

Contrasting economic analyses of gender, work and pay: Lessons from an equal remuneration case

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Abstract

Industrial tribunals and stakeholders involved in wage hearings are sometimes called upon to consider and weigh contrasting evidence that, due to its technical nature, may be inaccessible to non-specialists. This paper investigates the example of two different economic analyses of gender and pay that were submitted to Fair Work Australia as part of an ‘equal remuneration’ case for workers in the social and community services sector. It demonstrates how the different analyses partly reflect the different theoretical approaches to the analysis of labour exchange implicit in the alternative submissions. The paper argues that understanding the key assumptions and definitions underlying each type of economic analyses can contribute to an improved comprehension of the different viewpoints on gender pay equity among economists.

Keywords: *Fair Work Act, Australian industrial relations, equal remuneration, gender pay gap, gender segregation, occupational segregation*

Introduction

In 2010, the Australian Services Union initiated an application before Fair Work Australia (FWA), seeking ‘equal remuneration’ for work undertaken by the largely feminised workforce in the Social and Community Services (SACS) sector. Subsequent submissions to FWA addressed the question of whether work undertaken by the affected workers is under-remunerated and, if this is the case, whether this is linked with the sector’s feminised workforce. Two alternative analytical approaches contained in submissions provide a useful case study of contrasting theories and arguments used by economists to analyse gender and pay. These analyses provide insights to the contested nature of economic ideas and should be of interest to the broader academic and policy community engaging with economic evidence on important issues such as gender pay equity. In contexts such as the equal remuneration case, evidence submitted by economists has the capacity to affect significant policy outcomes with material effects for those involved in funding and working in particular sectors. The importance of

understanding economic evidence and the sources of dispute between economists can, thus, be high.

The aims of this paper are twofold. The first is practical, to enhance the ability of participants in industrial cases to more fully understand and engage with economic concepts and methods used to analyse gendered patterns of pay. We attempt to achieve this aim by explaining two alternative theoretical approaches to the issue of gender pay equity by economists. The second aim is to identify some of the sources of disagreement which were evident in the economic analyses submitted to the SACS equal remuneration case.

Background and context of the case

Section 2.7 of the *Fair Work Act 2009* gives FWA the authority to make orders relevant to equal remuneration as follows: ‘FWA may make any order it considers appropriate to ensure that, for employees to whom the order will apply, there will be equal remuneration for work of equal or comparable value.’ The specific guidelines for assessing equal remuneration do not require a male comparator or evidence of discrimination to demonstrate the need for an equal remuneration ruling. Instead, “the concept of gender-related undervaluation means that inferences can be drawn that a particular type of work is likely to have been undervalued because of gender linked characteristics, without the use of comparators” (National Pay Equity Coalition and Women’s Electoral Lobby, 2010: 32, quoted in Baird and Williamson, 2010: 346). This approach, including the wording of the FWA legislation and the unions’ claims, reflected a case in Queensland, where indicia, rather than male comparators, were used to argue a case for pay equity (*QSU v QCCI and others*, 2009). The case was therefore conducted in a different manner from ‘comparable worth’ cases where the skills and work undertaken by women in predominantly feminised occupations such as secretarial work and nursing are compared with occupations dominated by male employment such as car washing and mechanics (see for example references to United States cases in England, 1999).

The unions' application, submitted in March 2010,¹ (ASU, 2010), may be broadly described as containing two arguments. First, SACS employees are predominantly women and SACS work is undervalued having regard to the nature of the work and the skills and responsibilities involved in performing the work. Second, specific historical and institutional factors have contributed to the ongoing undervaluation of work by SACS employees. These include the competitive tendering processes used by governments for providing the funds used to pay the wages of SACS employees and the history of wage regulation in the sector. Paragraph 39 in schedule B of the ASU's application to FWA made it clear that one part of their strategy was to facilitate the national implementation of gains from a 2009 decision by the Queensland Industrial Relations Commission (QSU v QCCI and others, 2009). This awarded increases of between 18 and 37 per cent for community sector workers, based on the indicia approach, described above (Baird and Williamson, 2010).

An overview of the Social and Community Sector in Australia

The not-for-profit sector is a key provider of services in the social and community services sector in Australia. While this has its origins in the development of community services organisations in the 1950s and 1960s, the sector grew strongly in the 1980s and 1990s as governments increasingly introduced contracts for the provision of services in preference to providing services directly through the government departments. In the words of the FWA decision, the sectors has become more 'professionalised' and "the line between the not-for-profit sectors and business sector, increasingly blurred" (FWA decision, 2011: 60).

FWA noted that the sector contains more than 6,000 organisations, including 2,607 employing business that would be affected by an equal remuneration decision. More than 96 per cent of the employing businesses are small or medium, with less than 200 employees. There are an estimated 153,000 employees in the sector with 90 per cent employed by not-for-profit organisations. The majority of employees are women, varying between 76 and 81 per cent of employees depending on which particular occupational group or sub sector is considered, compared with an Australian average of 47 per cent. Part-time employment represents over half of all employment in the sector compared with 29 per cent nationally. The not-for-profit sector accounted for 4.1 per cent of GDP

¹ The Australian Municipal, Administrative, Clerical and Services Union (ASU) lodged the application supported by the Health Services Union, the Australian Workers' Union of Employees, Queensland, the Liquor, Hospitality and Miscellaneous Union, and the Australian Education Union.

in 2006-07, the average profit margin was below the national average for all industries that year and organisations in this sector are more likely than others to make a loss (FWA decision, 2011: 60-2).

Contrasting economic analyses of gender, work and pay

In the course of the hearings and in the decision handed down on 16 May 2011, submissions by the Australian Industry Group (AIG)² and the ASU were the focus of a debate on the different economic perspectives on the gender pay gap. Submissions by the AIG and the ASU both addressed the relatively low rate of pay received by employees in the SACS – and the question of whether these rates reflected a gender-based undervaluation of the employees' work. However, they reached opposite conclusions. The AIG submission asserted that insufficient evidence existed to support a claim that the SACS employees' work was currently under-valued. In contrast, the ASU submission argued that the available evidence indicated that undervaluation was occurring and was significant.

To understand these differences it is necessary, first, to comprehend the theoretical approach underpinning each analysis. In the AIG submission orthodox labour economics informed the analysis of the gender pay gap. In this approach, employers and workers are modelled as being involved in contract negotiations over labour services. Employers are assumed to be motivated by the prospect of individual gain and, as such, to offer a price (wage) for the labour service that will reflect the expected extra value of the worker's contribution to production, usually referred to as the 'marginal revenue product'. Thus, on the 'demand side', this approach relates wage differences between workers to the market value of the commodities they produce and their productiveness. In turn, the market value (price) of commodities is assumed to reflect the social value of the goods and services concerned.

Workers are characterised in the orthodox approach as sellers of labour who are motivated by a desire to maximise their self-interest. As such, they require a price (wage) that at least matches the value of alternative uses of their labour time and will reflect the

² The AIG is a peak industry association which along with its affiliates represents more than 60,000 businesses in a wide range of sectors. The businesses represented by the AIG employed more than 1 million employees in 2012 (AIG, 2012).

relative disamenity (including occupational hazards and unsocial hours) involved with the work. This approach links the supply of labour and the 'reservation wage'³ of workers, which will vary with the value of alternative uses of their time (increasing, for example, when young children are present in the household).

Modifications to the basic orthodox model allow for the possibility that wage outcomes may diverge from marginal revenue product. For example, monopsony power (where there is a single large employer) is predicted to result in wage outcomes that fall below workers' marginal revenue product and imperfect information is viewed as reducing workers' prospects of being adequately compensated for occupational risks. Further extensions of the model introduce the element of discrimination, predicting, for example, that if employers have a 'taste for discrimination' then the wage outcomes of affected groups will be pushed lower, at least in the short term (Becker, 1971). The influence of organisations such as wage setting tribunals, employer associations and unions is also commonly recognised. However, typically organisations are modelled in orthodox analyses only as constraints on the ability of individual employers and workers to negotiate their labour contracts. The basic elements and structure of the model emphasizes a market exchange between individual, rational and maximising 'agents' who act on preferences that are autonomous and stable. The institutional context of labour exchange plays, at most, a peripheral role.

The orthodox approach is based on deductive reasoning and its simplifying assumptions facilitate its application to a broad range of social and economic contexts. The key differences in analyses of wage outcomes in different countries or regions, in different time frames and/or in contrasting institutional contexts is not generally found in the model or underlying assumptions but in the data that is analysed. The relevant data is typically obtained through large, national data sets that have been developed to meet the needs of multiple researchers and projects. The analysis typically tests for correlations between specific variables. 'Explanations' in such analyses refer to the extent particular independent variables (such as education or labour market experience) are correlated with particular dependent variables (such as wages). Explanations also explore the extent to which the correlations are robust (consistent) across countries and time.

³ The reservation wage is the minimum wage rate required by the worker to supply labour.

In contrast, the economic analysis included in the ASU submission was informed by institutional theory which, as its name suggests, emphasises the way in which the institutional (cultural, relational and historical) context is fundamental to the determination of wage outcomes. This approach puts institutions at the centre of the analysis rather than relegating them to the context in which rational, individual decisions are made.

Institutions are defined to include both formal institutions, such as constitutions, laws and regulations, as well as informal institutions that include social norms and conventions. Both types of institutions are assumed to combine and affect how different types of work are evaluated by participants in the exchange of labour services, their motivations, bargaining power and outside options, and the rules governing the determination of wage rates. Thus, the nature of “negotiations” of labour services – and actual wage outcomes – is predicted to vary with change in the institutional context.

In the institutional approach, employers’ behaviour in wage negotiations is assumed to be influenced by their beliefs about what they *should* pay for particular labour services, in addition to what might be financially viable or attractive. Their beliefs will reflect previous practices and conventions in their industry or workplace context. Workers’ behaviour is assumed to be affected by perceptions about legitimate remuneration for their labour, in addition to concerns about working conditions and financial incentives. Again, these are likely to reflect previous practices and conventions in their workplace context. Actual wage outcomes are assumed to also be affected by formal and informal institutions which influence the bargaining power of the different participants.

Institutions are modelled as shaping each part of the labour exchange. As indicated above, social norms about what is a fair or legitimate wage rate for a particular type of work are viewed as affecting the nature of wage demands. Because these norms are assumed to be formed largely with reference to prevailing wage relativities, the historical context of the labour exchange is also important. Informal institutions, such as social norms about the legitimate actions of different groups of individuals in bargaining situations, play a similar role. Importantly, they also influence norms that inform the legitimate and desirable occupation roles of men and women and the gender pattern of wages. Formal institutions (such as the presence of otherwise of a legal right to strike or engage in lockouts) affect the set of actions available to participants in bargaining situations and, subsequently on wage outcomes.

Institutional labour theory does not generally predict that wage differences between individual workers will closely reflect either differences in the value of their productive contribution or the relative amenity of their jobs. The influence of institutions is pervasive, and the potential for ‘undervaluation’ is identified in a range of market institutions, including those that fail to adequately value the commodities produced by different groups of workers, those that affect the motivations and opportunity sets of different groups of employers and workers, and those that influence the distribution and valuation of different types of work.

Analyses undertaken within an institutional framework draws on more diverse methods and data than those typically utilised by orthodox approaches. Research may use large national data sets to identify correlations between the characteristics of employees and their earnings. However, this is often the first stage of a larger enquiry into the institutional sources of the patterns. To this end, researchers using an institutional approach often draw on smaller scale, local projects that take into account specific documentary and qualitative data relevant to explaining particular institutional contexts. It can be both deductive and inductive in its approach. That is, in some cases it tests existing theory or hypotheses while in other it builds contributions to new theory based on insights from particular case studies or experiences. A key purpose of institutional approaches is to explain why particular economic events or outcomes have occurred rather than to focus predominantly correlations between variables. Furthermore, ‘explanation’ typically focuses on causal relationships between particular combinations of social, cultural and historical factors leading to a known outcome (such as low wages). These factors have previously been identified as contributing to low wages among care workers (Briggs, Meagher and Healy, 2007).

Analyses submitted to FWA

The application of different ‘economic’ viewpoints to explaining the relatively low earnings of SACS employees is demonstrated in economic evidence submitted to FWA. The economic analysis included in the AIG submission was based on two papers involving Professor Deborah Cobb-Clark. The first was a co-authored paper with Juan Barón (Barón and Cobb-Clark, 2010) that reported the results of an empirical study of the different average wages received by Australian men and women. Reflecting the orthodox approach to understanding wage determination, this study explored the correlations between the wage outcomes of individuals and a range of worker and job

characteristics that were hypothesised to be generally relevant either to workers' productiveness, the value of the commodities produced, or the attributes of the jobs that were performed. This study investigated differences in men's and women's average experience in employment (such as tenure with their current employer); demographic characteristics, such as worker age, language background, and children; education, and a range of job characteristics (such as industry of employment, contract type, hours of work, union membership, firm size, and for some purposes of the analysis, occupation). A statistical analysis known as "decomposition" enabled the authors to identify whether men's and women's different average earnings were correlated with the observed differences in the job, experience, education and demographic characteristics of male and female workers.

A broadly similar analytical procedure featured in the second Cobb-Clark paper. This paper, co-authored with Michelle Tan (and ultimately published as Cobb-Clark and Tan, 2011) addressed the question of whether men's and women's non-cognitive skills (defined as their personality traits) influence the occupations in which they are employed and, if so, whether or not this contributes to a disparity in men's and women's wages. Variables relating to a range of non-cognitive skills were added to an empirical analysis of the gender pay gap that was similar to the Barón and Cobb-Clark study, on the assumption that these skills also affect worker productiveness and thus wage outcomes.

Two findings from these studies were particularly important to the FWA case. The first, reported in the Barón and Cobb-Clark paper, was that the different job characteristics (union membership, contract type, part time work, industry, firm size) of men and women were correlated with differences in wages and thus, largely 'explained' the gender pay gap (i.e., the relatively low wages of women) at the lower end of the pay distribution, with the implication, noted by the authors (Barón and Cobb-Clark 2010: 238), that the work of low-wage female employees is not undervalued relative to their male counterparts.

Part of difference in men's and women's earnings was not correlated with the variables analysed by Baron and Cobb-Clark. In keeping with orthodox analysis, this part of the difference in men's and women's average earnings was labelled as 'unexplained'. A second related finding of their analysis was that generally the 'unexplained' portion of the gender pay gap *increased* (and the part of gender pay gap accounted for by job characteristics fell) when controls for occupation were included in the decomposition

analysis. (Barón and Cobb-Clark 2010: 237) This led the authors to conclude that “In the Australian context...in most cases the occupational distribution favours women with respect to wages.” (Barón and Cobb-Clark 2010: 241)

These particular findings and conclusions may not be immediately obvious to readers who are not familiar with decomposition techniques, so a few words of explanation are added here. When measures of occupation are included in a wage decomposition we are effectively asking ourselves what would the gender wage gap look like if women’s ‘productive’ characteristics (including occupational distribution) remained the same but they were paid according to the male wage structure. In the Australian literature it is not uncommon to find that women would be worse off. This effect arises because there are proportionately more women in professional jobs than men. At November 2011, for example, of all women in employment 24.8% were in professional jobs. The corresponding share for men was 18.3% (ABS 2011).

The decomposition technique does not, however, account for vertical segregation, where men and women are in the same occupational group but men hold the senior positions (for example, as school principals) and women the lower level positions (such as teachers). Moreover there is also a body of literature arguing against the inclusion of occupational controls in wage equations on the grounds that occupation group is a grouped variant of the dependent variable. In other words occupational advancement is a way through which human capital results in higher earnings power (Mincer 1974). When occupation is included in the model we can expect it will swamp the effect of other variables and reduce the significance of determinants or characteristics such as education and experience. This effect was observed in the Barón and Cobb-Clark (2010) study (see tables 2 and 3 of pages 237 and 239).

The high importance of vertical segregation and gender pay gaps *within* occupations is, therefore, worth noting. Cobb-Clark and Tan found that virtually all (96.5%) of the total gender pay gap they observed in their study was due to gender pay gaps within occupational categories. If the majority of the gender pay gap occurs within occupations, then changing the pattern of men’s and women’s employment across occupations (by reducing occupational segregation) is unlikely to affect the size of the gap (Preston and Whitehouse 2004).

The importance of these findings to the FWA case was high because they implied that the work of women in low-wage sectors, such as the SACS, was not undervalued. The evidence was used to argue that women involved would be worse off if they worked in occupations that were less female dominated.

Subsequent witness statements jointly submitted by Associate Professor Siobhan Austen, Associate Professor Therese Jefferson and Professor Alison Preston (hereafter referred to as the Austen statement) at the request of the ASU, critiqued these conclusions. Part of the critique centred on the methods employed in the Cobb-Clark studies of the gender pay gap. However, other parts of the Austen statement (and a later interchange between the two economists) highlighted the differing theoretical viewpoints of orthodox and institutional labour economists.

Methods used in the study of the gender pay gap

The Austen statement pointed, first, to problems inherent in the measurement of occupation and the impact of these limitations on the analysis of the gender pay gap. The key problem identified by Austen was that of data restrictions, which force analysts to group a myriad of different jobs into broad occupational groups. Barón and Cobb-Clark's use of 64 occupational groupings for the entire Australian workforce was particularly detailed. Even so, 64 occupational groupings did not come close to representing the range of actual occupations in the Australian economy and, as a result, each of the measured occupational groups in the study contained a wide range of specific occupations with differing wage outcomes.

Austen asserted that using broad occupational groupings in a statistical analysis of the gender pay gap will have two key consequences. First, the analysis will not uncover the contribution to the gender pay gap of occupational segregation that occurs within the broad occupational groups. Second, it has the potential to result in misleading statements on the impacts of occupational segregation on gender pay equity.

Austen's statement used the data produced by Barón and Cobb-Clark (2010) and Cobb-Clark and Tan (2011) to illustrate these ideas. Attention was first drawn to Cobb-Clark and Tan's (2010) finding that virtually all (96.5%) of the total gender pay gap was due to gender pay gaps *within* the 18 occupational categories used in that study – and that these gaps *could not* be explained by the differences in the measured characteristics of men and

women working within these broad occupational groups. Austen's interpretation of this data was that jobs within each broad occupational group are vertically segregated according to gender and that differences in pay between male- and female-dominated occupations at this narrower level are likely to have contributed to the gender pay gap. She put forward the example of the occupational group of Science, Engineering and Other Professionals to illustrate these points. Noting that Cobb-Clark and Tan's paper implies that in this occupational category women receive lower wages than men despite having similar educational qualifications, labour market experience, demographic characteristics, and non-cognitive skills, Austen observed that this relatively broad occupational category includes Science, Building and Engineering Professionals, as well as Health and Social Professionals. Austen observed that the first occupational subgroup is likely to comprise mainly men; the latter mainly women. Thus, the statement suggested that a likely explanation for a gender pay gap *within* the broad occupational category is that the wages paid to health and social professionals are, on average, lower than those paid to science, building and engineering professionals for reasons that do not result from measurable differences in the education, experience and other attributes of the two groups of workers. This was cited as evidence in support of the argument that women's relatively low wages reflect the influence of gender-based undervaluation.

The Austen statement also used the Barón and Cobb-Clark data to identify how economic evidence on the impacts of occupational segregation can cause confusion. Specifically, Barón and Cobb-Clark's finding that occupational segregation was favourable to women's relative wage outcomes was shown to have a specific meaning: that, keeping current wage structures constant, the movement of women from *broad* occupational groups where they are currently 'over-represented' (such as clerical and sales work and professionals) to those where they are currently 'under-represented' (such as labourers and transport and production work) would increase the gender pay gap. Earlier work by Preston and Whitehouse (2004) reached a similar conclusion, noting that a finding of occupational segregation favouring women arises, in part, from women's over representation in professional occupations in education and health. They noted that if women were to have the same occupational patterns as men, it would require that some women in feminised professions move to, for example, trade based or labouring occupations mostly undertaken by men. Such a shift might lead to an overall fall in women's earnings and a potential increase in the gender pay gap (Preston and Whitehouse, 2004).

In sum, the different conclusions of the Austen and Cobb-Clark statements on the importance of occupational segregation to the gender pay gap highlights the differing results that obtain from examining vertical versus horizontal segregation. The Austen statement focused on vertical occupational segregation – differences in the allocation of jobs between men and women who work within the same broad occupational group. It emphasised data showing pay gaps *within* these broad occupational groups that could not be explained by the measured characteristics of the men and women involved, and used this data to support a claim that the pay gaps were attributable to the different rates of pay attached to men’s and women’s work within the groups. In contrast, the Cobb-Clark conclusion that occupational segregation did not contribute to the gender pay gap was based on an assessment of the effects of horizontal occupational segregation; differences in men’s and women’s representation in broad occupational groups; and differences in men’s and women’s rates of pay in these broad groups.

Differing theoretical viewpoints on the meaning of ‘value’

The different theoretical viewpoints of the economists became more apparent when Cobb-Clark responded to the Austen statement that ‘unexplained’ gender pay gaps within occupational groups demonstrated ‘the importance of the undervaluation of women’s work within narrowly defined occupational categories to the total level of gender inequality in the Australian labour market’ (Austen, Preston, and Jefferson, 2010a). In a supplementary statement Cobb-Clark expressed surprise that Austen, as an economist, could draw such a conclusion. She outlined what she perceived to be *the* economic approach to the question of whether particular rates of pay reflect the value of the worker’s contribution in the following terms:

As an economist the notion of ‘undervaluation’ has a particular meaning which requires comparison of ‘like with like’. Specifically, undervaluation (or discrimination) occurs when equally productive workers are treated differently solely on the basis of their non-productive characteristics such as gender, religion, ethnicity, race, sexual orientation, etc. (see Blau et al., 2010). Workers’ productivity depends not only on their own characteristics, but also on the nature of the work they do, and the value of the goods and services they provide to others. For this reason, it is difficult to make judgments about undervaluation when we cannot compare workers with the same skills (e.g., educational attainment, field of study, experience, tenure, etc.) doing the same work (e.g., hours, firm size, detailed occupation)...

From an economist's perspective, the information which is contained within Article 1 [the Cobb Clark and Tan paper showing gender pay gaps within occupations] is not detailed enough to draw conclusions in relation to whether undervaluation is present or whether the differences in wages are due to market conditions....

From an economist's perspective, wages should be equal to the value of what you are producing. In addition to an employee's education and experience which can be broadly categorised as an employee's 'skills and labour market experience', job characteristics like the size of the employing organisation, the industry of employment, casual or part-time employment, union membership as well as the value of the product or service to consumers are all relevant to determining the value of what is being produced. From an economics standpoint ...Job characteristics and the value of what is being produced are also relevant to determining value. Furthermore, if you are comparing workers in different jobs it is extremely difficult to assess whether one is undervalued relative to the other. You are not comparing like with like (Cobb-Clark, 2010a:4-5).

These extracts from the Cobb-Clark witness statement provide a useful summary of the orthodox approach, and complement the outline provided above. Explanations of gender differences in pay are presumed to reflect either differences in the characteristics of men and women, or differences in market conditions affecting the jobs they work in, or both. The extracts also show how, in the orthodox approach, wage outcomes are assumed to reflect 'the value of what is being produced'. However, the extracts contain several additional insights to how orthodox economists approach the issue of gender pay gaps. First, there is a perception that there is only *one* economic viewpoint, the orthodox viewpoint. Second, undervaluation is regarded as equivalent to discrimination. Third, the standard of proof for undervaluation is very high, requiring a comparison of like with like. Proving undervaluation is seen as very difficult when 'you are comparing workers in different jobs.'

Each of these features of the orthodox approach is important. For example, the conflation of discrimination and undervaluation is problematic in a context such as the ASU case, where discrimination and undervaluation are regarded as distinct issues with potentially different causes and remedies. Additionally, the reluctance to compare

remuneration for different jobs poses problems when the intention of the relevant legislation is to achieve this. However, in this part of the paper we seek to focus on the comment that 'From an economist's perspective, wages should be equal to the value of what you are producing'. The ASU's legal counsel probed the meaning of this statement in her cross-examination of Cobb-Clark during the FWA hearings. She enquired if the statement was a normative statement and Cobb-Clarke responded that it was a positive, not a normative statement:

Counsel: "That's a normative statement from an economics perspective, not a statement of necessarily the reality - - -?"

Cobb-Clark: "No, it is not a normative statement; it is a positive statement."

Counsel: "It's a positive statement?"

Cobb-Clark: "It is a positive statement."

(Fair Work Australia, 2011a: 5174 - 5).

Cobb-Clark's response might be interpreted in different ways. She could be asserting a belief that the (orthodox) economic perspective is that wages *do in fact* reflect the value of what is being produced. Alternatively, she could be asserting that the (orthodox) economic perspective is that wages *should* reflect the value of what is being produced. The latter version is closer to the wording of her statement but it clearly expresses a statement of a norm; it states what *should* be the case with regards wages and value. The first version is a positive statement. However, this creates something of a paradox because if wages do in fact reflect the value of what is produced then there is little point in conducting wage cases that consider gender and pay; market forces will ensure that men and women are remunerated according to the value of their contribution. Such an approach denies the possibility of undervaluation.

The notion that wages ultimately reflect the value of what is being produced is highly contested terrain in economics (a highly cited account is provided by Dobb, 1973). However, it is also apparent in the initial Austen statement which cites a large and diverse literature in feminist economics (which is closely linked to institutional economics) on the failure of apparently gender-neutral market institutions to adequately value the commodities produced by women (Himmelweit, 1995; Ironmonger, 1996); on the impact of social structures and relationships on women and men's work and career goals (Pujol, 1997; Strassman, 1997); and on the influence of social norms associated with providing

care on the distribution of unpaid household work and, subsequently, on gendered nature and configuration of work (Folbre, 1994).

The Austen statement identified the SAC sector as one where care services are commonly purchased by government agencies but used by clients. As a result, the link between the demand for the service (reflecting its social or community value), the price received by care providers, and the wages they can offer care workers was identified as being, at best, weak. The type of market environment envisaged in the orthodox conceptual framework was not seen as applicable to the sector. Thus, the likelihood that the wages received by SACS workers would reflect the value of what they produced was rated as low and the importance of an analysis of the effects of institutions on wage determination was rated as high.

Differing theoretical viewpoints on the meaning of ‘productivity’

Further differences became apparent when Cobb-Clark responded to the Austen statement linking the concept of ‘worker productivity’ primarily to worker attributes such as education and experience. Cobb-Clark equated productivity to value and included job characteristics such as the size of the employing organisation, the industry of employment, casual or part-time employment and union membership in her definition of the concept:

...from an economics standpoint this [Austen’s approach] is not sensible. Job characteristics and the value of what is being produced are also relevant to determining value. (Cobb-Clark, 2010a: 5)

This is an important distinction as it affects the conclusions reached on whether the observed gender pay gap is justified. In the Cobb-Clark analysis of the pay gap, organisation size and union membership were included in the definition of worker productivity. The inference was that the pay gap between workers in small and large organisations – and between unionised and non-unionised workers - is justified by differences in the value of work performed. The transcript proceedings in the equal remuneration case at least show that concepts of negotiating capacity or power are also drawn on by orthodox economists to explain the higher wages of union members (Fair Work Australia, 2011b: 5184). However, this type of causal explanation is not reflected in an approach that includes union membership in the definition of productivity and which, as a result, does not treat wage differences between union members as something that could be relevant to the question of undervaluation.

Discussion

The submissions demonstrate that explanations put forward by economists for observed links between gender, work and pay can be contentious and conflict. In the case, analyses of women's earnings were simultaneously interpreted by different economists participating in the case as either 'explaining' gender differences in average pay or demonstrating inequities in payments to the largely feminised community sector workforce (Cobb-Clark, 2010; Austen, 2010, respectively).

A key reason for the different conclusions is related to the different conceptual frameworks that inform the analyses conducted by these economists. As described in the paper, the orthodox approach, which currently dominates current economic thinking, relies on deductive reasoning and a characterisation of human behaviour and interaction based on individual decisions, stable preferences and a wish to maximise personal gains. This approach asserts that wages are determined by 'market' factors relating to workers' productivity and an objective value of what they produce and the supply of labour. In contrast, analyses based on institutional theory conceptualise interactions between workers and employers as taking place in a historical, relational and cultural context that affects the participants' motives; structures their interactions; and determines the range of potential wage and other outcomes. The likelihood that wages will reflect the value of what is produced is not rated highly in the institutional approach.

Different viewpoints on the gender pay gap can also result from economists using different definitions of occupational segregation, occupation and worker productivity. The differing emphasis given to potential divergence of market prices from social values provides a further source of conflict among economists. In the equal remuneration case, the orthodox submission relied on the concept of horizontal occupation segregation to argue that segregation was, on average, positive for women's wage outcomes. This submission used a broad concept of worker productivity that discounted the wage differences between, for example, union and non-union workers as relevant to the gender pay gap. The submission also assumed that the market prices for care services reflected their social value. In contrast, the institutional viewpoint focused on the concept of vertical occupational segregation to argue that wage differences between female- and male-dominated occupations contribute to the gender pay gap. This submission relied on a narrow definition of worker productivity (in terms of worker attributes such as education and experience) to emphasise wage differences between men and women with

similar characteristics. It discounted the possibility that the age received by care providers for their services would reflect the value attached to these services by the community, with the consequence that the wages of SACS workers were unlikely to reflect the value of their contributions.

It is interesting and important to note that the two economists used similar (and in some cases identical) data to argue their different positions. A poorly acknowledged feature of economics is that empirical evidence plays a very small role in deciding the merits of competing explanations of labour and other economic phenomena. The reasons for this are contentious but well-known arguments include McCloskey's analyses of the nature of knowledge and persuasion in economics and Lawson's accounts of the (misplaced) ontological theories on which economics is based (Lawson, 1997, 2003; McCloskey, 1994). Both sets of arguments comprise substantial (but different) theses that emphasise economists' frequent reliance on research strategies which adopt the language of physical science but rarely (if ever) attain a comparable capacity to distinguish between theories on the basis of 'objective' data. The difficulty arises because neither the theories nor the data are 'objective'; they reflect a wide range of social norms at almost every point of the research process in defining relevant questions, identifying relevant data, applying relevant analytical techniques, and interpreting results.

The evaluation of different types of analyses and approaches, therefore, involves much more than considering different interpretations of similar data. The purpose and methods of economic analyses must also be considered and an understanding sought of their strengths and limitations. The key methods employed in orthodox analysis rely on a social ontology that assumes stability and regularity of economic relationships and institutions (Lawson 1997; 2003). This is a similar approach to the ontology underlying physical sciences. As such, orthodox methods focus on investigating economic relationship by measuring correlations between variables such as employee characteristics and wages. Explanation of the legal, social or historical basis of the relationships is not the key focus of this type of analysis. This is why, for example, correlations involving key variables such as occupation can be relatively unrevealing in terms of understanding gendered patterns of pay. Correlations between earnings and occupation may lead us to acknowledge occupation as a relevant variable in the determination of wages but do little to explain why this occurs. Increasingly closer correlations might be obtained by using

ever more detailed occupational data but these would do little to explain why different occupations are valued differently⁴.

In contrast, institutional analyses, while diverse in both the methods and data employed, have causal explanation as a key purpose. A range of data and methods are used to examine possible links between both individual and institutional contributory causes to observed economic relationships. This requires a close attention to the justification of any simplifying assumptions used during analysis and a focus on the causal links between variables rather than correlations alone. Research undertaken within this framework can focus on issues such as the history of an occupation, such as caring roles, to explain links between gender, occupation and pay.

Expectations, if they exist, that economists can provide objective evidence are unrealistic and misplaced. Within the discipline these features are widely (although not universally) known but perhaps not prominently acknowledged. Different schools of thought have developed in economics that reflect the wide range of standpoints that inform research programs and methodologies. However, in a context in which one particular school of thought dominates the discipline, it is important that those outside of the discipline are reminded that all economic research, even when it is presented as objective and empirical, contains embedded assumptions and methodological constraints. There *are* major differences in earnings by gender within the Australian economy that are either unexplained or appear to be associated with wage differences between male- and female-dominated occupations. No single research method or set of data can adequately explain these phenomena and the potential causes, and appropriate policy responses will always rely on judgment and compromise as well as high quality research.

Conclusion

There are considerable risks if the philosophic or methodological basis of economic analyses of the gender pay gap is either neglected or misunderstood. If only one type of economics is seen as valid then the capacity to critique and provide alternative views diminishes. The statements provided by academics in the equal remuneration case demonstrate the considerable value of having alternative research agendas and approaches presented and questioned.

⁴ We are indebted to an anonymous reviewer for suggesting this important argument.

For stakeholders not familiar with the details of economic theories, the above point might be important but it is unlikely to be sufficient for understanding research that is often presented in a highly technical format. It can be particularly difficult to challenge assertions made by highly qualified experts who undertake sophisticated forms of analysis. We suggest that this might, to some extent, be overcome by critically evaluating economic analyses of the gender pay gap by asking a series of questions about the assumptions that have been made. First, what was the definition of '*occupation*' used by the researchers? If broad occupational groupings have been used then it is important to consider whether or not the conclusions reached provide insights into the earnings of men and women with very similar jobs or whether the occupational groups contain men and women with widely diverging jobs. Second, what assumptions were made about the nexus between market price of the product being produced and its '*social value*'? If the social value of the product is equated with prices paid in a 'market' then it is important to consider the competitive structure of that market. 'Value' can have very specific meanings within economic analyses and it is important that the meaning used in any particular study is clearly understood. Third, what assumptions underlie the concept of '*productivity*' in the analysis? Is productivity assumed to be related to individual characteristics of employees? Or employers? Or industries? It is also important to consider potentially relevant factors related to productivity that might be omitted from the analysis. For example, is managerial expertise or experience included as a factor that might contribute to productivity? What implications does this have for the conclusions reached? Finally, how are *institutional arrangements* treated in the analysis? Is it assumed that the analysis is valid regardless of relevant institutional dimensions such as history and social and organisational context that operate within the specific labour market under consideration? If institutional dimensions are not part of the analysis then how does this affect the relevance of the conclusions reached in the analysis, and how does it affect the way in which industrial relations tribunals perceive their own role in shaping labour market outcomes?

By considering the above questions, insights can be gained into the strengths and weaknesses of different forms of economic analysis. Adopting this approach can ensure that no specific method is seen as the 'gold standard' form of analysis. It also ensures that social policy is informed by critical evaluation and debate of research findings.

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