Self-Sufficiency Incomes and Increasing Precarity in South Dakota's Job Market, 2006-2015

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This longitudinal study examined the labor market of South Dakota, a state with an exceptionally low unemployment rate, over the ten years spanning 2006 to 2015. Analysis focused on the questions, *what proportion of the market is made up of low wage jobs?* and *are the numbers of low wage workers increasing or decreasing over time?* Data collected by the U. S. Census Bureau and U. S. Department of Commerce's Bureau of Labor Statistics (BLS) was dissected on a micro level to determine which occupations held disproportionate numbers of low paying jobs. A threshold for households to live free of subsidies was set, then compared to workers' incomes. Detailed data mining revealed information that contributes to the literature of employment and labor fields, strategic economic development, and the role of public policy in helping citizens get and stay independent of subsidies.

PROBLEM BACKGROUND

There is considerable disagreement about the current state of domestic labor markets and the status of the American worker. Blue collar factory work that once supported America's manufacturing base is now considered part of a bygone era (Forrant, 2002). The current domestic labor market rarely offers high school graduates the ability to secure unionized work offering middle-class wages, job security, pension, and healthcare benefits (Figueroa, Grabelsky, & Lamare, 2011). Further exacerbated by the financial collapse of 2008, free market globalization produced a preponderance of precarious jobs (Kalleberg, 2009) while simultaneously eroding the middle-class (Boushey, Fremstad, Gragg, & Waller, 2007).

Despite this changed landscape, immigrants worldwide still look to America as the land of opportunity (Stoll, 2009). For those living here, however, the American Dream may be a little less attainable than the ideal would suggest. Kalleberg (2009) defined precarious work as any "employment that is uncertain, unpredictable, and risky from the point of view of the worker" (p. 2). European researcher, Olsthoorn (2014), described precariousness as the intersection of three components: (a) insecure employment, such as fixed-term contracts and temporary agency work; (b) unsupportive entitlements, particularly during unemployment periods; and (c) vulnerable employees, those without other means of subsistence or a partner with a significant income. Figure 1 reproduces Olsthoorn's (2014) conceptual framework. The author summarized "precarious employment as the linking of vulnerable workers to insecure jobs and unsupportive [employment relation] entitlements" (p. 424).

Figure.1. Conceptual framework showing precarious employment as the intersection of vulnerable employees in insecure jobs with unsupportive entitlements.

Reference: Olsthoorn, M. (2014). Measuring precarious employment: A proposal for two indicators of precarious employment based on set-theory and tested with Dutch labor market data. *Social Indicators Research: An International and Interdisciplinary Journal for Quality-of-Life Measurement*, 119(1), 421-441. doi:10.1007/s11205-013-0480-y. Reprinted with permission of Springer.

Turnover

Some economic indicators, like high turnover rates, do not fully convey the negative effects for workers. Generally, high turnover rates are considered a sign of a good economy (Gustafson, 2014). When skilled workers can freely transfer jobs to more lucrative positions or shift to contract work that would pay higher project rates than could be earned as a permanent employee of an organization, turnover can be beneficial. On the other end of the spectrum, however, low paying jobs with high turnover rates result in far different effects for workers.

Jobs with the lowest pay also often require minimal qualifications. With little to differentiate one job from another, they become *interchangeable* – not only what workers think of jobs, but what employers think of workers. To illustrate, part-time retail experienced an average 74.9% turnover rate in 2013 (Gustafson, 2014). Where employees did receive ongoing training, however, a two-year study found sales performance increases of 69% to 123% compared to less engaged retail personnel (Netessine, 2014). Despite the significant revenue boosting benefit to retaining employees, employers continue to offer part-time work at or near minimum hourly wages (Netessine, 2014).

These employers simultaneously complain about the costs and effort associated with high turnover rates, yet continue to offer the kinds of low paying precarious jobs that nearly guarantee such turnover. In fact, over the last two decades, low skilled jobs have not experienced significant wage increases beyond federally mandated minimum wage raises (Brown, 2016). Employers offering these low wage positions do so with little advancement opportunities, and no regular or substantial hourly wage increases to encourage loyalty in workers (Netessine, 2014).

One study showed nonwage compensation factors, like healthcare benefits, normally represented 28% of total compensation for U. S. private workers (Lettau & Buchmueller, 1999); yet, part-time workers received few, if any, of these benefits. Researchers found, where healthcare benefits were offered, for example, they were structured so that part-time workers paid more for less coverage than their full-time coworkers (Lettau & Buchmueller, 1999). The lack of equity between workers extends further into the stagnation of low wage positions when compared to more demanding jobs.

From 1990 to 2015, Brown (2016) found the average hourly wage for jobs with higher analytical and social skills increased by four dollars per hour. Jobs requiring greater physical skills rose two dollars per hour over the same period (Brown, 2016). With such dramatic discrepancies between increases for low wage work compared to more academically or physically demanding jobs, some researchers have called for interventions to make things more equitable (Boushey et al., 2007; Kalleberg, 2009).

Boushey et al. (2007) argued that chronic low wage work threatens national prosperity in the long-term by oppressing whole sectors of the population. What Olsthoorn (2014) called polarized labor markets, he explained as the result of “changing patterns of production and consumption, slower economic growth and substantive changes in social and economic policy in recent decades” (p. 422). Olsthoorn warned that those in low paying jobs with little job security are also at a “disproportionately high risk of adverse psychological and physiological effects and are in the disempowered segment of the dualized labor market” (p. 422).

An adverse psychological effect can be found in the interchangeable attitudes of both employers and employees. Lack of advancement opportunities can discourage whole segments of the population, forcing workers to trade one entry level job for another – further retarding career advancement (Netessine, 2014). To combat these unproductive attitudes and actions, Kalleberg (2009) believed reform would require legislators to enact initiatives targeted toward quality job growth. Through changes in public policy, voluntary turnover rates could be reduced “to tackle the causes and consequences of precarity and to rebuild the social contract” (p. 16).

As European nations attempt to address the issues of a growing precarious work force, America stands as an example of where temporary employment agencies get larger after each recession (Broughton et al., 2016). With more workers contractually employed, the insecure nature of precarity spreads into the skilled work force. European researchers offered suggestions to “combat marginal part-time work and encourage an increase in working hours for those that want to work more” (p. 173). These included raising entitlement thresholds and supplementing

social security and pension benefits. The researchers emphasized that workers without substantial wages and without job security have difficulty planning, including retirement (Broughton et al., 2016).

Subsidies

An examination of South Dakota's labor force demonstrates a gap between being employed and being self-sufficient (Ruggles, Genadek, Goeken, Grover, & Sobek, 2015). Although South Dakota has a nationally low unemployment rate, 2.9% in 2016, a considerable portion of available work does not reach the threshold of self-sufficiency in terms of wages, hours, or both (BLS, 2016b). Therefore, these families may end up turning to government programs for assistance.

Even though it is not a standard for independence, the federal poverty threshold assigns a value for the level of income required by households of differing compositions to meet their basic needs. This standard uses the U. S. Department of Agriculture's Thrifty food plan, intended "for temporary or emergency use when funds are low" (Eberstadt, 2006, p. 22). Despite being based on a value intended for temporary use, the federal poverty threshold routinely serves as the eligibility requirement for many federally funded programs. The most utilized of these programs include Medicaid, Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), subsidized housing, and school meal programs (HHS, 2016).

Each state administers these entitlements, but the programs are paid for by the federal government (Schott, Pavetti, & Floyd, 2015). Unfortunately, restructuring these programs in 1996 into block grants for state discretionary use has not had the intended effect. In fact, the Center on Budget and Policy Priorities reported only 26% of TANF funds were paid out as aid to the needy by states in 2014 (Schott et al., 2015). A minimum of 41% of grant money involves funding for social workers, managers, upper administration, and "to fill state budget holes, and in some cases to substitute for existing state spending" (p. 1). Although each state's subsidy programs are funded by the federal government, each can choose to define eligibility qualifications differently.

In Minnesota, persons applying for free Medicaid coverage need to make no more than 133% of the federal poverty level for their family size (Minnesota, 2017). For 2016, a single person with no children could qualify for healthcare with an income up to \$1,315 per month (\$15,800 per year); a household of four could earn up to \$2,699 per month (\$32,398 per year) in income. If applicants exceed these thresholds, Minnesota has healthcare options for people earning up to 400% of the poverty level (Minnesota, 2017).

In South Dakota, however, Medicaid requires income levels of extreme poverty to qualify (HHS, 2016). In 2016, a household of one could not have a *gross* income greater than \$613 per month (\$7,356 per year); a household of four was limited to \$986 per month (\$11,832 per year).

South Dakota sets Medicaid limitations to approximately 48% of the federal poverty guideline (Medicaid-help, 2017). Information from the U. S. Census Bureau's American Community Survey (ACS) for 2011-2015 indicated 14.48% (119,501) of South Dakota's 825,506 population still met this extreme poverty requirement to receive Medicaid benefits. Additionally, children represented 25% (206,488) of the general population, but a disproportionate 33.19% (68,524) of all children received Medicaid (U. S. Census, 2016a).

After reforms made in 1996, federal cash entitlements can only be relied upon temporarily (DSS, 2017). To reduce the occurrences of the stereotypical *welfare mom*, someone who stays on public assistance by having additional children every few years, each adult now has 60 months of lifetime TANF benefits regardless of new births into the household (DSS, 2017). TANF, also called welfare or cash assistance, exists for families with no cash income. South Dakota's TANF, however, requires adults in the household to secure work with a minimum of 30 hours per week to qualify (DSS, 2017). This work requirement is problematic in that many low wage jobs do not offer 30 hours per week, and working at minimum wage for the required hours would cancel any cash benefit received by the household.

A snapshot for January 2016 reported South Dakota paid out \$1,292,093 in TANF benefits that month to 3,027 families, averaging \$426.86 per family (DSS, 2017). One factor notable in the data was that five of South Dakota's 66 counties received 59% of all benefits. These counties represent Indian reservations and the two major metropolitan areas. Pine Ridge Indian Reservation spans across Oglala Lakota and Pennington counties. Pennington also includes the Rapid City metropolitan area. Todd County houses the Rosebud Indian Reservation. Dewey County has the Cheyenne River Indian Reservation. Minnehaha County includes the Sioux Falls metropolitan area (DSS, 2017). These five counties represent both the poorest and most dense populations in the state. It is not surprising, therefore, these same areas also have the highest number of children qualified for free or reduced meals at school (SD Kids Count, 2017).

Figure 2 shows the percentage of children eligible to receive free or reduced breakfast and lunch for the school years 2001-2002 to 2015-2016 (SD Kids Count, 2017). Prior to the financial collapse of September 2008, the number of children qualified for the meal program consistently fell in the upper 30th percentile. With an immediate unemployment spike in 2008, participation crossed into the 40th percentile. Curiously, despite multiple years of recovery to end the Great Recession, low unemployment rates have not returned South Dakota's qualifying children below the 40th percentile (SD Kids Count, 2017).

Figure 2. South Dakota children qualified for school meal programs 2001 to 2016. Adapted from South Dakota Kids Count. (2017, February 15), Child and Adult Nutrition Services, South Dakota Department of Education. Raw data retrieved from <http://doe.sd.gov/cans/nslp.asp>.

Figure 3. Children qualified for meal programs, by county, for 2015-2016 school year. Adapted from South Dakota Kids Count. (2017, February 15), Child and Adult Nutrition Services, South Dakota Department of Education. Raw data retrieved from <http://doe.sd.gov/cans/nslp.asp>.

Figure 3 indicates the concentration of qualified children by county; this map closely mirrors the dispersion of TANF benefits discussed for January 2016 (DSS, 2017). In the higher concentration areas, food service program data indicated participation as 90% and above, rather than exact numbers on the upper values. Figure 3 lists these simply as 90% (SD Kids Count, 2017). Clearly, low unemployment is not synonymous with incomes offering independence from subsidies.

LITERATURE REVIEW

Precarity has been well documented as a major concern globally, although the term has not been used extensively in the United States (Choi & Mattoni, 2010). Building on the basic definition Kalleberg (2009) offered, where precarity is any “employment that is uncertain, unpredictable, and risky from the point of view of the worker” (p. 2), Choi and Mattoni (2010) defined “precarious work as all those forms of atypical employment characterized by short-term contracts and lacking social protection” (p. 215). Olsthoorn (2014) summarized “precarious employment as the linking of vulnerable workers to insecure jobs and unsupportive [employment relation] entitlements” (p. 424). This section looks at examples of how precarity can be mitigated through international research, union participation, and a consideration of income disparity.

International Research

Global attention into precarious work has prompted unionization to pool otherwise disparate groups into a block with representation (Choi & Mattoni, 2010). In Russia, Bernabé and Kolev (2005) studied the composition of jobless and working poor in the Kyrgyz region. Not surprisingly, the researchers determined that a disproportionate number of youth, women, and internal migrants had a greater likelihood of unemployment and job instability. Among those who were employed, nearly 80% were subsistence farmers making far below the poverty level (Bernabé & Kolev, 2005).

Russia is an example of a country with an entire class of workers considered unregistered and discouraged (Bernabé & Kolev, 2005). Discouraged unemployed are those unemployed or underemployed for greater than two years, and who have given up on the idea of getting a decent job. In keeping with the International Labour Organization’s (ILO) definition of unemployment, national statistics routinely exclude the discouraged unemployed – giving those statistics lower values than would be accurate. Once unemployment benefits expire, the ILO considers that individual no longer ranks among the unemployed – although that person most likely still is (Bernabé & Kolev, 2005). As described, similarities between Russian discouraged workers and American chronically underemployed become apparent.

With Bernabé and Kolev (2005), the purpose of their study was identification of groups in need of legislative intervention. To revitalize the Kyrgyz region, the researchers believed better

informed leaders could enact reforms and programs intended to stimulate the economy by providing jobs with stability and livable wages for its citizenry (Bernabé & Kolev, 2005). Their work showed the relevance of academic research as a mechanism for public policy reform.

Reform, however, can work for or against the precarious. As a means of lowering high unemployment rates in Italy, employment was deregulated through legislative reforms in the 1980s (Choi & Mattoni, 2010). Choi and Mattoni reported employers in 2010 had 40 “fixed-term contract options available” (p. 215), making the Italian labor market one of the most flexible in the European Union (EU). Statistics from 2000 through 2007 (pre-global recession) indicated three to four million workers did not have stable, secure employment. At that time, part-time and fixed-term work represented 25% of the work force. Although the Italian market had a large percentage of precarious workers, the country had slightly better percentages than the contemporary EU15 average (Choi & Mattoni, 2010).

Despite having work contracts, Choi and Mattoni (2010) found precarious workers in Italy still dealt with lower wages, worse working conditions, and greater instability than permanent workers. In response to the growing proportion of flexible work arrangements, “all three Italian union federations created special unions for atypical workers in 1998” (p. 217). Briefly, unionization followed three strategic goals: “(1) re-regulation through collective bargaining, (2) political and legal actions, and (3) organizing and shop-floor representation” (Choi & Mattoni, 2010, p. 220).

By 2014, the EU had expanded from 15 to 28. In a study on precarious employment trends and patterns in 2014, as much as 25% of *all* EU28 jobs were temporary, part-time, or some combination (Broughton et al., 2016). Only 59% of all jobs were characterized as both full-time and permanent. Additionally, without job security, many freelancers (11%) and self-employed with employees (4%) experienced less than full-time earnings. Even though these independent working options do offer a greater level of autonomy than other forms of employment, they potentially increase the precarious work force to as much as 41% of all workers (Broughton et al., 2016).

Most directly impactful to America, Buchanan and Chaparro (2008) highlighted the function of legal advocacy groups like the North American Agreement on Labor Cooperation (NAALC) within the North American Free Trade Agreement (NAFTA) to aid precarious workers. NAALC may have little power to remedy situations of complaint regarding the working conditions and organizing rights of precarious workers, but it does offer a platform to make these complaints into public awareness vehicles. Each of the three countries within NAFTA (Mexico, United States, Canada) must abide by the labor laws of each other. Where there are violations, advocacy lawyers file complaints. For example, Mexican workers in the apple orchards of Idaho complained of wage and working conditions. Of interest is that migrant workers are really all that is discussed per NAFTA. The agreement, however, intends to protect workers through the right to organize and collectively bargain at a time when unionization within the United States, ironically, has eroded by 95% of its pre-WWII levels (Buchanan & Chaparro, 2008).

Union Participation

Even though unions have become less influential as a representation of the American work force over the last five decades, their infrastructures can offer new options to public and private work projects (Figueroa et al., 2011). Figueroa et al. determined “coalitions of unions and community organizations have succeeded in advancing employment and career models for demographic groups that have been traditionally underrepresented in the construction industry” (p. 2). Community Work Force Agreements (CWAs) produced Project Labor Agreements (PLAs) with expressed provisions of “targeted hiring and career development” (p. 2). What the researchers found was a mechanism for creating a career path in populations otherwise unlikely to attain a middle-class status on their own (Figueroa et al., 2011).

As a practical option, CWAs offered low income, at-risk, minority, unemployed, women, and other disenfranchised populations a route to a middle-class career (Figueroa et al., 2011). Pre-apprenticeship programs in high schools and community colleges bring students’ skills up to the level needed to enter formal apprenticeship programs offered by unions. This system represents a hybrid between all-union and all-employer on-the-job training. Figueroa et al. (2011) found multiple construction companies contributed to the apprenticeship program run by unions, so that no one company supplied its competition.

Income Disparity

Nobel Laureate Michael Spence with Sandile Hlatshwayo (2011), in a working paper for the Council on Foreign Relations, examined the U. S. economy as a grouping of tradable and nontradable industries. In general, with the advent of an open global economy and advanced technologies, many tradable jobs efficiently have shifted to points in the value supply chain with cheaper costs. Outsourcing and offshoring represent the two major forms of this job transfer (Spence & Hlatshwayo, 2011).

Primary among the reasons for acting on the distributional gap between wage earners is the social contract at the heart of America. Spence and Hlatshwayo (2011) reasoned:

Addressing inequality is a complex challenge; almost certainly a multipronged approach will be needed. But the challenge should not be ducked, because the availability of quality employment and the rising gaps in income distribution are politically and socially salient issues, and opportunity is a core piece of the social contract. The absence of rewarding employment opportunities in the lower- and middle-income ranges breaks an important part of the social contract in America, which holds that you are largely on your own but that if you work hard the opportunities will be there (p. 35).

Nontradable, often service related, positions remain domestically, but at stagnant wage increases (Netessine, 2014; Spence & Hlatshwayo, 2011). Spence and Hlatshwayo (2011)

offered several potential policy initiatives to help leaders decrease the resultant wage disparity between those in the upper wage category and those in the increasingly growing low wage category. One suggestion was “altering the trends in the tradable sector” (p. 35) by shifting marginal incentives in favor of the U. S. market.

Overall, along with infrastructure and technology improvements, the most important investments into America’s ability to afford opportunity for its citizenry are higher education and fundamental research (Spence & Hlatchwayo, 2011). This conclusion mirrors that of Choi and Mattoni’s (2010). To reduce the aspects of vulnerability experienced in the precarious labor force, the authors determined public policy would need to take the form of “pro-employment policies with education reforms and a better enforcement of gender equity measures” (p. 426).

Living Standards

To ascertain the extent of low wage jobs in South Dakota, this investigation reproduced a study of low wage earners and low wage jobs conducted for the Greater Boston area (Argyres, Holgate, & Moir, 2012). Argyres et al. utilized data from Occupational Employment Statistics (OES), a database compiled by the BLS, and the ACS, compiled by the U. S. Census Bureau. The OES presents data reported by employers regarding number of employees, hours worked, and wages paid (Argyres et al., 2012). The ACS gathers its “data through annual surveys of individuals who are asked about their current employment” (p. 3). Using data from both employers and employees attempts to mitigate inaccurate reporting, such as identifying one person with two jobs as two workers. The first step for this study is to adopt an income measure of *self-sufficiency* for households.

The difference between low wages and decent wages has been defined in many ways (Argyres et al., 2012). Argyres et al. defined decent wages as the ability of a full-time worker to meet his or her family’s needs without receiving any public subsidies. For a family of four, with two children and two working adults, each adult would need to work full-time at an above minimum wage level to achieve financial independence. Table 1 shows four significant measures of what a threshold wage could be: (a) the Federal Poverty Level, (b) Social Inclusion, (c) Family Economic Self-Sufficiency Standard, and (d) the 1979 Median Wage for Men (Argyres et al., 2012).

Table 1

Measures of Low Wages and the Corresponding Hourly Wage (2016 dollars) for a Family of Four, requiring 176 hours per month per working adult

Measurement	Hourly Wage (2016)	Definition
<i>Federal Poverty Level</i> \$24,300/year	\$11.68	Computed by the U. S. Department of Health and Human Services (2016), this figure is the result of dividing the HHS guidelines by 2080 working hours in one year.
<i>Social Inclusion</i> Less than two-thirds of \$22.88/hour median wage for men	\$15.25	Two-thirds of the median wage published by the BLS (2016a). Examples explained in Boushey et al. (2007).
<i>Family Economic Self-Sufficiency Standard</i>	\$10.86	Adjusted to 2016 dollars from a University of Washington study of South Dakota (Pearce & Brooks, 2000), derived as a weighted average of all counties.
<i>1979 Median Wage for Men</i> \$33.59/hour for a single wage earner as in 1979	\$16.79	Adjusted to 2016 dollars from a U. S. Department of Commerce (1979) report detailing household income, then divided by two working adults.

Poverty Guidelines

The Federal Poverty Level, as defined by the U. S. Department of Health and Human Services (2016), indicated \$24,300 was needed in 2016 to be at the poverty threshold for a family of four. Therefore, decent wages would be 200% of that level, or \$48,600 per year. To attain this level and to avoid dependence on subsidies, a minimum of the poverty level would need to be earned *per adult*.

Social Inclusion

Boushey et al. (2007) explained Social Inclusion as a measure that “avoids limitations of the basic income formulas by using a comparison with other jobs to define low-wage work” (p. 4). A job has low wages if it “pays less than two-thirds of the median wage for men” (p. 4); using the wage for men, rather than all workers, removes gender inequity. The BLS published that men averaged \$915 per week in 2016, while women averaged 82% of male wages with \$749 per week (BLS, 2016a). Therefore, basing the measure on men’s wages, the median wage for 2016 would be \$22.88 per hour (\$915 divided by 40 hours).

Social Inclusion determines that any pay equal to two-thirds (\$15.25) or less of the median (\$22.88) would constitute low wages (Boushey et al., 2007). Using the same definition of decent wage as compared to the Federal Poverty Level, if one member of a two-earner

household had a job at the Social Inclusion level, the burden on the second working adult would be reduced. For example, using the median and Social Inclusion values listed here, the second worker would need to earn only \$8.11 per hour to reach the subsidy-free level of household income. This type of partnership offers a better chance at an improved, and self-sufficient, standard of living in households with two earners.

Family Economic Self-Sufficiency Standard

Pearce and Brooks, from the University of Washington's Center for Women's Welfare (CWW), developed the Family Economic Self-Sufficiency Standard (FESS) as a comprehensive valuation of the real costs to sustain different household types without using government subsidies (<http://selfsufficiencystandard.org>). The researchers have evaluated 39 states since 1996, many several times. South Dakota was evaluated, county by county, once in 2000 (Appendix A).

To validate a statewide FESS value using the most expensive region (MER) was compared to the results of finding a weighted average (WA) for each state. Using the population of *each* county within *each* state to assemble a WA yielded a more realistic, statewide composite FESS value. Using Alabama as a test (Table 2), where the only evaluation was done in 2003, the FESS hourly rate for a single earner was weighted by county as a proportion of its contribution to the entire state's population. The same was done after using the Consumer Price Index (CPI) calculator to bring each value to 2011 and 2016 dollars, producing the following results. The MER per hour in 2003 equaled \$9.69, with CPI increases to \$11.74 in 2011 and \$12.63 in 2016. Using the WA method equaled per hour rates of \$8.09 in 2003, \$9.83 in 2011, and \$10.62 in 2016.

Table 2

Alabama Test Case Results

Year	Most Expensive Region (MER) <i>per hour</i>	Weighted Average (WA) <i>per hour</i>	Change	Low Wage Proportion (MER)	Low Wage Proportion (WA)	Change
2003	\$9.69	\$8.09	-16.51%			
2011	\$11.74	\$9.83	-16.27%	54.69%	48.24%	-11.79%
2016	\$12.63	\$10.62	-15.91%	55.57%	48.59%	-12.56%
Average change						
MER to WA			-16.23%			-12.18%

Source: Report published by the Center for Women's Welfare, University of Washington, at <http://www.self-sufficiencystandard.org/state-data>, and data extracted from Integrated Public Use Microdata Series (IPUMS) USA database for 2006-2010 and 2011-2015, at <https://usa.ipums.org>.

Alabama's test in Table 2 resulted in an average decline of 16.23% for self-sufficiency hourly wages from 2011 to 2016. The population under the *low wage single earner* threshold dropped an average of 12.18%. Workers no longer designated as low wage were 240,169 and 259,007 in 2011 and 2016, respectively. Continuing the WA method for each of the remaining states produced results more salient to national comparison than the MER method, and are discussed at length in the Methodology section.

Compared to other standards options, the FESS attempts to adjust for variations of family size, type, and location by examining every county and major metropolitan area in each state (Pearce & Brooks, 2000). Researchers from CWW at the University of Washington investigated 39 states to date since 1996, some several times. The dominant areas Pearce and Brooks (2000) found in South Dakota were Rapid City/Pennington County, Sioux Falls/Minnehaha County, Spink County, and Todd County. Keeping with the example of two working adults with two children, the weighted average FESS in 2016 would be \$10.86 per hour per adult. Two adults working eight hours each day for 22 days each month would generate a monthly income of \$3,823, or \$45,873 annually. Table 3 lists different household compositions, in 2016 dollars.

Table 3

Self-Sufficiency Wages in 2016 by Household Structure for South Dakota

Type of Family/Household	Hourly Wage per Full-Time Working Adult
One adult, no children	\$9.06
Two adults and two children (one preschool age and one school age)	\$10.86
One adult and two children (one preschool age and one school age)	\$20.10

Note: Reproduced from Pearce and Brooks (2000), The Self-Sufficiency Standard for South Dakota, Table 1 (p. 11); adjusted to 2016 dollars with the CPI calculator on the BLS website (<https://data.bls.gov/cgi-bin/cpicalc.pl>). Two adult household was calculated as a weighted average of every county within South Dakota.

1979 Median Wage for Men

Although the current generation of workers enjoys a more technologically advanced world, reaching the standard of living and discretionary income commensurate to a previous generation would call for a comparison to the 1979 Median Wage for Men. From 1979's U. S. Department of Commerce report, "the median income of households maintained by a male householder was \$20,140, while that of households maintained by a female householder was \$8,520" (p. 3). When adjusted from January 1979 to January 2016 dollars, the median income for men would equal \$69,861, or \$33.59 per hour (\$69,861 divided by 2080 working hours). In a

household with two working adults to share the burden of earning this income, each would need average wages of at least \$16.79 per hour. Argyres et al. (2012) reminded readers that the 1979 median wage also would “need to be accompanied by health insurance and pension benefits to qualify as a good job” (p. 2).

Among potential criticisms of the 1979 Median Wage for Men as a relevant standard is that a person earning nearly \$70,000 per year in 2016 would put him or her in the top 40th income percentile. Actual national median income for men in 2016 was \$47,580 (BLS, 2016a), indicating wages have not kept pace with inflation. In fact, median earning in 2016 equaled only 68% ($47,580/69,861$) of 1979’s inflation-adjusted value. This means over the past 37 years, inflation rose 32% higher than corresponding wages. On the surface, it would appear workers slowly incurred greater costs of living as time passed; however, this conclusion must be balanced by looking at how these workers did and do live.

Responsible reporting must include a consideration as to whether this median wage differential indicates undue stagnation or is a result of radically different needs in 1979 and 2016 populations. As previously mentioned, basic technologies between the two groups have very little in common. The presence of smartphones, cable television, microwave ovens, and energy efficient appliances are but a few of the examples not shared by these groups. Time efficiency and cost of operations are also factors. Due to economies of scale and countless breakthroughs, some jobs no longer exist, and the job descriptions of others have been reinvented. As a result, simply increasing the 1979 median wage by the overall economy’s inflation rate over 37 years ignores structural changes in the labor market, transformation of the overall economy, and changes in capital and human stock over multiple generations of workers.

To achieve an accurate and relevant examination of the South Dakota labor market, Integrated Public Use Microdata Series (IPUMS) USA database information could only be useful if a threshold was applied to determine low wage proportions of the work force. Four types of living wages were discussed: (a) the Federal Poverty Level, (b) Social Inclusion, (c) FESS, and (d) the 1979 Median Wage for Men. By utilizing a WA method, FESS prevailed as the most comprehensive and realistic threshold to use when evaluating South Dakota.

METHODOLOGY

This analysis combined the efforts of two separate university studies in its design. The University of Washington’s CWW developed a wage standard used for this analysis’s low wage single earner and household level thresholds (Pearce & Brooks, 2000). Argyres et al.’s (2012) example from the University of Massachusetts Boston enumerated the multiple aspects critical to a thorough evaluation of a labor market (Argyres et al., 2012). Its tables were reproduced, specific to South Dakota.

University of Washington

At the University of Washington, Pearce and Brooks (2000) constructed the FESS as a more realistic alternative to the federal minimum wage. The researchers painstakingly determined the appropriate hourly wage each working adult in a South Dakota household needed to earn for that household to be independent of subsidies. Every combination of household, from one adult with no children to two adults with three children of varying ages, was evaluated and assigned an FESS value. Just as convention often uses a family of four when discussing the federal poverty threshold, two adults with one preschool and one school age child was used as this study's benchmark (Pearce & Brooks, 2000).

Through the CWW, Pearce and Brooks calculated FESS values for 38 states and the District of Columbia. The authors were commissioned to evaluate one or more every year since 1996. CWW's website (<http://selfsufficiencystandard.org>) provides links to each study, except for the most recent done for Iowa. CWW was contacted to access Iowa's report for this study, but this author received no response. Therefore, Iowa was the only market with an FESS examination not included in this study. Several states have been examined multiple times, others only once, and still a minority of others not at all. The researchers measured each county for households of varying compositions. Even children were identified in different combinations: (a) infant, (b) preschooler, (c) school age, and (d) teenager. Each combination of earners was considered with each possible combination of children (Pearce & Brooks, 2000).

FESS analyzes the actual cost of living, by county, to determine what income is necessary for each size family to live free of subsidies (Pearce & Brooks, 2000). The resulting hourly wage consistently exceeded that set by federal minimum wage and federal poverty guidelines for similar households. For this study's national comparison, FESS was used as the threshold for examination in each of these same 38 markets. FESS was examined on a county by county basis, factored with inflation adjustments, but given a WA to establish a state-level minimum hourly wage. A second, compelling reason to use FESS as the threshold for this study was its adoption by University of Massachusetts Boston researchers in their work (Argyres et al., 2012).

University of Massachusetts Boston

Researchers at the University of Massachusetts Boston explored low wage earners as a proportion of the overall Greater Boston MSA labor force (Argyres et al., 2012). One area of emphasis detected which occupations had a disproportionate number of low wage jobs. Revealing this information could help identify where income standards, perhaps, needed to be raised to meet the requirements of these workers and their families through the employment workers were already doing. Argyres et al.'s (2012) probe was used as the template for this study's in-depth analysis of South Dakota.

South Dakota was evaluated on a microdata level to determine what portion of the labor force was not only low wage earners, but also what proportions were:

- full-time (35 or more hrs/wk) versus part-time
- full year (50 or more wks/year)
- public versus private jobs
- self-employed
- unpaid family workers
- military

Data sets were scrutinized in five-year blocks, 2011-2015 and 2006-2010, as a longitudinal effort to identify wage and proportion of labor market trends for each occupation (Ruggles et al., 2015).

OES interquartile wage ranges established a median hourly rate for each of 22 occupational categories (BLS, 2016b). Microdata values for annual income provided low wage concentrations of the labor market, as a statewide percentage and within each occupation (Ruggles et al., 2015). Argyres et al. (2012) charted the types of detailed analysis required to identify areas of development capable of being addressed by public policy

DATA MINING

To determine South Dakota's composition, U. S. Census and BLS data were analyzed on both the aggregate and microdata levels. IPUMS USA database was accessed on their website (<https://usa.ipums.org/usa/>), where extracts were compiled for each five-year period. Some of these demographics included such factors as gender, income, location, occupation, and employment variations.

South Dakota Labor Force

Table 4 lists five-year estimates for “demographic, income, and employment data [in South Dakota] derived from regular surveys of a sample of housing units” (Argyres et al., 2012, p. 3). Overall labor figures were taken from the most recent ACS data set, 2011-2015, and Data Profile Table DP03 (Appendix B). Full-time, part-time, full year, and annual income figures were taken from ACS 2011-2015 Public Use Table S2303, limited to South Dakota, (Appendix C). Both sources were available through the U. S. Census Bureau website. For comparison over time, Table 5 relates the corresponding data for 2006-2010.

Table 4

Employment Statistics of All and Low Wage Earners in South Dakota (2011-2015)

Characteristics	All Workers		Low Wage Earners		
	Number of workers	Percent of all workers	Number of low wage earners	Percent of low wage earners	Percent of all workers in category
Total workers	417,540	100%	178,680	100%	42.79%
Employed full-time (35+ hours/week)	326,516	78.20%	87,310	48.86%	26.74%
Employed 1-34 hrs/wk	95,324	22.83%	83,752	46.87%	87.86%
		100%			
Employed full year (50+ weeks/year)	318,917	76.38%	104,793	58.65%	31.38%
Employed full-time, full year	276,597	66.24%	51,413	28.77%	17.75%
Private sector	317,372	76.01%	121,913	68.23%	38.41%
Public sector	64,635	15.48%	36,504	20.43%	56.48%
Self-employed	34,405	8.24%	19,244	10.77%	55.93%
Unpaid family worker	1,128	0.27%	1,019	0.57%	90.34%
		100%		100%	

Source: ACS Data Profile Table DP03 for 2011-2015 and ACS Public Use Table S2303, limited to South Dakota (U. S. Census, 2016). Low wage earner percentages and numbers generated through microdata examination of IPUMS USA extracts (Ruggles et al., 2015).

Table 5

Employment Statistics of All and Low Wage Earners in South Dakota (2006-2010)

Characteristics	All Workers		Low Wage Earners		
	Number of workers	Percent of all workers	Number of low wage earners	Percent of low wage earners	Percent of all workers in category
Total workers	392,680	100%	171,823	100%	43.76%
Employed full-time (35+ hours/week)	262,310	66.8%	68,489	39.86%	26.11%
Employed 1-34 hrs/wk	130,370	33.2%	101,858	59.28%	78.13%
		100%			
Employed full year (50+ weeks/year)	245,818	62.6%	75,343	43.85%	30.65%
Employed full-time, full year	213,225	54.3%	36,867	21.46%	17.29%
Private sector	291,290	74.18%	114,657	66.73%	39.36%
Public sector	62,711	15.97%	35,980	20.94%	57.37%
Self-employed	36,873	9.39%	20,258	11.79%	54.94%
Unpaid family worker	1,806	0.46%	928	0.54%	51.38%
		100%		100%	

Source: ACS Data Profile Table DP03 for 2006-2010 and ACS Public Use Table S2303, limited to South Dakota (U. S. Census, 2016). Low wage earner percentages and numbers generated through microdata examination of IPUMS USA extracts (Ruggles et al., 2015).

ACS data from Table S2303 (Appendix C) estimated South Dakota's population between 16 to 64 years as 532,191, with 80,997 not working for various reasons. This resulted in a labor force of 451,194, slightly off from the 451,073 values from Table DP03 (Appendix B). After careful examination of the microdata aggregated for these estimates, this author's analysis of the labor force reduced it further by removing military, unemployed, and retired individuals. Consistent with OES occupational categories, South Dakota had 417,540 workers across the 22 designations.

Appendix C, for the 12 months ending May 2016, indicated full-time workers comprised 78.20% of the work force yielding a total of 326,516 workers. Of those working full-time, 276,597 (86.73%) did so full year. The remaining 13.27% employed full year $([318,917 - 276,597] / 318,917)$ maintained only part-time employment. These figures approximate 66.24% of South Dakota's labor force had full wages throughout the year (Table 4).

Iteration One. To determine the values for *Low Wage* earners on Table 4 and Table 6, data was extracted from IPUMS for the 5-year ACS period of 2011-2015 (Ruggles et al., 2015). Table 5 and Table 7 reflect similar data extracted for 2006-2010. Within these data sets were variables for census year (YEAR), data set number (DATANUM), household serial number (SERIAL), household weight (HHWT), group quarters status (GQ), person number in sample unit (PERNUM), person weight (PERWT), age (AGE), occupational labels for U. S. Census surveys (OCC2010) and BLS surveys (OCCSOC), and wage and salary income (INCWAGE). Microdata was exported into Excel for analysis.

OES established new codes in 2010 to expand the job titles explicitly assigned within each occupation; this new variable is OCC2010. Line items were sorted by OCC2010, then separated into the 22 categories identified by older OES data (OCCSOC) category codes. Line items with OCC2010 code 9920 (chronically unemployed) and 9950 (never worked) were excluded. To ensure data was separated accurately, OCC2010 and OCCSOC codes were randomly compared. Ten-line items were compared for each category, except when an occupational code did not have 10 job titles, or the job titles of participants were not varied sufficiently. For the IPUMS 2011-2015, 201 occupational titles were verified; for the IPUMS 2006-2010, 208 occupational titles were verified.

Although not a variable within the IPUMS data, frequency was calculated by multiplying person number with person weight. To get an accurate labor force count, line items with zero or blank income values were excluded. Each occupational category was sorted by income in ascending order. Low wage earners were identified as having annual incomes less than the FESS value necessary to take care of a family of four in South Dakota, in 2016 dollars.

Two threshold levels were set – one for *each* of two working adults in a household, and one with the household's need met by only one income. The microdata sets were for five-year periods, while OES and other ACS data were for snapshots in 2016 and 2011, respectively. Although versions of Table 6 and Table 7 were created with this data, the results could not support the completion of all elements in Table 4 and Table 5. Information regarding public

Table 6

South Dakota's Low-Wage Earners by Occupation, May 2016

Occupation	All Workers (OES wage data)		Low Wage Earners (below \$10.86/hr, FEES per earner)		
	Workers in category	Percent of All workers	Low wage workers	Percent of All low wage workers	Percent of occupation
Management	11,580	2.77%	2,609	1.46%	22.53%
Business & Financial Operations	18,630	4.46%	2,798	1.57%	15.02%
Computer & Mathematical	7,830	1.88%	1,034	0.58%	13.20%
Architecture & Engineering	4,840	1.16%	505	0.28%	10.43%
Life, Physical, & Social Sciences	4,070	0.97%	705	0.40%	17.32%
Community & Social Service	6,550	1.57%	1,563	0.87%	23.86%
Legal	1,660	0.40%	324	0.18%	19.49%
Education, Training & Library	24,170	5.79%	8,921	4.99%	36.91%
Arts, Design, Entertainment, Sports, & Media	5,560	1.33%	2,680	1.50%	48.21%
Healthcare Practitioners & Technical	29,800	7.14%	4,664	2.61%	15.65%
Healthcare Support	10,540	2.52%	6,565	3.67%	62.29%
Protective Service	6,470	1.55%	2,278	1.28%	35.21%
Food Preparation & Serving Related	41,410	9.92%	37,248	20.85%	89.95%
Building & Grounds Cleaning & Maintenance	16,780	4.02%	11,902	6.66%	70.93%
Personal Care & Service	14,320	3.43%	9,460	5.29%	66.06%
Sales & Related	47,440	11.36%	23,269	13.02%	49.05%
Office & Administrative Support	64,720	15.50%	26,904	15.06%	41.57%
Farming, Fishing, & Forestry	1,630	0.39%	719	0.40%	44.13%
Construction & Extraction	21,940	5.25%	7,916	4.43%	36.08%
Installation, Maintenance, & Repair	16,450	3.94%	3,501	1.96%	21.28%
Production	31,600	7.57%	11,319	6.34%	35.82%
Transportation & Material Moving	29,550	7.08%	11,796	6.60%	39.92%
TOTAL	417,540	100.00%	178,680	100.00%	42.79%

Source: Proportions of each category established by analysis of IPUMS USA (Ruggles et al., 2015) data for 5-year ACS 2011-2015, then applied to OES snapshots for occupational categories (BLS, 2016b).

- (1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates did not include self-employed workers, but low wage proportions did factor in this sector.
- (2) Occupations with low wage percentages above 42.79% indicate low wage workers are over-represented in that industry.

Table 7

South Dakota's Low-Wage Earners by Occupation, May 2011

Occupation	All Workers (OES wage data)		Low-Wage Earners (below \$9.91/hr, FESS per earner)		
	Workers in category	Percent of All workers	Low wage workers	Percent of All low wage workers	Percent of occupation
Management	11,820	3.01%	2,983	1.74%	25.24%
Business & Financial Operations	16,180	4.12%	2,527	1.47%	15.62%
Computer & Mathematical	6,130	1.56%	1,068	0.62%	17.42%
Architecture & Engineering	4,360	1.11%	975	0.58%	22.37%
Life, Physical, & Social Sciences	3,780	0.96%	1,161	0.68%	30.71%
Community & Social Services	6,030	1.54%	1,157	0.67%	19.19%
Legal	1,650	0.42%	240	0.14%	14.52%
Education, Training & Library	23,430	5.97%	7,676	4.47%	32.76%
Arts, Design, Entertainment, Sports, & Media	5,530	1.41%	2,891	1.68%	52.28%
Healthcare Practitioners & Technical	26,020	6.63%	4,049	2.36%	15.56%
Healthcare Support	10,840	2.76%	6,740	3.92%	62.18%
Protective Service	6,120	1.56%	2,197	1.28%	35.90%
Food Preparation & Serving Related	38,590	9.83%	33,851	19.70%	87.72%
Building & Grounds Cleaning & Maintenance	15,790	4.02%	11,392	6.63%	72.15%
Personal Care & Service	12,320	3.14%	8,785	5.11%	71.31%
Sales & Related	45,100	11.49%	22,442	13.06%	49.76%
Office & Administrative Support	66,150	16.85%	27,512	16.01%	41.59%
Farming, Fishing, & Forestry	1,380	0.35%	902	0.52%	65.36%
Construction & Extraction	20,290	5.17%	7,272	4.23%	35.84%
Installation, Maintenance, & Repair	14,520	3.70%	4,121	2.40%	28.38%
Production	27,920	7.11%	9,350	5.44%	33.49%
Transportation & Material Moving	28,730	7.32%	12,532	7.29%	43.62%
TOTAL	392,680	100.0%	171,823	100.00%	43.76%

Source: Proportions of each category established by analysis of IPUMS USA (Ruggles et al., 2015) data for 5-year ACS 2006-2010, then applied to OES snapshots for occupational categories (BLS, 2016c).

- (1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates did not include self-employed workers, but low wage proportions did factor in this sector.
- (2) Occupations with low wage percentages above 43.76% indicate low wage workers are over-represented in that industry.

versus private occupations, as well as information for self-employed persons and those designated as unpaid family workers within each occupation were not evident. To better understand how these factors for Table 4 and Table 5 were determined, this researcher contacted the authors of the Greater Boston labor force study (Argyres et al., 2012). Dr. Susan Moir and Dr. Brandynn Holgate were able to respond quickly to the inquiry.

Iteration Two. Dr. Holgate revealed their study's data (Argyres et al., 2012) involved extracting more variables than this research had obtained. Values for employment status (EMPSTAT), class of worker (CLASSWKR), weeks worked (WKSWORK2), and usual hours worked (UHRSWORK) offered the necessary information to determine full-time, full year, public, private, self-employed, and unpaid family worker sectors for Table 4. Further, Dr. Holgate argued removing self-employed individuals from Iteration One excluded "an important pool of low-wage workers" (personal communications, July 24, 2017). In deference to her expertise, new data was extracted from IPUMS for each of the five-year periods. The additional variable of earned income (INCEARN) replaced income from wages (INCWAGE), as INCEARN included both wages and other forms of income generation.

One surprisingly pleasant effect of having the additional variables was the ability for this researcher to remove all previous subjectivity used to include and exclude line items. Employment status (EMPSTAT) had four designations: (a) 0, never worked; (b) 1, employed; (c) 2, unemployed; and (d) 3, not in labor force. Given the ages of a number of those listed as EMPSTAT = 3, many in this group were retired. EMPSTAT = 0 were exclusively minors under the age of sixteen. By excluding all line items with 0 or 3, the only data remaining were employed and unemployed. Calculations for frequency yielded population counts for these two groups.

Separation of unemployed persons allowed for a total count, used as a comparison to snapshot data to verify proportions within the labor force. Having only EMPSTAT = 1 values remaining for occupational counts and income evaluation enabled this researcher to proceed with greater confidence in the resultant values. Class of worker (CLASSWKR) identified public (government and nonprofit) sector, private sector, unpaid family workers, and military. Each of these sectors were separated and counted before reintegration for occupational category evaluation. Military line items remained excluded; OCC2010 codes military with a 9800 series, which is not included in the overall 22 categories.

Microdata established the appropriate proportion of low wage earners within each occupational category. The proportion was applied to the snapshot values listed in Table 6 and Table 7, for example, to determine the number of individual participants in each category considered low wage earners (Appendix D). Appendix E summarizes the author's analysis of wage earners in South Dakota, with the previously described line item exceptions, to establish proportions applied to OES data in Tables 6 and 7.

Pay Scales. May 2016 interquartile wages for multiple occupations in one geographical area, the state of South Dakota, were accessed through the OES database (BLS, 2016b; Appendix D). Upper and lower values of each wage range were calculated to establish boundaries for the occupational categories, as illustrated in Figure 4. The dark horizontal line represents an approximation of South Dakota's FESS threshold of \$10.86 per hour. Using the Management category as an example, the 10th percentile hourly wage for this occupation was \$22.22; therefore, the lowest wage in the category would be \$20.20 ($\$22.22/1.1$). Similarly, the 90th percentile hourly wage was \$85.00, resulting in the maximum wage of \$94.44 ($\$85.00/0.9$). Each occupation has a vertical line on Figure 4, spanning the range of wages reported in that category. A triangle on each vertical line marks the occupation's median wage; for Management, the median wage is \$44.14 per hour. In all categories, Figure 4 illustrates the median wage as significantly below the mean wage for each occupation.

May 2011 interquartile wages also were accessed from the OES database (BLS, 2016c; Appendix D). Values were standardized to 2011 dollars to yield an FESS value of \$9.91 per hour for each of two wage earners in a household. The combined annual income of these wages would need to equal \$41,860; this value assumes equal contribution of \$20,930 per year ($\$9.91/\text{hour} \times 8 \text{ hours/day} \times 22 \text{ days/month} \times 12 \text{ months}$) by each adult. Realistically, either or both wage earners may not reach full-time, full year status – consistently working 35 or more hours each week for the entire year.

South Dakota's Department of Labor and Regulation (2016) announced a cost of living increase of 1.06 percent for 2016, resulting in the state minimum wage increasing to \$8.65 per hour beginning January 1, 2017. Only occupations with wage ranges near the minimum wage, however, directly are affected by the increase. There is no mandate for all wages to increase by 1.06 percent. Figure 4 shows only the Food Service category had a median wage below the 2016 FESS threshold of \$10.86 per hour; Figure 5 indicates the same for the 2011 FESS threshold of \$9.91 per hour. Given often minimal requisites for employment in this occupation, it is not surprising the Food Service category had the third largest number (41,410) of workers; only Office and Administrative Support (64,720) and Sales (47,440) had more workers.

Food Preparation and Serving had the smallest wage range, indicating little opportunity to make substantial increases in hourly wages through advancements. This category's wages ranged from \$8.07 to \$15.09 per hour, in 2016 (Figure 4). Due to the nature of servers receiving tips, Food Service is one occupation where employers legally can pay less than the state minimum wage. South Dakota's Department of Labor and Regulation (2016) explained the hourly minimum wage for tipped employees is half the wage for non-tipped employees. "Wages and tips combined must equal at least the minimum wage" (para. 3). This structure *assumes* all servers will earn at least half the minimum wage in tips each hour.

Figure 4. Interquartile hourly wage ranges by major occupations of South Dakota, 2016. Reference: Bureau of Labor Statistics. (2016b). Occupational Employment Statistics (OES) data tables. *Multiple occupations for one geographical area, South Dakota, May 2016*. Retrieved from <https://data.bls.gov/oes/>

Figure 5. Interquartile hourly wage ranges by major occupations for South Dakota, 2011. Source information obtained from Bureau of Labor Statistics. (2016c). Occupational Employment Statistics (OES) data tables. *Multiple occupations for one geographical area, South Dakota, May 2011*. Retrieved from <https://data.bls.gov/oes/>

Figure 6. Population by occupation 2011 through 2016. Information represents author's analysis of OES survey data for 2011 and 2016 (BLS, 2016b; BLS, 2016c).

Figure 7. South Dakota labor force in all occupations from 2011 to 2016. Information represents author's analysis of OES survey data for 2011 and 2016 (BLS, 2016b; BLS, 2016c).

Figure 8. Percentage change in labor force by occupation between 2011 to 2016. Information represents author's analysis of OES survey data for 2011 and 2016 (BLS, 2016b; BLS, 2016c).

Figure 9. Long-term changes in sector populations, South Dakota 2001-2016. Adapted from U. S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD, 2017). Quarterly workforce indicators (QWI) data extraction, limited to quarter 2 in years 2001, 2006, 2011, and 2016.

By comparison, the occupation with the largest pay range was Management; wages for managers in South Dakota were reported as \$20.20 to \$94.44 per hour (Figure 4). For a typical 2,080-hour work year, a restaurant host may earn \$16,786 per year (\$8.07/hr) while some business executives report earning \$196,435 per year (\$94.44/hr) – before bonuses and options. With occupational ranges much wider in the professional fields than in support staff positions, and the observation that occupational median wages fall below the mean of each range, delving into the raw data for South Dakota’s labor force became necessary to get a clearer picture. Figures 6 through 9 show changes in each occupation over time.

Typologies. When examining an occupational category, distribution of jobs within that occupation would indicate an ability for workers to advance from entry level to higher paying ranks. Interquartile median wages were examined to organize each of the 22 occupational categories into one of three tiers – *Low Wage*, *Second Tier*, and *Higher Wage*. These typologies adhere to the example Argyres et al. (2012) set with their investigation of Boston’s labor force.

An occupation was selected as *Low Wage* when its median wage fell below the FESS threshold of \$10.86 per hour for 2016, and \$9.91 per hour for 2011. A version of Social Inclusion theory (Boushey et al., 2007) qualified an occupation as *Second Tier* if two-thirds of its median wage fell below the FESS threshold. The remaining occupational categories composed the *Higher Wage* typology, where two-thirds the median wage was above the FESS threshold. *Higher Wage* occupations do not necessarily indicate incomes equal to upper middle-class wealth, but do suggest wage earners may be able to pay for more than their equitable half of the family’s needs.

Of considerable note is that a large proportion of those workers in *Second Tier* occupations, with better hourly wages, may still be part of the low wage earners listed on OES and ACS data. Although the *hourly* wages may exceed the self-sufficiency threshold, workers may not have the ability, or desire, to work 35 or more hours each week. Therefore, Table 6 and Table 7 must be viewed in conjunction with Table 8 and Table 9. All 22 occupational groups fit into three possible typologies. Table 8 and Table 9 describe these typologies for 2016 and 2011, respectively.

Second Tier occupations encompass many service-oriented positions, often characterized by less than full-time hours. These categories represent low enough median wages that two-thirds the occupation’s median wage does not meet the FESS threshold. These at-risk, and questionably lucrative occupations, with their median wages in 2016 are:

- Personal Care (\$10.97/hour)
- Building and Grounds Services (\$11.25/hour)
- Farming, Fishing, and Forestry (\$12.52/hour)
- Transportation and Material Moving (\$14.06/hour)
- Production (\$14.98/hour)
- Arts, Entertainment, Sports, and Media (\$16.15/hour)

Table 8

South Dakota Employment and Wages by Occupational Typology, 2016

Occupational Typology	Occupational Title	Number Employed	Percent of Total Employment	Median Hourly Wage	2/3 Median
FESS threshold value for 2016 = \$10.86/hour					
Low wage	Food Preparation/Serving	41,410	9.92%	\$9.62	
	Low wage total	41,410	9.92%		
Second Tier	Personal Care	14,320	3.43%	\$10.97	\$7.31
	Building/Grounds Services	16,780	4.02%	\$11.25	\$7.50
	Sales	47,440	11.36%	\$12.49	\$8.33
	Farming, Fishing, & Forestry	1,630	0.39%	\$12.52	\$8.35
	Healthcare Support	10,540	2.52%	\$12.63	\$8.42
	Office & Administrative Support	64,720	15.50%	\$14.00	\$9.33
	Transportation & Material Moving	29,550	7.08%	\$14.06	\$9.37
	Production	31,600	7.57%	\$14.98	\$9.99
	Arts/Entertainment	5,560	1.33%	\$16.15	\$10.77
	Second Tier total	222,140	53.20%		
Higher wage	Construction & Extraction	21,940	5.25%	\$17.13	\$11.42
	Protective Service	6,470	1.55%	\$17.21	\$11.47
	Community & Social Service	6,550	1.57%	\$18.26	\$12.17
	Education, Training, & Library	24,170	5.79%	\$18.66	\$12.44
	Installation, Maintenance & Repair	16,450	3.94%	\$19.67	\$13.11
	Life, Physical, & Social Sciences	4,070	0.97%	\$24.03	\$16.02
	Healthcare Practitioners	29,800	7.14%	\$25.70	\$17.13
	Business & Financial	18,630	4.46%	\$27.93	\$18.62
	Computer & Mathematical	7,830	1.88%	\$28.63	\$19.09
	Legal	1,660	0.40%	\$28.76	\$19.09
	Architecture & Engineering	4,840	1.16%	\$30.09	\$20.06
	Management	11,580	2.77%	\$44.14	\$29.43
	Higher wage total	153,990	36.88%		
All Jobs		417,540	100.00%		

Source: Bureau of Labor Statistics. (2016b). Occupational Employment Statistics (OES) data tables. *Multiple occupations for one geographical area, South Dakota, May 2016*. Retrieved from <https://data.bls.gov/oes/>

Table 9

South Dakota Employment and Wages by Occupational Typology, 2011

Occupational Typology	Occupational Title	Number Employed	Percent of Total Employment	Median Hourly Wage	2/3 Median
FESS threshold value for 2011 = \$9.91/hour					
Low wage	Food Preparation/Serving	38,590	9.83%	\$8.95	
	Low wage total	38,590	9.83%		
Second Tier	Personal Care	12,320	3.14%	\$10.22	\$6.81
	Building/Grounds Services	15,790	4.02%	\$10.40	\$6.93
	Sales	45,100	11.49%	\$11.23	\$7.49
	Healthcare Support	10,840	2.76%	\$11.46	\$7.64
	Farming, Fishing, & Forestry	1,380	0.35%	\$12.43	\$8.29
	Office & Administrative Support	66,150	16.85%	\$12.52	\$8.35
	Transportation & Material Moving	28,730	7.32%	\$12.89	\$8.59
	Production	27,920	7.11%	\$13.68	\$9.12
	Second Tier total	208,230	53.04%		
Higher wage	Arts/Entertainment	5,530	1.41%	\$14.88	\$9.92
	Construction & Extraction	20,290	5.17%	\$14.98	\$9.99
	Protective Service	6,120	1.56%	\$16.13	\$10.75
	Community & Social Service	6,030	1.54%	\$16.73	\$11.15
	Education, Training, & Library	23,430	5.97%	\$17.44	\$11.63
	Installation, Maintenance & Repair	14,520	3.70%	\$18.70	\$12.47
	Life, Physical, & Social Sciences	3,780	0.96%	\$21.61	\$14.41
	Healthcare Practitioners	26,020	6.63%	\$23.10	\$15.40
	Business & Financial	16,180	4.12%	\$24.28	\$16.19
	Computer & Mathematical	6,130	1.56%	\$25.37	\$16.91
	Architecture & Engineering	4,360	1.11%	\$26.45	\$17.63
	Legal	1,650	0.42%	\$26.52	\$17.68
	Management	11,820	3.01%	\$37.08	\$24.72
	Higher wage total	145,860	37.16%		
	All Jobs	392,680	100.03%		

Source: Bureau of Labor Statistics. (2016c). Occupational Employment Statistics (OES) data tables. *Multiple occupations for one geographical area, South Dakota, May 2011*. Retrieved from <https://data.bls.gov/oes/>

Comparing Table 8 and Table 9 reveals that over the 2006-2015 period, only Arts, Entertainment, Sports, and Media changed its tier status. Arts and Entertainment dropped from the lowest category in the *Higher Wage* tier in 2011, to the highest paid category in the *Second Tier* in 2016. When less than one dollar per hour can change an occupational category from a somewhat secure income (Higher Wage) to a questionably adequate income (Second Tier), further investigation becomes necessary to determine how much control workers have regarding their hours.

Do most members of an occupation work in the lower range, with a handful of highly paid individuals at the top pulling the median wage higher? When examining individual earnings, will large portions of *Second Tier* job holders earn low incomes annually? Are employees working the hours they want to make the income they need? How remarkable is South Dakota's labor market when compared to other states?

Workers by Age. Determining the age levels of workers could aid policymakers by highlighting populations in need of economic development initiatives, such as forewarn of an aging population with few retirement alternatives. Building on the examination of occupational typologies, and with consideration to information expressed as “interesting to know” by South Dakota State Senator Reynold Nesiba during an informal interview (April 20, 2017), the IPUMS data previously separated into occupations was dissected further into age groups. Five major groups, with the ideal perceptions of each stage, follow:

- (a) 16-29 years of age – presumably at the beginning of a career
- (b) 30-39 years of age – building credibility and status within a career
- (c) 40-49 years of age – secure in a career and approaching its pinnacle
- (d) 50-64 years of age – mature in a career and approaching retirement
- (e) 65 years of age and above – working as a distraction in retirement

This author acknowledges the changing landscape that does not confine individuals to career dimensions based solely on age, as evidenced by the increased numbers of individuals pursuing advanced educations later in life. Grouping South Dakota's work force into these five categories, along with investigating the income levels of each group may still offer relevant information. Appendix F details IPUMS data, converted to OES parameters, for each age group within each occupation by worker count and percentage of total work force.

Figure 10 presents age groups as proportions of the entire labor market. Table 10 breaks down each age group by income typology. Figure 11 shows the changes in all and low wage earners, by age groups, for each five-year block of data. Table 11 restates counts of age groups, income levels, and change in each over the ten years analyzed. Although 2016 OES data (BLS, 2016a) indicated an increase of 24,860 workers over 2011 figures, age groups did not progress equally.

Figure 10. Percentage of all workers by age groups, 2011 and 2016. Source: IPUMS ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015) converted to OES snapshot labor force totals for 2011 and 2016 (BLS, 2016b; BLS, 2016c).

The largest age group, 16-29, lost 0.52% of the total labor market (Figure 10). Presumably more workers aged into the 30-39 age group than children grew up to join the 16-29 group. This graduation from age group to age group can be seen in Figure 11, which illustrates the 40-49 age group lost more workers than aged up into the next group. By percentage, 2.48% of the labor force left the 40-49 age group; only 1.84% (1.18% increase in 50-64 age group, and 0.66% increase in 65 and over age group) aged up. Two possible scenarios may explain the missing 0.64% of the labor market.

If all migration between age groups assumed no outside influence, that all workers remained in South Dakota, then all changes must equal the net increase of 24,860 workers between data sets (Table 11). Working backward, the increase of 7,991 in the 65 and over age group would come directly from the 50-64 age group. The 50-64 age group would receive its increase of 18,967 workers from the 40-49 group, to offset its contribution to the next group but increase by the amount in Table 10. To account for its loss and 2016 population, the 40-49 age group received 13,692 workers from the 30-39 group. The 30-39 age group must have received 23,096 from the 16-29 group. These movements would require 28,927 new workers to enter the 16-29 age group by 2016 (Table 11).

The second alternative would be workers leaving the state for better employment opportunities. As described above, the 40-49 age group are generally the experts in their fields. If they are emigrating to more lucrative economies, South Dakota's skilled resource pool will also deplete.

Table 10

Workers by Age Group and Proportion of Work Force

16-29						
	Number of Workers			% of All Workers		
	2011	2016		2011	2016	Change
Low Wage	85,132	88,019	2,887	21.68%	21.08%	-0.60%
Household Level	119,606	123,321	3,715	30.46%	29.54%	-0.92%
Higher Wage	7,040	9,156	2,116	1.79%	2.19%	0.40%
Totals	126,646	132,477	5,830	32.25%	31.73%	-0.52%
30-39						
	Number of Workers			% of All Workers		
	2011	2016		2011	2016	Change
Low Wage	19,476	23,847	4,371	4.96%	5.71%	0.75%
Household Level	52,007	60,061	8,138	13.24%	14.38%	1.14%
Higher Wage	20,278	21,628	1,266	5.16%	5.18%	0.02%
Totals	72,285	81,689	9,404	18.41%*	19.56%	1.16%
40-49						
	Number of Workers			% of All Workers		
	2011	2016		2011	2016	Change
Low Wage	19,961	18,305	-1,656	5.08%	4.38%	-0.70%
Household Level	54,973	49,381	-5,562	13.99%*	11.83%	-2.16%*
Higher Wage	25,367	25,684	304	6.46%	6.15%	-0.31%
Totals	80,340	75,065	-5,258	20.46%	17.98%	-2.48%
50-64						
	Number of Workers			% of All Workers		
	2011	2016		2011	2016	Change
Low Wage	27,734	29,675	1,941	7.06%	7.11%	0.04%*
Household Level	66,404	72,373	5,969	16.91%	17.33%	0.43%*
Higher Wage	29,166	34,173	5,007	7.43%	8.18%	0.75%
Totals	95,570	106,546	10,976	24.33%*	25.52%	1.18%*
65+						
	Number of Workers			% of All Workers		
	2011	2016		2011	2016	Change
Low Wage	11,597	12,359	737	2.95%	2.96%	0.01%
Household Level	15,440	17,706	2,266	3.93%	4.24%	0.31%
Higher Wage	2,399	4,058	5,725	0.61%	0.97%	0.36%
Totals	17,839	21,764	7,991	4.55%*	5.21%	0.66%*

Note: * denotes error due to rounding. Calculations carried forward from Excel pivot table. Source: IPUMS ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015) converted to OES snapshot labor force totals for 2011 and 2016 (BLS, 2016a).

Figure 11. Change in all workers by age groups and below single earner threshold, 2006-2015. Source: IPUMS ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015) converted to OES snapshot labor force totals for 2011 and 2016 (BLS, 2016a).

Table 11

Workers by Age under Single Earner and Household FESS Thresholds

All Workers						
AGE GROUPS	2006-2010	Percent of All Workers	2011-2015	Percent of All Workers	Change in Workers	Percent Change
16-29	126,646	32.25%	132,477	31.73%	5,830*	-0.52%
30-39	72,285	18.41%	81,689	19.56%	9,404	1.15%
40-49	80,340	20.46%	75,065	17.98%	-5,275	-2.48%
50-64	95,570	24.34%	106,545	24.54%	10,975	0.21%*
65+	17,839	4.55%	21,764	6.19%	3,925	1.64%*
Totals	392,680	100%	417,540	100%	24,859	

Low Wage Earners						
AGE GROUPS	2006-2010 (<\$20,930/yr)	Percent of Low Wage Earners	2011-2015 (<\$22,936/yr)	Percent of Low Wage Earners	Change in Workers	Percent Change
16-29	85,132	51.94%	88,019	51.11%	2,887	-0.83%
30-39	19,476	11.88%	23,847	13.85%	4,371	1.97%
40-49	19,961	12.18%	18,305	10.63%	-1,656	-1.55%
50-64	27,734	16.92%	29,675	17.23%	1,940*	0.31%
65+	11,597	7.08%	12,359	7.18%	762	0.10%
Totals	163,900	100%	172,204	100%	8,304	

Less than Household Level Earners						
AGE GROUPS	2006-2010 (<\$41,860/yr)	Percent of Household Level Earners	2011-2015 (<\$45,873/yr)	Percent of Household Level Earners	Change in Workers	Percent Change
16-29	119,606	38.80%	123,321	38.20%	3,715	-0.60%
30-39	52,007	16.84%*	60,061	18.60%	8,054	1.76%
40-49	54,973	17.82%	49,381	15.30%	-5,592	-2.52%
50-64	66,404	21.53%	72,373	22.42%	5,969	0.89%
65+	15,440	5.01%	17,706	5.48%	2,266	0.47%
Totals	308,430*	100.00%	322,843	100%	14,412	

Note: * denotes error due to rounding. Calculations carried forward from Excel pivot table. Source: IPUMS ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015) converted to OES snapshot labor force totals for 2011 and 2016 (BLS, 2016a).

The importance of using microdata, made available by IPUMS, can be seen in Figure 12. From 2011 to 2016, the number of workers in South Dakota had a net increase of 24,860. The combined *Under 40* age groups comprised 51.29% of the work force in 2016, up 0.63% since 2011 (Figure 12). The actual increase in workers *Under 40* was 15,234 (Table 11), or 61.28% of all new workers. Workers *Over 40* appeared to be reduced, dropping from 49.34% to 48.71% of the labor market (Figure 12). Looking to Figure 12 for aggregated proportions of over and under 40 does not accurately convey worker trends.

Table 11 shows the reduced number of *Over 40* workers indicates few older workers are leaving the labor force. The aggregated decrease in the *Over 40* group was due to a net loss of 5,258 workers in the 40-49 age group. Over 5,000 more workers aged into the 50-64 age group than aged from the 30-39 age group (Figure 11).

Figure 12. Workers over and under 40 years old and by threshold earning levels, 2011 and 2016. Source: IPUMS ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015) converted to OES snapshot labor force totals for 2011 and 2016 (BLS, 2016a).

National Comparison

For 2016, South Dakota had an unemployment rate of 2.9% (BLS, 2016b). The 2016 national unemployment rate averaged 4.9%, 0.3% higher than the average for 2007 (BLS, 2017). At least initially, South Dakota appears to have a thriving economy where nearly everyone willing to work can find a job. What is not clear is the quality of those jobs, nor whether other states have the same composition of labor markets. Using the FESS threshold, as applied to South Dakota, to evaluate the WA hourly wage and percentage of labor force for the other 37 markets reviewed by Pearce and Brooks should enable an informed comparison. Analysis followed six major activities.

Step One. FESS reports were accessed via the CWW website (<http://selfsufficiencystandard.org/>) for each state; each report provided a county by county calculation. Where multiple reports have been commissioned, such as New Jersey, the most recent report prior to the years of concern for this study were accessed. For example, New Jersey commissioned Pearce and Brooks to evaluate the state five times (1999, 2002, 2005, 2008, and 2011). The years of interest for this study's comparison were 2011 and 2016. Therefore, the 2011 report was accessed, and FESS values were recorded for each county into an Excel spreadsheet. U. S. Census American Fact Finder data provided the county level populations for each year in each state.

Step Two. Following a WA process, each county's population was weighted as a proportion of the state's total population. That weighted value was multiplied by the FESS value listed on the respective report. All counties' line item weighted wages were summed to yield a statewide minimum wage. In the case of 2011, the report was for one of the years desired, so it required no further data manipulation.

Step Three. For 2016 values, however, there were no New Jersey reports specific to that year. In fact, there were no reports done after 2011. As a result, the CPI calculator was used to bring each county's FESS value from 2011 to 2016, factoring in only the increase of inflation and 2016 populations for weighting. A statewide minimum wage was generated by following the same weighting process, but with the inflated hourly values.

Step Four. With an hourly threshold wage calculated, the same formula used by Pearce and Brooks (2000) was applied for annual household totals. In 2011, New Jersey's weighted value was \$16.30 per hour for a single earner within a two-earner household. This means it would take two adults working full-time to produce a minimum of \$68,851 per year ($16.30 \times 8 \text{ hrs/day} \times 22 \text{ days/month} \times 12 \text{ months} \times 2 \text{ adults}$) to avoid using subsidies. Increasing each county value by inflation before weighting equaled \$17.54 per hour per worker for 2016, or \$74,089 annually per household.

Step Five. Two separate IPUMS extracts were created for each state, ACS 5-year for 2011-2015 and ACS 5-year for 2006-2010 (Ruggles et al., 2015). The data sets were limited to values of EMPSTAT = 1, employed persons regardless of class of worker. Once extracted, each

download was imported into Excel. The only line items excluded were those with OCC2010 codes in the 9800s, military personnel.

Step Six. A column for frequency (person number x person weight) was added to get a population count. Each extract was organized by earned income in ascending order. Frequency subtotals established the number of workers with annual incomes below that state's FESS hourly wage for a full-time worker, and for the number of workers with annual incomes sufficient to meet the entire family's need. Frequency was totaled for the whole labor force, enabling percentages to be established for each low wage threshold. This process was repeated for all states evaluated by FESS researchers.

In keeping with the New Jersey example, 49.99% of the state's labor market earned less than \$34,426 in 2011. Single earners below the FESS threshold of \$37,045 in 2016 reached 53.31%. In this case, 3.32% more of the working population was potentially in need of subsidies to meet family basic needs by 2016. Table 12 shows a ranking of all 38 labor markets by highest concentration of low wage workers. Single worker threshold values were used, that of one full-time working adult in a two-working adult household, to rank percentages of labor force earning less than FESS minimum wage for the year. The highest percentage of low wage workers ranked at the top of the list. For comparison, percentages established in Step Six above were used to rank states in both 2011 and 2016.

To illustrate low wage jobs as a proportion of the labor market, Figure 13 conveys lower percentages as bright green, with color turning red as percentages increase. These concentrations were recorded for 2011 and 2016, with the net changes conveyed on the heat map. Overall, most states improved (lessened) the number of low paying jobs except for some eastern states (Figure 13). Figure 14 uses the second threshold value calculated in Step Six, workers earning enough to meet the needs of the household with one income; this heat map shows the percentage of improvement between 2011 and 2016. The lowest percentages of labor market earning less than household threshold level was 68.71% in 2011 and 67.81% in 2016; in both years, this highest paying market was Louisiana. Table 13 lists the 2011 and 2016 calculated FESS WA minimum wages. Appendix G details the author's analysis of low wage population concentrations from IPUMS extracts for each of the 38 markets.

Table 12

States with the Highest Proportion of Low Wage Workers, using FESS Weighted Average Thresholds for 2011 and 2016

2011		2016
California	1	Connecticut
Utah	2	California
New York	3	Utah
Pennsylvania	4	New York
Illinois	5	Florida
Florida	6	New Jersey
New Jersey	7	Colorado
Massachusetts	8	North Carolina
Arizona	9	Virginia
Connecticut	10	Arizona
Colorado	11	Oregon
Maryland	12	Maryland
Hawaii	13	Illinois
Montana	14	Massachusetts
Kentucky	15	Washington
Washington	16	Hawaii
Oregon	17	Indiana
Ohio	18	Pennsylvania
Nebraska	19	Ohio
Wisconsin	20	Wisconsin
Oklahoma	21	Kentucky
Texas	22	Nevada
Indiana	23	Montana
Tennessee	24	Texas
Virginia	25	Georgia
Georgia	26	South Carolina
South Carolina	27	Tennessee
Alabama	28	Nebraska
South Dakota	29	Alabama
Missouri	30	Oklahoma
Washington, D. C.	31	Missouri
North Carolina	32	Wyoming
Nevada	33	Delaware
Delaware	34	South Dakota
West Virginia	35	Mississippi
Wyoming	36	West Virginia
Mississippi	37	Louisiana
Louisiana	38	Washington, D. C.

Source: Author's analysis of weighted average FESS data from Center for Women's Welfare reports, at <http://www.selfsufficiencystandard.org>, and IPUMS ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015).

Figure 13. Improvement in work force composition earning less than single worker self-sufficiency wages, by state, from 2011 to 2016. Information represents author's analysis of weighted average FESS data from Center for Women's Welfare reports, at <http://www.selfsufficiencystandard.org>, and IPUMS USA ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015).

Figure 14. Improvement in work force composition earning less than household level self-sufficiency wages, by state, from 2011 to 2016. Information represents author's analysis of weighted average FESS data from Center for Women's Welfare reports, at <http://www.selfsufficiencystandard.org>, and IPUMS USA ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015).

Table 13

Weighted Averages of FESS Values for 38 States, 2011 and 2016

State	FESS Cost of Living Data*			FESS 2011*		5yr ACS 2006-2010***		FESS 2016**		5yr ACS 2011-2015***	
	Report Year	Hourly Per Adult	Household Yearly	Hourly Per Adult	Household Yearly	Below Hourly Threshold	Below Yearly Threshold	Hourly Per Adult	Household Yearly	Below Hourly Threshold	Below Yearly Threshold
Alabama	2003	8.09	34,172	9.83	41,522	42.16%	73.09%	10.62	44,859	43.68%	72.99%
Arizona	2002	10.29	43,465	12.78	53,983	49.51%	80.75%				
	2012	13.32	56,264					13.94	58,883	52.47%	82.11%
California	2011	16.38	69,189	16.38	69,189	59.00%	84.12%				
	2014	16.61	70,161					16.82	71,048	60.10%	83.51%
Colorado	2011	13.74	58,038	13.74	58,038	49.11%	79.39%				
	2015	15.29	64,585					15.49	65,430	53.10%	81.57%
Connecticut	2005	13.82	58,376	15.95	67,373	49.32%	79.39%				
	2015	24.87	105,051					25.21	106,487	68.01%	90.90%
Delaware	2003	9.43	39,832	11.36	47,985	40.28%	72.39%	12.18	51,448	42.64%	73.05%
Florida	2007	11.26	47,562	12.26	51,786	49.99%	81.64%	13.19	55,715	53.64%	83.23%
Georgia	2008	10.34	43,676	10.81	45,661	42.76%	74.04%	11.69	49,379	45.44%	75.23%
Hawaii	2003	11.09	46,844	13.47	56,897	48.20%	82.90%	14.51	61,290	50.78%	83.06%
Illinois	2009	12.93	54,16	13.51	57,066	50.13%	79.55%	14.55	61,459	52.00%	79.68%
Indiana	2009	10.38	43,845	10.84	45,788	44.03%	76.40%				
	2016	12.54	52,969					12.54	52,969	49.29%	80.17%
Kentucky	2001	8.96	37,847	11.30	47,731	47.67%	79.45%	12.04	50,857	48.60%	79.02%
Louisiana	2003	7.68	32,440	9.30	39,325	39.22%	68.71%	9.80	41,395	39.25%	67.81%
Maryland	2007	14.14	59,727	15.42	65,134	48.29%	78.51%				
	2016	17.54	74,089					17.54	74,089	52.24%	80.14%
Massachusetts	2006	14.38	60,741	15.93	67,288	49.72%	80.85%	17.15	72,442	51.80%	80.12%
Mississippi	2009	8.65	36,538	9.03	38,143	40.10%	72.59%	9.64	40,719	41.06%	73.58%
Missouri	2002	7.97	33,665	9.98	42,156	41.61%	73.40%	10.79	45,577	42.97%	73.86%
Montana	2008	10.39	43,887	10.84	45,788	47.96%	79.76%	11.68	49,336	47.77%	77.71%
Nebraska	2010	10.46	44,183	10.91	46,084	45.57%	79.26%	11.66	49,252	43.71%	76.02%
Nevada	2002	9.34	39,452	11.63	49,125	40.74%	76.25%	12.52	52,884	47.94%	80.51%
New Jersey	2011	16.30	68,851	16.30	68,851	49.99%	79.24%	17.54	74,089	53.31%	79.78%
New York	2010	15.62	65,979	15.88	67,077	53.87%	82.96%	17.10	72,230	55.46%	82.49%

(continued)

Table 13

Weighted Averages of FESS Values for 38 States, 2011 and 2016 (continued)

State	FESS Cost of Living Data*			FESS 2011*		5yr ACS 2006-2010***		FESS 2016**		5yr ACS 2011-2015***	
	Report Year	Hourly Per Adult	Household Yearly	Hourly Per Adult	Household Yearly	Below Hourly Threshold	Below Yearly Threshold	Hourly Per Adult	Household Yearly	Below Hourly Threshold	Below Yearly Threshold
North Carolina	1997	7.16	30,244	10.01	42,282	40.95%	73.66%				
	2017	13.92	58,798					13.58	57,362	52.73%	83.03%
Ohio	2011	11.79	49,801	11.79	49,801	46.74%	77.72%				
	2015	12.73	53,772					12.93	54,616	49.17%	79.11%
Oklahoma	2009	9.62	40,635	10.04	42,409	45.00%	76.26%	10.83	45,746	43.12%	75.02%
Oregon	2011	11.47	48,449	11.47	48,449	46.83%	76.68%				
	2014	13.18	55,672					13.36	56,433	52.46%	80.37%
Pennsylvania	2010	13.24	55,926	13.46	56,855	50.56%	82.04%				
	2012	13.56	57,277					14.20	59,981	49.23%	80.12%
South Carolina	2016	11.03	46,591	10.21	43,127	42.60%	75.53%	11.03	46,591	45.06%	76.77%
South Dakota	2000	7.67	32,398	9.91	41,860	41.74%	78.55%	10.86	45,873	41.24%	77.32%
Tennessee	2002	8.22	34,721	10.25	43,296	43.59%	76.06%	11.05	46,675	44.52%	76.32%
Texas	1996	7.11	30,033	10.48	44,268	44.82%	73.80%	11.15	47,098	45.52%	72.68%
Utah	2001	10.37	43,803	13.43	56,728	57.68%	85.18%	14.28	60,319	58.41%	84.21%
Virginia	2006	10.99	46,422	12.32	52,040	42.86%	73.38%				
	2012	15.32	64,712					16.08	67,922	52.66%	79.65%
Washington	2011	13.36	56,433	13.36	56,433	46.99%	77.65%				
	2014	14.77	62,388					14.99	63,318	51.16%	78.98%
Washington D. C.	2005	13.95	58,925	16.11	68,049	41.40%	72.46%	17.32	73,160	39.19%	70.08%
West Virginia	2005	8.10	34,214	9.36	39,537	40.28%	71.54%	10.08	42,578	40.65%	71.43%
Wisconsin	2004	9.85	41,606	11.73	49,548	45.24%	77.72%				
	2016	13.20	55,757					13.20	55,757	48.89%	80.64%
Wyoming	2007	9.62	40,635	10.46	44,183	40.28%	70.62%				
	2016	12.01	50,730					12.01	50,730	42.82%	70.84%

* Author's analysis of weighted average FESS data from Center for Women's Welfare reports, at <http://www.selfsufficiencystandard.org>. ** Where needed, values were updated using the CPI Inflation Calculator at <https://data.bls.gov/cgi-bin/cpicalc.pl> by converting most recent report estimations. *** IPUMS USA ACS 5-yr data for periods 2006-2010 and 2011-2015 (Ruggles et al., 2015).

DOI: 10.17605/OSF.IO/QF4HY

RESULTS

If economic strata were limited to three equivalently populated typologies, the lower wage tier would be composed of no more than one-third of all available jobs. IPUMS data (Ruggles et al., 2015) combined with highly conservative WA income threshold standards revealed 42.79% of South Dakota's 2016 labor force earned less than the annual FESS value for a single earner (Table 4). Therefore, the state could be viewed as suffering from an elevated proportion of low income earners in the labor market. When compared to 37 other states, South Dakota was found to have a more balanced labor market (Table 12); the state had comparatively lower concentrations of low wage jobs than 35 other states. In fact, only one occupational category (Food Service) emerged as a guarantee to underemployment (Table 8). Food Service represents 9.92% of the labor market, indicating the remaining proportion of low wage jobs must consist of those with higher hourly wages but with less than full-time hours.

South Dakota

Investigating South Dakota's labor statistics, on a microdata level, revealed unexpected results. Initially, this researcher believed the predominance of low wage jobs in the Sioux Falls MSA was a symptom of a larger issue of precariousness for workers across the state. BLS data, however, revealed South Dakota had an unemployment rate 49% lower than the national average for 2016; national unemployment averaged 4.9% for 2016, while South Dakota averaged 2.9% (BLS, 2017).

For 2016, 78.20% (326,516/417,540) of all workers were employed full-time with 84.71% (276,597/326,516) of those workers employed year-round (Table 4). Sectors with low wage proportions greater than 42.79% would be considered to have an overrepresented concentration of low wage jobs. Although 68.23% of all low wage jobs were found in the private sector, low wage jobs only made up 38.41% of all private sector jobs (Table 4). This can be explained in part where only 20.43% of all low wage earners worked in the public sector (government/nonprofit), yet 56.48% of all public-sector jobs were low wage. Similarly, 10.77% of all low wage earners were self-employed; of those identifying as self-employed, 55.93% earned a low wage income (Table 4). Table 5 shows marginally higher values for each sector in 2011.

Comparing Table 4 and Table 5 confirms each sector reduced its proportion of low wage jobs by approximately one percent over the five years between data sets. One area of note is the change in unpaid family workers from 2011 to 2016. Approximately 9.8% more people opted to stay at home to care for the family, indicating there were 91 more people doing so in 2016. The proportion of family workers considered low wage earners, even though the name indicates unpaid, remarkably increased from 51.38% to 90.34%.

As with the various sectors, each occupational category was evaluated for concentration of low wage earners (Table 6). Occupations with an overrepresentation of low wage jobs would have more than 42.79% in 2016 and 43.76% in 2011 qualified as such. Reviewing Table 6 and

Table 7 identifies seven of the 22 categories with above average proportions of low wage jobs (Table 14).

Table 14

Occupations with Overrepresented Low Wage Concentrations

Occupation	2016	Change	2011
Food preparation and serving related	89.95%	+ 2.23%	87.72%
Building, grounds cleaning, and maintenance	70.93%	- 1.22%	72.15%
Personal care and service	66.06%	- 5.25%	71.31%
Healthcare support	62.29%	+ 0.11%	62.18%
Sales and related	49.05%	- 0.71%	49.76%
Arts, design, entertainment, sports and media	48.21%	- 4.07%	52.28%
Farming, fishing, and forestry	44.13%	-21.23%	65.36%

Both snapshot data (U. S. Census, 2016a; U. S. Census, 2016b) and IPUMS data (Ruggles et al., 2015) were products of U. S. Census ACS information; they differed slightly due to snapshots, such as Tables DP03 (Appendix B) and S2303 (Appendix C), provided estimates for specific time periods, while IPUMS data listed every component line item. Using exact proportions derived from microdata, snapshots were dissected for more detailed analysis. Microdata using WA values for FESS indicated 41.24% of South Dakota's labor force earned less than \$22,936 in 2016 (Appendix G); Table 4, using summative values for age group populations within each occupation confirmed the same percentage. while Table 6 revealed 42.79% of total workers were low wage earners. The 1.55% discrepancy likely was due to the differences in OES snapshot totals, indicating low wage earners totaled a slightly higher percentage than when part of the much larger IPUMS data set.

When examining workers by age, microdata revealed increases in workers at both ends of the spectrum. Between ACS 5-year data for 2006-2010 and ACS -year data for 2011-2015, new workers (ages 16-29) did enter the work force. Approximately 5,830 new workers had jobs in 2016 (Table 11). In general, it is not surprising for younger workers to earn less than their older counterparts. Figure 12 shows 52.23% of all workers under 40 earned less than the FESS single earner threshold (\$22,936/year), and 85.62% earned less than the household threshold (\$45,873/year).

On the other end of the spectrum, workers age 50 or more increased 14,884 between data sets (Table 11). The 40-49 age group had a net decline of 5,258 workers. Older workers may have greater numbers of Higher Wage earners than younger workers, but those still working appear to need the income. In 2016, 29.67% of all workers over 40 did not earn \$22,936 per year; 68.57% of older workers did not earn the household threshold level of \$45,873 per year.

Discrepancies. One issue of relevance is the OES snapshot data are figures reported by employers, while ACS data are self-reported by employees. When trying to determine age groups as proportions of the labor force and individual occupations, the extreme detail in IPUMS data revealed altered occupational totals. Initially, Tables 6 through 9 were calculated based upon OES values. Upon engaging in further analysis of the microdata to identify age groups within each occupation, and as a percentage of the overall work force, ACS self-reporting shifted approximately 10% of workers to a different category. Using Table 6 to test the values, prior occupational totals were replaced with cumulative counts from each of five age groups. These groups were (a) 16-29 years of age, (b) 30-39 years of age, (c) 40-49 years of age, (d) 50-64 years of age, and (e) 65 years of age and over.

Interestingly, most occupations had only minor percentage changes, with Community and Social Services (1.57%) and Protection Service (1.55%) remaining exactly the same. The drastic difference was in the Management category. Previously reported by OES, Management represented 2.77% (11,580) of 417,540 workers in 2016 (BLS, 2016b). Contrary to employer classification, the detailed ACS reported data from IPUMS showed 10.74% (44,862) of all workers identified as managers (Ruggles et al., 2015). Two other changes are notable.

Food Service changed from 9.92% (41,410 workers) to 7.13% (29,790 workers) of the work force. OES data indicated Farming, Fishing, and Forestry had 1,630 workers (0.39%) in 2016.; IPUMS microdata revealed 9,793 workers, representing 2.35% of the work force, identified with this occupation. By applying the previously determined low wage proportions to each occupation, a total *Low Wage* work force changed from 178,680 to 172,209. The new value for low wage workers yielded a proportion of the work force of 41.24%, consistent with FESS WA microdata analysis in Appendix G, and removed a prior discrepancy of 1.55%.

A possible reason for the inconsistency between reporting methods (OES and ACS) may be turnover. Either each of the 11,580 managers reported by employers changed jobs almost annually, to yield four times as many workers over five years, or employees gravitate toward identifying with a management position regardless of their industry. Whereas employers may be more discriminating as to which jobs they recognize as managerial, employers perhaps limit them to executive positions. The possibility exists for many Food Service managers to avoid being categorized as in that industry to concentrate on their roles as leaders.

One additional calculation was required when applying ACS 5-year microdata to OES snapshot data, such as Table 6 and Table 7. Total workers in 2016 were 417,540 in OES and 695,195 in ACS; total workers in 2011 were 392,680 in OES and 655,173 in ACS. OES snapshots were 60% of ACS totals. To keep proportions intact, each ACS 5-year 2011-2015 value was multiplied by 60.0608462373866%; each ACS 5-year 2006-2010 value was multiplied by 59.9353147947183%. These constants represent the exact ratios applicable to each dataset.

Table 15

Occupational Analysis with Age Group Proportions Applied, 2016

Occupation	All Workers (OES wage data)		Low Wage Earners (below \$10.86/hr, FESS per earner)		
	Workers in category	Percent of All workers	Low wage workers	Percent of All low wage workers	Percent of occupation
Management	44,862	10.74%	10,107	5.87%	22.53%
Business & Financial Operations	12,710	3.04%	1,909	1.11%	15.02%
Computer & Mathematical	5,303	1.27%	700	0.41%	13.20%
Architecture & Engineering	4,718	1.13%	492	0.29%	10.43%
Life, Physical, & Social Sciences	3,080	0.74%	534	0.31%	17.32%
Community & Social Service	6,568	1.57%	1,567	0.91%	23.86%
Legal	2,416	0.58%	471	0.27%	19.49%
Education, Training & Library	21,305	5.10%	7,864	4.57%	36.91%
Arts, Design, Entertainment, Sports, & Media	5,575	1.34%	2,688	1.56%	48.21%
Healthcare Practitioners & Technical	24,187	5.79%	3,785	2.20%	15.65%
Healthcare Support	10,858	2.60%	6,763	3.93%	62.29%
Protective Service	6,462	1.55%	2,275	1.32%	35.21%
Food Preparation & Serving Related	29,790	7.13%	26,796	15.56%	89.95%
Building & Grounds Cleaning & Maintenance	16,633	3.98%	11,798	6.85%	70.93%
Personal Care & Service	17,404	4.17%	11,497	6.68%	66.06%
Sales & Related	44,040	10.55%	21,602	12.54%	49.05%
Office & Administrative Support	59,364	14.22%	24,678	14.33%	41.57%
Farming, Fishing, & Forestry	9,793	2.35%	4,322	2.51%	44.13%
Construction & Extraction	24,567	5.88%	8,864	5.15%	36.08%
Installation, Maintenance, & Repair	13,204	3.16%	2,810	1.63%	21.28%
Production	28,042	6.72%	10,045	5.83%	35.82%
Transportation & Material Moving	26,659	6.38%	10,642	6.18%	39.92%
TOTAL	417,540	100.00% *	172,209	100.01% *	41.24%

Source: Proportions of each category established by analysis of IPUMS USA (Ruggles et al., 2015) data for 5-year ACS 2011-2015, dissected by age group within each occupation, then applied to OES snapshots for occupational categories (BLS, 2016b).

- (1) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates did not include self-employed workers, but low wage proportions did factor in this sector.
- (2) Occupations with low wage percentages above 41.24% indicate low wage workers are over-represented in that industry.
- (3) Reconfiguration of Table 6.

Table 16

Occupational Typologies using Age Group Proportions, 2016

Occupational Typology	Occupational Title	Number Employed	Percent of Total Employment	Median Hourly Wage	2/3 Median
FESS threshold value for 2016 = \$10.86/hour					
Low wage	Food Preparation/Serving	29,790	7.13%	\$9.62	
	Low wage total	29,790	7.13%		
Second Tier	Personal Care	17,404	4.17%	\$10.97	\$7.31
	Building/Grounds Services	16,633	3.98%	\$11.25	\$7.50
	Sales	44,040	10.55%	\$12.49	\$8.33
	Farming, Fishing, & Forestry	9,793	2.35%	\$12.52	\$8.35
	Healthcare Support	10,858	2.60%	\$12.63	\$8.42
	Office & Administrative Support	59,364	14.22%	\$14.00	\$9.33
	Transportation & Material Moving	26,659	6.38%	\$14.06	\$9.37
	Production	28,042	6.72%	\$14.98	\$9.99
	Arts/Entertainment	5,575	1.34%	\$16.15	\$10.77
	Second Tier total	218,368	52.31%		
Higher wage	Construction & Extraction	24,567	5.88%	\$17.13	\$11.42
	Protective Service	6,462	1.55%	\$17.21	\$11.47
	Community & Social Service	6,568	1.57%	\$18.26	\$12.17
	Education, Training, & Library	21,305	5.10%	\$18.66	\$12.44
	Installation, Maintenance & Repair	13,204	3.16%	\$19.67	\$13.11
	Life, Physical, & Social Sciences	3,080	0.74%	\$24.03	\$16.02
	Healthcare Practitioners	24,187	5.79%	\$25.70	\$17.13
	Business & Financial	12,710	3.04%	\$27.93	\$18.62
	Computer & Mathematical	5,303	1.27%	\$28.63	\$19.09
	Legal	2,416	0.58%	\$28.76	\$19.09
	Architecture & Engineering	4,718	1.13%	\$30.09	\$20.06
	Management	44,862	10.74%	\$44.14	\$29.43
	Higher wage total	169,382	40.55%		
	All Jobs	417,540	99.99%*		

Source: Bureau of Labor Statistics. (2016b). Occupational Employment Statistics (OES) data tables. *Multiple occupations for one geographical area, South Dakota, May 2016*. Retrieved from <https://data.bls.gov/oes/> and IPUMS data from Ruggles et al. (2015).

Reconfiguration of Table 8.

Occupations. Studying the occupational wage ranges in Figure 4 and Figure 5 for all 22 categories makes evident the seven occupations with the highest proportion of low wage jobs also have the smallest wage ranges, and median hourly wages below or near the FESS minimum wage. The single exception was Sales and Related; its wage range covers nearly \$30.00 from minimum to maximum compared to the \$10.00 to \$20.00 range of the other six occupations in Table 14. Farming, Fishing, and Forestry glaringly lost 21.23% of its work force from 2011 to 2016. Even with a huge industry loss, Farming, Fishing, and Forestry still had an overrepresented concentration of low income workers (Table 14).

When typologies were introduced and applied to the occupational categories, each of the seven occupations with high concentrations of low wage jobs appeared exclusively in *Low Wage* and *Second Tier* typologies (Table 8). Although Sales had the largest wage range, the category of Arts and Entertainment had the highest median wage among the seven. The reader may recall Arts and Entertainment was the only occupation to change its typology from 2006-2010 to 2011-2015, moving from *Higher Wage* to *Second Tier*. Table 6 and Table 7 provide detail as to number of workers employed and percentage of total employment; these values are restated for the seven occupations in Table 17.

Table 17

Overrepresented Low Wage Occupations as Part of the South Dakota Labor Market

Occupation	2016		2011	
	Number of Employees	Percent of Total Employment	Number of Employees	Percent of Total Employment
Food preparation and serving related	41,410	9.92%	38,590	9.83%
Building, grounds cleaning, and maintenance	16,780	4.02%	15,790	4.02%
Personal care and service	14,320	3.43%	12,320	3.14%
Healthcare support	10,540	2.52%	10,840	2.76%
Sales and related	47,440	11.36%	45,100	11.49%
Arts, design, entertainment, sports and media	5,560	1.33%	5,530	1.41%
Farming, fishing, and forestry	1,630	0.39%	1,380	0.35%
Totals	137,680	32.97%	129,550	33.00%

It would *appear*, although low wage jobs concentrate in a minority of occupations, the labor market is equitably balanced. With 22 major occupations, seven (31.8%) have the bulk of low wage jobs. Table 17 explains how these seven categories account for 32.97% in 2016 and 33.00% in 2011 of all jobs, suggesting a balance in the labor market. With three typologies, however, a balanced distribution suggests low wage jobs should occupy no more than one-third

of all positions. The problem lies in the fact that these seven occupations represent approximately 75% of all low wage jobs, meaning the labor market is not as balanced as it first appeared. Table 7 totaled the concentration of all low wage positions as 43.76% in 2011; Table 6 totaled 42.79% in 2016.

In Figure 8, changes in concentration of labor market for each of the 22 occupational categories showed nearly imperceptible differences between 2011 and 2016. The single outlier was Office and Administrative Support workers. In the five years between data groups, this occupation reduced its percentage of the labor force by 1.35%. In 2011, there were an estimated 66,150 workers in Office and Administrative Support (Table 7); in 2016, only 64,720 workers held jobs in this occupation (Table 6).

Although the industry categories are not the same as OES's 22, the U. S. Census Bureau also measures long-term changes in sector populations through the Longitudinal Employer Household Dynamics (LEHD, 2017) database. Figure 9 shows extracted data for Quarter 2 in each of the years 2001, 2006, 2011, and 2016 (Appendix H). Proportionally, each industry but one appears to have increased over time by roughly the same amounts. Health Care and Social Assistance, most like the combined Healthcare Support workers and Community and Social Service workers of the OES categories, increased from 48,973 in 2001 to 63,593 in 2016 (Figure 9). Over the 15 years measured by these LEHD extracts, Health Care and Social Assistance grew by 29.9% (63,593/48,973). No other sector had increases remotely similar.

Trends and the variations with particular occupations aside, the most telling result of the South Dakota examination comes from a comparison of Table 8 with Table 6 for 2016 (Table 9 with Table 7 for 2011). Typology (Table 8) indicates only one occupation had a median income below the FESS threshold for a single earner. This occupation, Food Preparation and Serving, accounted for 9.92% of all workers. Table 6 calculated low wage workers, occupation by occupation, as comprising 42.79% of the total labor market. This difference indicates the remaining 32.87% comes from *Second Tier*, or even *Higher Wage*, typologies. As Table 14 and Table 17 summarized, the highest concentration of low wage earners was in seven categories – all of which appear in *Low Wage* and *Second Tier* typologies. Precarity for earners with low incomes does not necessarily stem from unduly low hourly wages but appears to result from insufficient hours to earn full-time pay. Looking at South Dakota's labor market in detail offered a better perspective as to the types of wages workers earn.

With a relatively low cost of living, compared to major metropolitan areas like Chicago or Minneapolis, first impressions would lead the casual observer to believe the income workers bring home meets the needs of most. Using the WA method of evaluating a FESS standard for the state, then applying that value to IPUMS data for two 5-year data sets, revealed 41.24% of all workers in 2016 did not earn their half of the household's budgetary needs for a family of four (Appendix G). Although high, the number of workers with income below the FESS threshold improved by 0.50% since 2011 (Figure 13).

Most disturbingly, 77.32% of all workers in 2016 were unable to be the sole provider for the family (Appendix G). Again, this figure represents a 1.23% *improvement* over 2011 (Appendix G). What makes this fact disturbing is the realistic possibility of any number of life events that could impact the earning capacity of one working adult, which would shift the burden to the remaining earner. As difficult as such a scenario may be to weather in South Dakota, is it better, worse, or like other states nationally?

National Comparison

Each of the remaining 37 labor markets studied by Pearce and Brooks (<http://selfsufficiencystandard.org>) were evaluated for an FESS threshold for both 2011 and 2016. Extractions from IPUMS for 2006-2010 and 2011-2015 were limited to line items with EMPSTAT = 1 (employed) before importing to Excel. All entries with military occupational codes were deleted, then the data was organized by earned income in ascending order. Creation of a frequency column enabled population counts. Thresholds were measured at each state's unique single earner (annual) income level, and at the household annual needs level. Totaling each state's labor force allowed percentage values to be calculated for both thresholds (Appendix G).

Figure 13 illustrates the change in proportions of each state's labor force with single earners below the FESS annual threshold. Although most states improved, there were some radically declining economies. Appendix G details the exact values used for Figure 13, which shows changes from 2011 to 2016 ranged from a 2.21% improvement to an 18.69% decline. The areas most affected by inflated costs of living and stagnated wages were Connecticut (-18.69%), North Carolina (-11.78%), and Virginia (-9.80%). Although not as dramatic, Nevada's labor market also saw 7.20% more of its labor force fall below the single earner annual income threshold (Appendix G).

For earners capable of being the household's sole provider, Louisiana had the highest proportion (Appendix G). Figure 14 shows the improvement, or lack thereof, in state labor markets capable of meeting the household's needs with one income. In 2016, 67.81% of the labor force in Louisiana could not handle the household's costs alone. All other states had higher percentages, with Connecticut topping the list at 90.90% of its work force unable to be the household's sole source of income (Appendix G).

As an interesting side note, knowing how much of the national labor market could support a household offers a nostalgic comparison for the reader. This study primarily focuses on the impact of job quality on the individual worker. Therefore, all 38 markets were ranked from highest proportion of labor force under the FESS single earner threshold to lowest (Table 12).

With the economic recovery gaining momentum in 2010, investigating the two data sets offers a good picture as to what that recovery has yielded for the frontline worker (Ruggles et al., 2015). In 2011, California had the highest proportion of its labor force under the FESS threshold; by 2016, it had improved only to the second position on the list. Table 18 indicates

the net change made by each state in Table 12. FESS values from Table 13 show the concurrent changes in cost of living, as the proportion of workers making less than FESS changed. According to the U. S. Inflation Calculator (<http://www.usinflationcalculator.com>), inflation increased 6.7% from 2011 to 2016.

What Table 18 readily conveys is that the national average increase in inflation was not felt equally among states. Of the 38 markets studied, only six experienced inflation rates below 6.7%: California (2.69%), Louisiana (5.38%), Pennsylvania (5.50%), Utah (6.33%), Texas (6.39%), and Kentucky (6.55%). Pennsylvania improved its proportion of low wage workers so much, it dropped 14 places in the ranking. In fact, Pennsylvania had the third greatest change among all labor markets. Unfortunately, Kentucky increased its proportion of low wage workers and rose six places in the ranking. The other four states with below par inflation stayed very near their 2011 position, only minimally changing their proportions of low wage earners.

On the other extreme, there were nine states experiencing hyperinflation from 2011 to 2016. The most staggering were Connecticut (58.06%), North Carolina (35.66%), and Virginia (30.52%). These estimations of inflation are the result of comparing the FESS WA values, which mitigate outliers for a statewide value. In other words, these changes may underestimate the actual inflation experienced in these markets (Table 18).

Although state economies have fluctuated greatly between data sets, what is clear is that South Dakota is one of the more stable ones. Even with nearly half (41.24% in 2016) of its labor force earning annual incomes below the single earner FESS threshold, the proportion of low wage earners to total earners is one of the lowest in the country (Appendix G). Table 12 ranked South Dakota as 29th in 2011 and 34th in 2016, out of 38. Decreasing the proportion of low wage earners by 0.50% resulted in a drop of five places in the ranking. Despite having a relative inflation rate of 9.59%, greater than the national average, South Dakota has maintained a low unemployment rate and marginally improved its percentage of low wage workers.

Table 18

Ranking Changes in Highest Proportion of Low Wage Workers and Changes in Cost of Living, from 2011 to 2016

State	RANKING		(Neg. is good) Change	FESS (WA)		(Neg. is good) Change
	2011	2016		2011	2016	
Alabama	28	29	- 1	9.83	10.62	+8.04%
Arizona	9	10	- 1	12.78	13.94	+9.08%
California	1	2	- 1	16.38	16.82	+2.69%
Colorado	11	7	+ 4	13.74	15.49	+12.74%
Connecticut	10	1	+ 9	15.95	25.21	+58.06%
Delaware	34	33	+ 1	11.36	12.18	+7.22%
Florida	6	5	+ 1	12.26	13.19	+7.59%
Georgia	26	25	+ 1	10.81	11.69	+8.14%
Hawaii	13	16	- 3	13.47	14.51	+7.72%
Illinois	5	13	- 8	13.51	14.55	+7.70%
Indiana	23	17	- 6	10.84	12.54	+15.68%
Kentucky	15	21	+ 6	11.30	12.04	+6.55%
Louisiana	38	37	+ 1	9.30	9.80	+5.38%
Maryland	12	12	0	15.42	17.54	+13.75%
Massachusetts	8	14	- 6	15.93	17.15	+7.66%
Mississippi	37	35	+ 2	9.03	9.64	+6.76%
Missouri	30	31	+ 1	9.98	10.79	+8.12%
Montana	14	23	+ 9	10.84	11.68	+7.75%
Nebraska	19	28	+ 9	10.91	11.66	+6.87%
Nevada	33	22	- 11	11.63	12.52	+7.65%
New Jersey	7	6	+ 1	16.30	17.54	+7.61%
New York	3	4	- 1	15.88	17.10	+7.68%
North Carolina	32	8	+ 24	10.01	13.58	+35.66%
Ohio	18	19	- 1	11.79	12.93	+9.67%
Oklahoma	21	30	- 9	10.04	10.83	+7.87%
Oregon	17	11	+ 6	11.47	13.36	+16.48%
Pennsylvania	4	18	- 14	13.46	14.20	+5.50%
South Carolina	27	26	+ 1	10.21	11.03	+8.03%
South Dakota	29	34	- 5	9.91	10.86	+9.59%
Tennessee	24	27	- 3	10.25	11.05	+7.80%
Texas	22	24	- 2	10.48	11.15	+6.39%
Utah	2	3	- 1	13.43	14.28	+6.33%
Virginia	25	9	+ 16	12.32	16.08	+30.52%
Washington	16	15	+ 1	13.36	14.99	+12.20%
Washington D. C.	31	38	- 7	16.11	17.32	+7.51%
West Virginia	35	36	- 1	9.36	10.08	+7.69%
Wisconsin	20	20	0	11.73	13.20	+12.53%
Wyoming	36	32	+ 4	10.46	12.01	+14.82%

Note: Placement information and change in placement taken from Table 12, where higher rank indicates greater proportion of labor force earning less than FESS single earner threshold. Hourly wages were taken from Table 13.

DISCUSSION

South Dakota does not have a large revenue stream to draw from when trying to finance employment growth and social programs. The state, to stimulate economic development, is structured in such a way that it receives no corporate income taxes, no personal income taxes, no personal property taxes, no business inventory taxes, and no inheritance taxes (SD, 2017). Even with its no tax policy, the state has failed to attract significant levels of employers offering quality jobs with full-time or Second Tier wages. By choosing to forego the types of taxes that provide revenue for most states, there are missed opportunities for infrastructure development more in line with what prospective new businesses may value. Over the 2006-2015 period reviewed, the retail, food service, and healthcare sectors were the predominant occupations that experienced job growth. Retail and Food Service industries also happen to be the lowest paid of all 22 occupations studied (Table 6).

To bridge the gap between operational need and revenue, approximately 60% of South Dakota's budget consists of federal funds (SD, 2017). If the conclusions offered by the Center on Budget and Policy Priorities are accurate, TANF block grants may be getting diverted "to fill state budget holes, and in some cases to substitute for existing state spending" (Schott et al., 2015, p. 1). Although public subsidies are available, South Dakota restricts funds so that only the poorest of the poor can qualify for most programs. Complicating matters, the costs of administering these programs routinely occupies a greater percentage of federal monies than the programs provide to the needy. Ironically, 56.48% of public sector workers are also low wage earners potentially at risk of needing subsidies (Table 4).

The state budget, therefore, is funded primarily from sales taxes on consumer transactions, including groceries and clothing. Consumer taxes directly impact all citizens, regardless of their resources. Structuring the state's funding by taxing those most in need of help only exacerbates the aid government may be asked to provide. With such limited resources, legislators must find ways to allocate funds to programs judiciously.

One program not discussed within this paper was the role of subsidized housing. The Sioux Falls Public Housing Authority currently has a four-year waiting list for applicants (personal communication, 2017). With 41.24% of South Dakota's work force earning less than \$22,936 per year, dramatically expanding income-contingent housing would enable even low wage earners to live more independently (Table 13). With 77.32% of the work force earning less than \$45,873 per year (Table 13), the lofty dream of home ownership seems out of reach for most residents.

CONCLUSION

This study examined South Dakota's labor market by looking at individual earner income levels, age, and dispersion of jobs across the state to provide information vital for leaders to initiate supportive economic development. Although precarious jobs are commonplace for a student not yet on a career track, older workers may be working for lack of a retirement fund. The needs of older workers without resources are different, and potentially more serious, than the needs of younger coworkers.

Job growth has relied heavily on retail and service positions during the period from 2006 to 2015. The largest growing occupation has been Healthcare Practitioners, while less educationally demanding Healthcare Support positions have declined (Figure 8). For the average worker, leaving Retail or Food Service for an office job becomes more difficult each year. Between 2011 and 2016, Office and Administrative Support positions experienced the greatest decline of all occupations (Figure 8).

The working population of South Dakota is aging to the degree that nearly 8,000 more people over age 65 had jobs in 2016 over 2011 (Table 10). Although these older workers do make more wages than their younger counterparts, 29.67% of those *Over 40* did not earn \$22,936 per year and 68.57% did not earn \$45,873 per year (Figure 12). The largest change in the labor force appeared in the 40-49 age group. The group with the assumed highest skill level and earning potential aged into the next group, without an adequate number of younger workers aging into the category to replace them. The 40-49 age group lost 5,258 workers from 2011 to 2016.

A need exists in South Dakota for the development of *Second Tier*, full-time jobs (Table 8), both to attract younger workers to the area and to keep skilled workers. Employers may need incentives to communicate the importance of employee retention and advancement opportunities (Brown, 2016; Netessine, 2014). Older workers are staying in the labor force, but not earning at least household level wages after a lifetime of working. It would appear these individuals are employed for lack of retirement options. Future research into the motivations of older workers could increase the information lawmakers need to enact any policy changes.

Although South Dakota's labor market composition compares favorably to 35 other states, the improvement is relative. *Only* having 77.32% of the labor market unable to support a household, and 41.24% making less than their half to pool resources, is still a troubling condition. Expecting workers to thrive by providing for their own needs, when the state leans heavily on the federal government, demands of those least capable of self-sufficiency that which the state neither enables nor exemplifies.

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APPENDIX A

Family Economic Self-Sufficiency Standard for South Dakota

Table 2
The Self-Sufficiency Standard for Selected Family Types in
Sioux Falls/Minnehaha County, SD, 2000*
Monthly Expenses and Shares of Total Budgets

	<i>One Adult</i>		<i>One Adult, One Preschooler</i>		<i>One Adult, One Preschooler, One Schoolage</i>		<i>Two Adults, One Preschooler, One Schoolage</i>	
<i>Monthly Costs</i>	<i>Costs</i>	<i>% of total</i>	<i>Costs</i>	<i>% of total</i>	<i>Costs</i>	<i>% of total</i>	<i>Costs</i>	<i>% of total</i>
<i>Housing</i>	\$475	42	\$602	30	\$602	24	\$602	20
<i>Child Care</i>	\$0	0	\$436	22	\$744	29	\$744	25
<i>Food</i>	\$164	14	\$249	13	\$372	15	\$511	17
<i>Transportation</i>	\$150	13	\$150	8	\$150	6	\$290	10
<i>Health Care</i>	\$85	7	\$195	10	\$216	9	\$270	9
<i>Miscellaneous</i>	\$87	8	\$163	8	\$209	8	\$242	8
<i>Taxes</i>	\$182	16	\$320	16	\$421	17	\$483	16
<i>Earned Income Tax Credit (-)</i>	\$0	0	-\$49	-2	-\$12	0	\$0	0
<i>Child Care Tax Credit (-)</i>	\$0	0	-\$46	-2	-\$80	-3	-\$80	-3
<i>Child Tax Credit (-)</i>	\$0	0	-\$42	-2	-\$83	-3	-\$83	-3
<i>Self-Sufficiency Wage -</i>								
<i>Monthly</i>	\$1,143	100	\$1,981	100	\$2,539	100	\$2,978	100
<i>Hourly**</i>	\$6.50		\$11.25		\$14.42		\$8.46	per adult

* The Standard is calculated by adding expenses and taxes and subtracting tax credits.

** The hourly wage is calculated by dividing the monthly wage by 176 hours (8 hours per day times 22 days per month).

Note: Totals may not add exactly due to rounding.

per month) to be able to meet her/his basic needs, as can be seen in the first column of Table 1. While these costs are high, a single parent with one preschooler needs to earn about 70% more at **\$10.26** per hour (**\$1,805** per month) to meet the basic needs of her family.¹⁸ If she has two children, one preschooler and one schoolage child, she would need about twice as much, **\$12.70** per hour (**\$2,235** per month) to meet her family's needs (see Table 1). Finally, if there are two adults supporting two children, a preschooler and a school-age child, costs are increased slightly for additional food, health care, and miscellaneous costs for the second adult, but the major costs of housing and child care stay the same. Thus, the amount each would need

to earn is only about three-fifths the amount a single parent would need to earn: **\$7.78** per hour (**\$2,738** per month total).

In Sioux Falls/Minnehaha County (see Table 2), the costs are slightly higher than in Rapid City for each family type. Thus, a single adult's Self-Sufficiency Wage is **\$6.50** per hour, and again the single parent must earn about 70% more, or **\$11.25** per hour (**\$1,981** per month). The single parent with two children in Sioux Falls would need to earn **\$14.42** per hour (**\$2,539** per month) to meet her family's needs (see Table 2), and in the two-parent family, each adult would need to earn **\$8.46** per hour or a total of **\$2,978** per month.

APPENDIX B

**Table DP03: Selected economic characteristic,
2011-2015 American Community Survey 5-year Estimates**

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	South Dakota			
	Estimate	Margin of Error	Percent	Percent Margin of Error
EMPLOYMENT STATUS				
Population 16 years and over	657,804	+/-510	657,804	(X)
In labor force	453,990	+/-1,831	69.0%	+/-0.3
Civilian labor force	451,073	+/-1,906	68.6%	+/-0.3
Employed	430,853	+/-1,972	65.5%	+/-0.3
Unemployed	20,220	+/-844	3.1%	+/-0.1
Armed Forces	2,917	+/-315	0.4%	+/-0.1
Not in labor force	203,814	+/-1,819	31.0%	+/-0.3
Civilian labor force	451,073	+/-1,906	451,073	(X)
Unemployment Rate	(X)	(X)	4.5%	+/-0.2
Females 16 years and over	329,772	+/-527	329,772	(X)
In labor force	213,403	+/-1,348	64.7%	+/-0.4
Civilian labor force	212,989	+/-1,368	64.6%	+/-0.4
Employed	204,179	+/-1,382	61.9%	+/-0.4
Own children of the householder under 6 years	69,049	+/-620	69,049	(X)
All parents in family in labor force	51,671	+/-1,053	74.8%	+/-1.4
Own children of the householder 6 to 17 years	126,995	+/-702	126,995	(X)
All parents in family in labor force	103,448	+/-1,523	81.5%	+/-1.1
COMMUTING TO WORK				
Workers 16 years and over	425,712	+/-1,975	425,712	(X)
Car, truck, or van -- drove alone	337,032	+/-1,943	79.2%	+/-0.3
Car, truck, or van -- carpooled	39,586	+/-1,373	9.3%	+/-0.3
Public transportation (excluding taxicab)	2,242	+/-353	0.5%	+/-0.1
Walked	16,811	+/-798	3.9%	+/-0.2
Other means	6,342	+/-621	1.5%	+/-0.1
Worked at home	23,699	+/-884	5.6%	+/-0.2
Mean travel time to work (minutes)	16.9	+/-0.2	(X)	(X)

(continued)

APPENDIX B

Table DP03: Selected economic characteristic, 2011-2015 American Community Survey 5-year Estimates (continued)

Subject	South Dakota			
	Estimate	Margin of Error	Percent	Percent Margin of Error
OCCUPATION				
Civilian employed population 16 years and over	430,853	+/- 1,972	430,853	(X)
Management, business, science, and arts occupations	150,143	+/-2,047	34.8%	+/-0.4
Service occupations	74,626	+/-1,521	17.3%	+/-0.3
Sales and office occupations	103,270	+/-1,890	24.0%	+/-0.4
Natural resources, construction, and maintenance occupations	47,344	+/-1,167	11.0%	+/-0.3
Production, transportation, and material moving occupations	55,470	+/-1,579	12.9%	+/-0.4
INDUSTRY				
Civilian employed population 16 years and over	430,853	+/- 1,972	430,853	(X)
Agriculture, forestry, fishing and hunting, and mining	30,229	+/-767	7.0%	+/-0.2
Construction	29,258	+/-1,067	6.8%	+/-0.3
Manufacturing	42,605	+/-1,326	9.9%	+/-0.3
Wholesale trade	12,771	+/-686	3.0%	+/-0.2
Retail trade	48,421	+/-1,406	11.2%	+/-0.3
Transportation and warehousing, and utilities	17,945	+/-778	4.2%	+/-0.2
Information	7,482	+/-464	1.7%	+/-0.1
Finance and insurance, and real estate and rental and leasing	31,183	+/-1,239	7.2%	+/-0.3
Professional, scientific, and management, and administrative and waste management services	25,751	+/-1,066	6.0%	+/-0.2
Educational services, and health care and social assistance	103,714	+/-2,018	24.1%	+/-0.5
Arts, entertainment, and recreation, and accommodation and food services	40,350	+/-1,502	9.4%	+/-0.4
Other services, except public administration	19,450	+/-848	4.5%	+/-0.2
Public administration	21,694	+/-978	5.0%	+/-0.2
CLASS OF WORKER				
Civilian employed population 16 years and over	430,853	+/- 1,972	430,853	(X)
Private wage and salary workers	327,500	+/-2,140	76.0%	+/-0.4
Government workers	66,678	+/-1,609	15.5%	+/-0.4
Self-employed in own not incorporated business workers	35,515	+/-1,072	8.2%	+/-0.2
Unpaid family workers	1,160	+/-148	0.3%	+/-0.1

(continued)

APPENDIX B

Table DP03: Selected economic characteristic, 2011-2015 American Community Survey 5-year Estimates (continued)

Subject	South Dakota			
	Estimate	Margin of Error	Percent	Percent Margin of Error
INCOME AND BENEFITS (IN 2015 INFLATION-ADJUSTED DOLLARS)				
Total households	330,858	+/- 1,744	330,858	(X)
Less than \$10,000	20,406	+/-1,027	6.2%	+/-0.3
\$10,000 to \$14,999	18,403	+/-793	5.6%	+/-0.2
\$15,000 to \$24,999	35,437	+/-1,117	10.7%	+/-0.3
\$25,000 to \$34,999	36,985	+/-1,241	11.2%	+/-0.4
\$35,000 to \$49,999	50,925	+/-1,405	15.4%	+/-0.4
\$50,000 to \$74,999	65,458	+/-1,393	19.8%	+/-0.4
\$75,000 to \$99,999	45,058	+/-1,129	13.6%	+/-0.3
\$100,000 to \$149,999	37,407	+/-1,043	11.3%	+/-0.3
\$150,000 to \$199,999	10,046	+/-610	3.0%	+/-0.2
\$200,000 or more	10,733	+/-621	3.2%	+/-0.2
Median household income (dollars)	50,957	+/-461	(X)	(X)
Mean household income (dollars)	66,404	+/-643	(X)	(X)
With earnings	268,756	+/-1,944	81.2%	+/-0.3
Mean earnings (dollars)	65,169	+/-695	(X)	(X)
With Social Security	96,450	+/-1,102	29.2%	+/-0.3
Mean Social Security income (dollars)	16,593	+/-166	(X)	(X)
With retirement income	49,096	+/-1,007	14.8%	+/-0.3
Mean retirement income (dollars)	20,870	+/-661	(X)	(X)
With Supplemental Security Income	13,178	+/-691	4.0%	+/-0.2
Mean Supplemental Security Income (dollars)	8,976	+/-327	(X)	(X)
With cash public assistance income	8,897	+/-543	2.7%	+/-0.2
Mean cash public assistance income (dollars)	2,884	+/-244	(X)	(X)
With Food Stamp/SNAP benefits in the past 12 months	36,865	+/-1,007	11.1%	+/-0.3
FAMILIES	212,994	+/-1,763	212,994	(X)
Less than \$10,000	7,646	+/-510	3.6%	+/-0.2
\$10,000 to \$14,999	5,617	+/-441	2.6%	+/-0.2
\$15,000 to \$24,999	15,077	+/-675	7.1%	+/-0.3
\$25,000 to \$34,999	18,781	+/-803	8.8%	+/-0.4
\$35,000 to \$49,999	30,362	+/-1,171	14.3%	+/-0.5
\$50,000 to \$74,999	46,843	+/-1,144	22.0%	+/-0.5
\$75,000 to \$99,999	37,132	+/-1,089	17.4%	+/-0.5

(continued)

APPENDIX B

Table DP03: Selected economic characteristic, 2011-2015 American Community Survey 5-year Estimates (continued)

Subject	South Dakota			
	Estimate	Margin of Error	Percent	Percent Margin of Error
\$100,000 to \$149,999	33,067	+/-983	15.5%	+/-0.4
\$150,000 to \$199,999	8,922	+/-546	4.2%	+/-0.2
\$200,000 or more	9,547	+/-593	4.5%	+/-0.3
Median family income (dollars)	65,237	+/-655	(X)	(X)
Mean family income (dollars)	80,037	+/-969	(X)	(X)
Per capita income (dollars)	26,747	+/-231	(X)	(X)
Nonfamily households	117,864	+/-1,709	117,864	(X)
Median nonfamily income (dollars)	30,316	+/-424	(X)	(X)
Mean nonfamily income (dollars)	39,198	+/-614	(X)	(X)
Median earnings for workers (dollars)	28,415	+/-326	(X)	(X)
Median earnings for male full-time, year-round workers (dollars)	41,990	+/-271	(X)	(X)
Median earnings for female full-time, year-round workers (dollars)	32,302	+/-239	(X)	(X)
HEALTH INSURANCE COVERAGE				
Civilian noninstitutionalized population	825,506	+/-312	825,506	(X)
With health insurance coverage	734,488	+/-2,287	89.0%	+/-0.3
With private health insurance	596,647	+/-3,520	72.3%	+/-0.4
With public coverage	244,046	+/-2,927	29.6%	+/-0.4
No health insurance coverage	91,018	+/-2,383	11.0%	+/-0.3
Civilian noninstitutionalized population 18 to 64 years	500,083	+/-640	500,083	(X)
In labor force:	414,301	+/-1,798	414,301	(X)
Employed:	395,854	+/-1,870	395,854	(X)
With health insurance coverage	344,563	+/-2,396	87.0%	+/-0.4
With private health insurance	330,605	+/-2,488	83.5%	+/-0.4
With public coverage	25,902	+/-1,019	6.5%	+/-0.3
No health insurance coverage	51,291	+/-1,698	13.0%	+/-0.4
Unemployed:	18,447	+/-797	18,447	(X)
With health insurance coverage	9,018	+/-592	48.9%	+/-2.3
With private health insurance	5,133	+/-407	27.8%	+/-1.9
With public coverage	4,314	+/-386	23.4%	+/-1.9
No health insurance coverage	9,429	+/-574	51.1%	+/-2.3
Not in labor force:	85,782	+/-1,539	85,782	(X)
With health insurance coverage	68,773	+/-1,478	80.2%	+/-1.0
With private health insurance	48,089	+/-1,379	56.1%	+/-1.2
With public coverage	27,890	+/-1,077	32.5%	+/-1.2
No health insurance coverage	17,009	+/-887	19.8%	+/-1.0

(continued)

APPENDIX B

Table DP03: Selected economic characteristic, 2011-2015 American Community Survey 5-year Estimates (continued)

Subject	South Dakota			
	Estimate	Margin of Error	Percent	Percent Margin of Error
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL				
All families	(X)	(X)	9.1%	+/-0.4
With related children of the householder under 18 years	(X)	(X)	15.3%	+/-0.7
With related children of the householder under 5 years only	(X)	(X)	18.0%	+/-1.6
Married couple families	(X)	(X)	3.9%	+/-0.2
With related children of the householder under 18 years	(X)	(X)	5.9%	+/-0.5
With related children of the householder under 5 years only	(X)	(X)	4.7%	+/-1.0
Families with female householder, no husband present	(X)	(X)	32.2%	+/-1.8
With related children of the householder under 18 years	(X)	(X)	37.7%	+/-2.1
With related children of the householder under 5 years only	(X)	(X)	46.9%	+/-4.7
All people	(X)	(X)	14.1%	+/-0.4
Under 18 years	(X)	(X)	18.6%	+/-0.8
Related children of the householder under 18 years	(X)	(X)	18.2%	+/-0.8
Related children of the householder under 5 years	(X)	(X)	23.3%	+/-1.3
Related children of the householder 5 to 17 years	(X)	(X)	16.1%	+/-0.8
18 years and over	(X)	(X)	12.6%	+/-0.3
18 to 64 years	(X)	(X)	13.2%	+/-0.3
65 years and over	(X)	(X)	10.1%	+/-0.5
People in families	(X)	(X)	11.0%	+/-0.4
Unrelated individuals 15 years and over	(X)	(X)	26.1%	+/-0.7

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '*' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

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APPENDIX C

Table S2303: Work status in the past 12 months for South Dakota, 2011-2015 ACS 5-year Estimates, May 2016

Subject	South Dakota											
	Total		Percent Total		Male		Percent Male		Female		Percent Female	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population 16 to 64 years	532,191	+/-589	532,191	+/-589	271,535	+/-533	271,535	+/-533	260,656	+/-565	260,656	+/-565
WEEKS WORKED												
Worked 50 to 52 weeks	344,606	+/-2,083	64.8%	+/-0.4	185,678	+/-1,450	68.4%	+/-0.5	158,928	+/-1,352	61.0%	+/-0.5
Worked 48 to 49 weeks	8,335	+/-538	1.6%	+/-0.1	4,187	+/-402	1.5%	+/-0.1	4,148	+/-402	1.6%	+/-0.2
Worked 40 to 47 weeks	21,609	+/-943	4.1%	+/-0.2	9,640	+/-639	3.6%	+/-0.2	11,969	+/-610	4.6%	+/-0.2
Worked 27 to 39 weeks	25,789	+/-919	4.8%	+/-0.2	11,802	+/-643	4.3%	+/-0.2	13,987	+/-725	5.4%	+/-0.3
Worked 14 to 26 weeks	21,839	+/-904	4.1%	+/-0.2	11,129	+/-704	4.1%	+/-0.3	10,710	+/-678	4.1%	+/-0.3
Worked 1 to 13 weeks	29,016	+/-917	5.5%	+/-0.2	15,078	+/-676	5.6%	+/-0.2	13,938	+/-763	5.3%	+/-0.3
Did not work	80,997	+/-1,551	15.2%	+/-0.3	34,021	+/-1,140	12.5%	+/-0.4	46,976	+/-998	18.0%	+/-0.4
USUAL HOURS WORKED												
Usually worked 35 or more hours per week	352,842	+/-2,078	66.3%	+/-0.4	201,318	+/-1,507	74.1%	+/-0.6	151,524	+/-1,409	58.1%	+/-0.5
50 to 52 weeks	298,888	+/-2,098	56.2%	+/-0.4	170,758	+/-1,407	62.9%	+/-0.5	128,130	+/-1,586	49.2%	+/-0.6
48 to 49 weeks	5,328	+/-455	1.0%	+/-0.1	3,143	+/-364	1.2%	+/-0.1	2,185	+/-254	0.8%	+/-0.1
40 to 47 weeks	13,384	+/-706	2.5%	+/-0.1	6,807	+/-484	2.5%	+/-0.2	6,577	+/-463	2.5%	+/-0.2
27 to 39 weeks	13,488	+/-684	2.5%	+/-0.1	7,152	+/-573	2.6%	+/-0.2	6,336	+/-508	2.4%	+/-0.2
14 to 26 weeks	10,883	+/-722	2.0%	+/-0.1	6,810	+/-653	2.5%	+/-0.2	4,073	+/-435	1.6%	+/-0.2
1 to 13 weeks	10,871	+/-618	2.0%	+/-0.1	6,648	+/-503	2.4%	+/-0.2	4,223	+/-364	1.6%	+/-0.1
Usually worked 15 to 34 hours per week	76,213	+/-1,836	14.3%	+/-0.3	27,477	+/-1,077	10.1%	+/-0.4	48,736	+/-1,242	18.7%	+/-0.5
50 to 52 weeks	38,725	+/-1,245	7.3%	+/-0.2	12,280	+/-769	4.5%	+/-0.3	26,445	+/-844	10.1%	+/-0.3
48 to 49 weeks	2,506	+/-358	0.5%	+/-0.1	914	+/-201	0.3%	+/-0.1	1,592	+/-291	0.6%	+/-0.1
40 to 47 weeks	6,490	+/-496	1.2%	+/-0.1	2,297	+/-318	0.8%	+/-0.1	4,193	+/-395	1.6%	+/-0.2
27 to 39 weeks	9,344	+/-593	1.8%	+/-0.1	3,668	+/-377	1.4%	+/-0.1	5,676	+/-477	2.2%	+/-0.2
14 to 26 weeks	7,808	+/-666	1.5%	+/-0.1	3,078	+/-346	1.1%	+/-0.1	4,730	+/-504	1.8%	+/-0.2
1 to 13 weeks	11,340	+/-739	2.1%	+/-0.1	5,240	+/-421	1.9%	+/-0.2	6,100	+/-528	2.3%	+/-0.2
Usually worked 1 to 14 hours per week	22,139	+/-957	4.2%	+/-0.2	8,719	+/-631	3.2%	+/-0.2	13,420	+/-776	5.1%	+/-0.3
50 to 52 weeks	6,993	+/-562	1.3%	+/-0.1	2,640	+/-357	1.0%	+/-0.1	4,353	+/-443	1.7%	+/-0.2
48 to 49 weeks	501	+/-142	0.1%	+/-0.1	130	+/-74	0.0%	+/-0.1	371	+/-115	0.1%	+/-0.1
40 to 47 weeks	1,735	+/-224	0.3%	+/-0.1	536	+/-113	0.2%	+/-0.1	1,199	+/-189	0.5%	+/-0.1
27 to 39 weeks	2,957	+/-381	0.6%	+/-0.1	982	+/-200	0.4%	+/-0.1	1,975	+/-296	0.8%	+/-0.1
14 to 26 weeks	3,148	+/-373	0.6%	+/-0.1	1,241	+/-198	0.5%	+/-0.1	1,907	+/-288	0.7%	+/-0.1
1 to 13 weeks	6,805	+/-428	1.3%	+/-0.1	3,190	+/-307	1.2%	+/-0.1	3,615	+/-358	1.4%	+/-0.1
Did not work	80,997	+/-1,551	15.2%	+/-0.3	34,021	+/-1,140	12.5%	+/-0.4	46,976	+/-998	18.0%	+/-0.4
Mean usual hours worked for workers	39.7	+/-0.1	(X)	(X)	42.8	+/-0.2	(X)	(X)	36.2	+/-0.2	(X)	(X)
Median age of workers 16 to 64 years	39.8	+/-0.1	(X)	(X)	39.5	+/-0.3	(X)	(X)	40.1	+/-0.3	(X)	(X)
Workers 16 to 64 years who worked full-time, year-round	298,888	+/-2,098	66.2%	+/-0.4	170,758	+/-1,407	71.9%	+/-0.5	128,130	+/-1,586	60.0%	+/-0.7

015 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

Retrieved from <https://factfinder.census.gov/>

2006-2010 ACS 5-year Estimates, May 2011

Versions of this table are available for the following years: 2015 2014 2013 2012 2011 2010 ▶ 2009	1 21 of 21	Subject	South Dakota					
			Total		Male		Female	
			Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
		Population 16 to 64 years	509,521	+/-651	259,590	+/-601	249,931	+/-536
		WEEKS WORKED						
		Worked 50 to 52 weeks	62.6%	+/-0.4	66.1%	+/-0.6	58.9%	+/-0.6
		Worked 40 to 49 weeks	7.6%	+/-0.3	7.0%	+/-0.3	8.2%	+/-0.4
		Worked 27 to 39 weeks	5.1%	+/-0.2	4.6%	+/-0.3	5.6%	+/-0.3
		Worked 14 to 26 weeks	4.9%	+/-0.2	4.9%	+/-0.3	5.0%	+/-0.3
		Worked 1 to 13 weeks	6.3%	+/-0.2	6.1%	+/-0.3	6.4%	+/-0.3
		Did not work	13.6%	+/-0.3	11.3%	+/-0.4	15.9%	+/-0.4
		USUAL HOURS WORKED						
		Usually worked 35 or more hours per week	66.8%	+/-0.4	74.6%	+/-0.6	58.7%	+/-0.6
		40 or more weeks	59.1%	+/-0.4	66.1%	+/-0.6	51.9%	+/-0.5
		50 to 52 weeks	54.3%	+/-0.4	61.0%	+/-0.5	47.3%	+/-0.5
		Usually worked 15 to 34 hours per week	15.4%	+/-0.3	10.9%	+/-0.3	20.1%	+/-0.5
		40 or more weeks	9.3%	+/-0.3	5.9%	+/-0.3	12.9%	+/-0.4
		50 to 52 weeks	7.1%	+/-0.2	4.3%	+/-0.3	10.1%	+/-0.4
		Usually worked 1 to 14 hours per week	4.2%	+/-0.2	3.1%	+/-0.2	5.3%	+/-0.3
		40 or more weeks	1.7%	+/-0.1	1.1%	+/-0.1	2.3%	+/-0.2
		50 to 52 weeks	1.1%	+/-0.1	0.8%	+/-0.1	1.5%	+/-0.2
		Did not work	13.6%	+/-0.3	11.3%	+/-0.4	15.9%	+/-0.4
		Mean usual hours worked for workers	39.7	+/-0.1	43.0	+/-0.2	36.1	+/-0.2
		PERCENT IMPUTED						
		Work status in the past 12 months for the population 16 years and over	3.4%	(X)	(X)	(X)	(X)	(X)
		Hours worked per week in the past 12 months for the population 16 years and over	4.8%	(X)	(X)	(X)	(X)	(X)
		Weeks worked in the past 12 months for the population 16 years and over	4.5%	(X)	(X)	(X)	(X)	(X)

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
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APPENDIX D

Occupational Employment Statistics Query System, multiple occupations for one geographical area: South Dakota, May 2016 (reformatted)

Occupation (SOC code)	Employment (1)	Hourly mean wage	Hourly 10th percentile wage	Hourly 25th percentile wage	Hourly median wage	Hourly 75th percentile wage	Hourly 90th percentile wage	Employment per 1,000 jobs	Location Quotient
Management Occupations (110000)	11,580	50.47	22.22	31.47	44.14	59.68	85.00	27.73	0.55
Business and Financial Operations Occupations (130000)	18,630	30.51	18.75	22.48	27.93	35.28	44.50	44.61	0.86
Computer and Mathematical Occupations (150000)	7,830	30.74	17.56	22.06	28.63	37.42	47.16	18.75	0.63
Architecture and Engineering Occupations (170000)	4,840	31.48	17.16	22.32	30.09	38.01	48.15	11.59	0.65
Life, Physical, and Social Science Occupations (190000)	4,070	26.35	13.78	17.49	24.03	31.33	40.76	9.75	1.19
Community and Social Service Occupations (210000)	6,550	19.03	11.96	15.24	18.26	22.43	27.38	15.68	1.09
Legal Occupations (230000)	1,660	35.28	16.87	20.66	28.76	38.37	59.63	3.98	0.52
Education, Training, and Library Occupations (250000)	24,170	20.29	11.02	14.21	18.66	24.29	30.69	57.90	0.94
Arts, Design, Entertainment, Sports, and Media Occupations (270000)	5,560	18.26	10.31	12.85	16.15	21.42	28.64	13.33	0.98
Healthcare Practitioners and Technical Occupations (290000)	29,800	33.29	15.10	19.83	25.70	35	56.31	71.37	1.20
Healthcare Support Occupations (310000)	10,540	13.22	9.81	10.82	12.63	14.82	17.89	25.24	0.88
Protective Service Occupations (330000)	6,470	18.92	10.43	12.99	17.21	22.92	29.95	15.50	0.64
Food Preparation and Serving Related Occupations (350000)	41,410	10.53	8.88	9.13	9.62	11.34	13.58	99.18	1.07
Building and Grounds Cleaning and Maintenance Occupations (370000)	16,780	12.02	9.06	9.65	11.25	13.57	16.15	40.18	1.27
Personal Care and Service Occupations (390000)	14,320	11.98	9.02	9.51	10.97	13.25	16.76	34.29	1.07
Sales and Related Occupations (410000)	47,440	17.96	9.07	9.66	12.49	21.56	32.71	113.62	1.10
Office and Administrative Support Occupations (430000)	64,720	14.75	9.75	11.47	14.00	17.28	20.94	155.02	0.99

(continued)

APPENDIX D

Occupational Employment Statistics Query System, multiple occupations for one geographical area: South Dakota, May 2016 (reformatted), continued

Occupation (SOC code)	Employment (1)	Hourly mean wage	Hourly 10th percentile wage	Hourly 25th percentile wage	Hourly median wage	Hourly 75th percentile wage	Hourly 90th percentile wage	Employment per 1,000 jobs	Location Quotient
Farming, Fishing, and Forestry Occupations (450000)	1,630	13.7	9.42	10.52	12.52	15.07	20.64	3.92	1.19
Construction and Extraction Occupations (470000)	21,940	18.42	12.20	13.97	17.13	21.83	27.62	52.54	1.32
Installation, Maintenance, and Repair Occupations (490000)	16,450	21.42	13.07	15.73	19.67	25.72	32.99	39.40	1.01
Production Occupations (510000)	31,600	16.01	10.72	12.78	14.98	18.41	22.84	75.68	1.17
Transportation and Material Moving Occupations (530000)	29,550	15.65	9.69	11.24	14.06	18.15	24.34	70.77	1.02

Source: Bureau of Labor Statistics. (2016a). Occupational Employment Statistics (OES) data tables. *Multiple occupations for one geographical area, South Dakota, May 2016 and May 2011*. Retrieved from <https://data.bls.gov/oes/>

APPENDIX E

Author's summary of IPUMS USA data for South Dakota 5-year ACS 2011-2015, adjusted to 2016 dollars

		Single Earner (\$10.86/hour threshold)		Household Income (\$45,873/year threshold)	
OCC2010	Category Total	Count	Percent Under	Count	Percent Under
Management – 0010-0430	74,694	16,825	22.53%	39,911	53.43%
Business & Finance – 0500-0950	21,162	3,179	15.02%	11,448	54.10%
Computer/Math – 1000-1240	8,830	1,166	13.20%	3,741	42.37%
Architecture/Engineering – 1300-1560	7,855	819	10.43%	2,478	31.55%
Sciences – 1600-1980	5,128	888	17.32%	2,939	57.31%
Community & Social Services – 2000-2060	10,936	2,609	23.86%	9,256	84.64%
Legal – 2100-2150	4,022	784	19.49%	1,841	45.77%
Education – 2200-2550	35,473	13,092	36.91%	28,251	79.64%
Arts/Entertainment – 2600-2920	9,283	4,475	48.21%	7,440	80.15%
Healthcare Practitioners – 3000-3540	40,270	6,304	15.65%	22,249	55.25%
Healthcare Support – 3600-3650	18,079	11,261	62.29%	17,502	96.81%
Protective Services – 3700-3950	10,759	3,788	35.21%	8,130	75.56%
Food Service – 4000-4150	49,599	44,613	89.95%	49,291	99.38%
Building/Grounds – 4200-4250	27,694	19,642	70.93%	26,368	95.21%
Personal Care – 4300-4650	28,978	19,142	66.06%	26,701	92.14%
Sales – 4700-4965	73,325	35,968	49.05%	54,737	74.65%
Office/Administrative Support – 5000-5940	98,839	41,087	41.57%	88,622	89.66%
Farming/Fishing – 6005-6130	16,305	7,195	44.13%	14,316	87.80%
Construction – 6200-6940	40,903	14,758	36.08%	32,125	78.54%
Installation/Maintenance – 7000-7630	21,984	4,678	21.28%	15,534	70.66%
Production – 7700-8965	46,690	16,724	35.82%	40,360	86.44%
Transportation – 9000-9750	44,387	17,719	39.92%	34,287	77.25%
All Worker Totals	695,195	286,716	41.24%	537,527	77.32%
All workers	729,888				
Military – 9800-9830	1,974	0.27%			
Unemployed – 9920	32,719	4.48%			
LABOR FORCE	695,195				
Wages, private	442,610	195,637	44.20%	355,804	80.39%
Public workers, govt/nonprofit	171,406	58,588	34.18%	129,202	75.38%
Self-employed	79,134	30,872	39.01%	50,733	64.11%
Unpaid family worker	2,045	1,619	79.17%	1,788	87.43%
	695,195	286,716	41.24%	537,527	77.32%

Source: Ruggles, S., Genadek, K., Goeken, R., Grover, J., and Sobek, M. (2015). *Integrated Public Use Microdata Series: Version 6.0* [dataset]. Minneapolis: University of Minnesota. doi:10.18128/D010.V6.0

APPENDIX E

Author's summary of IPUMS USA data for South Dakota
5-year ACS 2006-2010, adjusted to 2011 dollars

		Single Earner (\$9.91/hour threshold)		Household Income (\$41,860/year threshold)	
OCC2010	Category Total	Count	Percent Under	Count	Percent Under
Management – 0010-0430	70,788	17,868	25.24%	39,315	55.54%
Business & Finance – 0500-0950	21,113	3,297	15.62%	12,982	61.49%
Computer/Math – 1000-1240	8,209	1,430	17.42%	3,407	41.50%
Architecture/Engineering – 1300-1560	7,795	1,744	22.37%	4,167	53.46%
Sciences – 1600-1980	4,820	1,480	30.71%	2,849	59.11%
Community & Social Services – 2000-2060	12,133	2,328	19.19%	8,815	72.65%
Legal – 2100-2150	4,133	600	14.52%	2,184	52.84%
Education – 2200-2550	36,779	12,047	32.76%	29,693	80.73%
Arts/Entertainment – 2600-2920	9,316	4,870	52.28%	7,999	85.86%
Healthcare Practitioners – 3000-3540	34,683	5,397	15.56%	17,748	51.17%
Healthcare Support – 3600-3650	18,315	11,388	62.18%	17,815	97.27%
Protective Services – 3700-3950	11,639	4,178	35.90%	8,625	74.10%
Food Service – 4000-4150	40,632	35,643	87.72%	40,104	98.70%
Building/Grounds – 4200-4250	22,853	16,489	72.15%	21,989	96.22%
Personal Care – 4300-4650	22,482	16,032	71.31%	21,327	94.86%
Sales – 4700-4965	67,836	33,756	49.76%	52,537	77.45%
Office/Administrative Support – 5000-5940	98,378	40,913	41.59%	88,758	90.22%
Farming/Fishing – 6005-6130	17,959	11,738	65.36%	16,639	92.65%
Construction – 6200-6940	36,612	13,121	35.84%	28,285	77.26%
Installation/Maintenance – 7000-7630	23,756	6,742	28.38%	17,143	72.16%
Production – 7700-8965	45,914	15,375	33.49%	40,402	87.99%
Transportation – 9000-9750	39,028	17,025	43.62%	31,615	81.01%
All Worker Totals	655,173	273,461	41.74%	514,398	78.51%
All workers	685,277				
Military – 9800-9830	1,582	0.23%			
Unemployed – 9920	28,522	4.16%			
LABOR FORCE	655,173				
Wages, private	407,667	182,466	44.76%	334,696	82.10%
Public workers, govt/nonprofit	167,532	57,268	34.18%	124,520	74.33%
Self-employed	77,069	32,242	41.84%	53,202	69.03%
Unpaid family worker	2,905	1,485	51.12%	2,188	75.32%
	655,173	273,461	41.74%	514,606	78.55%

Source: Ruggles, S., Genadek, K., Goeken, R., Grover, J., and Sobek, M. (2015). *Integrated Public Use Microdata Series: Version 6.0* [dataset]. Minneapolis: University of Minnesota. doi:10.18128/D010.V6.0

DOI: 10.17605/OSF.IO/QF4HY

APPENDIX F

**Author's summary of South Dakota Workers by Age Groups,
Occupations, and Income Levels, 2011**

Workers by Age, Occupation, and Income Levels – 2011					
<i>Sum of Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930-\$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
16-29	82,132	34,475	119,606	7,040	126,646
Management	2,585	2,036	4,621	760	5,381
Business & Finance	872	1,097	1,969	424	2,393
Computer/Math	490	314	804	395	1,199
Architecture/Engineering	598	541	1,138	441	1,579
Sciences	660	228	888	114	1,003
Community & Social Services	263	841	1,103	50	1,154
Legal	71	182	254	89	342
Education	2,583	2,140	4,723	67	4,790
Arts/Entertainment	1,357	427	1,784	48	1,832
Healthcare Practitioners	1,599	1,730	3,329	1,122	4,451
Healthcare Support	3,572	1,085	4,658		4,658
Protective Services	1,615	903	2,518	316	2,834
Food Services	15,483	936	16,419	94	16,513
Building/Grounds	3,906	363	4,269	65	4,334
Personal Care	4,976	846	5,823	95	5,918
Sales	11,830	2,702	14,533	734	15,266
Office/Admin	10,329	5,825	16,153	657	16,810
Farming/Fishing	5,164	1,162	6,326	93	6,418
Construction	4,771	2,828	7,600	413	8,013
Install/Maintenance	2,059	2,408	4,468	296	4,764
Production	4,591	4,397	8,988	438	9,426
Transportation	5,756	1,482	7,238	328	7,567
30-39	19,476	32,531	52,007	20,278	72,285
Management	1,084	2,809	3,893	3,968	7,861
Business & Finance	342	1,549	1,892	1,515	3,407
Computer/Math	101	452	553	1,153	1,705
Architecture/Engineering	155	312	466	433	899
Sciences	85	384	469	499	967
Community & Social Services	278	1,050	1,328	409	1,736
Legal	98	360	458	258	716
Education	1,004	2,428	3,432	419	3,851
Arts/Entertainment	506	733	1,239	161	1,400
Healthcare Practitioners	544	1,823	2,367	2,524	4,891
Healthcare Support	955	710	1,664	32	1,696
Protective Services	359	749	1,108	520	1,628
Food Services	1,514	533	2,047	58	2,105
Building/Grounds	1,509	234	1,743	52	1,795

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Sum of Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930-\$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
30-39 (continued)					
Personal Care	1,392	752	2,144	273	2,417
Sales	2,298	2,106	4,403	2,468	6,872
Office/Admin	3,334	5,184	8,519	649	9,167
Farming/Fishing	476	721	1,197	112	1,309
Construction	918	2,485	3,403	1,331	4,734
Install/Maintenance	609	1,379	1,988	1,385	3,373
Production	1,014	3,561	4,575	1,096	5,670
Transportation	902	2,218	3,120	966	4,085
40-49	19,961	35,012	54,973	25,366	80,340
Management	2,056	3,262	5,317	5,815	11,132
Business & Finance	194	1,608	1,802	1,364	3,166
Computer/Math	37	210	247	712	959
Architecture/Engineering	82	294	376	667	1,043
Sciences	27	138	165	324	489
Community & Social Services	346	679	1,025	513	1,538
Legal	72	230	301	295	597
Education	1,323	2,536	3,859	1,097	4,956
Arts/Entertainment	359	331	690	348	1,038
Healthcare Practitioners	352	1,613	1,965	3,044	5,009
Healthcare Support	973	779	1,752	25	1,776
Protective Services	186	491	677	718	1,395
Food Services	1,434	676	2,110	110	2,219
Building/Grounds	1,564	819	2,383	61	2,444
Personal Care	931	953	1,884	225	2,109
Sales	1,755	2,819	4,574	2,621	7,195
Office/Admin	3,565	8,305	11,870	2,117	13,987
Farming/Fishing	547	379	927	224	1,151
Construction	1,069	1,809	2,877	1,627	4,504
Install/Maintenance	592	1,396	1,989	1,118	3,107
Production	1,419	3,868	5,287	1,065	6,352
Transportation	1,078	1,817	2,895	1,277	4,172

(continued)

APPENDIX G

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Sum of Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930-\$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
50-64	27,734	38,670	66,404	29,166	95,570
Management	3,223	3,980	7,204	7,269	14,473
Business & Finance	372	1,401	1,772	1,460	3,232
Computer/Math	229	172	401	571	972
Architecture/Engineering	189	306	494	634	1,128
Sciences	95	64	158	245	403
Community & Social Services	267	1,112	1,379	815	2,193
Legal	59	157	216	460	675
Education	1,736	3,425	5,161	2,578	7,739
Arts/Entertainment	382	314	696	182	878
Healthcare Practitioners	551	2,095	2,646	3,260	5,905
Healthcare Support	1,170	1,212	2,382	243	2,626
Protective Services	279	474	753	253	1,006
Food Services	2,145	316	2,462	55	2,517
Building/Grounds	1,856	1,755	3,611	327	3,937
Personal Care	1,709	579	2,288	84	2,372
Sales	2,961	3,176	6,137	3,130	9,267
Office/Admin	5,477	8,668	14,145	2,245	16,389
Farming/Fishing	527	592	1,119	345	1,464
Construction	839	1,877	2,716	1,562	4,278
Install/Maintenance	569	1,115	1,684	996	2,680
Production	1,767	2,982	4,749	668	5,417
Transportation	1,334	2,899	4,233	1,786	6,019
65-94	11,597	3,843	15,440	2,399	17,839
Management	1,761	768	2,529	1,051	3,580
Business & Finance	197	150	346	110	456
Computer/Math		37	37	47	85
Architecture/Engineering	22		22		22
Sciences	21	6	27		27
Community & Social Services	243	206	449	202	651
Legal	59	21	80	66	146
Education	574	48	622	86	707
Arts/Entertainment	314	70	384	52	435
Healthcare Practitioners	189	141	331	200	530
Healthcare Support	156	65	221		221
Protective Services	65	47	113		113
Food Services	787	212	999		999
Building/Grounds	1,048	126	1,174	13	1,187

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Sum of Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930-\$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
65-94 (continued)					
Personal Care	599	43	643	16	658
Sales	1,388	454	1,842	216	2,058
Office/Admin	1,817	694	2,511	99	2,610
Farming/Fishing	321	83	405	17	421
Construction	267	90	357	58	415
Install/Maintenance	211	60	271	44	315
Production	424	192	616	37	653
Transportation	1,134	329	1,463	86	1,549
Grand Total	163,900	144,543	308,431	84,249	392,680

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Sum of Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936-\$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
16-29	88,019	35,303	123,321	9,156	132,477
Management	1,645	2,795	4,440	720	5,159
Business & Finance	592	1,024	1,616	139	1,756
Computer/Math	548	548	1,096	380	1,476
Architecture/Engineering	341	499	840	598	1,437
Sciences	354	631	986	144	1,130
Community & Social Services	442	815	1,257	4	1,261
Legal	214	49	263	97	360
Education	2,586	1,741	4,327	43	4,370
Arts/Entertainment	1,187	353	1,541	263	1,804
Healthcare Practitioners	1,751	2,938	4,689	1,110	5,799
Healthcare Support	3,461	892	4,353	160	4,513
Protective Services	1,485	753	2,238	169	2,407
Food Services	18,851	1,022	19,872	70	19,943
Building/Grounds	4,452	739	5,191	130	5,321
Personal Care	6,343	1,261	7,604	453	8,057
Sales	12,892	2,192	15,084	1,011	16,095
Office/Admin	11,654	5,013	16,667	220	16,887
Farming/Fishing	2,750	2,020	4,771	254	5,025
Construction	5,153	3,091	8,243	1,088	9,331
Install/Maintenance	1,516	2,053	3,569	610	4,180
Production	4,706	2,835	7,541	790	8,331
Transportation	5,095	2,037	7,132	705	7,837
30-39	23,847	36,215	60,061	21,627	81,689
Management	2,623	3,626	6,249	3,957	10,207
Business & Finance	412	1,186	1,598	1,737	3,335
Computer/Math	37	437	473	850	1,324
Architecture/Engineering	90	214	304	962	1,265
Sciences	61	465	526	329	855
Community & Social Services	306	911	1,217	90	1,307
Legal	23	163	186	276	461
Education	1,142	2,499	3,641	870	4,511
Arts/Entertainment	535	688	1,223	225	1,448
Healthcare Practitioners	587	2,389	2,976	3,258	6,234
Healthcare Support	1,536	726	2,262	86	2,348
Protective Services	184	638	823	426	1,249
Food Services	3,014	594	3,608		3,608
Building/Grounds	1,617	855	2,472	162	2,634

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Sum of Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936-\$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
30-39 (continued)					
Personal Care	1,394	984	2,378	311	2,688
Sales	2,360	2,487	4,847	2,439	7,286
Office/Admin	3,196	6,573	9,769	1,287	11,055
Farming/Fishing	494	837	1,311	291	1,622
Construction	1,085	2,662	3,747	1,099	4,846
Install/Maintenance	289	1,319	1,608	988	2,596
Production	1,723	4,052	5,775	600	6,375
Transportation	1,137	1,912	3,049	1,384	4,432
40-49	18,305	31,077	49,381	25,684	75,065
Management	1,984	2,705	4,688	6,096	10,784
Business & Finance	159	1,130	1,289	1,510	2,799
Computer/Math	12	273	285	799	1,085
Architecture/Engineering	7	86	92	837	930
Sciences	25	21	46	331	377
Community & Social Services	312	590	903	297	1,200
Legal	16	205	221	272	493
Education	1,017	2,017	3,035	1,173	4,208
Arts/Entertainment	194	312	506	279	784
Healthcare Practitioners	485	1,716	2,201	2,767	4,968
Healthcare Support	539	874	1,414	49	1,463
Protective Services	91	431	521	610	1,132
Food Services	1,747	589	2,336	38	2,374
Building/Grounds	1,844	673	2,517	197	2,714
Personal Care	996	1,163	2,160	244	2,404
Sales	1,780	,485	4,266	3,156	7,422
Office/Admin	2,771	6,482	9,252	1,897	11,149
Farming/Fishing	332	621	953	128	1,081
Construction	847	2,012	2,859	1,172	4,032
Install/Maintenance	282	1,353	1,635	1,064	2,699
Production	1,563	3,041	4,605	1,106	5,711
Transportation	1,300	2,296	3,596	1,660	5,257

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Sum of Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936-\$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
50-64	29,675	42,698	72,373	34,172	106,546
Management	2,809	3,872	6,681	8,708	15,389
Business & Finance	593	1,499	2,092	2,093	4,184
Computer/Math	84	274	359	996	1,354
Architecture/Engineering	17	193	210	730	941
Sciences	91	91	181	469	650
Community & Social Services	291	1,557	1,847	470	2,317
Legal	207	190	398	595	993
Education	1,582	2,578	4,160	2,035	6,195
Arts/Entertainment	616	408	1,024	335	1,359
Healthcare Practitioners	691	2,275	2,966	3,468	6,434
Healthcare Support	864	1,171	2,035	51	2,086
Protective Services	392	750	1,142	327	1,469
Food Services	2,389	515	2,903	49	2,953
Building/Grounds	3,059	1,372	4,431	255	4,687
Personal Care	1,884	909	2,793	303	3,097
Sales	2,828	3,698	6,526	3,979	10,505
Office/Admin	5,299	9,428	14,726	2,581	17,307
Farming/Fishing	551	735	1,287	462	1,749
Construction	1,524	2,497	4,021	1,752	5,773
Install/Maintenance	308	1,592	1,899	1,131	3,030
Production	1,608	3,797	5,405	1,256	6,661
Transportation	1,989	3,296	5,285	2,126	7,412
65-95	12,359	5,347	17,706	4,058	21,764
Management	1,044	868	1,912	1,410	3,323
Business & Finance	153	127	280	356	636
Computer/Math	20	14	34	31	65
Architecture/Engineering	38	4	42	103	145
Sciences	2	24	26	42	68
Community & Social Services	216	119	335	148	483
Legal	11	28	38	70	108
Education	1,535	269	1,804	217	2,022
Arts/Entertainment	156	19	175	5	180
Healthcare Practitioners	273	258	531	220	751
Healthcare Support	363	85	448		448
Protective Services	123	36	159	46	205
Food Services	795	90	885	27	912
Building/Grounds	825	401	1,225	2	1,277

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Sum of Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936-\$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
65-94 (continued)					
Personal Care	879	223	1,102	57	1,159
Sales	1,742	411	2,153	579	2,732
Office/Admin	1,758	1,054	2,812	153	2,965
Farming/Fishing	193	64	257	59	316
Construction	254	169	423	161	584
Install/Maintenance	416	203	619	80	699
Production	443	471	914	50	964
Transportation	1,121	410	1,530	192	1,722
Grand Total	172,204	150,639	322,843	94,697	417,540

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Percent of All Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930-\$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
16-29	21.68%	8.78%	30.46%	1.79%	32.25%
Management	0.66%	0.52%	1.18%	0.19%	1.37%
Business & Finance	0.22%	0.28%	0.50%	0.11%	0.61%
Computer/Math	0.12%	0.08%	0.20%	0.10%	0.31% *
Architecture/Engineering	0.15%	0.14%	0.29%	0.11%	0.40%
Sciences	0.17%	0.06%	0.23%	0.03%	0.26%
Community & Social Services	0.07%	0.21%	0.28%	0.01%	0.29%
Legal	0.02%	0.05%	0.06% *	0.02%	0.09% *
Education	0.66%	0.54%	1.20%	0.02%	1.22%
Arts/Entertainment	0.35%	0.11%	0.45% *	0.01%	0.47% *
Healthcare Practitioners	0.41%	0.44%	0.85%	0.29%	1.13% *
Healthcare Support	0.91%	0.28%	1.19%	0.00%	1.19%
Protective Services	0.41%	0.23%	0.64%	0.08%	0.72%
Food Services	3.94%	0.24%	4.18%	0.02%	4.21% *
Building/Grounds	0.99%	0.09%	1.09% *	0.02%	1.10% *
Personal Care	1.27%	0.22%	1.48% *	0.02%	1.51% *
Sales	3.01%	0.69%	3.70%	0.19%	3.89%
Office/Admin	2.63%	1.48%	4.11%	0.17%	4.28%
Farming/Fishing	1.32%	0.30%	1.61% *	0.02%	1.63%
Construction	1.22%	0.72%	1.94%	0.11%	2.04% *
Install/Maintenance	0.52%	0.61%	1.14% *	0.08%	1.21% *
Production	1.17%	1.12%	2.29%	0.11%	2.40%
Transportation	1.47%	0.38%	1.84% *	0.08%	1.93% *
30-39	4.96%	8.28%	13.24%	5.16%	18.41%
Management	0.28%	0.72%	0.99% *	1.01%	2.00%
Business & Finance	0.09%	0.39%	0.48%	0.39%	0.87%
Computer/Math	0.03%	0.12%	0.14% *	0.29%	0.43%
Architecture/Engineering	0.04%	0.08%	0.12%	0.11%	0.23%
Sciences	0.02%	0.10%	0.12%	0.13%	0.25%
Community & Social Services	0.07%	0.27%	0.34%	0.10%	0.44%
Legal	0.03%	0.09%	0.12%	0.07%	0.18% *
Education	0.26%	0.62%	0.87% *	0.11%	0.98%
Arts/Entertainment	0.13%	0.19%	0.32%	0.04%	0.36%
Healthcare Practitioners	0.14%	0.46%	0.60%	0.64%	1.25% *
Healthcare Support	0.24%	0.18%	0.42%	0.01%	0.43%
Protective Services	0.09%	0.19%	0.28%	0.13%	0.41%
Food Services	0.39%	0.14%	0.52% *	0.01%	0.54% *
Building/Grounds	0.38%	0.06%	0.44%	0.01%	0.46% *

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Percent of All Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930-\$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
30-39 (continued)					
Personal Care	0.35%	0.19%	0.55% *	0.07%	0.62%
Sales	0.59%	0.54%	1.12% *	0.63%	1.75%
Office/Admin	0.85%	1.32%	2.17%	0.17%	2.33% *
Farming/Fishing	0.12%	0.18%	0.30%	0.03%	0.33%
Construction	0.23%	0.63%	0.87% *	0.34%	1.21%
Install/Maintenance	0.16%	0.35%	0.51%	0.35%	0.86%
Production	0.26%	0.91%	1.17%	0.28%	1.44% *
Transportation	0.23%	0.56%	0.79%	0.25%	1.04%
40-49	5.08%	8.92%	14.00%	6.46%	20.46%
Management	0.52%	0.83%	1.35%	1.48%	2.83%
Business & Finance	0.05%	0.41%	0.46%	0.35%	0.81%
Computer/Math	0.01%	0.05%	0.06%	0.18%	0.24%
Architecture/Engineering	0.02%	0.07%	0.10% *	0.17%	0.27%
Sciences	0.01%	0.04%	0.04% *	0.08%	0.12%
Community & Social Services	0.09%	0.17%	0.26%	0.13%	0.39%
Legal	0.02%	0.06%	0.08%	0.08%	0.15% *
Education	0.34%	0.65%	0.98% *	0.28%	1.26%
Arts/Entertainment	0.09%	0.08%	0.18% *	0.09%	0.26% *
Healthcare Practitioners	0.09%	0.41%	0.50%	0.78%	1.28%
Healthcare Support	0.25%	0.20%	0.45%	0.01%	0.45% *
Protective Services	0.05%	0.13%	0.17% *	0.18%	0.36% *
Food Services	0.37%	0.17%	0.54%	0.03%	0.57%
Building/Grounds	0.40%	0.21%	0.61%	0.02%	0.62% *
Personal Care	0.24%	0.24%	0.48%	0.06%	0.54%
Sales	0.45%	0.72%	1.16% *	0.67%	1.83%
Office/Admin	0.91%	2.12%	3.02% *	0.54%	3.56%
Farming/Fishing	0.14%	0.10%	0.24%	0.06%	0.29% *
Construction	0.27%	0.46%	0.73%	0.41%	1.15% *
Install/Maintenance	0.15%	0.36%	0.51%	0.28%	0.79%
Production	0.36%	0.98%	1.35% *	0.27%	1.62%
Transportation	0.27%	0.46%	0.74% *	0.33%	1.06% *

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Percent of All Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930- \$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
50-64	7.06%	9.85%	16.91%	7.43%	24.34%
Management	0.82%	1.01%	1.83%	1.85%	3.69% *
Business & Finance	0.09%	0.36%	0.45%	0.37%	0.82%
Computer/Math	0.06%	0.04%	0.10%	0.15%	0.25%
Architecture/Engineering	0.05%	0.08%	0.13%	0.16%	0.29%
Sciences	0.02%	0.02%	0.04%	0.06%	0.10%
Community & Social Services	0.07%	0.28%	0.35%	0.21%	0.56%
Legal	0.01%	0.04%	0.05%	0.12%	0.17%
Education	0.44%	0.87%	1.31%	0.66%	1.97%
Arts/Entertainment	0.10%	0.08%	0.18%	0.05%	0.22% *
Healthcare Practitioners	0.14%	0.53%	0.67%	0.83%	1.50%
Healthcare Support	0.30%	0.31%	0.61%	0.06%	0.67%
Protective Services	0.07%	0.12%	0.19%	0.06%	0.26% *
Food Services	0.55%	0.08%	0.63%	0.01%	0.64%
Building/Grounds	0.47%	0.45%	0.92%	0.08%	1.00%
Personal Care	0.44%	0.15%	0.58% *	0.02%	0.60%
Sales	0.75%	0.81%	1.56%	0.80%	2.36%
Office/Admin	1.39%	2.21%	3.60%	0.57%	4.17%
Farming/Fishing	0.13%	0.15%	0.28%	0.09%	0.37%
Construction	0.21%	0.48%	0.69%	0.40%	1.09%
Install/Maintenance	0.14%	0.28%	0.43% *	0.25%	0.68%
Production	0.45%	0.76%	1.21%	0.17%	1.38%
Transportation	0.34%	0.74%	1.08%	0.45%	1.53%
65-95	2.95%	0.98%	3.93%	0.61%	4.54%
Management	0.45%	0.20%	0.64% *	0.27%	0.91%
Business & Finance	0.05%	0.04%	0.09%	0.03%	0.12%
Computer/Math	0.00%	0.01%	0.01%	0.01%	0.02%
Architecture/Engineering	0.01%	0.00%	0.01%	0.00%	0.01%
Sciences	0.01%	0.00%	0.01%	0.00%	0.01%
Community & Social Services	0.06%	0.05%	0.11%	0.05%	0.17% *
Legal	0.02%	0.01%	0.02% *	0.02%	0.04%
Education	0.15%	0.01%	0.16%	0.02%	0.18%
Arts/Entertainment	0.08%	0.02%	0.10%	0.01%	0.11%
Healthcare Practitioners	0.05%	0.04%	0.08% *	0.05%	0.14% *
Healthcare Support	0.04%	0.02%	0.06%	0.00%	0.06%
Protective Services	0.02%	0.01%	0.03%	0.00%	0.03%
Food Services	0.20%	0.05%	0.25%	0.00%	0.25%
Building/Grounds	0.27%	0.03%	0.30%	0.00%	0.30%

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2011 (continued)

Workers by Age, Occupation, and Income Levels – 2011					
<i>Percent of All Workers</i>	Household Level (<\$41,860/yr)				
AGE GROUPS	Low Wage (<\$20,930/yr)	Between Low Wage & Household (\$20,930- \$41,859/yr)	Total	Higher Wage (At least \$41,860/yr)	Grand Total
65-94 (continued)					
Personal Care	0.15%	0.01%	0.16%	0.00%	0.17%*
Sales	0.35%	0.12%	0.47%	0.06%	0.52%*
Office/Admin	0.46%	0.18%	0.64%	0.03%	0.66%*
Farming/Fishing	0.08%	0.02%	0.10%	0.00%	0.11%*
Construction	0.07%	0.02%	0.09%	0.01%	0.11%*
Install/Maintenance	0.05%	0.02%	0.07%	0.01%	0.08%
Production	0.11%	0.05%	0.16%	0.01%	0.17%
Transportation	0.29%	0.08%	0.37%	0.02%	0.39%
Grand Total	41.74%	36.81%	78.55%	21.45%	100.00%

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Percent of All Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936- \$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
16-29	21.08%	8.45%	29.54%*	2.19%	31.73%
Management	0.39%	0.67%	1.06%	0.17%	1.24%*
Business & Finance	0.14%	0.25%	0.39%	0.03%	0.42%
Computer/Math	0.13%	0.13%	0.26%	0.09%	0.35%
Architecture/Engineering	0.08%	0.12%	0.20%	0.14%	0.34%
Sciences	0.08%	0.15%	0.24%*	0.03%	0.27%
Community & Social Services	0.11%	0.20%	0.30%*	0.00%	0.30%
Legal	0.05%	0.01%	0.06%	0.02%	0.09%*
Education	0.62%	0.42%	1.04%	0.01%	1.05%
Arts/Entertainment	0.28%	0.08%	0.37%*	0.06%	0.43%
Healthcare Practitioners	0.42%	0.70%	1.12%	0.27%	1.39%
Healthcare Support	0.83%	0.21%	1.04%	0.04%	1.08%
Protective Services	0.36%	0.18%	0.54%	0.04%	0.58%
Food Services	4.51%	0.24%	4.76%*	0.02%	4.78%
Building/Grounds	1.07%	0.18%	1.24%*	0.03%	1.27%
Personal Care	1.52%	0.30%	1.82%	0.11%	1.93%
Sales	3.09%	0.53%	3.61%*	0.24%	3.85%
Office/Admin	2.79%	1.20%	3.99%	0.05%	4.04%
Farming/Fishing	0.66%	0.48%	1.14%	0.06%	1.20%
Construction	1.23%	0.74%	1.97%	0.26%	2.23%
Install/Maintenance	0.36%	0.49%	0.85%	0.15%	1.00%
Production	1.13%	0.68%	1.81%	0.19%	2.00%
Transportation	1.22%	0.49%	1.71%	0.17%	1.88%
30-39	5.71%	8.67%	14.38%	5.18%	19.56%
Management	0.63%	0.87%	1.50%	0.95%	2.44%*
Business & Finance	0.10%	0.28%	0.38%	0.42%	0.80%
Computer/Math	0.01%	0.10%	0.11%	0.20%	0.32%*
Architecture/Engineering	0.02%	0.05%	0.07%	0.23%	0.30%
Sciences	0.01%	0.11%	0.13%*	0.08%	0.20%*
Community & Social Services	0.07%	0.22%	0.29%	0.02%	0.31%
Legal	0.01%	0.04%	0.04%*	0.07%	0.11%
Education	0.27%	0.60%	0.87%	0.21%	1.08%
Arts/Entertainment	0.13%	0.16%	0.29%	0.05%	0.35%*
Healthcare Practitioners	0.14%	0.57%	0.71%	0.78%	1.49%
Healthcare Support	0.37%	0.17%	0.54%	0.02%	0.56%
Protective Services	0.04%	0.15%	0.20%*	0.10%	0.30%
Food Services	0.72%	0.14%	0.86%	0.00%	0.86%
Building/Grounds	0.39%	0.20%	0.59%	0.04%	0.63%

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Percent of All Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936- \$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
30-39 (continued)					
Personal Care	0.33%	0.24%	0.57%	0.07%	0.64%
Sales	0.57%	0.60%	1.16% *	0.58%	1.74%
Office/Admin	0.77%	1.57%	2.34%	0.31%	2.65%
Farming/Fishing	0.12%	0.20%	0.32%	0.07%	0.39%
Construction	0.26%	0.64%	0.90%	0.26%	1.16%
Install/Maintenance	0.07%	0.32%	0.39%	0.24%	0.62% *
Production	0.41%	0.97%	1.38%	0.14%	1.53% *
Transportation	0.27%	0.46%	0.73%	0.33%	1.06%
40-49	4.38%	7.44%	11.83%	6.15%	17.98%
Management	0.48%	0.65%	1.12% *	1.46%	2.58%
Business & Finance	0.04%	0.27%	0.31%	0.36%	0.67%
Computer/Math	0.00%	0.07%	0.07%	0.19%	0.26%
Architecture/Engineering	0.00%	0.02%	0.02%	0.20%	0.22%
Sciences	0.01%	0.01%	0.01% *	0.08%	0.09%
Community & Social Services	0.07%	0.14%	0.22% *	0.07%	0.29%
Legal	0.00%	0.05%	0.05%	0.07%	0.12%
Education	0.24%	0.48%	0.73% *	0.28%	1.01%
Arts/Entertainment	0.05%	0.07%	0.12%	0.07%	0.19%
Healthcare Practitioners	0.12%	0.41%	0.53%	0.66%	1.19%
Healthcare Support	0.13%	0.21%	0.34%	0.01%	0.35%
Protective Services	0.02%	0.10%	0.12%	0.15%	0.27%
Food Services	0.42%	0.14%	0.56%	0.01%	0.57%
Building/Grounds	0.44%	0.16%	0.60%	0.05%	0.65%
Personal Care	0.24%	0.28%	0.52%	0.06%	0.58%
Sales	0.43%	0.60%	1.02% *	0.76%	1.78%
Office/Admin	0.66%	1.55%	2.22% *	0.45%	2.67%
Farming/Fishing	0.08%	0.15%	0.23%	0.03%	0.26%
Construction	0.20%	0.48%	0.68%	0.28%	0.97% *
Install/Maintenance	0.07%	0.32%	0.39%	0.25%	0.65% *
Production	0.37%	0.73%	1.10%	0.26%	1.37% *
Transportation	0.31%	0.55%	0.86%	0.40%	1.26%

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Percent of All Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936- \$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
50-64	7.11%	10.23%	17.33%*	8.18%	25.52%*
Management	0.67%	0.93%	1.60%	2.09%	3.69%
Business & Finance	0.14%	0.36%	0.50%	0.50%	1.00%
Computer/Math	0.02%	0.07%	0.09%	0.24%	0.32%*
Architecture/Engineering	0.00%	0.05%	0.05%	0.17%	0.23%*
Sciences	0.02%	0.02%	0.04%	0.11%	0.16%*
Community & Social Services	0.07%	0.37%	0.44%	0.11%	0.55%
Legal	0.05%	0.05%	0.10%	0.14%	0.24%
Education	0.38%	0.62%	1.00%	0.49%	1.48%*
Arts/Entertainment	0.15%	0.10%	0.25%	0.08%	0.33%
Healthcare Practitioners	0.17%	0.54%	0.71%	0.83%	1.54%
Healthcare Support	0.21%	0.28%	0.49%	0.01%	0.50%
Protective Services	0.09%	0.18%	0.27%	0.08%	0.35%
Food Services	0.57%	0.12%	0.70%*	0.01%	0.71%
Building/Grounds	0.73%	0.33%	1.06%	0.06%	1.12%
Personal Care	0.45%	0.22%	0.67%	0.07%	0.74%
Sales	0.68%	0.89%	1.56%*	0.95%	2.52%*
Office/Admin	1.27%	2.26%	3.53%	0.62%	4.15%
Farming/Fishing	0.13%	0.18%	0.31%	0.11%	0.42%
Construction	0.37%	0.60%	0.96%*	0.42%	1.38%
Install/Maintenance	0.07%	0.38%	0.45%	0.27%	0.73%*
Production	0.39%	0.91%	1.29%*	0.30%	1.60%*
Transportation	0.48%	0.79%	1.27%	0.51%	1.78%
65-95	2.96%	1.28%	4.24%	0.97%	5.21%
Management	0.25%	0.21%	0.46%	0.34%	0.80%
Business & Finance	0.04%	0.03%	0.07%	0.09%	0.15%*
Computer/Math	0.00%	0.00%	0.01%*	0.01%	0.02%
Architecture/Engineering	0.01%	0.00%	0.01%	0.02%	0.03%
Sciences	0.00%	0.01%	0.01%	0.01%	0.02%
Community & Social Services	0.05%	0.03%	0.08%	0.04%	0.12%
Legal	0.00%	0.01%	0.01%	0.02%	0.03%
Education	0.37%	0.06%	0.43%	0.05%	0.48%
Arts/Entertainment	0.04%	0.00%	0.04%	0.00%	0.04%
Healthcare Practitioners	0.07%	0.06%	0.13%	0.05%	0.18%
Healthcare Support	0.09%	0.02%	0.11%	0.00%	0.11%
Protective Services	0.03%	0.01%	0.04%	0.01%	0.05%
Food Services	0.19%	0.02%	0.21%	0.01%	0.22%
Building/Grounds	0.20%	0.10%	0.29%*	0.01%	0.31%*

(continued)

APPENDIX F

Author's summary of South Dakota Workers by Age Groups, Occupations, and Income Levels – 2016 (continued)

Workers by Age, Occupation, and Income Levels – 2016					
<i>Percent of All Workers</i>	Household Level (<\$45,873/yr)				
AGE GROUPS	Low Wage (<\$22,936/yr)	Between Low Wage & Household (\$22,936- \$45,872/yr)	Total	Higher Wage (At least \$45,873/yr)	Grand Total
65-94 (continued)					
Personal Care	0.21%	0.05%	0.26%	0.01%	0.28%*
Sales	0.42%	0.10%	0.52%	0.14%	0.65%*
Office/Admin	0.42%	0.25%	0.67%	0.04%	0.71%
Farming/Fishing	0.05%	0.02%	0.06%*	0.01%	0.08%*
Construction	0.06%	0.04%	0.10%	0.04%	0.14%
Install/Maintenance	0.10%	0.05%	0.15%	0.02%	0.17%
Production	0.11%	0.11%	0.22%	0.01%	0.23%
Transportation	0.27%	0.10%	0.37%	0.05%	0.41%*
Grand Total	41.24%	36.08%	77.32%	22.68%	100.00%

Note: * refers to statistical inconsistencies due to rounding.

Source: Ruggles et al. (2015). *Integrated Public Use Microdata Series: Version 6.0* [dataset]. Minneapolis: University of Minnesota. doi:10.18128/D010.V6.0

APPENDIX G

Family Economic Self-Sufficiency Weighted Average Summaries for 38 States

ALABAMA 2006-2010 ACS DATA			ALABAMA 2011-2015 ACS DATA		
Labor force	3,372,243		Labor force	3,388,448	
Single earner below \$9.83/hr (\$20,761)	1,421,821	42.16%	Single earner below \$10.62/hr (\$22,429)	1,480,237	43.68%
Household low wage threshold (\$41,522)	2,464,869	73.09%	Household low wage threshold (\$44,859)	2,473,269	72.99%
ARIZONA 2006-2010 ACS DATA			ARIZONA 2011-2015 ACS DATA		
Labor force	4,699,965		Labor force	4,964,385	
Single earner below \$12.78/hr (\$26,992)	2,326,833	49.51%	Single earner below \$13.94/hr (\$29,442)	2,604,804	52.47%
Household low wage threshold (\$69,189)	3,795,015	80.75%	Household low wage threshold (\$58,883)	4,076,167	82.11%
CALIFORNIA 2006-2010 ACS DATA			CALIFORNIA 2011-2015 ACS DATA		
Labor force	31,466,807		Labor force	33,559,832	
Single earner below \$16.38/hr (\$34,595)	18,565,724	59.00%	Single earner below \$16.82/hr (\$35,524)	20,170,957	60.10%
Household low wage threshold (\$53,983)	26,469,738	84.12%	Household low wage threshold (\$71,048)	28,026,482	83.51%
COLORADO 2006-2010 ACS DATA			COLORADO 2011-2015 ACS DATA		
Labor force	4,034,703		Labor force	4,478,900	
Single earner below \$13.74/hr (\$29,019)	1,981,626	49.11%	Single earner below \$15.49/hr (\$32,715)	2,378,485	53.10%
Household low wage threshold (\$58,038)	3,203,259	79.39%	Household low wage threshold (\$65,430)	3,653,551	81.57%
CONNECTICUT 2006-2010 ACS DATA			CONNECTICUT 2011-2015 ACS DATA		
Labor force	2,965,949		Labor force	3,091,828	
Single earner below \$15.95/hr (\$33,687)	1,462,679	49.32%	Single earner below \$25.21/hr (\$53,244)	2,102,627	68.01%
Household low wage threshold (\$67,373)	2,354,532	79.39%	Household low wage threshold (\$106,487)	2,810,609	90.90%
DELAWARE 2006-2010 ACS DATA			DELAWARE 2011-2015 ACS DATA		
Labor force	725,045		Labor force	767,317	
Single earner below \$11.36/hr (\$23,993)	292,043	40.28%	Single earner below \$12.18/hr (\$25,724)	327,189	42.64%
Household low wage threshold (\$47,985)	524,846	72.39%	Household low wage threshold (\$51,448)	560,556	73.05%
FLORIDA 2006-2010 ACS DATA			FLORIDA 2011-2015 ACS DATA		
Labor force	14,355,083		Labor force	15,306,282	
Single earner below \$12.26/hr (\$25,893)	7,176,382	49.99%	Single earner below \$13.19/hr (\$27,858)	8,210,582	53.64%
Household low wage threshold (\$51,786)	11,719,882	81.64%	Household low wage threshold (\$55,715)	12,739,198	83.23%
GEORGIA 2006-2010 ACS DATA			GEORGIA 2011-2015 ACS DATA		
Labor force	7,235,749		Labor force	7,576,659	
Single earner below \$10.81/hr (\$22,831)	3,093,647	42.76%	Single earner below \$11.69/hr (\$24,690)	3,442,855	45.44%
Household low wage threshold (\$45,661)	5,357,630	74.04%	Household low wage threshold (\$49,379)	5,700,198	75.23%
HAWAII 2006-2010 ACS DATA			HAWAII 2011-2015 ACS DATA		
Labor force	1,394,885		Labor force	1,486,906	
Single earner below \$13.47/hr (\$28,449)	672,399	48.20%	Single earner below \$14.51/hr (\$30,645)	754,986	50.78%
Household low wage threshold (\$56,897)	1,156,337	82.90%	Household low wage threshold (\$61,290)	1,234,971	83.06%

(continued)

APPENDIX G

Family Economic Self-Sufficiency Weighted Average Summaries for 38 States (continued)

ILLINOIS 2006-2010 ACS DATA			ILLINOIS 2011-2015 ACS DATA		
Labor force	10,387,342		Labor force	10,633,297	
Single earner below \$13.51/hr (\$28,533)	5,207,045	50.13%	Single earner below \$14.55/hr (\$30,730)	5,529,805	52.00%
Household low wage threshold (\$57,066)	8,262,734	79.55%	Household low wage threshold (\$61,459)	8,472,202	79.68%
INDIANA 2006-2010 ACS DATA			INDIANA 2011-2015 ACS DATA		
Labor force	4,921,614		Labor force	5,076,409	
Single earner below \$10.84/hr (\$22,894)	2,166,973	44.03%	Single earner below \$12.54/hr (\$26,485)	2,502,039	49.29%
Household low wage threshold (\$45,788)	3,760,113	76.40%	Household low wage threshold (\$52,969)	4,069,851	80.17%
KENTUCKY 2006-2010 ACS DATA			KENTUCKY 2011-2015 ACS DATA		
Labor force	3,091,839		Labor force	3,175,454	
Single earner below \$11.30/hr (\$23,866)	1,473,756	47.67%	Single earner below \$12.04/hr (\$25,429)	1,543,279	48.60%
Household low wage threshold (\$47,731)	2,456,429	79.45%	Household low wage threshold (\$50,857)	2,509,092	79.02%
LOUISIANA 2006-2010 ACS DATA			LOUISIANA 2011-2015 ACS DATA		
Labor force	3,339,915		Labor force	3,439,671	
Single earner below \$9.30/hr (\$19,663)	1,309,858	39.22%	Single earner below \$9.80/hr (\$20,698)	1,349,936	39.25%
Household low wage threshold (\$39,325)	2,294,964	68.71%	Household low wage threshold (\$41,395)	2,332,515	67.81%
MARYLAND 2006-2010 ACS DATA			MARYLAND 2010-2015 ACS DATA		
Labor force	5,049,789		Labor force	5,368,869	
Single earner below \$15.42/hr (\$32,567)	2,438,783	48.29%	Single earner below \$17.54/hr (\$37,045)	2,804,505	52.24%
Household low wage threshold (\$65,134)	3,964,469	78.51%	Household low wage threshold (\$74,089)	4,302,867	80.14%
MASSACHUSETTS 2006-2010 ACS DATA			MASSACHUSETTS 2011-2015 ACS DATA		
Labor force	5,558,946		Labor force	5,948,484	
Single earner below \$15.93/hr (\$33,644)	2,763,952	49.72%	Single earner below \$17.15/hr (\$36,221)	3,081,546	51.80%
Household low wage threshold (\$67,288)	4,494,582	80.85%	Household low wage threshold (\$72,442)	4,765,665	80.12%
MISSISSIPPI 2006-2010 ACS DATA			MISSISSIPPI 2011-2015 ACS DATA		
Labor force	2,051,924		Labor force	2,050,660	
Single earner below \$9.03/hr (\$19,072)	822,894	40.10%	Single earner below \$9.64/hr (\$20,360)	841,997	41.06%
Household low wage threshold (\$38,143)	1,489,423	72.59%	Household low wage threshold (\$40,719)	1,508,825	73.58%
MISSOURI 2006-2010 ACS DATA			MISSOURI 2011-2015 ACS DATA		
Labor force	4,564,815		Labor force	4,717,536	
Single earner below \$9.98/hr (\$21,078)	1,899,542	41.61%	Single earner below \$10.79/hr (\$22,789)	2,027,292	42.97%
Household low wage threshold (\$42,156)	3,350,450	73.40%	Household low wage threshold (\$45,577)	3,484,263	73.86%
MONTANA 2006-2010 ACS DATA			MONTANA 2011-2015 ACS DATA		
Labor force	761,541		Labor force	795,134	
Single earner below \$10.84/hr (\$22,894)	365,218	47.96%	Single earner below \$11.68/hr (\$24,668)	379,828	47.77%
Household low wage threshold (\$45,788)	607,438	79.76%	Household low wage threshold (\$49,336)	617,918	77.71%

(continued)

APPENDIX G

Family Economic Self-Sufficiency Weighted Average Summaries for 38 States (continued)

NEBRASKA 2006-2010 ACS DATA			NEBRASKA 2011-2015 ACS DATA		
Labor force	1,527,689		Labor force	1,597,705	
Single earner below \$10.91/hr (\$23,042)	696,198	45.57%	Single earner below \$11.66/hr (\$24,626)	698,294	43.71%
Household low wage threshold (\$46,084)	1,210,848	79.26%	Household low wage threshold (\$49,252)	1,214,518	76.02%
NEVADA 2006-2010 ACS DATA			NEVADA 2011-2015 ACS DATA		
Labor force	2,207,108		Labor force	2,290,971	
Single earner below \$11.63/hr (\$24,563)	899,166	40.74%	Single earner below \$12.52/hr (\$26,442)	1,098,285	47.94%
Household low wage threshold (\$49,125)	1,682,868	76.25%	Household low wage threshold (\$52,884)	1,844,381	80.51%
NEW JERSEY 2006-2010 ACS DATA			NEW JERSEY 2011-2015 ACS DATA		
Labor force	7,488,276		Labor force	7,770,670	
Single earner below \$16.30/hr (\$34,426)	3,743,420	49.99%	Single earner below \$17.54/hr (\$37,045)	4,142,334	53.31%
Household low wage threshold (\$68,851)	5,934,077	79.24%	Household low wage threshold (\$74,089)	6,199,288	79.78%
NEW YORK 2006-2010 ACS DATA			NEW YORK 2011-2015 ACS DATA		
Labor force	15,919,727		Labor force	16,772,277	
Single earner below \$15.88/hr (\$33,539)	8,575,960	53.87%	Single earner below \$17.10/hr (\$36,115)	9,301,652	55.46%
Household low wage threshold (\$67,077)	13,206,271	82.96%	Household low wage threshold (\$72,230)	13,835,250	82.49%
NORTH CAROLINA 2006-2010 ACS DATA			NORTH CAROLINA 2011-2015 ACS DATA		
Labor force	6,986,893		Labor force	7,393,650	
Single earner below \$10.01/hr (\$21,141)	2,860,792	40.95%	Single earner below \$13.58/hr (\$28,681)	3,899,009	52.73%
Household low wage threshold (\$42,282)	5,146,867	73.66%	Household low wage threshold (\$57,362)	6,138,678	83.03%
OHIO 2006-2010 ACS DATA			OHIO 2011-2015 ACS DATA		
Labor force	8,788,559		Labor force	8,955,224	
Single earner below \$11.79/hr (\$24,901)	4,107,431	46.74%	Single earner below \$12.93/hr (\$27,308)	4,403,145	49.17%
Household low wage threshold (\$49,801)	6,830,389	77.72%	Household low wage threshold (\$54,616)	7,084,357	79.11%
OKLAHOMA 2006-2010 ACS DATA			OKLAHOMA 2011-2015 ACS DATA		
Labor force	2,780,228		Labor force	2,919,793	
Single earner below \$10.04/hr (\$21,205)	1,251,063	45.00%	Single earner below \$10.83/hr (\$22,873)	1,258,883	43.12%
Household low wage threshold (\$42,409)	2,120,169	76.26%	Household low wage threshold (\$45,746)	2,190,306	75.02%
OREGON 2006-2010 ACS DATA			OREGON 2011-2015 ACS DATA		
Labor force	2,928,935		Labor force	3,073,393	
Single earner below \$11.47/hr (\$24,225)	1,371,527	46.83%	Single earner below \$13.36/hr (\$28,217)	1,612,372	52.46%
Household low wage threshold (\$48,449)	2,245,982	76.68%	Household low wage threshold (\$56,433)	2,469,934	80.37%
PENNSYLVANIA 2006-2010 ACS DATA			PENNSYLVANIA 2011-2015 ACS DATA		
Labor force	9,918,850		Labor force	10,217,142	
Single earner below \$13.46/hr (\$28,428)	5,015,402	50.56%	Single earner below \$14.20/hr (\$29,991)	5,029,855	49.23%
Household low wage threshold (\$56,855)	8,137,190	82.04%	Household low wage threshold (\$59,981)	8,185,789	80.12%

(continued)

APPENDIX G

Family Economic Self-Sufficiency Weighted Average Summaries for 38 States (continued)

SOUTH CAROLINA 2006-2010 ACS DATA			SOUTH CAROLINA 2011-2015 ACS DATA		
Labor force	3,338,961		Labor force	3,224,462	
Single earner below \$10.21/hr (\$21,564)	1,422,421	42.60%	Single earner below \$11.03/hr (\$23,296)	1,587,128	45.06%
Household low wage threshold (\$43,127)	2,522,054	75.53%	Household low wage threshold (\$46,591)	2,704,159	76.77%
SOUTH DAKOTA 2006-2010 ACS DATA			SOUTH DAKOTA 2011-2015 ACS DATA		
Labor force	655,173		Labor force	695,195	
Single earner below \$9.91/hr (\$20,930)	273,461	41.74%	Single earner below \$10.86/hr (\$22,936)	286,716	41.24%
Household low wage threshold (\$41,860)	514,606	78.55%	Household low wage threshold (\$45,873)	537,527	77.32%
TENNESSEE 2006-2010 ACS DATA			TENNESSEE 2011-2015 ACS DATA		
Labor force	4,620,027		Labor force	4,846,678	
Single earner below \$10.25/hr (\$21,648)	2,013,938	43.59%	Single earner below \$11.05/hr (\$23,338)	2,157,813	44.52%
Household low wage threshold (\$43,296)	3,514,032	76.06%	Household low wage threshold (\$46,675)	3,699,114	76.32%
TEXAS 2006-2010 ACS DATA			TEXAS 2011-2015 ACS DATA		
Labor force	19,292,613		Labor force	21,520,779	
Single earner below \$10.48/hr (\$22,134)	8,647,215	44.82%	Single earner below \$11.15/hr (\$24,549)	9,795,780	45.52%
Household low wage threshold (\$44,268)	14,237,258	73.80%	Household low wage threshold (\$47,098)	15,641,165	72.68%
UTAH 2006-2010 ACS DATA			UTAH 2011-2015 ACS DATA		
Labor force	2,245,118		Labor force	2,518,783	
Single earner below \$13.43/hr (\$28,364)	1,295,028	57.68%	Single earner below \$14.28/hr (\$30,160)	1,471,312	58.41%
Household low wage threshold (\$56,728)	1,912,441	85.18%	Household low wage threshold (\$60,319)	2,121,129	84.21%
VIRGINIA 2006-2010 ACS DATA			VIRGINIA 2011-2015 ACS DATA		
Labor force	6,599,846		Labor force	7,052,544	
Single earner below \$12.32/hr (\$26,020)	2,828,597	42.86%	Single earner below \$16.08/hr (\$33,961)	3,714,126	52.66%
Household low wage threshold (\$52,040)	4,843,038	73.38%	Household low wage threshold (\$67,922)	5,617,479	79.65%
WASHINGTON 2006-2010 ACS DATA			WASHINGTON 2011-2015 ACS DATA		
Labor force	5,234,932		Labor force	5,661,230	
Single earner below \$13.36/hr (\$28,217)	2,459,891	46.99%	Single earner below \$14.99/hr (\$31,659)	2,896,078	51.16%
Household low wage threshold (\$56,433)	4,064,871	77.65%	Household low wage threshold (\$63,318)	4,471,160	78.98%
WASHINGTON D. C. 2006-2010 ACS DATA			WASHINGTON D. C. 2011-2015 ACS DATA		
Labor force	472,035		Labor force	560,220	
Single earner below \$16.11/hr (\$34,025)	195,424	41.40%	Single earner below \$17.32/hr (\$36,580)	219,531	39.19%
Household low wage threshold (\$68,049)	342,024	72.46%	Household low wage threshold (\$73,160)	392,590	70.08%
WEST VIRGINIA 2006-2010 ACS DATA			WEST VIRGINIA 2011-2015 ACS DATA		
Labor force	1,264,605		Labor force	1,266,845	
Single earner below \$9.36/hr (\$19,769)	509,345	40.28%	Single earner below \$10.08/hr (\$21,289)	515,030	40.65%
Household low wage threshold (\$39,537)	904,740	71.54%	Household low wage threshold (\$42,578)	904,926	71.43%

(continued)

APPENDIX G

Family Economic Self-Sufficiency Weighted Average Summaries for 38 States (continued)

WISCONSIN 2006-2010 ACS DATA			WISCONSIN 2011-2015 ACS DATA		
Labor force	4,664,423		Labor force	4,778,868	
Single earner below \$11.73/hr (\$24,774)	2,110,224	45.24%	Single earner below \$13.20/hr (\$27,879)	2,336,429	48.89%
Household low wage threshold (\$49,548)	3,625,123	77.72%	Household low wage threshold (\$55,757)	3,853,645	80.64%
WYOMING 2006-2010 ACS DATA			WYOMING 2011-2015 ACS DATA		
Labor force	467,635		Labor force	487,316	
Single earner below \$10.46/hr (\$22,092)	188,348	40.28%	Single earner below \$12.01/hr (\$25,365)	208,668	42.82%
Household low wage threshold (\$44,183)	330,263	70.62%	Household low wage threshold (\$50,730)	345,222	70.84%

Source: FESS values retrieved from reports published by Center for Women's Welfare at the University of Washington, at <http://www.selfsufficiencystandard.org/state-data>. Where needed, values were updated using the CPI Inflation calculator at <https://data.bls.gov/cgi-bin/cpicalc.pl>. Income data extracted from IPUMS USA database (<https://usa.ipums.org>).

APPENDIX H

Longitudinal Employer-Household Dynamics

INDUSTRY	INDUSTRY LABEL VALUE	YEAR	QUARTER	EMPLOYEES
11	Agriculture, Forestry, Fishing and Hunting	2001	2	2,442
21	Mining, Quarrying, and Oil and Gas Extraction	2001	2	1,071
22	Utilities	2001	2	2,476
23	Construction	2001	2	15,982
31-33	Manufacturing	2001	2	42,513
42	Wholesale Trade	2001	2	17,831
44-45	Retail Trade	2001	2	48,549
48-49	Transportation and Warehousing	2001	2	9,525
51	Information	2001	2	7,050
52	Finance and Insurance	2001	2	23,990
53	Real Estate and Rental and Leasing	2001	2	3,913
54	Professional, Scientific, and Technical Services	2001	2	8,642
55	Management of Companies and Enterprises	2001	2	4,392
56	Administrative and Support and Waste Management and Remediation Services	2001	2	12,977
61	Educational Services	2001	2	35,296
62	Health Care and Social Assistance	2001	2	48,973
71	Arts, Entertainment, and Recreation	2001	2	6,640
72	Accommodation and Food Services	2001	2	30,835
81	Other Services (except Public Administration)	2001	2	10,469
92	Public Administration	2001	2	19,033
		2001 Total		352,599
11	Agriculture, Forestry, Fishing and Hunting	2006	2	3,271
21	Mining, Quarrying, and Oil and Gas Extraction	2006	2	666
22	Utilities	2006	2	2,391
23	Construction	2006	2	20,579
31-33	Manufacturing	2006	2	41,101
42	Wholesale Trade	2006	2	18,633
44-45	Retail Trade	2006	2	48,624
48-49	Transportation and Warehousing	2006	2	9,615
51	Information	2006	2	7,074
52	Finance and Insurance	2006	2	24,457
53	Real Estate and Rental and Leasing	2006	2	4,075

(continued)

APPENDIX H

Longitudinal Employer-Household Dynamics (continued)

INDUSTRY	INDUSTRY LABEL VALUE	YEAR	QUARTER	EMPLOYEES
54	Professional, Scientific, and Technical Services	2006	2	10,357
55	Management of Companies and Enterprises	2006	2	2,929
56	Administrative and Support and Waste Management and Remediation Services	2006	2	13,125
61	Educational Services	2006	2	34,294
62	Health Care and Social Assistance	2006	2	53,010
71	Arts, Entertainment, and Recreation	2006	2	7,434
72	Accommodation and Food Services	2006	2	33,705
81	Other Services (except Public Administration)	2006	2	10,142
92	Public Administration	2006	2	19,463
		2006 Total		364,945
11	Agriculture, Forestry, Fishing and Hunting	2011	2	4,246
21	Mining, Quarrying, and Oil and Gas Extraction	2011	2	752
22	Utilities	2011	2	2,429
23	Construction	2011	2	18,742
31-33	Manufacturing	2011	2	38,668
42	Wholesale Trade	2011	2	19,058
44-45	Retail Trade	2011	2	49,944
48-49	Transportation and Warehousing	2011	2	9,513
51	Information	2011	2	6,528
52	Finance and Insurance	2011	2	23,664
53	Real Estate and Rental and Leasing	2011	2	3,725
54	Professional, Scientific, and Technical Services	2011	2	11,908
55	Management of Companies and Enterprises	2011	2	4,133
56	Administrative and Support and Waste Management and Remediation Services	2011	2	13,095
61	Educational Services	2011	2	37,475
62	Health Care and Social Assistance	2011	2	59,287
71	Arts, Entertainment, and Recreation	2011	2	7,229
72	Accommodation and Food Services	2011	2	35,486
81	Other Services (except Public Administration)	2011	2	9,969
92	Public Administration	2011	2	20,549
		2011 Total		376,400

(continued)

APPENDIX H

Longitudinal Employer-Household Dynamics (continued)

INDUSTRY	INDUSTRY LABEL VALUE	YEAR	QUARTER	EMPLOYEES
11	Agriculture, Forestry, Fishing and Hunting	2016	2	5,501
21	Mining, Quarrying, and Oil and Gas Extraction	2016	2	805
22	Utilities	2016	2	2,331
23	Construction	2016	2	21,677
31-33	Manufacturing	2016	2	42,105
42	Wholesale Trade	2016	2	21,444
44-45	Retail Trade	2016	2	53,467
48-49	Transportation and Warehousing	2016	2	10,566
51	Information	2016	2	5,893
52	Finance and Insurance	2016	2	24,286
53	Real Estate and Rental and Leasing	2016	2	4,137
54	Professional, Scientific, and Technical Services	2016	2	13,582
55	Management of Companies and Enterprises	2016	2	5,452
56	Administrative and Support and Waste Management and Remediation Services	2016	2	13,089
61	Educational Services	2016	2	38,277
62	Health Care and Social Assistance	2016	2	63,593
71	Arts, Entertainment, and Recreation	2016	2	7,436
72	Accommodation and Food Services	2016	2	38,943
81	Other Services (except Public Administration)	2016	2	10,747
92	Public Administration	2016	2	21,458
		2016 Total		404,789
		Grand Total		1,498,733

Source: Longitudinal Employer-Household Dynamics (LEHD, 2017). Quarterly workforce indicators (QWI) data extraction, limited to quarter 2 in years 2001, 2006, 2011, and 2016. *U. S. Census Bureau*. Retrieved from <https://lehd.ces.census.gov>. Reformatted for confined area.