Australian Government

Department of Education, Employment and Workplace Relations

Measuring the Socio-economic Status of Higher Education Students

Discussion Paper

December 2009

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1.   Executive Summary

1.1   Background

The purpose of this paper is to encourage discussion in the Australian higher education sector about how to define and measure socioeconomic status (SES). As part of the 2009-10 Budget package, the Government announced its intention to improve the participation of students from low socio-economic status (SES) backgrounds in higher education to 20 per cent of all undergraduate students by 2020. A new measure of SES is to be used to determine progress towards achieving this target.

Definitions of socio-economic status (SES) vary across time and place. It is possible for the same nomenclature to be ascribed different meanings and to be measured differently across education sectors, policy arenas and state and national jurisdictions. Socioeconomic status is a complex and relative concept. It is reasonable to expect that it will mean different things in different contexts. For the purposes of this paper, socioeconomic status is defined broadly in terms of social, cultural and economic resources, the extent to which individuals and groups' have access to these resources and the relative value ascribed to the resources held by different individuals and groups.

The proportion of low SES students enrolled at all levels of higher education in Australia has remained static at around 15 per cent over the last two decades, despite this group making up 25 per cent of the broader population. This suggests that many low SES students are educationally disadvantaged and are missing out on the opportunity to participate in university study. While there are other groups which also experience educational disadvantage, such as Indigenous students and students from regional areas, this discussion paper focuses on identifying the students from low SES backgrounds who experience educational disadvantage.

The goal articulated in the Government's 2009-10 Budget package to increase the participation of people from a low SES background will be directly supported by a total of $433 million in funding over the next four years. Of this, $325 million will be provided to universities over four years as a financial incentive to expand their enrolment of low SES students and to fund the intensive support that some students may need to progress through their studies.

In order to distribute money from the 2009-10 Budget programs, the number of low SES students in higher education needs to be identified. Currently, the SES of higher education students is determined by the geographic area or postcode of the student's home. The Australian Bureau of Statistics (ABS) Socio-Economic Indexes for Areas (SEIFA) Index of Education and Occupation (IEO) is used to rank postcodes. The postcodes that comprise the bottom 25% of the population aged between 15 to 64 years at the date of the latest census, based on this ranking, are considered low SES postcodes. Students who have home locations in these low SES postcodes are counted as 'low SES' students.

The SEIFA IEO measure of SES provides an indication of the level of disadvantage in a student's community. While this may be considered an important element of SES, it is only one aspect of an individual's circumstances and it is important that measures of SES reflect a range of dimensions which indicate an individual student's SES. Given the diverse nature of postcodes, the SEIFA IEO measure cannot capture all factors which relate to particular

individuals' circumstances in these areas. The SEIFA IEO measure is also influenced by the fact that university students are mobile and often move away from home to go to university. This means that if students report the postcode of their term address as their home location we are not receiving information about the origin of these students. For these multiple reasons, the Australian Government has indicated that measures of SES are most useful if they include some indication of the circumstances of individual students and their families rather than relying solely on aggregate measures based on geographical location.

1.2   Characteristics of a good measure

There are a range of characteristics that are desirable in any measure of SES. These include: construct and predictive validity; transparency; reliability; makes the best possible use of existing data sources; can be collected and analysed cost-effectively; provides information in a timely manner; and, minimises intrusion for the respondent.

1.3   Dimensions of SES

In developing a new measure of SES it is important to consider the conceptual nature of SES. As noted above, the SES of individuals and groups can be defined by the level of social, cultural and economic resources they have access to and the extent to which these resources are valued by society. How this is more specifically defined varies across time and place, reflecting the difficulties in developing appropriate measures for this concept. It is clear, however, that SES, no matter how it is defined, importantly influences the likelihood of higher education participation and attainment of young people (Western, 1998). When developing new measures, therefore, it is important to examine the relationship between particular dimensions of SES and their impact on higher education participation and attainment.

While variants exist, most measures of SES use one or more of the following key dimensions of SES - educational attainment, occupation, economic resources and other social and cultural resources. Some measures also include indicators of area and context related aspects of socio-economic status such as geographic location or community. Studies show that each of these dimensions of SES is correlated with participation and success in higher education. For this reason, any or all of these dimensions of SES could be used to measure the SES of higher education students.

1.4   Current developments

The Department of Education, Employment and Workplace Relations (DEEWR) has been involved in ongoing discussions and work to identify improved methods of measuring the SES of higher education students.

The first method being investigated by DEEWR is whether the address details available for Commonwealth Assisted students could be geo-coded to the smaller geographic area of Census Collection District (CD). A CD-based approach would provide an improved estimation method as it is based on a smaller, and thus more homogeneous, area of households than the current postcode method. The second measure being investigated is the use of parental education data on higher education students. Two new data elements have been introduced to the higher education students' collection in order to capture this information, one element for each of two parents/guardians. These elements were introduced to the

collection by ministerial determination in December 2008 for first reporting in the 2010 student statistics collection.

1.5   *Data sources and considerations for data*

Depending on the dimension or dimensions of SES that are chosen to measure SES there are a number of current and potential data sources that could be used. These include ABS SEIFA Indexes, data on income support recipients, data collected from students at enrolment, data collected through surveys and parental income data collected through the Australian Taxation Office (ATO). As noted above, when choosing which data source to use to measure SES, a range of factors needs to be considered. These include, but are not limited to, validity and reliability of the data source, privacy and sensitivity issues, costs and timing.

1.6   *Implementation*

For funding purposes, it is proposed to adopt a phased approach to implementing the new measure. A proposed interim measure of SES is outlined in this paper, which may be used in order to distribute low SES enrolment loading. A concurrent process of sector consultations will also be undertaken to determine a more robust measure. When implementing a new measure, consideration needs to be given to whether a new index of SES could be developed which covers a range of SES dimensions.

2. Background

As part of its Education Revolution and in response to the Bradley Review of Australian Higher Education and the Cutler Review of the National Innovation System, the Australian Government announced a $5.4 billion package over four years for higher education and research as part of the 2009-10 Budget. As part of the Budget package, the Government announced its intention to improve the participation of students from low socio-economic status (SES) backgrounds in higher education.

The purpose of this paper is to encourage discussion in the Australian higher education sector about how to define and measure socioeconomic status (SES). As part of the 2009-10 Budget package, the Government announced its intention to improve the participation of students from low socio-economic status (SES) backgrounds in higher education to 20 per cent of all undergraduate students by 2020. A new measure of SES is to be used to determine progress towards achieving this target.

Definitions of socioeconomic status vary across time and place. It is possible for the same nomenclature to be ascribed different meanings and to be measured differently across education sectors, policy arenas and state and national jurisdictions. Socioeconomic status is a complex and relative concept. It is reasonable to expect that it will mean different things in different contexts. For the purposes of this paper, socioeconomic status is defined broadly in terms of social, cultural and economic resources, the extent to which individuals and groups' have access to these resources and the relative value ascribed to the resources held by different individuals and groups.

Over the last two decades, the proportion of low socio-economic status (SES) students enrolled at all levels of higher education in Australia has remained static at around 15 per cent, despite this group making up 25 per cent of the broader population. This suggests that low SES students are educationally disadvantaged and are missing out on the opportunity to participate in university study. While there are other groups which experience educational disadvantage, such as Indigenous students and students from regional areas, the focus of this discussion paper is on identifying students from low SES backgrounds.

Underlining its commitment to improving low SES participation, the government has allocated a total of $433 million in funding over the next four years to directly support the achievement of this goal. $108 million will be allocated over four years for a new partnerships program. This will link universities with low SES schools and vocational education and training providers to encourage low SES students to aspire to attend higher education. $325 million will also be provided to universities over four years as a financial incentive to expand their enrolment of low SES students and to fund the intensive support that some students may need to progress through their studies. The participation goal will also be supported by new performance funding arrangements, which will see universities meeting agreed participation and other performance targets to receive funding.

In order to distribute money from the 2009-10 Budget programs, to measure progress against the low SES target and to negotiate participation targets with individual universities, the number of low SES students in higher education needs to be identified. Currently, the SES of higher education students is determined by the geographic area or postcode of the student's home. The Australian Bureau of Statistics (ABS) Socio-Economic Indexes for Areas (SEIFA) Index of Education and Occupation (IEO) is used to rank postcodes. The postcodes that comprise the bottom 25% of the population aged between 15 to 64 years at the date of

the latest census, based on this ranking, are considered low SES postcodes. Students who have home locations in these low SES postcodes are counted as 'low SES' students.

The SEIFA IEO measure of SES can provide an indication of the level of disadvantage in a student's community. While this may be considered an important element of SES, it is only one aspect of an individual's circumstances and it is important that measures of SES reflect a range of dimensions which indicate a student's SES. Given the diverse nature of postcodes, the SEIFA IEO measure cannot capture all factors which relate to particular individuals' circumstances in these areas. The SEIFA IEO measure is also influenced by the fact that university students are mobile and often move away from home to go to university. This means that if students report the postcode of their term address as their home location we are not receiving information about the origin of these students.

Given the issues raised above, the Australian Government and Universities Australia have both indicated that measures of SES are most useful if they include some indication of the circumstances of individual students and their families rather than relying solely on aggregate measures based on geographical location. In the Budget, the Government noted its intention to develop improved measures of SES based on the circumstances of individual students. Collecting individual information will be important to help ensure sector acceptance of potential new measures and overcome widespread criticism by the sector of aggregate measures of SES based on postcodes. The improved measure will be developed in close consultation with the higher education sector.

3. Characteristics of a good measure

It is important that any new measure of the SES of higher education students have the following characteristics:

- Construct and predictive validity – so that any new measure reflects what it purports to measure. In this case measures should reflect the likelihood of educational disadvantage of a student.
- Transparency – measure is open for scrutiny and readily understood.
- Reliability – results from the measure should be consistent over time. This may be impacted by non-response bias.
- Makes the best possible use of existing data sources
- Collected and analysed cost-effectively and provides information in a timely manner
- Minimises intrusion for the respondent

While work will be done to ensure that any new measure accurately records the number of low SES students at each institution, no measure is able to capture all low SES students. For this reason, it is important that results are used as indicative of the number of low SES students at each institution and not as an absolute number of low SES students.

4. Dimensions of Socio-economic Status

In developing a new measure of SES it is important to consider the conceptual nature of SES. As noted above, the SES of individuals and groups can be defined by the level of social, cultural and economic resources they have access to and the extent to which these resources are valued by society. How this is more specifically defined varies across time and place, reflecting the difficulties in developing appropriate measures for this concept. It is

clear, however, that SES, no matter how it is defined, importantly influences the likelihood of higher education participation and attainment of young people (Western et al., 1998). When developing new measures, therefore, it is important to examine the relationship between particular dimensions of SES and their impact on higher education participation and attainment.

There are a range of factors which influence a student's likelihood of higher education participation and attainment. These include factors such as Indigenous status, location, student achievement, parental education and occupation and community influences. Given the Government's intention to improve the participation of low SES students it is important to understand the particular factors or dimensions which influence the educational disadvantage of a number of low SES students. As socioeconomic status is an abstract concept for which there is no agreed international method of measurement, it is particularly important that any measure of SES is closely aligned with causal factors associated with educational advantage and disadvantage (CSHE, 2008, p.19).

While variants exist, most measures of SES use one or more of the following key dimensions of SES - educational attainment, occupation, economic resources and other social and cultural resources. Some measures also include indicators of area and context related aspects of socio-economic status such as geographic location or community. Studies show that each of these dimensions of SES is correlated with participation and success in higher education. For this reason, any or all of these dimensions of SES could be used to measure the SES of higher education students.

4.1   Education

The education dimension of SES is usually measured through the level of educational attainment of persons within a household. In the case of higher education students the data collected would refer to the education level of a student's parents. Consideration would need to be given to whether this measure is appropriate and available for mature age students. A previous study by Western (1998) considered this issue and concluded that parental origins could be used reliably for mature-age students. However, it may be worth re-considering this issue given this research is now a little dated.

A number of studies have examined the relationship between a person's parental education background and their likelihood of participating in higher education. A study by the Centre for the Study of Higher Education (CSHE, 2008, p.18) indicates that parental education attainment is likely to be the best predictor of higher education participation. An earlier study by James (2002, p.13-14) also showed that parental education levels revealed the clearest patterns of variation in student attitudes towards school and post-school options. Similarly, Western (1998, p.32) found that students whose parents had high educational levels had access to a range of resources which helped them participate in university studies.

The high correlation found between parents' education levels and their children's higher education participation (CSHE, 2008; James, 2002; Western et al., 1998) has been attributed to a number of cultural factors in the home. Factors such as role models, information resources, levels of encouragement to pursue educational goals and educational aspirations and expectations that are developed in the home have all been indicated as potential encouraging factors in highly educated homes (James, 2002; Western et. al., 1998; Williams et. al., 1993).

We also need to consider how parental education impacts on student's achievement and higher education attainment. The CSHE study (2008) suggests that parental education is linked to both participation and success in higher education. The impact of parental education on student success at university can be mediated through financial resources available to the student. That is, parental education is correlated with a university student's financial circumstances and the effect of finances on a students' capacity to study (CSHE, 2008, p.7). This, in turn, impacts on the students' ability to succeed in higher education.

4.2   Occupation

The occupation dimension of SES is usually measured through the occupation classification of a student's parents. Where this data has been collected in previous studies, students have generally been asked to provide a job title and brief description of the main duties associated with their parents' occupation. Responses are then coded to occupation levels and given a score. The most widely used basis for assigning occupational scores have been the ANU scales of occupational status.

A number of studies have examined the correlations between a student's parents' occupation and higher education participation. Long et. al. (1999) found that parental occupational status was the only dimension of SES, out of the key dimensions of education, occupation and income, to have an independent effect upon patterns of educational participation and notably participation in higher education. Of all young people, those with parents in professional and white-collar occupations were found to be about a third more likely to attend university than young people with parents in blue-collar occupations (Long et. al., 1999, p. 61). According to this study, much of the impact of other dimensions such as parental education and wealth were transmitted through other characteristics such as school achievement and post-school expectations.

Similarly, an earlier study by Williams et. al. (1993) showed that higher education participation rates were highest for children whose parents were from professional backgrounds as opposed to lower status occupational groups. By age 19, 60 per cent of year 12 graduates from families in the professional category had entered higher education (Williams et. al., 1999, p. 36). These rates of entry are between 10 and 30 percentage points greater than the rates for other lower status occupational groups. As with parental education, the occupation level of parents is seen to affect participation through a number of factors such as role models, career aspirations and the provision of resources for education (James, 2002; Long et. al., 1999; Williams et. al., 1993).

4.3   Economic resources

Differences in participation rates by SES have often been attributed to differences in the economic capacity of families to support their children through higher education. The economic capacity of families is best measured through indicators of wealth of the household. As wealth is a difficult indicator to measure, income levels, as measured through parents' income, are typically used as a surrogate measure. However, income can often be an unreliable indicator of wealth as students are either unwilling, or unable to provide this information about their parents (Long et. al., 1999, p.69). Some studies have instead used other measures of wealth such as the presence of consumer durables in the household (Long et. al., 1999, p.69; Williams et. al., 1993, p.53).

A number of studies have examined the correlations between household wealth and the education participation of children. Most studies find that there is a high correlation between family wealth measures and educational participation and attainment (Long et. al., 1999; Williams et. al., 1993). However, when this relationship is examined more closely, it is apparent that much of this correlation is related to the close association between family wealth and parental education and occupation levels. Once this close association is adjusted for however, studies show that there is still a significant difference in higher education entry rates and year 12 completion rates between the wealthiest and poorest quartiles (Long et. al., 1999, p. 72). This suggests that despite the clearly close relationship between wealth and parents' education and occupation, wealth still exerts an influence on participation rates and entry to higher education over and above the other influences of parents' education and occupation (Long et. al., 1999, p. 72; Williams et. al., 1993, p. 52).

4.4   Community

Research also suggests that the location dimension of socio-economic status impacts on educational disadvantage. Location influences SES through providing broad level social, cultural and economic resources to people in the area.

Vinson (2004) shows that an accumulation of social problems such as low education and low income levels in one geographic area can impact upon the wellbeing of residents in the area. In both Vinson's 2004 and 2007 papers he demonstrates that a "disabling social climate" (2007, p.ix) can develop that is more than the sum of individual and household disadvantage. This climate appears to be influenced by the degree of social cohesion within an area and the climate can exacerbate the effects of disadvantageous conditions at the individual level (Vinson, 2007).

This research suggests that the geographic location of a student may need to be included in a measure of SES as it impacts on their educational attainment and participation. For example, a student may be located in an area where the local environment is creating and sustaining disadvantage. While the student may be relatively advantaged, as measured by other dimensions, they may still experience educational disadvantage due to their location.

Vinson (2007) provides a framework to identify geographic areas which are experiencing cumulative disadvantage. The framework takes into account multiple strands of deprivation and identifies a hierarchy of disadvantaged localities. This information could be incorporated in the measurement of a student's SES. Alternatively, the ABS SEIFA Indexes also provide an indication of geographic areas experiencing multiple disadvantage.

The socio-economic classification of schools may also be used as an indicator of community disadvantage. Currently, schools are classified according to a range of indexes that are used for different funding purposes and sectors. These indexes provide information on the educational disadvantage of the school community. Further investigation of information on school attended by higher education students and the appropriate classification of schools using a range of indexes as a measure of community disadvantage may be warranted.

> ### *Questions for Discussion*
>
> - *Which dimensions could be used to provide valid and reliable measures of the SES of higher education students?*
> - *What are appropriate measures of the SES of mature age students?*

5.   Current developments

The Department of Education, Employment and Workplace Relations (DEEWR) has been involved in ongoing discussions and work to identify improved methods of measuring the SES of higher education students.

The first method being investigated by DEEWR is whether the address details available for Commonwealth Assisted students could be geo-coded to the smaller geographic area of Census Collection District (CD). A CD-based approach would provide an improved estimation method as it is based on a smaller, and thus more homogeneous, area of households than the current postcode method. However, it would still assign the average of those households to an individual student. The CD level data is also restricted to Commonwealth Assisted Students as the detailed address information required is only currently available for this group of students. The viability of this method will depend on how well students' addresses can be coded to CDs. Testing of this method is underway using 2008 enrolment data.

The second measure being investigated is the outcome of a joint committee of DEEWR, ABS and Universities Australia. This committee noted that there was support for the use of parents' educational attainment as part of a measure of students' SES (Universities Australia, 2008). Two new data elements have been introduced to the higher education students' collection in order to capture this information, one element for each of two parents/guardians. These elements were introduced to the collection by ministerial determination in December 2008 for first reporting in the 2010 student statistics collection. Data would therefore be limited to commencing students in the first instance. The quality of this data is yet to be assessed and will depend, in part, on the accuracy of students' reported information about their parents' educational attainment.

6.   Data Sources

Depending on the dimension or dimensions of SES that are chosen to measure SES there are a number of current and potential data sources that could be used. These include ABS SEIFA Indexes, data on income support recipients, data collected from students at enrolment, data collected through surveys and parental income data collected through the Australian Taxation Office (ATO).

6.1   Current

Currently, DEEWR relies on the ABS SEIFA Index of Education and Occupation to measure the SES of higher education students. This index is one of four SEIFA indexes developed by the ABS to rank geographic regions and areas on the basis of the level of social and economic well-being in each region. Each SEIFA index is based on a different set of social and economic indicators from the 2006 ABS Census.

The Index of Education and Occupation includes Census variables relating to the educational attainment, employment and vocational skills of people in a region. This index is currently used by DEEWR to determine the SES of higher education students. The then Department of Education, Employment and Training chose this Index following a study by Jones (1993) which recommended the use of the SEIFA Index of Education and Occupation to measure

the socio-economic status of students. Using an ABS SEIFA Index also provides a cost-effective, non-intrusive measure of the SES of higher education students.

The other SEIFA Indexes include the Index of Relative Socio-economic Disadvantage; Index of Relative Socio-economic Advantage and Disadvantage; and, Index of Economic Resources. The Index of Relative Socio-economic Disadvantage focuses primarily on disadvantage and does not include variables associated with socioeconomic advantage. It is derived from Census variables such as low income, low educational attainment and unemployment. As it does not include factors associated with socio-economic advantage, this Index does not provide a measure of relativities at the high end of the SES spectrum. The Index of Relative Socio-economic Advantage and Disadvantage is a continuum of advantage (high values) to disadvantage (low values), and is derived from Census variables related to both advantage and disadvantage. This provides relativities at both the high and low ends of the SES spectrum. The fourth index is the Index of Economic Resources. This index focuses on the financial aspects of advantage and disadvantage and includes Census variables relating to residents' income, housing expenditure and assets.

Any of the SEIFA Indexes could potentially be used to identify low SES students. The two disadvantage/advantage Indexes could also be used to indicate the degree of community disadvantage and any locational aspects of SES. No matter the purpose, any of the Indexes can provide information at either the postcode or CD level. Postcode level data is currently available and could be used readily for all students. However, identifying the SES of students on the basis of a student's home CD requires detailed address information and this is only available for Commonwealth Assisted Students. Deriving CD level data also requires validation before it could be implemented.

Another data source which is available to DEEWR is information on the number of students receiving means tested study related income support allowances and supplements. This data is derived from Centrelink administrative data and covers a range of means-tested study related payments. This data could be used as a proxy for the number of students from low income backgrounds at each institution. The validity of this data as a proxy for students from low income backgrounds would depend on the type of payments used for this measure. For example, it may not be desirable to include independent Youth Allowance and ABSTUDY recipients as these students are not subject to a parental means test and thus likely to have a substantial representation of high SES students.

6.2   Potential

There is a range of data sources which could potentially be collected and used by DEEWR to measure SES. These include new data that could be collected by universities as part of the student enrolment process; new survey data collected by universities or other third parties and parental income information collected through the Australian Taxation Office.

Currently, universities collect a wide range of information from students at enrolment. With advice from Universities Australia and the ABS, DEEWR has introduced new elements to this data collection which will provide information on the education levels of students' parents. This collection process could also be expanded to collect information on parental occupation, income levels or school attended.

It may also be worthwhile investigating improving the information collected on home address of students. For example, students could be asked to report their home address of

five years ago. This may rectify some of the problems associated with the mobility of students and would be consistent with ABS Census collection methods.

Information regarding the occupation, education and income levels of students' parents could also be collected through a survey. The survey could either be administered by universities or a third party and would need to be distributed to a representative sample of students at all universities. Consideration would need to be given to whether the response rates achieved through the survey are adequate for distributing funding.

The third data source that could potentially be used by DEEWR is parental income information collected through the Australian Taxation Office. This data could be used to gather information on the income dimension of SES. Consideration would need to be given to the significant privacy issues associated with using this data. It would also be important to consider the validity and accuracy of income reported through this channel.

Questions for Discussion

- *Are there other possible data sources which could be used to measure the SES of higher education students?*

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7.   Considerations for data

When choosing which data source to use to measure SES, a range of factors needs to be considered. Probably among the most important of these is the validity and reliability of the data source being used. Other factors include privacy or sensitivity issues, the costs associated with each data source as well as the timing of available data.

7.1   Validity and reliability

When considering which data source to use, thought needs to be given to whether the data source validly and reliably measures the construct in question and whether it discriminates well between low, mid and high SES backgrounds. In this case DEEWR is looking for a valid and reliable measure of SES and the educational disadvantage associated with SES. *Validity* refers to whether the data source chosen accurately reflects and measures the SES and educational disadvantage of students. If a data source is *reliable* then the results given by the data will be repeatable and consistent over time.

The data source or sources chosen will seek to measure one or more of the dimensions of SES listed above. In order to assess whether the data source is valid then consideration needs to be given to whether the data source chosen accurately reflects the dimension of SES it seeks to measure and whether this dimension relates to educational disadvantage. For example, the validity of the data source of income collected from students at enrolment can be assessed by examining whether the data source measures the dimension in question - parental income - and whether parental income is related to educational disadvantage. Due to students not necessarily having the required knowledge to answer questions about their parents' income, information gathered in this data source may not accurately reflect the dimension in question - parental income. On top of this, income is not necessarily the optimum measure of educational disadvantage. As shown above, income relates to SES and educational disadvantage but is not as highly correlated with disadvantage as parental

education or occupation. This affects the data source's validity as it is a less accurate reflection of the construct in question.

For a data source to be considered reliable, then results should be repeatable and consistent over time. If students do not have the required knowledge of their parents' income, for example, then there is the possibility that repeating the question could result in a different income figure. It is also possible that this data source could have a high non-response rate. This is due to the sensitive nature of the information being collected. A high non-response rate can lead to non-response bias if there are systematic, as opposed to random, factors affecting those who choose not to respond. For example, it could be that those students who refuse to answer this question are more likely to come from wealthy backgrounds thereby leading to bias in the data. The extent of non-response bias can only be estimated once responses are collected and compared with known values in the population.

These validity and reliability assessments need to be considered for all data sources.

> ### Questions for Discussion
> - *Do validity and reliability considerations mean that some data sources are preferred to measure SES?*
> - *What are other factors that may impact on the validity and reliability of data sources used to measure SES?*

7.2   Sensitivity and Privacy of data

Given that many of the data sources provide personal information on individual students and their parents, consideration needs to be given to any privacy concerns or sensitivity issues related to each data source. By nature of being an aggregate measure, using the SEIFA Index data at postcode level limits potential privacy concerns. Similarly, using finer SEIFA data at the CD level counters potential privacy concerns as it is still aggregated data. All other current and potential data sources will provide DEEWR with individual level data so consideration needs to be given to any privacy and sensitivity issues surrounding these data.

Of all dimensions of SES, income data is generally regarded as the most sensitive. This means that all data sources that provide information on parents' income are going to be the most sensitive and pose significant privacy concerns. These data sources include collecting parental income or tax file numbers at enrolment, Centrelink data on students receiving payments and any income data collected through surveys. As discussed above, the sensitivities around collection of this data could affect response rates and the validity of these data sources. It also has to be noted that the income information relates to the parents of the students but the information will be requested from students. This raises concerns not just about accuracy but the intrusiveness of collecting parental information from students.

While income data is generally regarded as the most sensitive personal information to collect, personal information is also included in data on education and occupation and privacy issues need to be considered. Collecting this data will therefore require measures to ensure confidentiality of personal information.

7.3   Timing

In choosing an appropriate data source and dimension of SES to measure, consideration needs to be given to the timing and availability of the data. These factors will impact on the implementation of any new measure. The current data sources available to DEEWR are obviously more readily available for the measurement of SES. However, there is still a time lag associated with each of these current data sources. For example, if DEEWR were to switch from using the SEIFA Index of Education and Occupation to one of the other SEIFA Indexes new data would need to be obtained and the student data would need to be re-matched and re-sorted on the basis of the new SEIFA Index. Similarly, if DEEWR were to use Centrelink data or move to a CD basis of allocating SEIFA then time would need to be given to validating and checking the data. Notwithstanding the comments above, all of these data sources should be available to measure the SES of students in 2010.

Moving towards new data sources would require longer lead times. Of the possible potential data sources, parental education data collected at enrolment and parental income information from the ATO would require shorter lead times for implementation. In the case of parental education data, this is being collected for commencing students from 2010 and should be reported by 2011. As personal income information is already collected by the ATO, lead times on this data are likely to be much shorter. However, accessing this data will require negotiating privacy concerns and this may stall the process.

Surveys to collect data on students' SES could be administered in 2010 with data available in 2011. This data source would require significant resources to be invested at the beginning of the process to ensure sample representativeness and maximise response rates. Analysing and validating the data would also take time towards the end of the process.

The data collection process that occurs at enrolment could also be used to collect information on other dimensions of SES such as occupation or income. These potential data sources would have the longest lead times of all possible data sources. The earliest this data could be collected would be in 2011 with data available in 2012. While there is a long lead time on this collection, consideration also needs to be given to other factors such as cost, sensitivity and validity when assessing the best data source.

7.4   Cost

The costs associated with implementing different data sources also need to be considered. Implementing a new measure of SES will place costs on DEEWR, universities and possibly tertiary admission centres. As with timing, the current data sources available to DEEWR are the least costly to implement. The major costs borne for these projects will be to validate the data. Other potential data sources are more costly for both DEEWR and universities.

Of the potential data sources, data collected on parental education should be the least costly for both universities and DEEWR. Parental education data has already been introduced for the 2010 data collection so some initial costs of collecting this data have already been borne by both universities and DEEWR. In addition, there will be costs associated with validation of the data, but costs of validating data apply to all data sources.

Of the other two data sources which could be collected at enrolment, income and occupation, income is probably the least expensive. This is because income information can be collected with a fixed response question, whereas, occupation data will need to be collected on the basis of free responses. This requires an extra level of coding for the occupation data. This additional cost would be borne by DEEWR. If adopted, both of these data sources will also pose an administrative cost for universities as they will have to introduce new elements into their data collection.

Collecting information on the tax file numbers of students' parents and matching to ATO records will require more financial investment than the above data sources. Aside from considerations of privacy, universities will need to bear the administrative costs associated with collecting parents' tax file numbers from students. DEEWR will also need to invest resources to match these tax file numbers with parental income information from the ATO.

The most expensive data source for measuring SES will most likely be survey based data. This data source requires investment in survey design and sampling at the beginning of the process, distribution of surveys in the middle and collection of data, validation and statistical analysis at the end of the process.

Questions for Discussion

- *Do cost considerations mean that some data source/s are preferred over others?*
- *Are there other costs not listed above which need to be considered?*

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8.   Implementation

The following section outlines some of the considerations of the implementation process. It is proposed to adopt a phased approach to implementing the new measure with an interim measure being used for funding purposes in 2010 and a concurrent process of sector consultations to determine a more robust measure. When implementing a new measure, consideration also needs to be given to whether a new index of SES could be developed which covers a range of SES dimensions.

8.1   Phased approach

As outlined at the beginning of this paper, low SES enrolment loading will be distributed from 2010 onwards. This program requires an adequate measure of SES in order to allocate funding effectively. Due to the long lead times in developing a new measure of SES, a potential interim measure is being developed by DEEWR which may be used to distribute low SES enrolment loading in 2010. This potential measure reflects a movement away from relying on aggregate postcode measures of SES to one based more on the individual circumstances of students.

The potential interim measure is partly based on the current postcode measure of SES and partly on Centrelink data of income support recipients at each institution. Centrelink data includes recipients of dependent Youth Allowance and ABSTUDY as well as Pensioner Education Supplement recipients and Away from Base recipients. Dependent Youth Allowance and ABSTUDY students have to provide evidence of their parents' income and assets and only qualify if they meet a relatively low income threshold. Thus, the number of dependent Youth Allowance and ABSTUDY recipients at each institution can be used as a proxy for the number of students from low income families at each institution. However, this will only capture younger students from low income families. In order to capture older students with low incomes, information on Pensioner Education Supplement recipients is also being used. The Pensioner Education Supplement is received by pensioners such as Sole Parent pensioners and Disability Support pensioners who are studying full-time.

The current postcode measure captures three of the four dimensions of SES listed above – education, occupation and community. This measure is available at aggregate and not individual level. The Centrelink data is included in the potential interim measure as it acts as a proxy for the income level of students' parents which is an important individual dimension of SES. It also allows individual level data to be included in the measure of SES. Combining the postcode and Centrelink data as a potential interim measure has the advantage that it captures the four dimensions of SES described above and also provides both aggregate and individual level data.

While this potential interim measure may be used for funding purposes in 2010 there will be a concurrent process to establish a more robust measure of SES for later years. In developing a new measure of SES, consideration will need to be given to the impact on achieving the Australian Government's 20% low SES target and also on assessing institutional performance. For example, a new measure of SES may potentially change the measured proportion of low SES students at each university. However, this change would not necessarily be the result of a change in the characteristics of each university's population or a change in a university's ability to attract low SES students. Therefore, in moving to a new measure, it will be important to differentiate between changes due to measurement and changes due to performance.

The Government has indicated that the final measure of SES should be developed in close consultation with the university sector. For this reason, DEEWR has sought advice from the Indicator Development Group on this issue and is now publishing this paper for wider discussion.

8.2   An Index of SES?

As discussed above, there are multiple dimensions of SES, all of which are related to educational disadvantage. These include parental education, occupation, income and community disadvantage.

A measure of SES of higher education students could focus on a single dimension of SES or many. It is apparent from the literature examined above that there are a number of factors which impact on educational disadvantage and all dimensions of SES are in some way associated with educational disadvantage. For this reason, any one of the dimensions could be used as a measure of SES and educational disadvantage. However, there may also be value in combining a number of dimensions to provide a broader indication of the SES of students. Combining some of the dimensions into one measure of SES would provide a balanced and possibly more robust measure over time which reflects the numerous factors associated with educational disadvantage.

> ### Questions for Discussion
>
> - *What are the advantages and disadvantages of using a measure of SES which combines a number of dimensions?*

8.3   Sector consultation

The Government has indicated that any new measure of SES should be developed in consultation with the sector. This is particularly important given the significant investment in low SES programs announced by the Government in the 2009-10 Budget, and the likelihood that different methods of measuring the SES of higher education students will have different outcomes across individual universities.

It will also be important to ensure that any new measure of SES is made with consideration for other equity groups such as Indigenous and regional and remote students.

> ### Final Questions for Discussion
>
> - *When developing new measures of SES, what do you consider are the most important issues and why?*
> - *Are there other issues not considered by this paper?*

Appendix 1 – References

Centre for the Study of Higher Education (CSHE) (2008), *Participation and Equity: A review of the participation in higher education of people from low socio-economic backgrounds and Indigenous people*, Paper prepared for Universities Australia, March 2008.

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Williams, T., Long, M., Carpenter, P. & Hayden, M. (1993), *Entering Higher Education in the 1980s*, Report submitted for the Evaluations and Investigations Program, Department of Education, Employment and Training, July.

Appendix 2 – How to make a submission

We would welcome your comments on the questions and issues raised in this paper. Developing a new measure of the socioeconomic status of higher education students requires a strong evidence base and we would ask that you provide any evidence you have to support your views. Submissions received through this process will be used to inform deliberations by the Indicator Development Group and subsequent advice to the Deputy Prime Minister, the Hon Julia Gillard MP.

Submissions should be lodged by close of business **5 February 2010.**

By email: MeasuringSES@deewr.gov.au

By post: Jason Coutts, Branch Manager
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                    Higher Education Group
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Please clearly identify your submission showing
  - Name of Organisation or Individual
  - If an Organisation, please indicate the name of a contact person
  - Address
  - Email
  - Phone

Please note that all submissions will be published on the Transforming Australia's Higher Education System website.

DEEWR will not accept submissions from individuals submitted on a wholly confidential basis, however, submissions may include appended material that is marked as 'confidential' and severable from the covering submission. DEEWR will accept confidential submissions from individuals where those individuals can argue credibly that publication might compromise their ability to express a particular view.

Please note that any request made under the Freedom of Information Act 1982 for access to any material marked confidential will be determined in accordance with that Act.

The Transforming Australia's Higher Education System website is available here: www.deewr.gov.au/tahes

Appendix 3 – Data availability

This table provides information on the types of data available and the timing of availability.

Table 1: Timeline on Data Availability

Type of data	Reference Year	Available
4 SEIFA Indices at postcode level	2008 full year enrolments	2009
4 SEIFA Indices at CD level	2008 full year enrolments	2009
Centrelink income support recipients	March and September 2009	2009
Data from surveys of students	2010 enrolments	2010
Parental education data collected at enrolment	2010 commencing students	Mid 2011
Parental occupation data collected at enrolment	2011 commencing students	Mid 2012
Parental income data collected at enrolment	2011 commencing students	Mid 2012