

# The Minimum Wage Undermined the Au Pair Program in Massachusetts

by Alex Nowrasteh and Vanessa Brown Calder

March 17, 2023

Working Paper  
No. 73



# The Minimum Wage Undermined the Au Pair Program in Massachusetts

Alex Nowrasteh\* and Vanessa Brown Calder†

March 2023

Abstract

The au pair visa program allows young foreign-born individuals to provide in-home childcare in the United States as part of a cultural exchange. Regulated by the U.S. Department of State, au pairs are paid a minimum of \$195.75 for a 45-hour work week by sponsor host families in addition to room, board, educational expenses, and other forms of compensation. A ruling by the U.S. Court of Appeals for the First Circuit in December 2019 required sponsor host families in Massachusetts to pay au pairs the state's considerably higher minimum wage. On January 1, 2020, wage compensation for au pairs rose to \$528.63 for a 45-hour work in Massachusetts – a 170 percent increase in the minimum wage. Consequently, the number of new au pairs arriving in Massachusetts in 2022 was 68.1 percent below 2019. The number of new au pairs in all states unaffected by the court's ruling rose 4.4 percent over the same time. The court-mandated wage increase reduced the number of au pairs and inflicted high costs on American families and au pairs who were not hired.

Keywords: Wages, Immigrants, Visas, Au Pair

JEL Codes: E24, F22, J08, J3, J31, J32, J38, J21

---

\* Director of Economic and Social Policy Studies, Cato Institute: 1000 Massachusetts Ave. N.W. Washington, D.C., USA. (Email: [anowrasteh@cato.org](mailto:anowrasteh@cato.org))

† Director of Opportunity and Family Policy Studies, Cato Institute: 1000 Massachusetts Ave. N.W. Washington, D.C., USA. (Email: [vcalder@cato.org](mailto:vcalder@cato.org))

# 1 Introduction

The au pair program is a J-1 visa cultural exchange visitor program created by the Mutual Educational and Cultural Exchange Act of 1961.<sup>1</sup> The au pair program is managed by the U.S. Department of State (DoS) and allows au pairs to live with an American host family for 12 to 24 months. Au pairs provide childcare, are paid by their host families, and must experience American culture and fulfill educational requirements. An average of 20,454 new au pairs entered the United States annually from 2016 to 2019. In 2020, the number of new au pairs entered the United States fell to 7,107 because of the border, embassy, and consulate closures in response to the COVID-19 pandemic and its effects.<sup>2</sup>

Au pair wages are regulated under the Fair Labor Standards Act (FLSA).<sup>3</sup> Host family sponsors must provide au pairs with room and board free of charge and a weekly wage of at least \$195.75. DoS calculates that wage by multiplying the federal minimum wage of \$7.25 an hour by 45 hours, which equals \$326.25. That product is then reduced by 40 percent for the cost of room and board, which equals the minimum required weekly wage of \$195.75.<sup>4</sup> Sponsor host families typically pay a higher wage, but that varies considerably.<sup>5</sup> In addition to room and board, sponsors must also pay for the au pair's travel, auto insurance, and up to \$500 for six college credits per year. Au pairs must also receive a minimum of one and a half days off per week, one complete weekend off each month on a mutually agreed upon schedule, and two weeks of paid vacation a year. Au pairs can work a maximum of 45 hours a week and no more than 10 hours a day.

Private au pair agencies manage the J-1 visa application process on behalf of sponsor host families who interview au pairs before sponsoring them. The agencies also certify that au pairs meet regulatory requirements regarding English proficiency, be 18 to 26 years old, have graduated secondary school or the equivalent, are physically able to provide childcare, and other requirements.<sup>6</sup> Agencies train au pair upon arrival in the United States and manage reporting requirements on behalf of host families. Au pairs often change host families during their visa term in the United States through a process called rematching, where either the host family can dismiss the au pair or the au pair can voluntarily decide to work for another family.

## 2 Lawsuit and Minimum Wage

On December 2, 2019, the U.S. Court of Appeals for the First Circuit ruled that au pairs in Massachusetts must be paid the state's minimum wage effective January 1, 2020.<sup>7</sup> Massachusetts' minimum wage was \$12.75 in 2020, \$13.50 in 2021, \$14.25 in 2022, and \$15 in 2023.<sup>8</sup> Additionally, wage compensation for domestic workers who work more than 40 hours per week is 1.5 times the regular rate for those additional hours in Massachusetts.<sup>9</sup> Sponsor host families nationwide are required to pay au pairs at least \$195.75 in weekly compensation in addition to providing room, board, and other benefits free of charge. These requirements also applied to sponsor host families in Massachusetts before the decision by the Court of Appeals for the First Circuit. After the court's decision, the au pair wage rose to \$528.63 for a 45-hour work week which includes overtime pay and a \$77 dollar deduction to compensate sponsor host families for supplying room (\$35) and

meals (\$42).<sup>10</sup> The court thus mandated a 170 percent increase in Massachusetts au pair wages above the program's federal wage floor.

## 2.1 The Minimum Wage's Impact on Employment

The minimum wage is a hotly contested policy issue, with supporters arguing that a higher wage is necessary to boost living standards and opponents arguing that the policy reduces employment, especially for low-skilled workers.<sup>11</sup> Although advocates can find some evidence for either view, substantially more research finds an adverse effect of the minimum wage on employment outcomes than not. For instance, a recent meta-analysis by economists David Neumark and Peter Shirley found that increasing the minimum wage harmed employment in almost 80 percent of studies.<sup>12</sup>

Research on the employment effects of the minimum wage abounds. However, this brief analyzes the effect of a large exogenously mandated minimum wage increase on new hires in the affected visa category. Thus, the most relevant comparison studies consider the impact of minimum wage increases on new hires. This area is necessarily more limited but includes instructive work: a 2021 study using administrative payroll data finds that “firms reduce employment [following wage increases] primarily through hiring rather than through other channels,” and another study reviewing Canadian data over almost thirty years found that “higher minimum wages are associated with lower hiring rates.”<sup>13</sup>

National and international studies considering the impact of the minimum wage on employment flows come to similar conclusions, and they find that hiring falls for workers targeted by minimum wage increases.<sup>14</sup> Although these studies find that job stability is equivalent or improved for workers employed at the time of the wage increase, this potential benefit does not apply to au pairs given that their employment is time limited, and au pairs must relinquish their jobs and leave the country when the program ends.

The vast economic literature on the minimum wage employs various methods, including synthetic controls.<sup>15</sup> This paper similarly utilizes the synthetic control method.

## 2.2 Au Pairs and Childcare

Au pairs constitute a valuable part of the childcare industry in the United States. In 2022, 21,449 au pairs entered the United States to live with host families in every U.S. state.<sup>16</sup> Au pair host families vary, but 90 percent of host families include three to six people, and nearly 70 percent of host families include four to five people.<sup>17</sup> On average, au pair host families include one infant, two children, and two adults.<sup>18</sup>

Au pair care benefits both host families and au pairs. Host families widely report valuing the ability to obtain live-in childcare, the opportunity to develop deeper trust with their childcare provider, and the ability to participate in cultural exchange.<sup>19</sup> Meanwhile, teens and adults formerly under the care of au pairs as children describe long-term benefits including “a willingness to embrace other cultures, desire to travel, and an awareness beyond borders

not typically available to children.”<sup>20</sup> Au pairs report that the au pair program is an important avenue to improve personal and professional skills, progress rapidly in English language acquisition, and learn about a different culture.<sup>21</sup>

Perhaps most importantly, the program is valuable for families that use the au pair program to meet their childcare needs. In the United States, childcare is one of the most expensive childrearing costs, and researchers find that limited childcare availability or affordability is both a barrier to work and fertility for working parents.<sup>22</sup> It follows that almost eight-in-ten host families say they would be adversely affected if the au pair program were not available, and more than one-third of host families said that if the program were not available, they “may need to change or stop their careers.”<sup>23</sup>

### 3 Research Design, Methodology, and Data

The goal of this brief is to estimate how the court’s extension of Massachusetts’ minimum wage to cover au pairs, who were not previously subject to Massachusetts’ minimum wage, affected the hiring of new au pairs in the state. Our outcome variable is new hires of au pairs, which is a flow, because the au pair visa data from the DoS are flows of new au pairs coming to individual states to work. Expanding Massachusetts’ state minimum wage to include au pairs was an exogenous shock that only affected Massachusetts. The COVID-19 pandemic and subsequent border closures do not seriously complicate this analysis because they affected the hiring of new au pairs in all states at the same time through border closures. Thus, the court’s imposition of Massachusetts’ minimum wage on au pairs

is an excellent natural experiment and ripe for analysis using the synthetic control method (SCM).<sup>24</sup>

The SCM estimates a counterfactual number of new au pairs who would have been hired in Massachusetts in the absence of the court's ruling. The SCM constructs a counterfactual number of new au pairs arriving in Massachusetts in the absence of the court's mandate of a minimum wage increase as a weighted average of other states. These determined by matching states with similar observable characteristics with Massachusetts. Given the set of weights, the SCM estimates the impact of the minimum wage as the difference, or gap, between the number of new au pairs arriving in Real Massachusetts and Synthetic Massachusetts as created by the SCM.<sup>25</sup>

To outline this procedure, let  $Y_m$  be the sample mean of an outcome of interest for state  $m$ . The estimated treatment effect for Massachusetts ( $m= 1$ ) is constructed as a weighted average of  $N + 1$  donor states of the form:

$$\tau = Y_1 - \sum_{m=2}^{N+1} w_m Y_m.$$



This procedure considers the weighting vector  $W = [w_2, \dots, w_{N+1}]'$  which assigns a weight  $w_m$  to control countries subject to non-negativity ( $\{w_j \geq 0; j = 2, \dots, N + 1\}$ ) and additive ( $w_2 + \dots + w_{N+1} = 1$ ) constraints.<sup>26</sup>

The predictor variables used to construct those weights are commonly used in the minimum wage literature and other labor economics research.<sup>27</sup> The predictor variables are the number of new au pairs hired in 2019, au pairs per worker, all new hires, state population, state minimum wage, private weekly earnings, the employment-to-population ratio, Census division, and Census region. The outcome variable is the number of new au pairs hired. These data are for the donor pool of every state for each year in the sample period. The data come from the U.S. Department of State,<sup>28</sup> the U.S. Census,<sup>29</sup> the U.S. Department of Labor,<sup>30</sup> and the Bureau of Labor Statistics.<sup>31</sup>

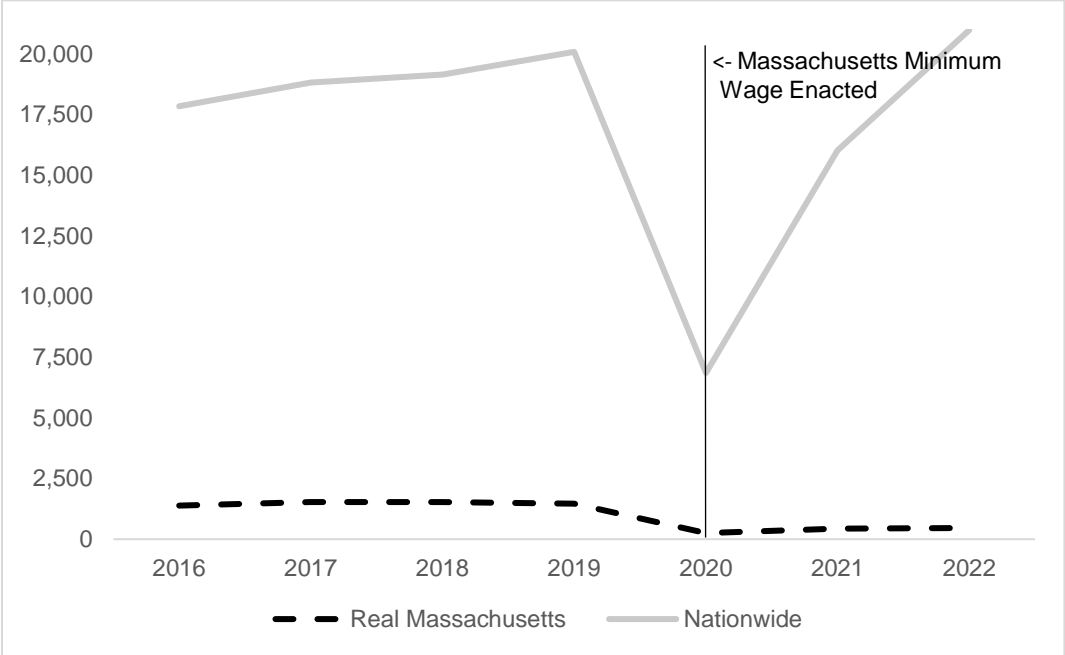
The variables are not logged even though logged variables are common in the minimum wage literature.<sup>32</sup> We did not log transform our variables because we are not trying to compute elasticities and the pre-treatment fits are excellent. However, we did replicate all our SCMs with logged variables and the results are similar, with slightly higher p-values that show up in longer lags after the treatment date.

## 4 Results

Figure 1 shows the number of new au pairs arriving as new hires from abroad in Massachusetts and nationwide (excluding Massachusetts) during the 2016-2022 period.

The number of new au pairs annually arriving in Massachusetts was roughly parallel to the number of new au pairs nationwide prior to 2020. The number of new au pairs in Massachusetts in 2022 was 68.1 percent below the number of new au pairs in the state in 2019. In contrast, the number of new au pairs in all other states rose by 4.4 percent from 2019 to 2022.

Figure 1  
New Au Pairs in Massachusetts and Nationwide, 2016-2022

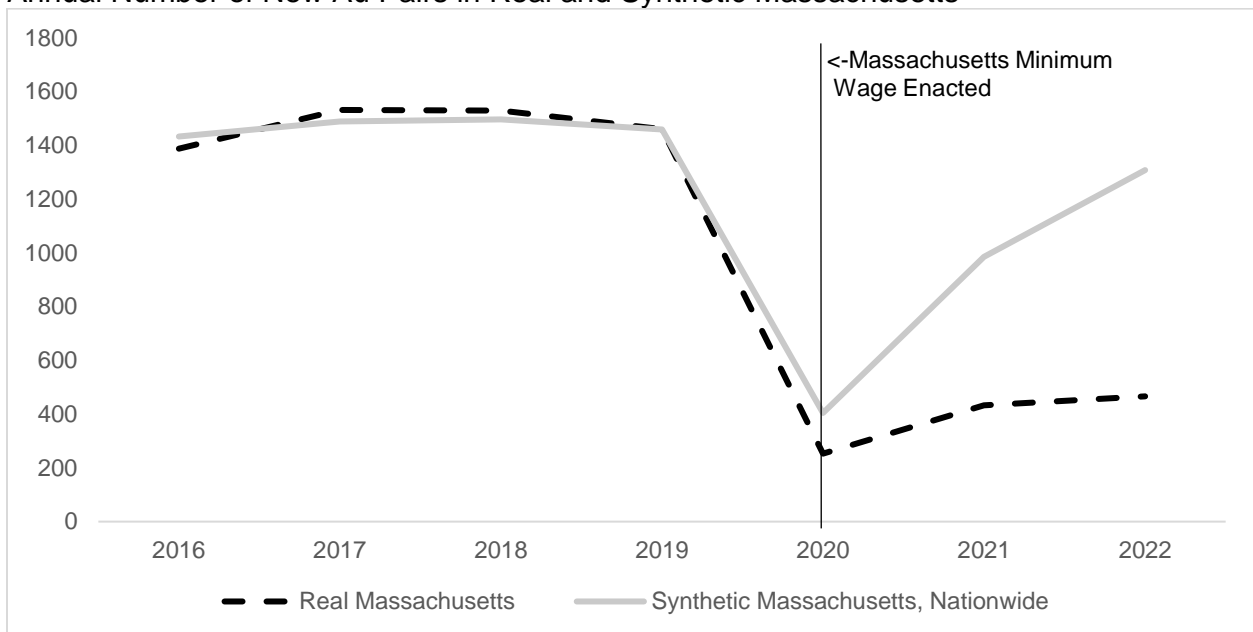


Source: U.S. Department of State.

Figure 1 provides a wonderful example of “eye-ball econometrics” – it hardly requires additional statistical analysis to show a major effect. Regardless, we show the SCM result in Figure 2. The SCM created a Synthetic Massachusetts that is very close to Real Massachusetts in the pre-minimum wage period with a Root Mean Square Prediction Error (RMSPE) of 35.17. An RMSPE that low indicates the distance between the predictor

variables and Synthetic Massachusetts used to construct it in the pretreatment period. The number of new au pairs in Real Massachusetts diverged after the introduction of the minimum wage relative to Synthetic Massachusetts constructed from a nationwide pool of states (excluding Massachusetts). Table 1 shows the divergence is statistically significant in every year after the introduction of the minimum wage.

Figure 2  
Annual Number of New Au Pairs in Real and Synthetic Massachusetts



Sources: U.S. Department of State and Authors' Calculations.

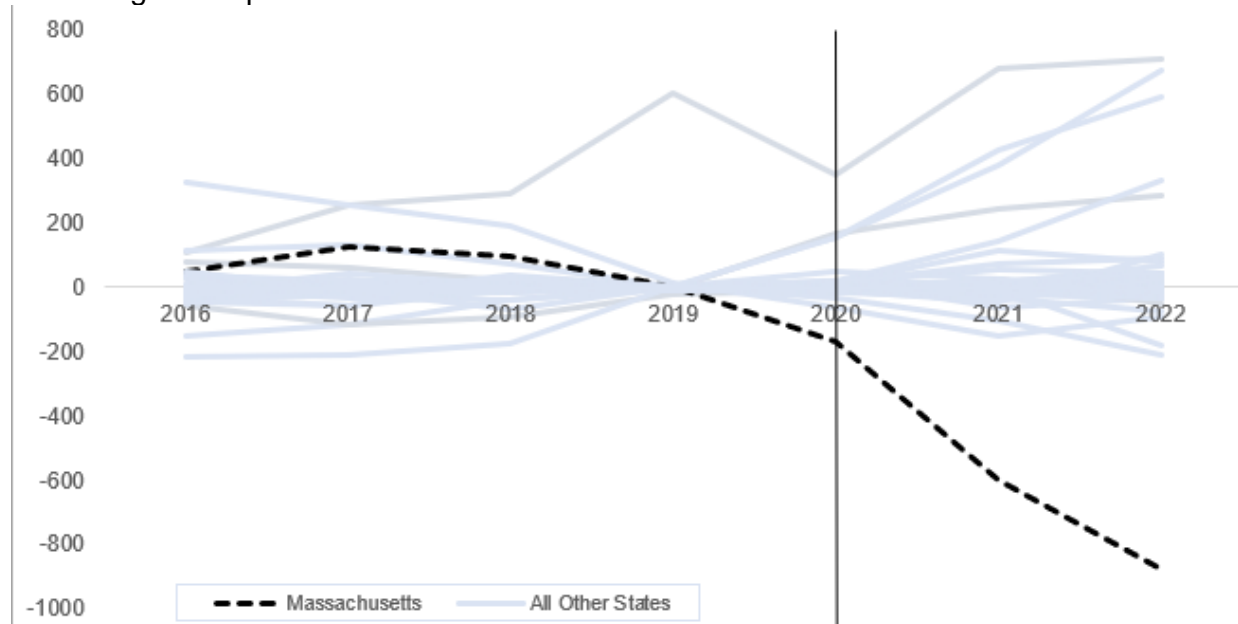
Table 1  
Effects and Significance of the Massachusetts Minimum Wage

Year	Effect	p-value
2020	-151.306	0
2021	-552.14	0
2022	-841.926	0

Source: Authors' calculations.

The  $p$ -values in Table 1 correspond to the in-space placebo test that creates a Real and Synthetic version of each state and estimates the gap in new au pairs for each state (Figure 3).<sup>33</sup> The  $p$ -values measure the fraction of the gaps from the in-space placebo test that is larger than the gap between Real Massachusetts and Synthetic Massachusetts. Thus, pooling these placebo effects together estimates the distribution of the effects of Massachusetts' expansion of the minimum wage to the hiring of new au pairs. The  $p$ -values show the probability that the estimated effect of the minimum wage in Massachusetts is larger than all other placebo effects for the other states.<sup>34</sup> Figure 3 shows a decline of new au pairs in Massachusetts that is greater than any other state in the sample.

Figure 3  
Annual Number of New Au Pairs, Difference Between Real States and Synthetic States According to In-Space Placebo Test



Source: Authors' calculations.

## 5 Discussion

The number of new au pairs in Massachusetts declined relative to other states after the U.S. Court of Appeals for the First Circuit ruled that au pairs must be paid the state's minimum wage, effective January 1, 2020. The Massachusetts minimum wage already applied to almost all workers in the state but not to au pairs before the court's ruling. New au pairs arriving in Massachusetts fell dramatically during the border closures in response to the COVID-19 pandemic, but they fell further in Massachusetts and stayed low long after the borders were reopened because the court mandated that they be paid the substantially higher state minimum wage. In effect, Massachusetts' minimum wage imposed a permanent semi-border closure on new au pairs entering the state.

## 6 Policy Implications

The court's imposition of a minimum wage for a previously excluded visa category is a valuable natural experiment that provides two main policy lessons. First, large increases in the minimum wage reduce the employment of the affected workers. Subsequent smaller minimum wage increases in 2021, 2022, and 2023 likely added to the decline in new au pairs, but they are less of an increase in percentage terms and so don't show up as clearly in the results.

Second, proposed federal regulatory changes to increase au pair wage compensation could similarly devastate the au pair program nationwide.<sup>35</sup> The Biden Administration is considering regulations that will affect the compensation of au pairs, among other aspects of the program. Although the details of these proposed rule changes are not available at the time of writing, large mandated wage increases would substantially shrink the program. The

Biden Administration should tread cautiously here lest they undermine the existence of the au pair program.

## 6.1 Federal Reforms to the Au Pair Program

The federal government should consider reforms other than increasing federal wage requirements to boost au pair compensation and freedom of choice. For example, au pairs should be allowed to extend their stay beyond the existing two-year limit and through the duration of early childhood if mutually agreed upon with host families. This would provide au pairs with additional options and increase consistency of care for families with young children.

Au pairs should also be allowed to work a limited number of hours outside of the home to supplement their wages. Sponsor host families may be concerned about this, but confining those additional outside-the-home work hours to the weekend or days off would reduce those concerns. Additionally, au pairs and host families should be able to choose different living arrangements where the au pair can reside outside of the sponsor host family's home. This admittedly weakens the cultural exchange component of the program in one sense but also exposes the au pair to living more independently in the United States, which provides a different type of cultural immersion.

## 6.2 Massachusetts Reforms to the State Minimum Wage

The state government of Massachusetts should take several actions to reduce the negative employment effects of the court's decision. Ideally, the legislature should explicitly exempt au pairs from the state's minimum wage. Massachusetts currently exempts other categories of agricultural workers, members of religious orders, workers being trained in certain educational, nonprofit, or religious organizations, and outside sales people from the state's minimum wage.<sup>36</sup> It would be legislatively simple to add "au pairs on a federal cultural exchange visa" to that list of exempted workers.

To achieve a similar effect to exempting au pairs from the state's minimum wage, Massachusetts could also increase the amount that sponsor host families can deduct from au pair wages for room and meals. Massachusetts should allow a 40 percent deduction in wages for room and meals to be consistent with federal rules. Such a reform would substantially lower the monetary wage for sponsor host families from \$635.50 for a 45-hour work week in 2023 to \$381.30 (Table 2). Massachusetts rental prices are about 70 percent higher than the nationwide average, so a 50 percent or higher deduction is also justifiable as compensation to the sponsor host family for the market value of providing a room.<sup>37</sup> Table 2 shows alternative wages for au pairs based on different room and meal deductions that the Massachusetts state government should consider.

Table 2

## Massachusetts Minimum Wage with Estimated Deductions for Room and Board

	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
Minimum Wage (Hourly)	\$12.75	\$13.50	\$14.25	\$15.00
Minimum Wage, Time and a Half (Hourly)	\$19.13	\$20.25	\$21.38	\$22.50
Room Deduction (Weekly)	\$35.00	\$35.00	\$35.00	\$35.00
Meals Deduction (Weekly)	\$42.00	\$42.00	\$42.00	\$42.00
Minimum Wage, 45-Hours of Work (Weekly)	\$528.63	\$564.25	\$599.88	\$635.50
45-Hour Weekly Wage, 40% deduction	\$317.18	\$338.55	\$359.93	\$381.30
45-Hour Weekly Wage, 50% deduction	\$264.31	\$282.13	\$299.94	\$317.75
45-Hour Weekly Wage, 60% deduction	\$211.45	\$225.70	\$239.95	\$254.20

*Sources: Massachusetts Executive Office of Labor and Workforce Development and Authors' calculations.*

## 7 Conclusion

The U.S. Court of Appeals for the First Circuit ruled that au pairs in Massachusetts must be paid the state's minimum wage effective January 1, 2020. This targeted exogenous increase in the minimum wage for a small group of workers in one state created a natural experiment to casually evaluate how minimum wage increases affected new hires for migrant au pairs on the J-1 visa. We found that the number of new au pairs hired in Massachusetts declined substantially relative to other states. The unintended consequence of a large increase in the minimum wage reduces future new hires of affected workers. The Massachusetts state government has several policy options to reduce the falloff in new au pairs in the state resulting from the court-mandated minimum wage increase. Federal regulators and the Biden Administration should also avoid large wage increases in the au pair program lest they undermine its very existence.



# Appendix

Table A1  
Predictor Balance

	Real Massachusetts	Synthetic Massachusetts
New Au Pairs (2019)	1460	1459.936
New Hires	1372250	1284108
State Population	6864634	7405637
State Minimum Wage	13.4375	12.6204
Private Weekly Earnings	1083.88	1021.81
Employment-to-Population Ratio	63.86458	61.65468
Au Pairs Per Worker	0.000407	0.0004481
Census Division	1	1.706
Census Region	1	1

*Source: Authors' calculations*

Table A3  
Synthetic Massachusetts State Weights

<u>State</u>	<u>Weight</u>	<u>State</u>	<u>Weight</u>
Alabama	0	Montana	0
Alaska	0	Nebraska	0
Arizona	0	Nevada	0
Arkansas	0	New Hampshire	0
California	0	New Jersey	0.698
Colorado	0	New Mexico	0
Connecticut	0.294	New York	0.008
Delaware	0	North Carolina	0
District of Columbia	0	North Dakota	0
Florida	0	Ohio	0
Georgia	0	Oklahoma	0
Hawaii	0	Oregon	0
Idaho	0	Pennsylvania	0
Illinois	0	Rhode Island	0
Indiana	0	South Carolina	0
Iowa	0	South Dakota	0
Kansas	0	Tennessee	0
Kentucky	0	Texas	0
Louisiana	0	Utah	0
Maine	0	Vermont	0
Maryland	0	Virginia	0
Michigan	0	Washington	0
Minnesota	0	West Virginia	0
Mississippi	0	Wisconsin	0
Missouri	0	Wyoming	0

Source: Author's calculations.

## Endnotes

<sup>1</sup> The Mutual Educational and Cultural Exchange Act of 1961, Pub. L. No. 87-256, 75 Stat. 527, 87<sup>th</sup> Cong.; 22 USC § 2451- § 2464; and 22 CFR § 62.31.

<sup>2</sup> Proclamation No. 9994, 85 Fed. Reg. 31933 (May 28, 2020); and Proclamation No. 10014, 85 Fed. Reg. 23441 (April 27, 2020).

<sup>3</sup> The Fair Labor Standards Act of 1938; 29 U.S.C. § 203, 75<sup>th</sup> Cong. (1938).

---

<sup>4</sup> 22 CFR § 62.31.

<sup>5</sup> Anecdotal evidence from reading au pair host family message boards.

<sup>6</sup> 22 CFR § 62.31.

<sup>7</sup> *Capron v. Massachusetts Attorney General*, No. 17-2140 (1<sup>st</sup> Cir. 2019).

<sup>8</sup> “[2022-2023 Minimum Wage Rates by State](#),” LaborLawCenter.; and “[Minimum Wage Program](#),” Mass.gov.

<sup>9</sup> “Notice of Rights of Domestic Workers,” Commonwealth of Massachusetts, Office of the Attorney General § (n.d.).

<sup>10</sup> “[The Massachusetts Au Pair Ruling: What Host Families Need to Know](#),” GTM, December 20, 2019; “Notice of Rights of Domestic Workers,” Commonwealth of Massachusetts, Office of the Attorney General § (n.d.); and “[Massachusetts Pricing](#),” Cultural Care Au Pair.

<sup>11</sup> Ryan Bourne, “[The Minimum Wage](#),” in *Cato Handbook for Policymakers, 9<sup>th</sup> Edition* (Washington D.C.: Cato Institute, 2022).

<sup>12</sup> David Neumark and Peter Shirley, “[Myth or Measurement: What Does the New Minimum Wage Research Say About Minimum Wages and Job Loss in the United States?](#),” *Industrial Relations* 61, no. 4 (October 2022): 384-417.

<sup>13</sup> Radhakrishnan Gopalan et al., “[State Minimum Wages, Employment, and Wage Spillovers: Evidence from Administrative Payroll Data](#),” *Journal of Labor Economics* 39, no. 3 (July 2021): 673-707; and Pierre Brochu and David A. Green, “[The Impact of Minimum Wages on Labour Market Transitions](#),” *The Economic Journal* 123, no. 573 (December 2013): 1203-1235.

<sup>14</sup> Arindrajit Dube, T. William Lester, and Michael Reich, “[Minimum Wage Shocks, Employment Flows, and Labor Market Frictions](#),” *Journal of Labor Economics* 34, no. 3 (July 2016): 663-704; and Pedro Portugal and Ana Rute Cardoso, “[Disentangling the Minimum Wage Puzzle: An Analysis of Worker Accessions and Separations](#),” *Journal of the European Economic Association* 4, no. 5 (2006): 988-1013.

<sup>15</sup> See, for instance: David Powell, “[Synthetic Control Estimation Beyond Comparative Case Studies: Does the Minimum Wage Reduce Employment?](#),” *Journal of Business & Economic Statistics* 40, no. 3 (2022): 1302-1314; Arindrajit Dube and Ben Zipperer, “[Pooling Multiple Case Studies Using Synthetic Controls: An Application to Minimum Wage Policies](#),” IZA Discussion Paper No. 8944 (2015); and David Neumark, J.M. Ian Salas, and William Wascher,

---

[“Revisiting the Minimum Wage—Employment Debate: Throwing Out the Baby with the Bathwater?”](#), *Cornell University ILR Review* 67, no. 3 (2014).

<sup>16</sup> [“Facts and Figures - BridgeUSA,”](#) U.S Department of State.

<sup>17</sup> Robert Suls, [“Au Pair Program 2020 Review Report,”](#) (EurekaFacts, 2020).

<sup>18</sup> Robert Suls, [“Au Pair Program 2020 Review Report,”](#) (EurekaFacts, 2020).

<sup>19</sup> [“Eurekafacts Studies Au Pairs and Host Families,”](#) EurekaFacts, July 15, 2020.

<sup>20</sup> [“Au Pair in America Program Outcomes: Perspectives of Host Children 1999–2017,”](#) (American Institute For Foreign Study, 2017).

<sup>21</sup> [“Eurekafacts Studies Au Pairs and Host Families,”](#) EurekaFacts, July 15, 2020.

<sup>22</sup> Mark Lino et al., [“Expenditures on Children by Families, 2015,”](#) Center for Nutrition Policy and Promotion § (2015); Megan Dunn, [“Who Chooses Part-Time Work and Why?”](#) U.S. Bureau of Labor Statistics, March 2018;

Stephanie Ferguson and Isabella Lucy, [“Data Deep Dive: A Decline of Women in the Workforce,”](#) U.S. Chamber of Commerce, April 27, 2022; and Francis G. Castles, [“The World Turned Upside Down: Below Replacement Fertility, Changing Preferences and Family-Friendly Public Policy in 21 OECD Countries,”](#) *Journal of European Social Policy* 13, no. 3 (June 29, 2016): 209–227; Patricia Cortes and Jose Tessada, [“Low-Skilled Immigration and the Labor Supply of Highly Skilled Women,”](#) *American Economic Journal: Applied Economics* 3, no. 3 (July 2011): 88-123.

<sup>23</sup> [“Eurekafacts Studies Au Pairs and Host Families,”](#) EurekaFacts, July 15, 2020: and [“Au Pair Program 2020 Executive Summary Report,”](#) (EurekaFacts, 2020).

<sup>24</sup> Alberto Abadie and Javier Gardeazabal, [“The Economic Costs of Conflict: A Case Study of the Basque Country,”](#) *American Economic Review* 93, no. 1 (March 2003): 113-132; Alberto Abadie, Alexis Diamond, and Jens Hainmueller, [“Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California’s Tobacco Control Program,”](#) *Journal of the American Statistical Association* 105, no. 490 (2010): 493-505; and Alberto Abadie, Alexis Diamond, and Jens Hainmueller, [“Comparative Politics and the Synthetic Control Method,”](#) *American Journal of Political Science* 59, no. 2 (April 2015): 495-510.

<sup>25</sup> For a more detailed explanation of the SCM, please see Alex Nowrasteh, Andrew C. Forrester, and Cole Blondin, [“How Mass Immigration Affects Countries with Weak Economic](#)

---

[Institutions: A Natural Experiment in Jordan](#),” *The World Bank Economic Review* 34, no. 2 (2020): 533-549; and Scott Cunningham, *Causal Inference: The Mixtape* (New Haven: Yale University Press, 2021), 511-539.

<sup>26</sup> A more technical description of this procedure can be found in Alberto Abadie, Alexis Diamond, and Jens Hainmueller, “[Comparative Politics and the Synthetic Control Method](#),” *American Journal of Political Science* 59, no. 2 (April 2015): 495-510.

<sup>27</sup> David Powell, “[Synthetic Control Estimation Beyond Comparative Case Studies: Does the Minimum Wage Reduce Employment?](#),” *Journal of Business & Economic Statistics* 40, no. 3 (2022): 1302-1314; and Arindrajit Dube, T. William Lester, and Michael Reich, “[Minimum Wage Shocks, Employment Flows, and Labor Market Frictions](#),” *Journal of Labor Economics* 34, no. 3 (July 2016): 663-704.

<sup>28</sup> “[Facts and Figures - BridgeUSA](#),” U.S. Department of State.

<sup>29</sup> “[Census Regions and Divisions of the United States](#),” U.S. Census Bureau; and “[National Population Totals and Components of Change: 2020-2022](#),” U.S. Census Bureau.

<sup>30</sup> “[State Minimum Wage Laws](#),” U.S. Department of Labor, updated January 1, 2023.

<sup>31</sup> “[State and Metro Area Employment, Hours, & Earnings](#),” U.S. Bureau of Labor Statistics.

<sup>32</sup> David Neumark and Maysen Yen, “[Effects of Recent Minimum Wage Policies in California and Nationwide: Results from a Pre-Specified Analysis Plan](#),” National Bureau of Economic Research Working, 2021: 13-15.

<sup>33</sup> Alberto Abadie, Alexis Diamond, and Jens Hainmueller, “[Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California’s Tobacco Control Program](#),” *Journal of the American Statistical Association* 105, no. 490 (2010): 493-505.

<sup>34</sup> Alex Nowrasteh, Andrew C. Forrester, and Cole Blondin, “[How Mass Immigration Affects Countries with Weak Economic Institutions: A Natural Experiment in Jordan](#),” *The World Bank Economic Review* 34, no. 2 (2020).

<sup>35</sup> “[Exchange Visitor Program-Au Pair](#),” Department of State.

<sup>36</sup> “[Massachusetts Law about Minimum Wage](#),” Mass.gov, updated March 10, 2023.

<sup>37</sup> “[2023 Rent Data by State: Accurate Rental Price Data](#),” RentData.org.