewer than five GCSEs). These colleges are free to young people aged 16–19 and to adults who are taking courses needed to satisfy A level requirements. Other courses, including many for adults and for advanced vocational qualifications beyond A levels, require the payment of a fee. These seem to have fairly high subscription rates and seem to be an important part of the training and educational system in the UK for the disadvantaged. However, while in principle those on benefit would appear likely to qualify for these post-secondary training and education opportunities, there does not seem to be a close tie between them, just as in the US.

The second development, in addition to the development of community colleges, has been the development of so-called 'sectoral' training programmes. Sectoral training programmes are programmes that target training to specific industries (and possibly firms) in the local economy for which there is strong and growing labour demand, which offer reasonably high wages and good prospects for advancement. Because the approach is local and specific to the area, it often complements local efforts at economic development by providing more workers to sectors where the locality is trying to grow. Firms are typically quite interested in an increased supply of workers with the specific skills they need. While job training programmes have always sought to

²⁸ The US federal government has a major college assistance programme for disadvantaged students (Pell Grants). However, those grants have eligibility conditions that make low-income students taking training courses at community colleges almost entirely ineligible (Baum, Holzer and Luetner, 2020). In addition, in the US, community colleges are not tuition-free.

train with skills that are useful, the close alignment of training with firms' needs is new. Katz et al. (2022, Table 1) report the findings from four RCTs of these programmes, often finding very large earnings impacts of 14% to over 30%.^{29,30}

An important issue with these programmes for the low-income population of interest here is that these programmes typically train only those with some skills already, not the least because firms are rarely interested in hiring individuals who are at the very bottom of the skill ladder. In one of the most discussed RCTs, 63% of the enrollees had at least some college education and 74% were childless, the first indicating reasonable skill levels and the latter meaning they did not have one of the major barriers to employment. The RCT evidence does not therefore offer any particular promise to the most disadvantaged individuals. This implies that only a subset of recipients are likely to benefit from the approach and a different set of programmes would be required for the worst-off benefit recipients. Like the tagging approach mentioned above, tailoring work programmes to the skills of different groups of recipients may be the most fruitful approach in any case.

Summary

Mirrlees models focus narrowly on the financial incentives in the tax schedule and require that inevitable and unavoidable trade-offs are made between individuals who receive different levels of tax rates. This, in turn, requires detailed knowledge of labour supply elasticities for different groups in different earnings ranges. Increasing the work incentives for one group or in one part of the earnings distribution necessarily requires that those incentives are decreased in some other group or in some other range. Putting a ceiling on how high tax rates should be is one way to manage the trade-off, by limiting the severity of the disincentives for anyone in the population. But a more attractive set of policy options consists of those that combine these Mirrlees considerations with work programmes drawn from a mix of employment and human capital strategies for different segments of the recipient population. In the latter category, a greater connection between individuals on benefit and the educational sector, and further exploration of sectoral employment strategies are worth considering. Mirrlees considerations would ensure that those who participate in these programmes, whether by direct employment or by human capital investment, see a financial reward to doing so, while the work programmes – including some with conditionality, even if only in a mild form – would provide opportunities for longer-run improvements in wages.

²⁹ A familiar issue with these evaluations is that the effects often differ dramatically across sites. Given the RCT methodology – more possible differences in characteristics of the different sites than the number of sites – the reasons for the difference could not be ascertained. While it is possible that it was a result of differential operation of the training programmes, it is also possible that impacts depend very much on the local industry mix, state of labour demand, and types of firms in the area.

³⁰ The UK has sectoral training programmes as well. See <https://www.gov.uk/moving-from-benefits-to-work/job-search-programmes>, and see Ward, Woods and Haigh (2016) for an evaluation, which found positive effects on employment.

References

- Adam, S. et al. (2010), *Dimensions of Tax Design: The Mirrlees Review*, Oxford: Oxford University Press.
- Akerlof, G. A. (1978), 'The Economics of "Tagging" as Applied to the Optimal Income Tax, Welfare Programs, and Manpower Planning', *American Economic Review*, 68 (1), 8–19.
- Auerbach, A. J., and Hines, J. R. (2002), 'Taxation and Economic Efficiency', in A. J. Auerbach and M. S. Feldstein (eds), *Handbook of Public Economics*, Volume 3, Amsterdam: Elsevier.
- Avram, S., Brewer, M., and Salvatori, A. (2018), 'Can't Work or Won't Work: Quasi-Experimental Evidence on Work Search Requirements for Single Parents', *Labour Economics*, 51, 63–85.
- Barnow, B. S., and Smith, J. (2016), 'Employment and Training Programs', in R. A. Moffitt (ed.), *Economics of Means-Tested Transfer Programs in the United States*, Volume I, Chicago: University of Chicago Press.
- Baum, S., Holzer, H., and Luetner, G. (2020), 'Should the Federal Government Fund Short-Term Postsecondary Certificate Programs?', Washington: Urban Institute, <https://www.urban.org/research/publication/should-federal-government-fund-short-term-postsecondary-certificate-programs>.
- Beaudry, P., Blackorby, C., and Szalay, D. (2009), 'Taxes and Employment Subsidies in Optimal Redistribution Programs', *American Economic Review*, 99 (1), 216–42.
- Besley, T., and Coate, S. (1992), 'Workfare Versus Welfare: Incentive Arguments for Work Requirements in Poverty-Alleviation Programs', *American Economic Review*, 82 (1), 249–26.
- Blackorby, C., and Donaldson, D. (1988), 'Cash Versus Kind, Self-Selection, and Efficient Transfers', *American Economic Review*, 78 (4), 691–700.
- Blundell, R., Costa Dias, M., Meghir, C., and Van Reenen, J. (2004), 'Evaluating the Employment Impact of a Mandatory Job Search Program', *Journal of the European Economic Association*, 2, 569–606.
- Blundell, R., and Shephard, A. (2012), 'Employment, Hours of Work, and the Optimal Taxation of Low-Income Families', *Review of Economic Studies*, 79, 481–510.
- Brewer, M., and Hoynes, H. (2019), 'In-Work Credits in the UK and the US', *Fiscal Studies*, 40, 519–60.
- Brewer, M., Joyce, R., Waters, T., and Woods, J. (2019), 'Universal Credit and Its Impact on Household Incomes', Institute for Fiscal Studies Briefing Note BN248, <https://doi.org/10.1920/BN.IFS.2019.BN0248>.
- Brewer, M., Saez, E., and Shephard, A. (2010), 'Means-Testing and Tax Rates on Earnings', in S. Adam et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, Oxford: Oxford University Press.
- Burtless, G. (1987), 'The Work Response to a Guaranteed Income: A Survey of Experimental Evidence', *Federal Reserve Bank of Boston Conference Series Proceedings*, 30, 22–52.
- Chone, P., and Laroque, G. (2011), 'Optimal Taxation in the Extensive Model', *Journal of Economic Theory*, 146, 452–53.
- Cuff, K. (2000), 'Optimality of Workfare with Heterogeneous Preferences', *Canadian Journal of Economics*, 33, 149–74.
- Currie, J. (2003), 'U.S. Food and Nutrition Programs', in R. A. Moffitt (ed.), *Means-Tested Transfer Programs in the United States*, Chicago: University of Chicago Press.
- De Giorgi, G. (2005), 'The New Deal for Young People Five Years On', *Fiscal Studies*, 26, 371–83.

- Diamond, P. (1980), 'Income Taxation with Fixed Hours of Work', *Journal of Public Economics*, 13, 101–10.
- Diamond, P., and Sheshinski, E. (1995), 'Economic Aspects of Optimal Disability Benefits', *Journal of Public Economics*, 57, 1–23.
- Dorsett, R. (2006), 'The New Deal for Young People: Effect on the Labour Market Status of Young Men', *Labour Economics*, 13, 405–22.
- Eissa, N., and Liebman, J. B. (1996), 'Labor Supply Response to the Earned Income Tax Credit', *Quarterly Journal of Economics*, 111, 605–37.
- Greenberg, D., Deitch, V., and Hamilton, G. (2009), 'Welfare to Work Program Benefits and Costs: A Synthesis of Research', New York: Manpower Demonstration Research Program.
- Grogger, J. T., and Karoly, L. A. (2005), *Welfare Reform: Effects of a Decade of Change*, Santa Monica, CA: RAND Corporation.
- Gueron, J. M., and Pauly, E. (1991), *From Welfare to Work*, New York: Russell Sage Foundation.
- Holzer, H. (2013), 'Workforce Development Programs', in M. J. Bailey and S. Danziger (eds), *Legacies of the War on Poverty*, New York: Russell Sage Foundation.
- Hotz, V. J., and Scholz, J. K. (2003), 'The Earned Income Tax Credit', in R. A. Moffitt (ed.), *Means-Tested Transfer Programs in the United States*, Chicago: University of Chicago Press.
- Hoynes, H., Joyce, R., and Waters, T. (2023), 'Benefits and Tax Credits', IFS Deaton Review of Inequalities.
- Hoynes, H. W., and Patel, A. J. (2018), 'Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income', *Journal of Human Resources*, 53, 859–90.
- Hoynes, H. W., and Schanzenbach, D. W. (2012), 'Work Incentives and the Food Stamp Program', *Journal of Public Economics*, 96, 151–62.
- Hoynes, H., and Schanzenbach, D. W. (2016), 'US Food and Nutrition Programs', in R. A. Moffitt (ed.), *Economics of Means-Tested Transfer Programs in the United States*, Volume I, Chicago: University of Chicago Press.
- Jacob, B. A., and Ludwig, J. (2012), 'The Effects of Housing Assistance on Labor Supply: Evidence from a Voucher Lottery', *American Economic Review*, 102 (1), 272–304.
- Katz, L. F., Roth, J., Hendra, R., and Schaberg, K. (2022), 'Why Do Sectoral Employment Programs Work? Lessons from Work Advance', *Journal of Labor Economics*, 40, S249–91.
- Kogan, D., Paprocki, A., and Diaz, H. (2016), 'Supplemental Nutrition Assistance Program (SNAP) Employment and Training (E&T) Best Practices Study: Final Report', Washington, DC: Food and Nutrition Service, Department of Agriculture.
- Kosar, G., and Moffitt, R. (2017), 'Trends in Cumulative Marginal Tax Rates Facing Low-Income Families, 1997–2007', *Tax Policy and the Economy*, 31, 43–70.
- Manning, A. (2009), 'You Can't Always Get What You Want: The Impact of the UK Jobseekers's Allowance', *Labour Economics*, 16, 239–50.
- Meghir, C., and Phillips, D. (2010), 'Labour Supply and Taxes', in Stuart Adam et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, Oxford: Oxford University Press.
- Mirrlees, J. A. (1971), 'An Exploration in the Theory of Optimal Income Taxation', *Review of Economic Studies*, 38, 175–208.
- Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles, G., and Poterba, J. (2011), *Tax by Design*, London: Institute for Fiscal Studies, <https://ifs.org.uk/books/tax-design>.

- Moffitt, R. (1992), 'Incentive Effects of the U.S. Welfare System: A Review', *Journal of Economic Literature*, 30, 1–61.
- Moffitt, R. (2006), 'Welfare Work Requirements with Paternalistic Government Preferences', *Economic Journal*, 116, F441–58.
- Moffitt, R. A. (2015), 'The Deserving Poor, the Family, and the U.S. Welfare System', *Demography*, 52, 729–49.
- Nichols, A., and Rothstein, J. (2016), 'The Earned Income Tax Credit', in R. A. Moffitt (ed.), *Economics of Means-Tested Transfer Programs in the United States*, Volume I, Chicago: University of Chicago Press.
- Parsons, D. O. (1996), 'Imperfect "Tagging" in Social Insurance Programs', *Journal of Public Economics*, 62, 183–208.
- Petrongolo, B. (2009), 'The Long-Term Effects of Job Search Requirements: Evidence from the UK JSA Reform', *Journal of Public Economics*, 93, 1234–53.
- Piketty, T., and Saez, E. (2013), 'Optimal Labor Income Taxation', in A. J. Auerbach et al. (eds), *Handbook of Public Economics*, Volume 5, Amsterdam: North-Holland, 391–474.
- Riccio, J., Friedlander, D., and Freedman, S. (1994), 'GAIN: California's Greater Avenues for Independence Program', New York: Manpower Demonstration Research Program.
- Saez, E. (2002), 'Optimal Income Transfer Programs: Intensive Versus Extensive Labor Supply Responses', *Quarterly Journal of Economics*, 117, 1039–73.
- Schanzenbach, D. W., and Strain, M. R. (2021), 'Employment Effects of the Earned Income Tax Credit: Taking the Long View', *Tax Policy and the Economy*, 35, 87–129.
- Ward, R., Woods, J., and Haigh, R. (2016), 'Sector-Based Work Academies', Research Report 918, London: Department for Work and Pensions.
- Weinzierl, M. (2011), 'The Surprising Power of Age-Dependent Taxation', *Review of Economic Studies*, 78, 1490–518.
- Ziliak, J. (2016), 'The TANF Program', in R. A. Moffitt (ed.), *Economics of Means-Tested Transfer Programs in the United States*, Volume I, Chicago: University of Chicago Press.