

ADVANCED POLICY ANALYSIS

# THE IMPACT OF MINIMUM WAGE REGULATIONS ON THE EARLY CARE AND EDUCATION INDUSTRY IN CALIFORNIA



A Study Conducted for the Alameda County Early Care and Education Planning  
Council,  
Oakland, California

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## ***Executive Summary***

In California there currently exists a dangerous disconnect between state education policy and local labor policy. California should address this problem before it endangers the development of vulnerable young children.

Several localities in California have recently increased their minimum wages with the most dramatic being Oakland's 36% increase this past March to \$12.25. While centers throughout the state will be affected by minimum wage increase, Oakland's experience will serve as an important test case due to the rapidity of its increase. This minimum wage increase threatens state subsidized early care and education (ECE) provision in California, especially ECE centers funded by the California Department of Education (CDE) and regulated through Title 5 of the California Code of Regulations. Title 5 centers provide valuable support to needy, low-income families.

ECE is an important public service as it has been shown to increase female labor force participation and improve child development. Title 5 ECE centers provide children with intellectual stimulation they cannot find in other environments. Research shows that children enrolled in ECE centers with more highly trained staff and fewer staff per child are more prepared for school and demonstrate better socio-emotional behavior.

High quality ECE provision is labor intensive and Title 5 centers must meet strict staff to child ratios, meaning that labor costs are a substantial and inflexible portion of all costs. Title 5 centers are vulnerable because they currently pay low wages and they rely on the CDE for almost all of their funding. The average wage for ECE assistant teachers in Alameda County is approximately \$11 and ECE centers in Oakland will see assistant teacher salaries increase almost 20% or \$4,200 per year. Assistant teacher salaries make up a substantial portion of ECE center costs, 40%, with full teachers' salaries accounting for a further 20%.

Higher wages will bring important benefits to ECE centers, such as higher quality staff and reduced turnover, leading to more stable caregiver-child relationships. Unfortunately, higher wages will also increase total costs for centers by around 7%. This 7% increase is before factoring in increased teacher wages, which will need to increase to maintain current incentives for assistant teachers to further their education. This projection also holds all other costs constant.

ECE centers can take steps on their own to reduce other costs to compensate, such as expanding to find new efficiencies. Centers might also reduce the number of hours they are open per day or shift staff from full to part time to reduce healthcare costs. However, due to the large increase in costs it will be difficult for the most financially vulnerable Title 5 centers to remain open without changes in current state policy.

California could consider regulatory reform to reduce administrative burdens, such as reducing or streamlining reporting procedures. These efficiencies, however, are unlikely to reduce costs sufficiently to match increased teaching staff salaries. Consequently, California will have to increase state funding for Title 5 programs.

A funding increase could come in the form of targeted aid for high cost counties or a general increase. A targeted increase would be less expensive, however it would be politically unpopular in low cost areas and it would be short sighted as the state minimum wage will increase to \$10 in

2016 and there are proposals to raise it further. California will see savings from local minimum wage increases through reduced costs from means tests programs, including Title 5.

Therefore, to help ECE centers adapt to an increased in minimum wages in Oakland, and throughout California, the state should increase Title 5 center's funding mechanism, the standard reimbursement rate, by 5% immediately. This increase should be politically palatable and with some efficiency gains allow ECE centers to stay open.

## ***Introduction***

Childcare, or early care and education (ECE), is labor intensive and labor costs are increasing. Many children in California rely on state funding to subsidize their care and there are no current plans to increase state funding per child to compensate for increased labor costs. ECE is important for child development and parental labor force participation. Quality ECE is too expensive for low-income parents to afford and therefore public funding is necessary to ensure availability for all children.

Currently, most of the ECE providers who rely on state funding pay low wages, with some paying close to the current California minimum wage of \$9. While most public ECE funding, or subsidies, are determined at the state level, there is a current trend in California of minimum wage regulations being determined at the local level. State education funding policy and local labor regulations are being determined independently. The best example of this is the city of Oakland, which raised its minimum wage from \$9 to \$12.25 in March 2015 as a result of a local ballot initiative in November 2014. While ECE centers in Oakland will be the most affected, and are the focus of this analysis, many other localities in California have minimum wages above \$9 and others are considering raising theirs in the future. Oakland, therefore, will serve as an important test case.

Strict state regulations for providers who receive ECE funding exacerbate the problem by preventing providers from adjusting to local minimum wage policies, necessitating service reductions. If per child funding does not increase to meet increased per child labor costs due to increased minimum wages, or other policy reforms or operational efficiencies aren't developed to reduce the number of labor hours needed, then ECE centers might have to close.

The problem will be most acute for centers that provide General Child Care and Development (CCTR) and California State Preschool (CSPP) on contracts with the California Department of Education (CDE). These centers are regulated primarily through Title 5 of the California Code of Regulations [these centers will hereafter be referred to as Title 5 Centers]. Title 5 centers will be the focus of this analysis, though the minimum wage will affect many ECE centers.

## ***Why is ECE important?***

The government of California demonstrates its belief in the importance of ECE through its extensive public support. There is a body of evidence that high quality ECE can have large, long-term impacts on children supports this belief. The fact that the impacts are far in the future means that, similar to education in general, ECE is likely to be underprovided in the private market. Furthermore, some of the largest positive impacts occur for low-income children and due to credit constraints it is extremely difficult for low-income parents to afford high quality ECE without public support.

State provision of ECE can also be seen as an income transfer to low-income parents. By reducing the burdens parents face when joining the labor force one should expect that the provision of subsidized ECE would increase the labor force participation of low-income parents. Subsidized ECE effectively increases, by the market cost of childcare, the wage parents can expect to earn. Economic theory predicts that an increase in wages will draw more people into the labor force. In a study of the introduction of childcare in Quebec, researchers found that it increased labor force participation of married women by 14.5 percent.<sup>1</sup> The rise of one-parent families and stagnation of wages for most Californians means that is very difficult for low-income families to survive unless all parents are working. California should continue to invest in providing quality childcare services for low-income families so that parents can work enough to support their families.

Beyond its immediate impact on parental labor force participation, spending on ECE also flows into the wider California economy as funds are spent on worker salaries and the purchase of local goods and services. High quality childcare also has long lasting positive impacts on child development. These impacts can be so large that, from a cost-benefit standpoint, the long-term benefits to society of quality ECE outweigh the short-term cost. One study of a very high quality ECE program, the Perry Pre-School program, found that “\$1.00 spent on the program translated into \$8.00 worth of benefits”.<sup>2</sup> Research into the impact of Head Start shows that participants gained 0.23 standard deviations on an index of young adult outcomes which “closes one-third of the gap between children with median and bottom quartile family income”, a large effect for an education program.<sup>3</sup>

Furthermore, studies have found that there is a link between childcare quality and development. Clark-Stewart found that 2 and 3 three olds scored higher on levels of child development if they had been in center based, as opposed to home based, care. The research did not find any differences in level of children’s social relationships, including with their mother. Clark-Stewart wrote that her paper and other similar studies “suggest that children in day care centers and preschool programs tend to be more socially skilled and intellectually advanced than children at home with their parents, sitters, or in day care homes.”<sup>4</sup> Research also indicates that children in center-based care arrive better prepared for school and are more self-confident, self-assured and outgoing.

It is true that some studies show negative impacts of childcare, compared to care by the child’s mother; however, the majority of studies indicate positive impacts.<sup>5</sup> ECE centers provide children with a greater diversity of peers, providing a certain kind of stimulation that is not present in other environments. In ECE centers, children are more likely to interact with caregivers who have training in child development. This training has been shown to improve interactions between caregivers and children, and result in larger cognitive gains.<sup>6</sup>

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<sup>1</sup> Baker, Michael, Jonathan Gruber, and Kevin Milligan. Universal childcare, maternal labor supply, and family well-being. No. w11832. National Bureau of Economic Research, 2005.

<sup>2</sup> Casio and Schanzenbach “Expanding Preschool Access for Disadvantaged Children,” The Hamilton Project 2014

<sup>3</sup> Deming, David. "Early childhood intervention and life-cycle skill development: Evidence from Head Start." *American Economic Journal: Applied Economics* (2009): 111-134.

<sup>4</sup> Clarke Stewart, and K. Alison, (1991), “A Home is Not a School: The Effects of Childcare on Children’s Development.” *Journal of Social Issues*, Vol. 47, No. 2, pp. 105-12. 109

<sup>5</sup> Clark-Stewart (1991) 110

<sup>6</sup> Clark-Stewart (1991) 113

Unfortunately, while there is a consensus that the structure of ECE provision, such as staffing ratios, and processes, such as caregiver classroom management, have an effect on quality, there is less consensus on the relationship between different levels of these characteristics and quality. One study, the National Day Care Study, did find that children in ECE centers with more highly trained staff and lower staffing ratios performed better on measures of school readiness and socio-emotional behavior.<sup>7</sup>

Nationally, and here in California, there has been a great deal of attention paid to preschool or prekindergarten (PreK). While preschool is important and comparatively less expensive, ECE for children below the age of three can be even more valuable in some circumstances. A recent study of a high quality ECE program in North Carolina showed that children who were in the ECE program longer had fewer behavioral concerns and, importantly, the earlier the children entered the program and the longer the duration of exposure the higher the child's English receptive language skills.<sup>8</sup> While one should not expect such strong effects for California's subsidized infant care programs, they are indicative of the importance of providing quality ECE to children under three.

In summation, quality ECE has important, beneficial impacts on female labor force participation and child development. These impacts warrant public investment in ECE provision and the attention of policy makers to the condition of the ECE industry.

### ***Why is an increase in the minimum wage an important development for ECE centers?***

ECE is a labor-intensive field. Most of the production inputs are labor and quality is directly tied to the amount and quality of labor hours. Unlike many industries affected by the minimum wage, it is very difficult and almost impossible for ECE centers to extract savings through increased efficiency or increased production from a given number of labor hours. The marginal cost of ECE provision is directly tied to the hourly wage costs of employees and therefore if hourly wage costs increase too much and revenue does not then centers will not be able to stay open.

While labor costs are a substantial portion of overall costs, it is important to examine the other cost drivers to determine how much marginal and total costs will go up with Oakland's minimum wage increase. These estimates will give providers and policy makers information they can use to adapt and maintain service. Centers could find ways to cut other costs to compensate, while staying within the regulatory boundaries established by the state. The state could consider amending regulations to save centers money without sacrificing quality or without sacrificing quality more than the magnitude of the increased costs warrant.

Unfortunately for this line of inquiry, there has been an insufficient amount of research into the cost structure of ECE centers and the direct relationship between cost of service provision and child development. Helburn and Howes remarked that, "The study of the cost of child care by economists, and especially the relation between cost and quality of services, is fairly limited."<sup>9</sup> Cascio and Schanzenbach wrote that, "Unfortunately, though quality and access matter

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<sup>7</sup> Karoly, Lynn A., Elaine Reardon, and Michelle Cho. "Early Care and Education in the Golden State." (2007). 69

<sup>8</sup> Yazejian, Noreen, et al. "High-quality early education: Age of entry and time in care differences in student outcomes for English-only and dual language learners." *Early Childhood Research Quarterly* 32 (2015): 23-39.

<sup>9</sup> Helburn, Suzanne W., and Carollee Howes. "Child care cost and quality." *The future of children* (1996): 62-82

considerably for the cost of operating a pre-K program, we have limited policy evidence to address questions about their impacts on potential benefits.”<sup>10</sup>

The impact of minimum wages on ECE might be different than in other fields, as research indicates that employees of non-profits, which include many ECE centers, are willing to work for lower wages than for for-profit employers in fields which demand comparable skills. One paper estimated that those “foregone earnings” in the ECE industry were \$5,238 for teachers and \$3,582 for assistants.<sup>11</sup> This advantage that non-profit employers already have in recruiting talent could mean that ECE centers will not have to increase the wages for those above the new minimum wage as much as other employers. It could also mean that ECE centers will not see as much of an increase in their ability to recruit high skilled employees as ECE employees are more likely to be influenced by non-pecuniary benefits.

## ***Overview of California’s ECE industry***

### *Regulations*

California currently uses federal, state and local funding to support a variety of ECE programs. In the Governor’s 2015-16 budget approximately \$2.5 billion was spent on ECE with \$900 million coming from federal funds, \$650 million from Proposition 98 funds and \$940 million from general funds. The structure and relationships between various parts of the state of California government and ECE providers is complex. As a RAND report in 2007 remarked regarding California, “The system of public funded ECE programs that has evolved represents a complex set of programs that vary in terms of their objectives, eligibility requirements, the range of services provided and requirements for the program features... Given the complexities of the current system, it is often difficult to understand the set of programs in effect”.<sup>12</sup> An important quality of all state funded ECE programs, other than CalWorks Stage 1, is that they are not entitlements; meaning that not all eligible children will receive service as the state only funds a specific number of slots.

Large portions of the ECE industry in California are tightly regulated by the state, especially those receiving funding from the CDE. The industry is regulated by the Department of Social Services (DSS) through Title 22 of the California Code of Regulations (CCR), which licenses centers and is administered through the Community Care Licensing Division (CCLD) at the county level and the CDE. Part of the industry is funded and regulated by the CDE through Title 5 of the CCR. Most ECE centers must obtain a license. Arrangements that are exempt from licensure include care provided by relatives, care by one family for another, care arranged by parents without any payments or other smaller type operations. Certain preschool programs run by public school districts and Parks and Recreation departments are also exempt. In 2012 there were 716,610 licensed slots in childcare centers and 335,719 in licensed family child care homes in California.

Centers that provide CCTR and CSPP, known as Title 5 Programs, are required to meet requirements, and thus a level of quality above those in Title 22. These extra requirements

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<sup>10</sup> Cascio & Schanzenbach (2014) 6

<sup>11</sup> Helburn, S., ed. Cost, quality, and child outcomes in child care centers: Technical report. Denver, CO: Department of Economics, Center for Research in Economic and Social Policy, University of Colorado, 199. 97

<sup>12</sup> Karoly et al (2007). x

include increased staff development, lower staff ratios, development assessments for children and rating scales.<sup>13</sup> The more stringent regulation of Title 5 centers increases their cost.

The most important regulations, in terms of costs, is the number of staff required for each child. For Title 5 centers the three age groups are Infants aged 0 to 19 months, Toddlers aged 18 to 36 months and Preschool (PreK for short) aged 36 to 60 months. Teaching staff at ECE centers are divided, primarily, into Assistant Teachers and Teachers. The staffing ratio requirements mention “adults”, however ECE centers themselves refer to these staff as assistant teachers (or sometimes teaching aides). In some data sources they are also referred to as “childcare workers”.

**Table 1: Staffing Ratio Requirements**

**Title 5**

<i>Age in months</i>	<i>0-18</i>	<i>18-36</i>	<i>36-60</i>
Max Children Per Adult (Assistant Teacher)	3	4	8
Max Children Per Teacher	18	16	24

**Title 22**

<i>Age in months</i>	<i>0-24</i>	<i>18-30</i>	<i>24-60</i>
Max Children Per Adult	4	6	8

The toddler group, 18 to 30 months, is an option only available to some Title 22 preschools with a special license.

Overall, Title 5 staffing ratios closely align with industry recommendations established by organizations such as the National Institute for Early Education Research (NIEER) and the National Association for the Education of Young Children (NAEYC).<sup>14</sup>

The different teaching staff levels within ECE centers must meet certain educational requirements. The educational requirements vary between Title 22 and Title 5. Title 22 has lower education requirements for ECE teaching staff as can be seen in Table 2 below. Therefore, centers that must comply with Title 22 and not Title 5 regulations need fewer, less educated staff than those that must comply with Title 5. Thus, holding all else equal, Title 5 centers will have higher costs.

**Table 2: Comparison of Title 22 and Title 5 Regulations of ECE Staff**

Position	Title 22	Title 5
Assistant Teacher	None	6 units of college-level Child Development (CD)/ ECE
Associate Teacher	Not Specified	12 unites of college-level CD/ECE
Teacher	12 units of college-level CD/ECE 6 Months Experience	24 units of college level CD/ECE 16 units of General Education(GE)
Site supervisor	Not Specified	AA or 60 units including: 24 units of CD/ECE 16 units of GE 8 units of administration
Program Director	12 Units of college-level CD/ECE 3 units administrative	BA or higher including: 24 unites of CD/ECE 8 units of administration

<sup>13</sup> California State Senate, Committee on Budget and Fiscal Review. Perspectives on California’s Child Care and Development System, Hearing, March 4, 2015. Sacramento. Available at: <http://sbud.senate.ca.gov/sites/sbud.senate.ca.gov/files/FullC/March042015SBFRHearingAgenda.pdf>

<sup>14</sup> Karoly et al (2007)

Source: Whitebook, M., Sakai, L., Kipnis, F., Lee, Y., Bellm, D., Almaraz, M., & Tran, P. (2006). California Early Care and Education Workforce Study: Licensed child care centers. Statewide 2006. Berkeley, CA: Center for the Study of Child Care Employment, and San Francisco, CA: California Child Care Resource and Referral Network.

Another way in which state regulations increase costs is that Title 5 ECE centers must fulfill certain reporting requirements, including reviewing the eligibility of families for subsidized care. The eligibility regulations for Title 5 ECE centers are detailed in a long, sixty-seven page booklet. Parental income eligibility must be updated at least once a year and whenever the family's income changes. Centers must receive income documentation from employers. ECE centers must also quickly fill any vacant slots with newly enrolled children to maintain revenue and meet the requirements for their state contracts. Many centers have long waitlists, making it relatively straightforward to fill vacancies, however it still requires administrative time.

### *Funding*

The state of California currently provides funding for ECE in several different forms. The state contracts directly with Title 5 ECE centers to provide ECE to a certain number of children whose families have a qualifying income. The state does not fund a sufficient number of slots to meet demand, and thus centers must consult priority levels to determine which children get off the waitlist. First priority is given to abused or neglected children (such as those in child protective service). Second priority is given to families with the lowest income in relation to family size and within that priority to those who have been on the waitlist the longest. Parents above a certain income threshold, but below the income ceiling, have to pay fees to the centers. The threshold is determined by the family size. These fees are subtracted 1 for 1 from the other state funding, so that fees are revenue neutral. The fees range from approximately 1 to 2% of income.

Title 5 centers are reimbursed for their costs through the Standard Reimbursement Rate (SRR). Adjustment factors are added to the SRR to adjust for different ages and for other child characteristics, such as if the child has limited English language proficiency or is severely handicapped. The SRR is currently \$36.10 and the adjustment factor for infants is 1.7 and 1.4 for toddlers, meaning centers are reimbursed  $\$36.10 \times 1.4$  or \$50.54 per day for Toddlers. Centers must provide care for at least 6 hours in a day and they are not compensated for increased hours.

The state also provides ECE vouchers to CalWorks recipients. Recipients of these vouchers have a great deal of flexibility as to whom they can give the vouchers. The amount the voucher pays the provider is capped by the Regional Market Rate (RMR), which varies by county and is set to the 85<sup>th</sup> percentile of the average rate found by the Regional Market Survey in 2009. Thus the CalWorks voucher reimburses providers in a different way and at a different rate than Title 5 contractor are. CalWorks is funded through the DSS. Children served by CalWorks vouchers are in care that is less regulated, with 50-60 percent of care coming from license-exempt providers.<sup>15</sup>

**Table 3: Full-time Daily Reimbursement Rates, by funding mechanism and child age**

Age in months:	0-18 months	18-36 months	36-60 months
SRR	\$61.37	\$50.54	\$36.1
Age in months:	0-24 months	2-5 years	
RMR for Alameda County	\$82.91	\$63.04	

<sup>15</sup> Karoly et al (2007). xx

The state also funds ECE through the Alternative Payment Program (APP), which is administered through vouchers and funded through the CDE. Funding is limited, except for those receiving CalWorks cash aid or who have received CalWorks aid in the past 24 months. Payments to APP providers from the state are also based on the RMR. To be eligible for APP vouchers parents must be working, in school or training or seeking employment and they must meet the same income eligibility requirements as Title 5 programs. For example, if the family size is 3 then income cannot exceed \$3,518 per month. APP vouchers are thus similar to CalWorks vouchers, though they can be used by those not receiving CalWorks aid.

Additionally, the federal government provides ECE funding in several ways and provides approximately two fifths of the funding for California's ECE programs. The federal government partially funds the CalWorks program through TANF block grants. The federal government also provides funding directly through Head Start, which state subsidized ECE centers can partner with and receive supplementary funding through. Additionally, the federal government runs the Child and Adult Care Food Program (CACFP). Most Title 5 subsidized centers make use of the CACFP and it defrays a significant portion of their food costs. The income eligibility for Head Start and CACFP are generally much lower than those for Title 5 centers. To be eligible for free meals (or full reimbursement to the ECE center) through CACFP a child's household income must be below 130% of the federal poverty level, or \$26,117 for a household of three per the 2015-16 guidelines, and below 185% to be eligible to reduce price meals. CACFP reimburses centers approximately \$4.60 per day (breakfast and lunch) or almost \$1,200 per year for children who qualify for free meals and \$3.90 per day for reduce price children. For Head Start the child's family must have an income below the federal poverty level, be eligible for public assistance, homeless or the child is in foster care. Head Start centers may enroll up to 35% of their enrollment with children whose families earn up to 130% of the federal poverty level if all of the eligible children in the area's needs are met. The income eligibility ceiling for Title 5 centers is much higher as it is \$42,216 for a family of 3, though that size family would start paying small fees after their income passed \$23,000.

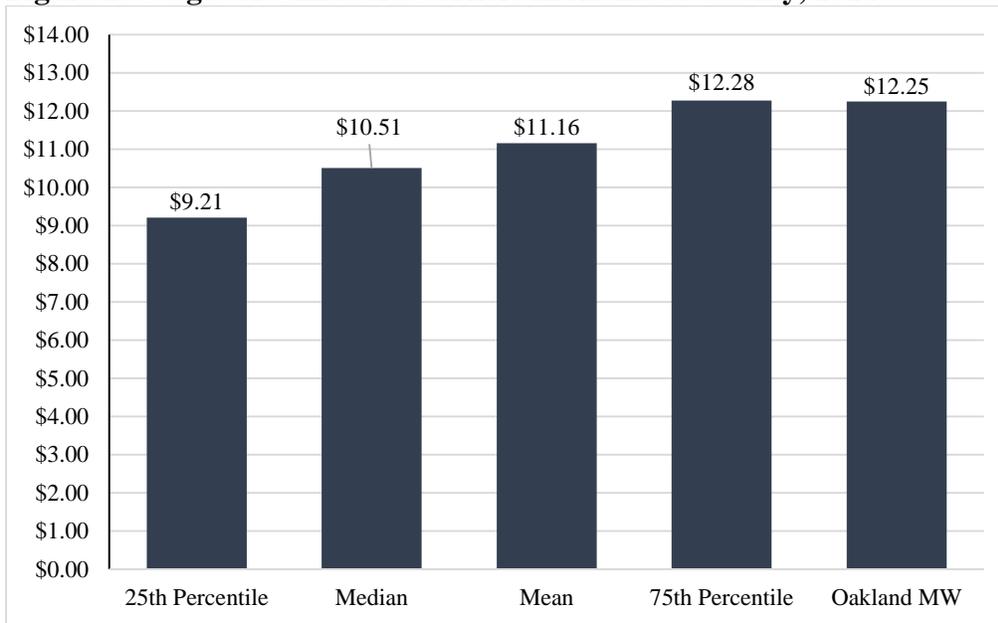
### ***Overview of current wage and staff costs***

While there are several data sources available which can provide a picture of wages in the ECE industry in Alameda County and California, the overall picture is blurry. One difficulty when examining the cost structure of ECE centers is the sometimes conflicting terminology used by different data sources. In general, public data sources refer to assistant teachers as childcare workers. It is possible that some childcare workers who respond to the surveys used to generate the public data are not assistant teachers, however the vast majority of them likely are assistant teachers. The average childcare worker wage will be used a proxy for assistant teacher wages. There are unfortunately conflicting average wage values across data sources, which is not unexpected as data sources often disagree. However, there is a general consensus across sources that many assistant teachers in Alameda County and California make less than Oakland's new minimum wage of \$12.25 and that average hourly wages for assistant teachers are close to \$11.00.

Using data from the Bureau of Labor Statistic's Occupational Employment Statistics (OES) program, in Alameda County the mean hourly wage for the "childcare workers" category, was \$11.16 in the first quarter of 2014. The data shows that the mean wage declined approximately 1% between 2010 and 2014. The 25<sup>th</sup> percentile was \$9.21, median was \$10.51 and 75<sup>th</sup>

percentile was \$12.28, meaning that almost 75% of childcare workers or assistant teachers were eligible for a raise this past March.<sup>16</sup>

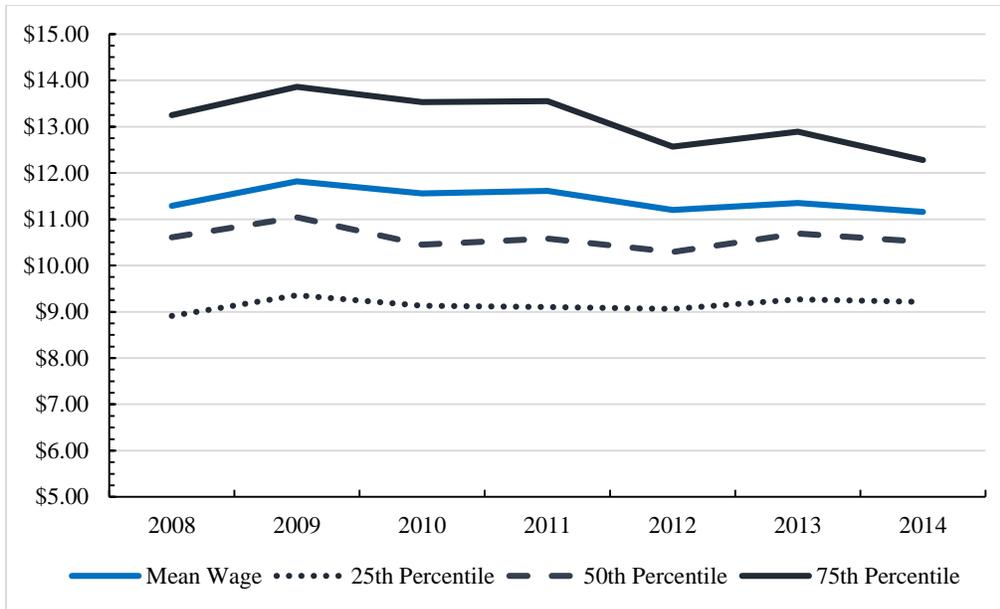
**Figure 1: Wages of Childcare workers in Alameda County, 2014**



Source: Occupational Employment Statistics, Bureau of Labor Statistics

**Figure 2: Hourly Wage Distribution of Childcare works in Alameda County, 2008-14**

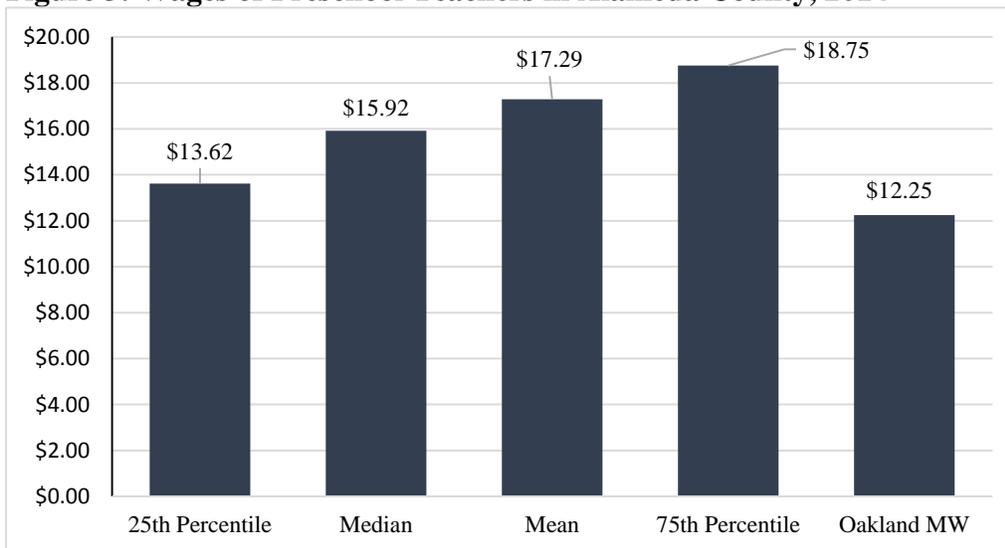
<sup>16</sup> State of California, Employment Development Department. (June 2014). OES Employment and Wages. Retrieved from: <http://www.labormarketinfo.edd.ca.gov/data/oes-employment-and-wages.html>



Source: Occupational Employment Statistics, Bureau of Labor Statistics

Preschool teachers have higher wages as their mean was \$17.29, 25<sup>th</sup> percentile was \$13.62 and median \$15.92. The mean salary for education administrators in preschool and childcare centers was approximately \$60,000.

**Figure 3: Wages of Preschool Teachers in Alameda County, 2014**



Source: Occupational Employment Statistics, Bureau of Labor Statistics

American Community Survey (ACS) data can also be used to examine wages. ACS data is not designed to be representative at the county level for an individual year, however it is possible to pool multiple years of data together to get a representative sample. As there was little to no change in childcare wages between 2008 and 2013 per OES data the wage data can be pooled without necessitating much processing. The effect of the increase in the California minimum wage in 2014 to \$9 was projected using the methodology advocated by the Institute for Research

on Labor and Employment (IRLE) at the University of California (UC) Berkeley.<sup>17</sup> There are some weaknesses to this approach that are detailed in the Technical Appendix, however, using ACS data allows for more detailed projections and more detailed information about the distribution of wages. The mean wage for teaching assistants and childcare workers who work in the child day care services industry in Alameda County was projected to be \$10.71 in March 2015, prior to Oakland's minimum wage increase. The median wage was \$9.65, the 25<sup>th</sup> percentile was \$9, the 75<sup>th</sup> percentile was \$12.35 and the 95<sup>th</sup> percentile was \$17.21. Therefore the ACS shows slightly lower childcare wages than OES data.

At the national level, the BLS reported that "childcare workers" who "Attend to children at schools, businesses, private households, and childcare institutions" and doesn't include Preschool teachers or teaching assistants, had a median wage of \$9.42 in 2013. Teaching assistants had a median hourly wage of approximately \$11.50.<sup>18</sup> The National Survey of Early Care and Education from 2013 was able to explore ECE teachers beyond those who teach preschool ages. The survey found some gradation based on education though the degree premium was minimal and wages were low overall. For ECE teachers who work with ages 0 to 3 those with a high school degree had a median wage of \$9, for those with associate's degrees it was \$9.90 and bachelor's degree \$11.40. The median wages for those who work with 3 to 5 year olds were \$9.20, \$11.00 and \$13.90. For other, public pre-k teachers it was \$10.00, \$9.80 and \$16.20 for those with high school degrees, associates and bachelor's degrees, respectively.<sup>19</sup>

For this analysis, five ECE centers in Berkeley and Oakland were interviewed prior to Oakland's March 2015 minimum wage increase regarding their cost structures and pay scale. Some of the centers were Title 5 contractors and others were unsubsidized and relied on tuition from parents. The interviews revealed a wide range of wages. The specific centers will remain anonymous. In general, unsubsidized centers that rely on tuition from parents paid higher wages, however one unsubsidized center's pay scale started at less than \$12. The lowest wage Title 5 center paid their assistant teachers between \$9 and \$9.75 and teachers between \$10 and \$16.60. That center's support staff, cooks and custodians were also paid close to minimum wage. Overall Title 5 centers paid their assistant teachers approximately \$11.50 per hour and their teachers \$13.50. A survey of six local area unsubsidized centers, which this author was given access to but which is private, found a mean wage of \$16.50 for teachers with a range of \$12 to \$33. The survey also found that administrative staff earned, on average \$58,000 annually.

While unsubsidized providers do pay significantly more than Title 5 subsidized providers, they also have significantly more funding as private tuition is often much higher than the funding the state provides. One unsubsidized center charges approximately \$20,000 per year in tuition for full-time children over three years old and pays their teachers, all teaching staff is teachers, on average \$17 per hour. \$20,000 is not out of the ordinary in the Bay Area, the survey of six local unsubsidized centers mentioned previously found a range of approximately \$13,000 to \$27,000. This compares to the roughly \$9,000 which Title 5 subsidized centers receive. There are, of course, ways beyond staffing ratios in which unsubsidized centers offer better service. This center, which is not abnormal in their tuition structure, gets more than double the revenue per

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<sup>17</sup> Welsh-Loveman, J., Perry, I., & Bernhardt, A. (2014). Data and methods for estimating the impact of proposed local minimum wage laws. Institute for Research on Labor and Employment: University of California at Berkeley.

<sup>18</sup> U.S. Department of Labor, Bureau of Labor Statistics. (May 2014). Occupational Employment and Wages. Retrieved from: [http://www.bls.gov/oes/current/oes259041.htm#\(4\)](http://www.bls.gov/oes/current/oes259041.htm#(4))

<sup>19</sup> Whitebook, Marcy, Deborah Phillips, and Carollee Howes. "Worthy Work, STILL Unlivable Wages: The Early Childhood Workforce 25 Years after the National Child Care Staffing Study." (2014).

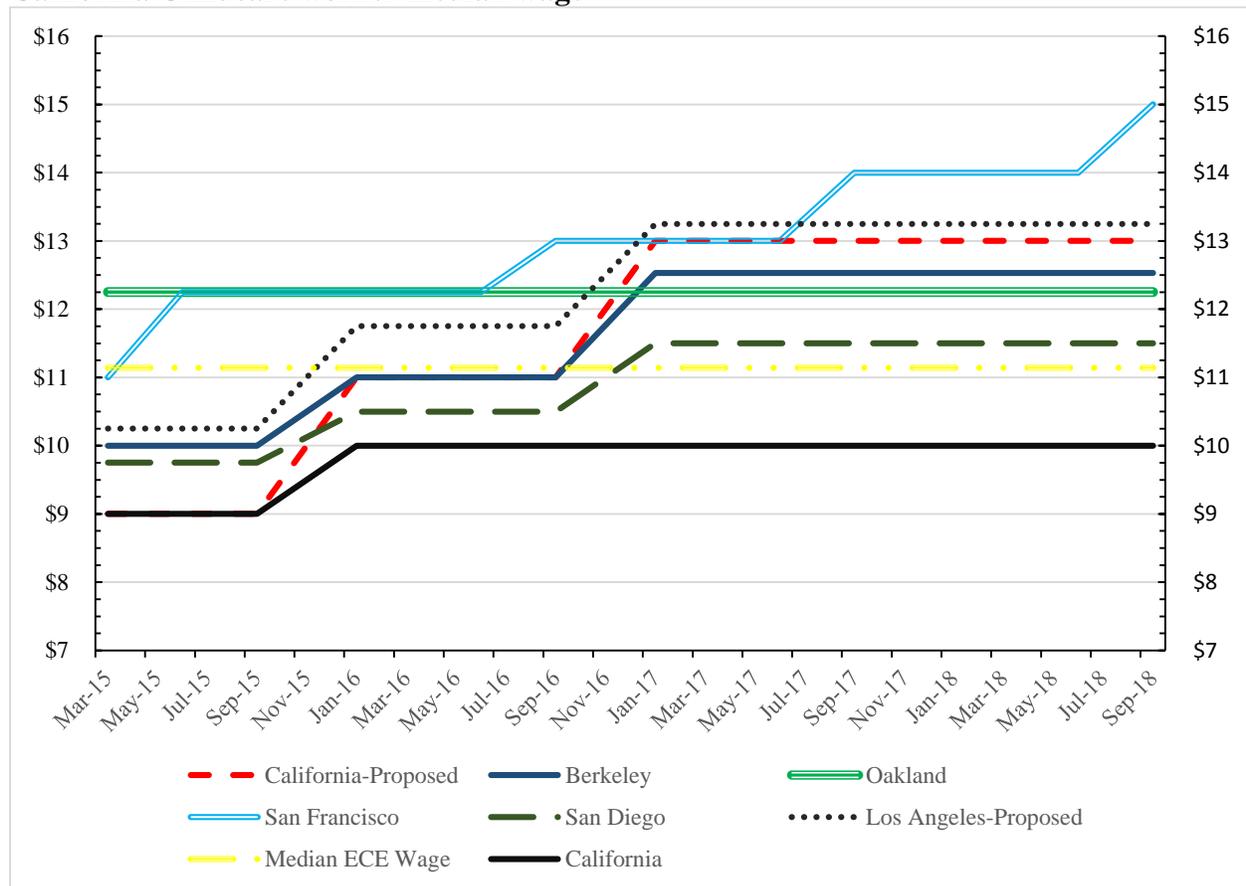
child but pays only approximately 50% more. One caveat is that this center only charges approximately 40% more for children under 3 whereas Title 5 centers receive almost 70% more for infants, meaning this center cross subsidizes younger children with older children more than Title 5 centers might. This is not to say that unsubsidized centers are poorly run, but that Title 5 state subsidized centers operate in precarious financial situations and that ECE is, in general, an expensive industry.

Many centers pay some portion of medical insurance costs, with centers paying, on average \$4,000 per year per full time staff member. However, there was considerable variation in this amount with one center paying as much as \$8,000. Centers that are part of larger organizations have less control over their benefit costs as they must offer the standard package of benefits that their organization requires. Few centers offer benefits beyond medical insurance and those benefits are negligible in cost. Most centers only offer benefits to those working at least 20 hours per week.

**Minimum wage landscape in California**

While Oakland’s recent minimum wage increase from \$9 to \$12.25 was unprecedented, several other cities throughout California have their own minimum wages above the state’s and several others are debating proposals to raise theirs in the future.

**Figure 4: Future and Proposed Minimum Wage Increases in California and 2014 California Childcare worker median wage**



**Table 4: Future and Proposed Minimum Wage Increases in California**

Locality	Current Minimum Wage	Future (proposed) Minimum Wage increases
Oakland	\$12.25	Increase with inflation
San Francisco	\$11.00	\$12.25 on 5/15, \$13 on 7/16, \$14 on 7/17, \$15 on 7/18
San Jose	\$10.30	
Berkeley	\$10.00 (living wage \$13.71)	\$11 on 10/15, \$12.53 in 10/16
San Diego	\$9.75	\$10.50 on 1/16, \$11.50 on 1/17
Richmond	\$9.60	11.52 on 1/16, \$12.30 on 1/17, \$13.00 on 1/18
California	\$9.00	\$10 on 1/16 (Proposal to increase to \$11 on 1/16, \$13 on 1/17)
Los Angeles	Use state MW	(Mayor's proposal to increase to \$10.25, then \$11.75 on 1/16, \$13.25 on 1/17)
Emeryville	Use state MW	(City Council draft ordinance increase to \$12.25 in July)

In the figure and table above one can see that many localities are planning on raising their minimum wage above the current median wage for “childcare workers” in California. While many of the increase are several years in the future, one can expect the new minimum wages to be above then current ECE wages as the ECE sector has seen virtually zero wage growth in the past 4 years. Berkeley also has a living wage requirement which sets a different minimum wage of \$13.71 for not-for-profits with more than \$100,000 in revenue or 6 employees. California’s state minimum wage is scheduled to increase to \$10 in January 2016. California State Senator Leno has proposed legislation which would increase California’s minimum wage to \$11 in January 2016 and then to \$13 in January 2017. Sen Leno is the chair of Senate budget committee and therefore his proposal should be taken seriously. At the federal level, Democratic legislatures have recently put forth a bill to raise the minimum wage to \$12 and President Obama has called for an increase to \$10 from its current level of \$7.25.

While Oakland is currently the most affected by minimum wage increases, policy makers should plan for further increase in other cities and the state as a whole. These increases will likely be more gradual than Oakland’s 36% jump, however as wages in the ECE industry have been stagnant for many years one should assume that future increases will continue to affect a substantial portion of ECE employees.

### ***Cost structure of ECE centers***

The extent of costs increases will be driven by many center characteristics, such as the current wage distribution, how the center adjusts their pay scale to the new minimum wage, the age of the children served and the center’s overhead. The Alliance for Early Childhood Finance has done work in this area and found that in general, “Small centers are very difficult to operate financially”.<sup>20</sup> The Alliance advises that “In states with mandated ratios close to those recommended by NAEYC [such as California for Title 5 recipients], a center must serve more than 100 children, maintain enrollment at 95% or higher, and collect all fees in full just to break even”. While funding from public resources might be more straightforward to collect than tuition

<sup>20</sup> Alliance for Early Childhood Finance (2010). Lessons from Cost Modeling: The Link Between ECE Business Management and Program Quality. Retrieved from: <http://www.earlychildhoodfinance.org/downloads/2010/Lessons%20from%20Cost%20Modeling7.27.10.pdf>

from parents it comes with considerable costs as centers must “pay careful attention to ensuring that enrollment, attendance, eligibility determination and billing are done well”.<sup>21</sup>

The majority of ECE center staff are teachers and assistant teachers who interact directly with the children. Centers must also expend resources on substitute teachers for approximately 30 to 40 days per year. Larger centers often will hire full time extra teaching staff to substitute when other teachers are sick or on vacation to maintain staffing ratios. Centers are administered by a coordinator or director who is supported by a site supervisor and in larger centers, other administrative staff. These staff members are responsible for general management in addition to spending time fulfilling regulatory and reporting requirements and enrolling children when vacancies appear. Most centers also rely on a full-time cook and full or part-time custodial staff.

Centers have significant overhead, or non-teaching staff, costs, similar to most organizations. The percent of total costs due to overhead varies considerably and centers which pay lower wages tend to then devote a larger share of expenses to overhead costs. While this relationship is not perfect, there is a rough inverse relationship between the level of wages and the percentage of total costs devoted to overhead. The largest overhead costs are rent (or maintenance and depreciation if center owns the building), interest payments on debt, utilities, food for the children, general liability insurance, workers compensation and other general business expenses. Workers compensation is expensive for ECE centers as insurers rate the ECE profession as high risk.

One source of variation in costs is the number of hours centers are open per day. Title 5 subsidized centers are reimbursed a fixed amount per day and must be open at least 6 hours per day. Most centers are open longer and individual children are present for longer than 6 hours. Center directors say that they cannot serve the parents adequately if they are only open 6 hours per day, but are not compensated for increased hours. Staff are paid hourly and thus center directors must carefully plan staff schedules to minimize expenses while maintaining ratios. While there is considerable variation and many staff do not work 40 hours per week, in general there are approximately one cook, at least one administrative staff (often a site supervisor) and some part-time custodial staff per 60 children. Some centers interviewed were more staff intensive and the more supports staff a center has the more likely they are to be affected by the minimum wage as support staff often make less than \$12.25 per hour.

Costs for staff that directly serve the children make up a significant percentage of total costs for ECE centers. Detailed budget information was unavailable for all but a few ECE centers, making this analysis weaker than it might be otherwise. Thus with this small sample size in mind one should view the following analysis as a rough estimate. One helpful source of data for ECE center cost structure is Tax Form 990's which non-profits must make publicly available online. In conjunction with interviews with ECE centers directors Form 990 data can help to paint a picture as to what percentage of ECE costs come from personnel costs, teaching staff and staff which are likely to be affected by a minimum wage increase. Only seven centers in California were clearly identified as providing solely child care services from available data in 2013. Within these centers non-officer personnel costs as a percentage of total function costs ranged from 51 to 73%. Even the low end of this range would mean that ECE is a very labor-intensive

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<sup>21</sup> Alliance for Early Childhood Finance (2010) 1

field. In comparison, labor costs account for approximately 35% of operating costs for fast-food restaurants, an industry often studied in conjunction with the minimum wage.<sup>22</sup>

The unweighted mean was approximately 64%.<sup>23</sup> This 64% number is a good starting point to use when estimating the percentage of total costs that come from teaching staff salaries. It is important to determine the percentage of total costs that come from teaching staff costs because teaching staff costs can be modelled as there is data regarding their wages and one knows how many teaching staff must be employed to meet staffing ratios. Since there is uncertainty regarding the percentage of total costs due to teaching staff it will be important to model a variety of specifications.

Other research has argued that a lower percentage of total costs are due to personnel. Using more detailed IMPLAN data, a report by the University of California, Los Angeles' Institute for Research on Labor and Employment found that personnel costs made up only 50% of total costs for ECE centers in Los Angeles.<sup>24</sup> The report also highlights the general financial weakness of many ECE centers. It says "Profit per worker is slightly more than a tenth of the citywide average, leaving little room to reallocate profit to pay for higher wages... Only 14 percent of employment is in establishments with 100 or more employees that have high resilience."<sup>25</sup> The report also highlighted the ECE industry as one where the impact of a higher minimum wage should be monitored. The lower number found by the UCLA report could be for several reasons, such as a wider sample of data or different definitions of expenses. Furthermore, the UCLA study sample included more information about for profit centers that likely have higher revenues and thus potentially higher overhead. The estimate from the Form 990's might provide a more accurate picture of the cost structure for centers serving Title 5 subsidized children, most of which at non-profit. Further research in this area would be valuable.

### ***Minimum Wage Increase Impact on Wages and Costs***

#### *Who will be affected?*

Minimum wage increases, such as Oakland's to \$12.25, will have substantial impacts on ECE centers because many ECE employees make or made less than \$12.25. The minimum wage increase will also likely have an effect on those making at or above \$12.25 prior to its promulgation. Current research on the effect of minimum wage increases on those who made above the new minimum wage, the so-called "ripple effect", is mixed. The extent of the "ripple effect" is determined by the size of the minimum wage increase and is often proportional. It is especially difficult to predict the extent of the "ripple effect" after large increase, such as Oakland's that is unprecedented in the extent of the increase. In percentage terms staff are less likely to see their wages increase due to the "ripple effect" as much as staff have in the past due to Oakland's large, one step increase. Some argue that the ripple effect could extend beyond the

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<sup>22</sup> Dube, Arindrajit, Suresh Naidu, and Michael Reich. "The economic effects of a citywide minimum wage." *Industrial & Labor Relations Review* 60.4 (2007): 522-543. 538

<sup>23</sup> "Enhanced Extract of IRS Financial Data". National Center for Charitable Statistics, 2013. Retrieved from: [http://nccsweb.urban.org/PubApps/irs\\_extract2013.php](http://nccsweb.urban.org/PubApps/irs_extract2013.php)

<sup>24</sup> Flaming, Daniel, Halil Toros, Yvonne Yen Liu, Patrick Burns, Lucero Herrera, Tia Koonse, Saba Waheed, and Robert Habans. *Los Angeles Rising: A City That Works for Everyone*. Rep. Los Angeles: UCLA Labor Center, 2015

<sup>25</sup> Flaming et al (2015) 54

new minimum wage by 50% of the minimum wage increase, which for Oakland would mean those earning up to \$13.89 would see wage increases.<sup>26</sup>

The question of what to do to the wages of those, especially teachers, who made above \$12.25 prior to the minimum wage increase is very important to ECE centers for two reasons. If centers raise all wages in proportion to the minimum wage then they could see very large cost increases. One center director said her center's cost would increase by 25% if this was done. However, if centers do not raise their pay scale sufficiently then there will be little difference between assistant teacher and teacher pay, reducing incentives for assistant teachers to pursue more education to become certified as a full teacher. As education can be expensive and time consuming assistant teachers need monetary incentives. Most ECE centers interviewed for this analysis were unsure of how they will change their pay scale and were waiting to see what their future funding situation.

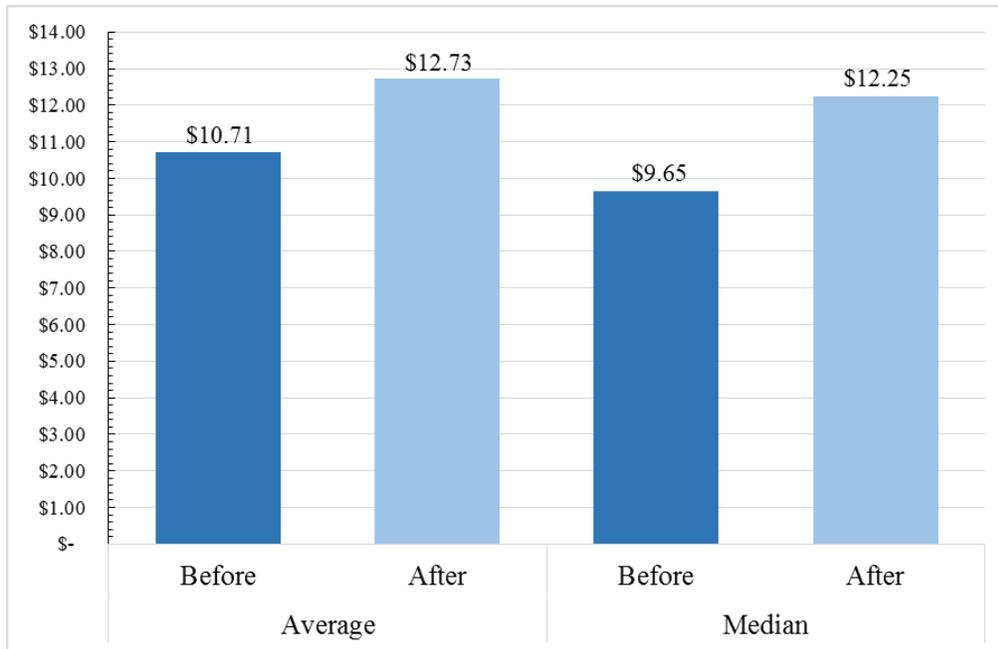
*What is the magnitude of the increase?*

Using the ACS data mentioned previously and the "low" ripple effect projection methodology from UC Berkeley's IRLE one can project how the average wage for assistant teachers will change in Oakland before and after the minimum wage increase. This analysis projects that mean wages in Oakland (using Alameda County as a proxy) will increase from \$10.71 to \$12.73 and the median will increase from \$9.65 to \$12.25. The mean will, therefore, increase 19% resulting in a full-time annual salary increase of \$4,200. If we assume larger ripple effects, for assistant teachers only, from the minimum wage increase (using the IRLE methodology's high estimate projection method) then the average wage after the minimum wage increase in Alameda County would be \$12.80.

**Figure 5: Projected Childcare Worker Wages Before and After Oakland March 2015 minimum wage increase to \$12.25**

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<sup>26</sup> Dube, Arindrajit. "Proposal 13: Designing Thoughtful Minimum Wage Policy at the State and Local Levels." *Policies to Address Poverty in America* (2014): 137. 7



Source: American Community Survey Data 2008-2013.

Note: Projection based on low estimate method in Welsh-Loveman, J., Perry, I., & Bernhardt, A. (2014). Data and methods for estimating the impact of proposed local minimum wage laws. Institute for Research on Labor and Employment: University of California at Berkeley.

At the California state level, using data just from 2013, we could expect the mean to increase from \$10.72 to \$12.91 and the median to increase from \$9 to \$12.25. Thus we can expect average wages for childcare workers throughout California to increase more than in Alameda County. As can be seen in Table 5 below, assuming that teachers’ wages do not increase and remaining at \$15 and benefit costs are \$4,000 per staff, then we would see increases in per child costs (assuming classroom space is used efficiently), of \$5.44 for infants, \$3.67 for toddlers and \$1.63 for preschool aged children.

**Table 5: Teaching Staff Costs Per Classroom and Child, by Age**

Age Group	Number Of			Total Teaching Costs		Daily Teaching Staff Cost Per Child	
	Children	Teachers	Assistant Teachers	Current	Under \$12.25 MW	Current	Under \$12.25 MW
Infant	18	1	5	\$ 196,678	\$ 222,120	\$ 42.03	\$ 47.46
Toddler	16	1	3	\$ 134,721	\$ 149,986	\$ 32.38	\$ 36.05
PreK	24	1	2	\$ 103,742	\$ 113,919	\$ 16.63	\$ 18.26

NOTE: Above information based on mean wages prior to increase in MW to \$12.25 of \$15 for Teachers and \$10.71 for Assistant Teachers. After the increase the new wages were projected to be \$15 and \$12.73 respectively. Annual non-wage benefits were estimated to be \$4,000 for all staff.

**Table 6: Projections of Total Cost Increase for ECE Centers in Oakland due to March 2015 \$12.25 Minimum Wage Increase**

Number of Children			Required Staffing		Current Mean Wage			Mean Wage Under New Min Wage		Center Hours Per Day	Center Days Per Year	Teaching Staff % of Total Cost	Total		
Infant	Toddler	PreK	Teachers	Teaching Assistants	Teachers	Teaching Assistants	Benefits	Teachers	Teaching Assistants				Funding From SRR	Current Costs	Costs With New Min Wage
0	0	72	3	6	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 675,792	\$ 518,712	\$ 549,242
0	16	48	3	7	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 660,774	\$ 570,343	\$ 605,962
18	16	24	3	10	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 722,722	\$ 725,236	\$ 776,120
18	32	0	3	11	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 707,704	\$ 776,867	\$ 832,839
0	0	72	3	6	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	65%	\$ 675,792	\$ 478,811	\$ 509,341
0	16	48	3	7	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	65%	\$ 660,774	\$ 526,470	\$ 562,089
18	16	24	3	10	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	65%	\$ 722,722	\$ 669,448	\$ 720,332
18	32	0	3	11	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	65%	\$ 707,704	\$ 717,108	\$ 773,080
0	0	72	3	6	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	70%	\$ 675,792	\$ 444,610	\$ 475,140
0	16	48	3	7	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	70%	\$ 660,774	\$ 488,865	\$ 524,484
18	16	24	3	10	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	70%	\$ 722,722	\$ 621,631	\$ 672,515
18	32	0	3	11	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	70%	\$ 707,704	\$ 665,886	\$ 721,858
0	0	72	3	6	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	75%	\$ 675,792	\$ 414,969	\$ 445,500
0	16	48	3	7	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	75%	\$ 660,774	\$ 456,274	\$ 491,893
18	16	24	3	10	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	75%	\$ 722,722	\$ 580,189	\$ 631,073
18	32	0	3	11	\$15.00	\$10.71	4000	\$15.00	\$12.73	9	260	75%	\$ 707,704	\$ 621,493	\$ 677,466
0	0	72	3	6	\$15.00	\$10.71	6000	\$15.00	\$12.73	9	260	65%	\$ 675,792	\$ 506,503	\$ 537,034
0	16	48	3	7	\$15.00	\$10.71	6000	\$15.00	\$12.73	9	260	65%	\$ 660,774	\$ 557,239	\$ 592,858
18	16	24	3	10	\$15.00	\$10.71	6000	\$15.00	\$12.73	9	260	65%	\$ 722,722	\$ 709,448	\$ 760,332
18	32	0	3	11	\$15.00	\$10.71	6000	\$15.00	\$12.73	9	260	65%	\$ 707,704	\$ 760,185	\$ 816,157
0	0	72	3	6	\$13.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 675,792	\$ 493,522	\$ 539,166
0	16	48	3	7	\$13.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 660,774	\$ 545,153	\$ 595,885
18	16	24	3	10	\$13.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 722,722	\$ 700,046	\$ 766,044
18	32	0	3	11	\$13.00	\$10.71	4000	\$15.00	\$12.73	9	260	60%	\$ 707,704	\$ 751,677	\$ 822,763
0	16	48	3	7	\$15.00	\$11.16	4000	\$15.00	\$12.73	9	260	65%	\$ 660,774	\$ 538,678	\$ 566,362
18	16	24	3	10	\$15.00	\$11.16	4000	\$15.00	\$12.73	9	260	65%	\$ 722,722	\$ 686,888	\$ 726,436
18	32	0	3	11	\$15.00	\$11.16	4000	\$15.00	\$12.73	9	260	65%	\$ 707,704	\$ 736,291	\$ 779,794

### *How center characteristics affect projection of total cost increase*

As can be seen in the projections in Table 6, the extent to which costs will increase with the minimum wage is determined by the number and type of children currently served and the amount of overhead a center has. For example a center with 35% of overhead and serves 72 preschool children whose current assistant teacher wages align with the average wages for Alameda County and whose teachers earn \$15 per hour on average will see their total costs increase 6%. If that same center instead had one classroom of 18 infants, one of 16 toddlers and a third of 24 preschool then they would see their costs increase 8%, or \$51,000, to \$720,00. If those two center scenarios instead spent 40% on overhead they would see their total costs increase 6 and 7%, respectively. The lowest wage centers, which pay teachers on average less than \$15 will see costs increase by more than 8%. If that center mentioned previously, with one classroom of each age group, also saw their average teacher wage rise from \$13 to \$15 then they would see total costs increase by 10%. If we assume that assistant teacher salaries were higher prior to the increase, for example at \$11.16, and that teacher wages remain at \$15, then centers would see cost increases of 5-6% (with overhead of 35-40%). One thing to keep in mind when examining the different cost projections is that the centers which are likely to see the largest increase in wage costs are the centers which are likely to devote a higher percentage of their costs to overhead. This means that while their wage costs will increase more, their overall costs will increase less as wage costs are a smaller percentage of overall costs. These projections assume all other costs remain constant.

While there is likely significant variation in overhead costs and general operating margin, as was mentioned before it is best to assume that most ECE centers are currently operating with their costs very close to their revenues, as are most non-profits. Therefore, examining the margins in Table 6 helps one to determine what the best assumption is regarding the percent of costs attributable to teaching staff. As can be seen in Table 6 those centers where teaching staff make up between 60-65% of total costs have costs very close to revenue from SRR prior to Oakland's minimum wage increase. Therefore one can conclude that the true estimate of the percentage of costs that come from teaching staff for centers that paid average wages prior to March 2015 was between 60-65%.

### *Cost increase projection*

Overall, approximately 35-55% of total costs in these centers came from assistant teachers prior to the minimum wage increase. If we assume that a center spends between 60 and 65% of their total costs on teaching staff, uses no more than 1/3 of their classrooms on infants, pays their assistant teachers average wages for Alameda County, pays their teachers \$15 and does not increase teacher pay after a minimum wage increase, then Oakland's minimum wage increase to \$12.25 would, on average, increase total center costs between 6 and 8%. This 6-8% range will not encompass the experience of all centers in Oakland, however it is an estimate of the range in which the average cost increase will fall. There will likely be some centers that experience cost increases above 8% or some that see almost no cost increase. This is a substantial increase compared to other industries. For example, a study of San Francisco's 26% increase in the minimum wage in 2003 estimated that increased wages would amount to only 4% of business operating costs.<sup>27</sup>

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<sup>27</sup> Dube et al (2007) 538

## ***Positive impacts of increase minimum wages on ECE***

While higher minimum wages will strain centers' budgets, they will also bring important benefits. Higher wages should increase teaching staff quality as the ECE industry will be able to recruit higher skilled and educated candidates. This positive effect is likely to be more pronounced when areas with lower minimum wages surround localities with high minimum wages. If the entire state raises the minimum wage then this effect will be reduced.

Research has also shown that increases in minimum wages reduce employee turnover at affected organizations.<sup>28</sup> Reductions in turnover reduce expenses, as employee recruitment can be costly. Past research has found turnover to be a substantial problem within ECE centers with only 46% of ECE staff still working for the same center after 4 years. This same analysis found that staff which left tended to have been paid lower wages.<sup>29</sup> Some center directors interviewed for this analysis mentioned that they have had staff leave the Bay Area due to the high cost of living. A higher wage should prevent some of these departures. However, it should be kept in mind that if a substantial number of employees receive increases in pay from higher minimum wages then costs throughout the economy are likely to increase.

A reduction in turnover can be especially beneficial in the ECE industry as stable caregiver-child relationships are important for child development as children are drawn to stability.<sup>30</sup> Researchers have found that children who experience ECE teacher changes between 18 and 24 months of age struggle to a secure relationship with a teacher until they are 3 years old.<sup>31</sup> Others have found that stable caregivers were more effective in helping distressed children.<sup>32</sup> Therefore, stable caregiver-child relationships should be a goal of state ECE policy. Higher wages should increase stability by reducing turnover, however if higher wages lead to center closures then they could also increase instability for some children. A stability enhancing policy would be one which reduces teacher turnover while improving the financial security of ECE centers.

## ***How ECE centers can adapt***

Before examining the ways in which state policy can change to address this problem one should investigate ways in which ECE centers themselves can adapt. It is important to begin any discussion of how ECE centers can adapt with the assumption that ECE centers are currently operating efficiently and thus cannot reduce costs without sacrificing quality or violating regulations. A 2007 study by RAND of California's ECE programs could not, "identify any major sources of inefficiency that could generate substantial savings to redirect toward program services".<sup>33</sup> While it will be difficult for centers to reduce non-teaching staff costs enough to cover increased wage costs, some centers could better incorporate best practices.

One important, perhaps the most important, way in which ECE centers can reduce per child costs is to increase their scale. Increased scale allows centers to better utilize fixed costs. One center

<sup>28</sup> Dube, Arindrajit, T. William Lester, and Michael Reich. "Do frictions matter in the labor market? Accessions, separations and minimum wage effects." (2011).

<sup>29</sup> Whitebook, Marcy, and Laura Sakai. "Turnover begets turnover: An examination of job and occupational instability among child care center staff." *Early childhood research quarterly* 18.3 (2003): 273-293.

<sup>30</sup> Cummings, E. Mark. "Caregiver stability and day care." *Developmental Psychology* 16.1 (1980): 31.

<sup>31</sup> Howes, Carollee, and Claire E. Hamilton. "Children's relationships with child care teachers: Stability and concordance with parental attachments." *Child Development* 63.4 (1992): 867-878.

<sup>32</sup> Barnas, Mary Valaik, and E. Mark Cummings. "Caregiver stability and toddlers' attachment-related behavior towards caregivers in day care." *Infant Behavior and Development* 17.2 (1994): 141-147.

<sup>33</sup> Karoly (2007)

director said that increasing her center's scale helped them to be financial viable. Increased scale also helps centers better balance age groups. As the SRR does not reimburse centers sufficiently for the increased costs of toddlers and infants, larger centers can more easily use preschool age children to cross subsidize younger groups. Centers should work to find the optimal number of administrative staff so that they can minimize overhead costs per child. Many small centers have already either grown or been absorbed by larger centers. Some have remarked that this consolidation is evidence of a need for a higher SRR.<sup>34</sup> While increasing the size of the average center will reduce per child costs, it will have one important downside. Fewer centers mean fewer choices for parents and longer commutes to drop off their children. Another option some centers could implement on their own would be to share certain non-teaching staff, such as cooks, custodians or administrative staff. This would help centers achieve some of benefits of scale without having to find more space. Centers can try to implement this on their own and localities can give assistance.

Centers should also seek extra sources of funding. Currently, very few centers that receive Title 5 funding have other sources of revenue. One significant potential source of funding for California Title 5 centers is Head Start. California Title 5 centers can partner with local Head Start organizations. A partnership with Head Start does entail increased administrative costs. One center director who partnered with a Head Start program in the past said that the extra paperwork required by Head Start meant that the center had to hire an extra full time administrative staff member. However, a local administrator expressed a somewhat different opinion, stating that the barrier to partnerships with Head Start was not high. The extra administrative costs are generally less than increased funding and partnerships increase the quality of care. Head Start administration is somewhat decentralized meaning that Title 5 centers' ability to find a Head Start partner will depend somewhat on the characteristics of the local administrator. Furthermore, the income eligibility ceilings for Head Start are much lower than for Title 5 centers, making this option only available to centers that serve families with very low incomes. For example, the income ceiling for participation in Head Start was \$20,090 for a family of 3 in 2015 compared for \$42,216 for Title 5. In the 2013-14 school year Head Start in California served approximately 100,000 children with a budget of almost \$1 billion. A majority of local Head Start agencies also had contracts with CDE to administer CCTR or CSPP.<sup>35</sup>

The federal Child and Adult Care Food Program is another source of funding, providing per meal reimbursement for qualifying households and centers. It provides \$770 per year for lunch and \$421 for breakfast those households which qualify for "free" meals. Anecdotally it appears as if most Title 5 centers in California, or at least Alameda County, take full advantage of this program and it helps considerably to meet food costs. One caveat, however, is that similar to Head Start the qualifying incomes for free or reduced price meals are much less than the qualifying incomes for Title 5 subsidized care.

When centers go about their financial planning they should consider utilizing the Provider Cost of Quality Calculator (PCQC) to examine how their costs could change if they adjust their size. The PCQC is administered online by Office of Child Care within the federal Department of Health and Human Services. This calculator is a useful for ECE center directors who are thinking about changing their setups. The calculator does require the center to input a great deal of

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<sup>34</sup> Perspectives on California's Child Care and Development System (2015)

<sup>35</sup> Ibid

information for the most accurate results. Most fields are pre-loaded with cost estimates for the “average” California center therefore it could be used to provide a rough estimate or a more detailed one depending on time.

### ***State Policy Response Options***

While there are several ways in which ECE centers themselves can adapt to minimum wage cost increases, the cost increases will be so large for some centers that state policy reform will be necessary to maintain service provision.

#### *Current legislation under consideration*

Before proposing policy solutions to this cost increase problem it would be good to briefly examine some relevant pieces of legislation which are currently being reviewed by the California State Assembly. One important bill, which was recently voted out of the Committee on Human Services to the Appropriations Committee, is AB833. This bill aims to establish a pilot program in Alameda County to give local policy makers more flexibility when dispersing state ECE funding. AB833 would help address the cost problem in several ways. Currently a not insignificant amount of funding allocated to Alameda County is returned to the CDE as centers do not fill all of their allocated slots. AB833 would allow local administrators to reallocate this money, potentially by increasing the reimbursement rate to compensate centers for increase costs. Another relevant bill, AB765, was also referred to the Committee on Appropriations. This bill directly address reimbursement rates, including the SRR, by giving the SRR the same annual cost of living adjustments (COLA) given to K-12 program funding in California.

#### *Increase state funding of ECE through an increase in the SRR statewide*

One policy option California could pursue would be to increase funding support for ECE centers. As the most vulnerable centers are likely to be Title 5 state subsidized centers the state could prioritize increasing funding for that program. As the cost per child will increase with the new minimum wage the state could increase funding by increasing the SRR. As centers’ costs will increase 6-8% with the increase in Oakland’s minimum wage to \$12.25, one possible policy solution would be to increase the SRR base rate by 5%.

There is a precedent for increases in the SRR of comparable amounts. Between the 2013-14 and 2014-15 budgets, the SRR was increased by 5% at a cost of \$29 million and the regional market rate was increased by 9% at a cost of \$19 million.<sup>36</sup> Prior to that increase the SRR had been frozen at 2007 levels.<sup>37</sup> In the Governor’s 2015-16 budget there is funding to apply a cost of living adjustment (COLA) of 1.58% to the SRR, which were not enacted between 2008-09 and 2014-15.<sup>38</sup> The proposed 2015-16 budget will increase General Child Care funding, as a whole, \$31 million, or 6%, from \$544 to \$574 million.<sup>39</sup> This increase is directed towards a variety of programs, however more of it could be directed towards an increase in SRR.

The Joint Assembly Budget Subcommittees on Health and Human Services and Education Finance staff proposed a possible 5% increase in the SRR, which they calculated would cost

<sup>36</sup> Overview of California’s Child Care and Development System, California Senate Budget and Fiscal Review Committee Cong. (2015) (testimony of Carolyn Chu (Legislative Analysts Office))

<sup>37</sup> Child Care Law Center. “Analysis of Child Care Provisions in the Enacted California State Budget for Fiscal Year (FY) 2014-2015”. (June 2014). Retrieved from: <http://childcarelaw.org/wp-content/uploads/2014/06/Budget-Analysis-2014-2015.pdf>

<sup>38</sup> Perspectives on California’s Child Care and Development System (2015) 11

<sup>39</sup> Chu (2015)

\$58.7 million. Furthermore, they calculated that even though the SRR was increased in the past year's budget to \$36.10, it is still "\$4.69 per day less than if the rate of \$34.38 first offered in 2007-08 were adjusted by inflation".<sup>40</sup> While an increase of 5% could be insufficient to help the lowest wage centers adapt to a higher minimum wage, it could be a good start.

#### *Targeted increase in state ECE funding for high cost counties*

The state could consider implementing a formula to increase the SRR more for counties or localities that have minimum wages above the state minimum wage. The SRR would be increased by some function of the percent of centers' costs which come from personnel costs and the difference between the state minimum wage and the local minimum wage or between the local minimum wage and the median state wage for child care workers. For example in Oakland where the local minimum wage is \$12.25. The local minimum wage is approximately 10% above the state median wage for childcare workers. Then this could be multiplied by some estimate of the percent of total costs which come from teaching staff costs, 60%, which would result in a 6% increase in SRR for Oakland based centers compared to other counties in California.

The state could also consider shifting from the SRR to the RMR for state Title 5 contracts. This proposal would allow the state to increase funding in high-cost counties so that they can adjust to their new minimum wages without increasing outlays throughout the state. Most localities in California that have minimum wages higher than the state's, or are considering higher ones, are current high-cost localities and thus have higher RMR. The age brackets for the RMR will have to be adjusted, but as can be seen in Table 4 earlier in this analysis, for Alameda County, a shift towards the RMR from the SRR would see per child reimbursements increase by 16% for infants, 20% for some toddlers and 75% for preschool ages. This increases would more than make up for increased costs due to a higher minimum wage. Implementing a shift to the RMR from the SRR would also simplify California's ECE policy.

#### *Revenue sources the state can use to pay for increased funding*

The state will save money in several ways from increases in local minimum wages. Forty-six percent of childcare workers nationally are on public assistance.<sup>41</sup> California contributes a substantial portion of these public assistance costs and therefore the state will see their costs decrease as childcare workers' wages increase and they receive less in public assistance. Furthermore, many of California's ECE programs are means tested, as families must meet income eligibility limits and families must pay fees as their incomes rise.

The state could aim to increase the SRR but keep total funding the same by reducing the income eligibility ceiling and reducing the number of childcare slots available. California recently increased the number of ECE slots available. Between 2013-14 and 2014-15 the state provided increased funding for 1000 new slots at a cost of \$13 million. Many families might become ineligible for Title 5 centers after their incomes are increased due to minimum wage increases. As can be seen in Table 7 below, the income ceiling for Title 5 centers is \$46,896 for a family of 4. If a family with two children and two earners who were both working full-time minimum

<sup>40</sup>California State Assembly, Joint: Budget Subcommittee on Health and Human Services and Budget Subcommittee on Education Finance. Early Education and Development. April 14, 2015. Sacramento Available at: <http://abgt.assembly.ca.gov/sites/abgt.assembly.ca.gov/files/Joint%20Subcommittee%201%20and%202%20Early%20Childhood%20April%2014%20Agenda.pdf>

<sup>41</sup> Jacobs, Ken, Ian Perry, and Jennifer MacGillvary. The High Cost of Low Wages. Issue brief. Berkeley: UC Berkeley Center for Labor Research and Education, 2015

wage jobs (40 hours a week 52 weeks a year), then their income will go from \$37,440 to \$50,960, making them ineligible. Many Title 5 centers have long waitlists, so if fewer families become ineligible that will not reduce the states cost unless the state reduces the number of slots available. If that same family had three children instead of two their annual fees would jump from \$1,332 to \$4,056. This is still considerably less than non-subsidized ECE centers, but a substantial increase in costs to parents nonetheless. Rising incomes will mean increased fees, which are deducted from the state's contribution to costs. These fees could be redirected to increase the SRR as opposed to reducing budgetary expenses. However, any estimate of the effect of an increase in the minimum wage on eligibility is likely to be an overestimate as we can expect some families to reduce the number of hours they work so as to maintain eligibility for means tested programs, including as subsidized child care.

**Table 7: Changes in income due to Oakland minimum wage increase, Title 5 program income eligibility ceilings and fee schedule, by number of fulltime earners and children**

Number of Children	Number of Fulltime MW Earners	Family Income under Old MW	Family Income under New MW	Income Ceiling	Fulltime Fees Under Old MW	Fulltime Fees Under New MW
1	2	\$37,440	\$50,960	\$42,216	\$3,156	N/A
1	1	\$18,720	\$25,480	\$39,396	0	\$1,140
2	2	\$37,440	\$50,960	\$46,896	\$2,340	N/A
2	1	\$18,720	\$25,480	\$42,216	0	\$888
3	2	\$37,440	\$50,960	\$54,408	\$1,332	\$4,056
3	1	\$18,720	\$25,480	\$46,896	0	0

Note: Fulltime is 40 hours per week and 52 weeks per year

#### *State funding for technical assistance to find new funding or reduce costs*

The state could provide additional funding to provide increased technical assistance to ECE centers to help them find outside funding or increase the efficiency of their administration. One way increased technical assistance could be useful is in helping Title 5 centers find and maintain local Head Start partnerships. Many centers already have partnerships, however there is likely room for expansion. The amount of extra funding a Title 5 center could expect varies considerably and is based on individual arrangements and negotiations between individual ECE centers and local Head Start administrators. With this caveat in mind, Title 5 centers might receive between \$250 and \$350 per month through partnerships in addition to the increased services that Head Start provides for the children. There are some barriers to partnerships which technical assistant could not solve, including those mentioned previously in this analysis, such as children are only eligible for 2 years of Head Start. Head start requires more parental engagement and teacher trainings, which can be difficult to schedule. There is, however, alignment between Head Start and Title 5 regulations in areas of classroom services and medical physical examinations for children. Beyond Head Start partnerships, technical assistance could help center's more efficiently plan staffing or implement the recommendations mentioned earlier in this analysis regarding ways in which centers could act on their own to adapt to rising minimum wage increases.

### *Exempt ECE centers from local minimum wage regulations*

The state could exempt ECE from local minimum wage regulations. This would obviously eliminate ECE center's immediate increased costs' problem. However, ECE centers might struggle to retain staff as other organizations pay the minimum wage and might have to raise wages substantially to do so. This policy would also likely lower the quality of ECE staff as centers cannot compete with other employers. This move would engender strong pushback from minimum wage and labor activists and many ECE leaders. Furthermore, as the California minimum wage is increasing to \$10 in 2016, and there are proposals to raise the state minimum wage quicker, this policy could be shortsighted.

### *Reduce ECE centers' costs through state regulatory reform*

The state could consider reforming current ECE regulations to reduce burdens and thus costs per child. It would be helpful from an efficiency and political feasibility standpoint to present options that could reduce overhead (non-teachings staff) costs in conjunction with requests for more state funding per child. Administrative staff time would be the easiest area to look for cost savings as it would be difficult to reduce other support staff expenses. Efforts could be made to reform regulations that increase administrative burden and require hiring more administrative staff. For example, reducing or streamlining reporting requirements for different funding streams to the point where administrative staff positions can be eliminated. Some localities are trying to combine electronic reporting for local and state quality reporting systems.

The state should examine ways to make the paperwork necessary to confirm income eligibility easier. Currently centers must obtain verification from employers each year and whenever a family's income changes. The state could use information they already have about income to aid the center or pre-qualify families. One initiative the state could take would be to create a centralized waitlist that all centers in a certain area could access. The state funded such a list up until the recent recession.

The Alameda County State ECE contractors group in 2011 assembled a list of other possible reforms to reduce administrative burdens. The group recommended enrolling eligible children on a first-come first-served basis, as opposed to lowest income first, which would reduce the time required to enroll and increase capacity utilization. The group also proposed a centralized intake option whereby families can go through one intake procedure once then enroll in any eligible center. San Francisco has started this process. One interesting recommendation is to better align the age range and staffing ratios between DSS's CCLD which licenses centers and the centers' funding regulations. As can be seen in a Table 1, the age categories in months do not align between Title 5 and Title 22 and since Title 5 centers must also meet Title 22 guidelines this can lead to sanctions from the CCLD or at least creates time consuming administrative problems for centers. The group also recommended increased use of technology, for example by transferring payments to centers electronically or electronically sending required reports to the state. While center directors would be in favor of any reform that reduces administrative burden, several have reported that they do not see administrative burden as a significant cost driver.

The state could increase staffing ratios. This would mean allowing more children per staff or teacher. Relatedly, the state could further relax the staffing ratio guidelines so that centers would have fewer "floater" or substitute expenses. This could be done, for example, by allowing centers

to exceed limits some number of days per month per classroom. Currently, Title 5 programs can exceed adult or teacher-child ratios by 15% for no more than 120 minutes in any day.

### *Status quo*

The state could decide to provide no additional funding per child nor change any state regulations. Some centers might have to close, especially those with little outside support or private donations. Maintaining the status quo could lead to consolidation of current ECE centers. Consolidation would increase the efficiency of ECE industry, however it would also reduce parental choice.

Some centers will further shift licensed space from younger, more expensive children, to older children. This would be problematic as quality infant care can have positive impacts on child development. Infants require stimulating and responsive adult interactions to develop language and cognitive abilities. One on one interaction between caregiver and infant, where both jointly focus on something helps infants to build the “linguistic scaffolding needed to facilitate infant language development”.<sup>42</sup> Research indicates that lower staff to infant ratios are associated with better communication skills and that overall quality of child care is positively related with cognitive development when a children reaches an age of 12 months.<sup>43</sup> Policymakers should therefore be concerned if increased wage costs force infants out of higher quality Title 5 centers to other environments that are of lower quality with higher staffing ratios.

Centers are also likely to shift staff from full to part-time to save on benefit costs. The average amount spent on healthcare, approximately \$4,000, is very close to the average expected increase in annual pay due to Oakland’s minimum wage increase. Therefore, a center could cover the cost increase due to wage increases by shifting their staff from full to part-time and reduce healthcare spending. More part-time staff would reduce stability in teacher-child relationships, negatively impacting the quality of care. Centers could also reduce the number of hours they are open per day, as they are not reimbursed for being open more than 6 hours. Centers might also reduce the number of days they are open per year to save on substitute teachers. Both of these actions would reduce the availability of services for parents, potentially forcing parents to leave children unattended.

Furthermore, if centers do not have the resources to increase their entire pay scale then staff will have lower incentives to gain educational credentials or trainings. This could degrade the overall quality of ECE provision. Centers in areas where the minimum wage did not increase but which compete for workers with areas that raised the minimum wage will find it more difficult to retain and recruit skilled staff.

### ***Policy Goals***

The policy options mentioned above should be evaluated based on the extent to which they achieve policymakers’ goals. The goals policy makers should strive towards when determining how to adjust ECE policy to increased minimum wages are effectiveness, equity and political feasibility.

### *Effectiveness*

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<sup>42</sup> Burchinal, Margaret R., et al. "Quality of center child care and infant cognitive and language development." *Child development* 67.2 (1996): 606-620. 607

<sup>43</sup> Burchinal et al (1996) 616

Effectiveness herein will mean the provision of high quality or sufficient quality ECE care for the most number of children. To be effective, the policy options should aim to preserve as much of the current level of ECE provision as possible, for the least cost to the state and to parents. It is clear that three important drivers are the number and education of teaching staff and the stability of child-caregiver relationships.

### *Equity*

The goal of equity is achieved by protecting or increasing the welfare of the neediest group or stakeholder. The main stakeholders to consider when examining state subsidized ECE policy are low-income parents and children, ECE staff and tax payers. In this analysis, successful policies will be those which protect the short and long-term welfare of low-income children. Of secondary interest will be the welfare of low-income parents and low-wage ECE staff. In many ways the interests of low-income parents and children and ECE staff are aligned, as ECE staff with higher levels of wellbeing are likely to provide better care for the children. The causal linkages between the welfare of these groups is, however unclear. For example, it is possible that increased pay for ECE staff will not increase the level of care by as much as it would reduce provision as centers cannot stay open. Additionally, the long-term wellbeing of children is in some ways aligned with the interests of tax payers, as some research has shown that in the long run investments in ECE are paid for by savings to the tax payer in the future.

### *Political feasibility*

The third primary evaluative criteria will be whether a policy option is politically feasible, meaning whether it can be incorporated in legislation that can pass the California State Legislature. Within this broader criteria policy options should be examined for whether they are appealing throughout the state and whether their costs to the state are acceptable. Policy options should also be analyzed for how they align with other proposals being considered by the state assembly or bills that have been introduced in the current session.

### ***State Policy Recommendation***

To address the problem of increased ECE center costs due to local minimum wage increases the California State Legislature should increase the SRR immediately by 5%. As was mentioned previously, this would cost approximately \$59 million. While the state did increase the SRR 5% last year, it had not done so previously since 2007. A 5% increase might not completely solve the problem of increased costs due to minimum wage increases for all centers, but it should help the vast majority meet the increased costs. A 5% increase is more politically palatable than a larger increase as it would not cover all of the increased cost, forcing some efficiencies on centers. Centers should be able to find savings, or increased funding, to cover the remaining 1-3% of cost increases. The state should closely monitor the situation to see if centers are forced to close and if so perhaps the state could revisit the issue the following year and consider raising the SRR further. The legislature should also pass AB765 so that the SRR will increase in the future at roughly the rate of inflation.

A general increase in the SRR would be preferable to a more targeted approach for several reasons. It would help more children by likely increasing the quality of ECE provision throughout the state. A general increase would also make the industry more resilient for future

increases in the minimum wage at the local, state and federal level. Increasing the SRR throughout the state is likely to be more politically popular as it would benefit a larger constituency, though this effect will be blunted by the unpopularity of its increased cost. It is unlikely that legislators from low-cost and low-wage districts will be in favor of legislation that sends more resources to higher cost districts. To engender political support, legislators should be reminded that the state will see reduced budgetary expenditures for means tested programs, including Title 5 programs, from the increased minimum wages in Oakland.

While the state should seriously consider regulatory reform to lower the administrative costs placed on ECE centers, it is unlikely that such reform will reduce costs sufficiently to match the increased costs due to minimum wage increases. In the scenario mentioned previously, some centers will see costs increase as much as \$51,000, which is more than the annual salary of most administrative staff. Therefore, to generate savings sufficient to blunt this increase cost regulatory reform would need to eliminate a full-time position's worth of administrative work. As was mentioned previously, ECE center directors do not think that that would be possible. Researchers have similarly found that while there might be room to streamline systems and reduce administrative costs the extent of savings is difficult to determine.<sup>44</sup> Regulatory reform will also take time, perhaps considerable time, and therefore the savings are unlikely to be seen in the near future, whereas the minimum wage has already increased. Relying on regulatory reform to reduce costs sufficiently is not a reasonable plan to address increased costs.

Moreover, while a reduction in the required staffing ratios would generate substantial savings this could drastically reduce service quality. Most of those in the ECE industry spoken to for this analysis argued strongly against reducing staffing ratios. A reduction in staffing ratios would likely be an overreaction as the cost increases generated by an increase in the minimum wage are not substantial enough to warrant such possibly drastic regulatory shifts where the effects would not be sufficiently known. The state should, however, consider funding additional research into this in California if ECE personnel costs continue to be increased.

It is also unlikely that centers will be able to find sufficient savings from non-personnel expenditures. These expenditures make up a small portion of overall costs. Furthermore, the largest non-personnel expenditures, such as rent, debt interest payments, workers compensation, insurance and food will be very difficult to reduce in the short and long-term.

The state should also consider increasing funding for technical assistance for ECE centers. However, similar to regulatory reform, increased technical assistance is unlikely to make a sufficient and immediate enough impact to prevent center closure. Moreover, while Head Start partnerships should be encouraged, Title 5 centers should not have to rely on outside funding to meeting their expenses. If the state is contracting with Title 5 centers to provide a service then the state should provide sufficient funding for that service or risk creating unstable learning environments. Increasing the SRR will also be equity enhancing, as it will maintain service provision for low-income children while also increasing the welfare of low wage ECE staff. Taxpayers' welfare will be hurt in the short-term, however they will see savings from an increased minimum wage and savings from the long-term benefits of ECE.

While an increase in the SRR should be the primary policy response from the state of California, there are many other possible policy options that could help, for example, AB833 mentioned

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<sup>44</sup> Karoly et al (2007) xxii

previously. AB833 would help address the problem of funds being allocated which are not used. 5-10 percent of contract ECE funds are not spent in a given year, meaning centers do not provide all the services the state contracts them to provide and thus the money is returned.<sup>45</sup> AB833 would provide more flexibility to allow this 5-10% to be spent on other areas of ECE provision, such as raising the SRR or increasing income eligibility. This bill would allow localities to adapt state policy to local characteristics and follows on other, similar successful pilots in San Francisco and San Mateo.

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<sup>45</sup> Cho et al (2007) xxii

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## ***Technical Appendix***

### *American Community Survey Data Processing*

Overall, the minimum wage projection using ACS data was performed per the guidelines in “Data and Methods for Estimating the Impact of Proposed Local Minimum Wage Laws”, from the Center on Wage and Employment Dynamics (CWED) within the Institute for Research on Labor and Employment at the University of California, Berkeley.<sup>46</sup> One difference is that all wages below the minimum wage were increased to the new minimum wage as workers in the ECE industry cannot earn less than the minimum wage. The “low” estimate projection method from was used from the CWED report. The ACS does not have a wage variable and thus one has to be created using annual income, number of weeks worked last year and average hours per week. To clean this wage variable outliers were dropped. For the Alameda County analysis four outliers were dropped, due to illogical wage values and values for the variables mentioned previously which determine the wage variable. No adjustment was made to wages in prior years to account for wage growth as there was no growth in childcare wages according to Occupation Employment Statistics data. The wage amounts were adjusted for inflation using the *adjust* variable.

### *Occupational Employment Statistics*

The BLS cautions that, “The use of six data panels to create a set of estimates means that sudden changes in occupational employment or wages in the population or changes in methodology show up in the OES estimates gradually. Given the above changes, it is difficult to make conclusive comparisons of OES data over time. However, comparisons of occupations that are not affected by classification changes may be possible if the methodological assumptions hold.” More information on this can be found at: [http://www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm) . Therefore, caution should be exercised regarding the trend in childcare worker wages over time.

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<sup>46</sup> Welsh-Loveman et al (2014)