Table 7 the establishments enter or exit the market

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
VARIABLES								The percent of entry the market							
The change in TFP of retail trade	-0.0172**	-0.0162*	-0.0165**												
	(0.00832)	(0.00827)	(0.00813)												
density (retail trade)		0.0203***	0.00705		0.00740	0.0206***									
		(0.00377)	(0.00852)		(0.00855)	(0.00382)									
sales of retail trade per resident			0.0734	0.0781	0.0733										
			(0.0557)	(0.0513)	(0.0559)										
The change in TFP of wholesale							0.000887	0.000989	0.000925						
							(0.00986)	(0.00986)	(0.00986)						
density (wholesale)								0.147***	0.183***		0.183***	0.147***			
								(0.0362)	(0.0505)		(0.0505)	(0.0362)			
sales of wholesale per resident									-0.000473***	3.24e-05	-0.000474***				
									(0.000151)	(0.000139)	(0.000151)				
The change in TFP of the service*													0.00842*	0.00838*	
													(0.00469)	(0.00469)	
density (service)														0.0113	0.0115
														(0.0137)	(0.0139)
Adjusted R-squared	0.550	0.553	0.565	0.565	0.565	0.552	0.059	0.063	0.064	0.059	0.064	0.064	0.652	0.652	0.650
VARIABLES								the percent of exit the market							
The change in TFP of retail trade	0.00869	0.00546	0.00542												
	(0.00830)	(0.00793)	(0.00795)												
density (retail trade)		-0.0428***	-0.0444***		-0.0445***	-0.0429***									
		(0.0101)	(0.0102)		(0.0102)	(0.0101)									
sales of retail trade per resident			0.00920	-0.0201***	0.00923										
			(0.00826)	(0.00653)	(0.00827)										
The change in TFP of wholesale							0.00364	0.00353	0.00354						
							(0.00701)	(0.00701)	(0.00701)						
density (wholesale)								-0.103*	-0.106		-0.106	-0.103*			
								(0.0614)	(0.0675)		(0.0674)	(0.0613)			
sales of wholesale per resident									4.64e-05	-0.000250***	4.42e-05				
									(0.000158)	(4.65e-05)	(0.000157)				
The change in TFP of the service													-0.000435	-0.000510	
													(0.00201)	(0.00199)	
density (service)														0.0417***	0.0417***
														(0.00741)	(0.00740)
Observations	2,003	2,001	2,001	2,003	2,001	2,001	2,003	2,001	2,001	2,003	2,001	2,001	2,003	2,001	2,001
Number of city_code	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102	1,102
Adjusted R-squared	0.771	0.789	0.790	0.772	0.789	0.789	0.635	0.637	0.637	0.635	0.637	0.637	0.768	0.781	0.781
city FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

density: density of establishment
*service: the narrowly defined service industries

Table 8 Health and nursing sector and agglomeration of manufacturing

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
VARIABLES	Dependent variable=TFP of retail trade							Dependent variable=TFP of wholesale							Dependent variable=TFP of narrow service					
Health and nursing dummy	-0.0738***	-0.0640***	-0.0673***	-0.0590**	-0.0821***	-0.0692***	-0.0826***	-0.106***	-0.103***	-0.0941**	-0.0972**	-0.138***	-0.101***	-0.101**	-0.105**	-0.0942**	-0.0878**	-0.112**	-0.0999**	-0.107**
	(0.0230)	(0.0232)	(0.0230)	(0.0230)	(0.0268)	(0.0230)	(0.0262)	(0.0379)	(0.0379)	(0.0378)	(0.0381)	(0.0460)	(0.0379)	(0.0434)	(0.0425)	(0.0425)	(0.0428)	(0.0560)	(0.0425)	(0.0507)
sales of retail trade per resident		0.0594***																		
		(0.0174)																		
sales of wholesale per resident									0.00107***											
									(0.000345)											
Ratio of persons with a college degree	0.00461**	0.00351*	-0.00281	-0.000750	-0.000834	0.000651	0.000576	0.0103***	0.00935***	-0.000149	0.00694*	0.00615*	0.00669*	0.00664*	-0.00256	-0.0109***	-0.0105***	-0.0108***	-0.00649*	-0.00672*
	(0.00198)	(0.00200)	(0.00253)	(0.00206)	(0.00207)	(0.00210)	(0.00211)	(0.00337)	(0.00337)	(0.00420)	(0.00368)	(0.00371)	(0.00369)	(0.00371)	(0.00341)	(0.00406)	(0.00387)	(0.00388)	(0.00351)	(0.00351)
Ratio of elderly population	-0.00373*	-0.00347*	0.000497	-0.00223	-0.00173	-0.00271	-0.00245	-0.0196***	-0.0199***	-0.0141***	-0.0198***	-0.0185***	-0.0188***	-0.0188***	0.00981***	0.0144***	0.0100***	0.0107***	0.0107***	0.0109***
	(0.00206)	(0.00205)	(0.00231)	(0.00208)	(0.00211)	(0.00208)	(0.00211)	(0.00311)	(0.00311)	(0.00322)	(0.00311)	(0.00318)	(0.00312)	(0.00314)	(0.00358)	(0.00375)	(0.00356)	(0.00369)	(0.00362)	(0.00369)
income per resident			0.000217***							0.000297***						0.000241***				
			(4.87e-05)							(6.94e-05)						(7.39e-05)				
density (retail trade)				0.180***	0.169***															
				(0.0235)	(0.0238)															
square denstiy (retail trade)				-0.0101***	-0.00895***															
				(0.00234)	(0.00227)															
Health × density (retail trade)					0.220**															
					(0.0991)															
Health × square denstiy (retail trade)					-0.0786**															
					(0.0373)															
density (manufacturing)						0.305***	0.282***						0.249***	0.256***					0.272***	0.283***
						(0.0646)	(0.0691)						(0.0743)	(0.0816)					(0.0888)	(0.0963)
square denstiy (manufacturing)						-0.0383***	-0.0339***						-0.0218*	-0.0229*					-0.0291*	-0.0302*
						(0.0116)	(0.0117)						(0.0125)	(0.0133)					(0.0169)	(0.0180)
Health × density (manufacturing)							0.265							-0.000441						0.183
							(0.227)							(0.256)						(0.301)
Health × square denstiy (manufacturing)							-0.126							-0.0253						-0.179
							(0.114)							(0.124)						(0.153)
density (wholesale)											0.236***	0.224***								
											(0.0761)	(0.0742)								
square denstiy (wholesale)											-0.0120*	-0.0106								
											(0.00717)	(0.00691)								
Health × density (wholesale)												2.617***								
												(0.903)								
Health × square denstiy (wholesale)												-5.092**								
												(2.207)								
density (service)																	0.138***	0.136***		
																	(0.0248)	(0.0250)		
square denstiy (service)																	-0.00416***	-0.00403***		
																	(0.00117)	(0.00119)		
Health × density (service)																		0.219		
																		(0.180)		
Health × square denstiy (service)																		-0.116		
																		(0.0820)		
Constant	5.052***	4.998***	4.786***	5.045***	5.040***	5.056***	5.054***	6.269***	6.282***	5.910***	6.299***	6.289***	6.276***	6.276***	4.642***	4.342***	4.705***	4.698***	4.648***	4.647***
	(0.0518)	(0.0530)	(0.0819)	(0.0516)	(0.0517)	(0.0518)	(0.0518)	(0.0805)	(0.0805)	(0.114)	(0.0818)	(0.0817)	(0.0807)	(0.0807)	(0.0860)	(0.127)	(0.0861)	(0.0865)	(0.0854)	(0.0855)
Observations	4,435	4,435	4,435	4,435	4,435	4,435	4,435	3,966	3,966	3,966	3,966	3,966	3,966	3,966	3,437	3,437	3,437	3,437	3,437	3,437
Number of city_code	1,536	1,536	1,536	1,536	1,536	1,536	1,536	1,427	1,427	1,427	1,427	1,427	1,427	1,427	1,316	1,316	1,316	1,316	1,316	1,316
year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

density: density of establishment
others: the other service sectors
service:the narrowly defined service industries

VIII. 2017 Lifetime Achievement Award

Comments

JOHN F. BURTON, JR.
Professor Emeritus
Rutgers University and Cornell University

Albert Rees, then a distinguished labor economist at the university of Chicago, provided this analysis of the role of unions (1962, 194-95):

> If the union is viewed solely in terms of its effect on the economy, it must in my opinion be considered an obstacle to the optimum performance of our economic system. It alters the wage structure in a way that impedes the growth of employment in sectors of the economy where productivity and income are naturally high and that leaves too much labor in low income sectors of the economy like southern agriculture and the least skilled service trades. It benefits most those workers who would in any case be relatively well off, and while some of this gain may be at the expense of the owners of capital, most of it must be at the expense of consumers and the lower-paid workers. Unions interfere blatantly with the use of the most productive techniques in some industries, and this effect is probably not offset by the stimulus to higher productivity furnished by some other unions.

Many of my fellow economists would stop at this point and conclude that unions are harmful and that their power should be curbed. I do not agree that one can judge the value of a complex institution from so narrow a point of view. Other aspects of unions must also be considered. The protection against the abuse of managerial authority given by the seniority systems and grievance procedures seems to me to be a union accomplishment of the greatest importance. So too is the organized representation in public affairs given the worker by the political activities of unions. If, as most of us believe, American should continue to have political democracy and a free enterprise economy it is essential that the great mass of manual workers be committed to the preservation of this system and that they should not, as in many other democracies, constantly be attempting to replace it with something radically different. Yet such a commitment cannot exist if workers feel that their rights are not respected and they do not get a fair share of the rewards of the system. By giving workers protection against arbitrary treatment by employers, by acting as their representative in politics, and by reinforcing their hope of continuous future gain, unions have helped assure that the basic values of our society are widely diffused and that our disagreements on political and economic issues take place within a broad framework of agreement. If the job rights won for workers by unions are not conceded by the rest of society simply because they are just, they should be conceded because they help to protect the minimum consensus that keeps our society stable. In my judgment, the economic losses imposed by unions are not too high a price to pay for their successful performance of this role.

I would restate the analysis by Rees and identify three contributions of unions. First, unions help their members by improving wages and working conditions and by protecting workers from arbitrary treatment by management. Second, unions also help all workers by establishing reasonable standards for wages and compensation through collective bargaining that unorganized firms are to some extent required to emulate. And third, as aptly described by Rees, by helping workers share in the increasing wealth of the economy, unions contribute to the stability of our society. In essence, unions should be endorsed and supported by conservatives because unions support rather than undermine the features essential to the long-term survival of our country.

Author's address: Rutgers School of Management and Labor Relations, 94 Rockefeller Road, Piscataway Township, NJ 08854

I used to assign the analysis of unions by Rees to my students in the MBA program at the University of Chicago. Alas, I don't think that many were persuaded that conservatives or members of the business community should endorse a robust union movement. But this goal is so important for our country that I want to try again to persuade some businessmen that resistance to viable unions is a myopic policy.

The Labor and Employment Relations Association has a long history of promoting constructive labor-management relations. I propose that LERA establish an annual award that recognizes a member of the business community who has made a contribution to the continuation of a viable union movement in the U.S.

The award should be named the Myron Taylor Award.[1] Myron Taylor was Chairman of U.S. Steel who in 1937 signed a collective e bargaining agreement with the SWOC (the Steel Workers' Organizing Committee), which John H. Lewis had been instrumental in founding.

I do not want to suggest that Myron Taylor specifically endorsed the proposition that unions are essential to the long-run survival of the country. His motivation was more practical: "that unions were an unavoidable reality in the future of steel production, and that continued resistance would only delay the inevitable while exposing the company to considerable political and economic risks" (White 2016, 101). But regardless of Taylor's motive, to his credit, Taylor made his decision to recognize the SWOC when the leaders of the rest of the steel industry persisted in their vigorous resistance to unionization. Indeed, the organizing campaign in the rest of the steel industry—known as Little Steel—that followed the recognition of the UWOC by U.S. Steel resulted in a series of violent confrontations that have been termed "The Last Great Strike" in American labor history (White 2016).[2] Moreover, in some ways, Myron Taylor was even ahead of workers in his recognition of the reality of unionization. He signed the collective bargaining agreement with the SWOC even though "the union had actually signed up only 7 percent of U.S. Steel's workers when Taylor's negotiations with Lewis unfolded" (White 2016, 101).

And so let us reserve a chair at the head table at next year's LERA awards luncheon for the recipient of the Myron Taylor Award. Needless to say, the award may not be given every year. But let us look forward to years when we will need a longer table to accommodate the multiple recipients of the award.

Endnotes

[1] Myron Charles Taylor (1874-1959) was an industrialist, a diplomat, and a philanthropist. He was a 1894 graduate of the Cornell Law School, and he contributed $1.5 million in 1928 to Cornell University to construct a new building for the Cornell Law School and Law Library. In 1949, he made an additional gift of $1.5 million to Cornell to build Anabel Taylor Hall, which was named in his wife's honor and which serves as an interdenominational religious center (http://bit.ly/2mSEJcW2017).

[2] The best-known confrontation in the effort to organize Little Steel is known as the Memorial Day Massacre, which took place at Republic Steel's South Chicago Works on May 30, 1937. The police fired about 200 gunshots at the demonstrators that resulted in mortal wounds to ten men and nonlethal wounds to some thirty men and women (White 106, 2-3).

There were several other violent confrontations involving Republic Steel and demonstrators, including what has been called "The Riot at Massillon" (White 2016, 211), which took place at the Massillon, Ohio plant on July 7, 1937 and which resulted in two deaths and injuries to about a dozen persons, mostly from gunshots wounds (White 2016, 216-17). I have a particular interest in this incident because I grew up in Massillon and worked two summers at Republic Steel in the 1950s when I was in college. Alas, the Massillon Steel Works has long since been closed.

A more significant reason for my continuing interest is that my sister, Sue Burton, wrote a poem about the 1937 demonstrations in Massillon. The first two stanzas of *Little Steel* commemorates the lives of the two workers killed by the police (Burton 2016):

> Let us praise Fulgencia Calzada, shot
> In the back of the head. Let us interrogate the bullet.
> *Oh, but the strikers threw a rock.*

And let us praise Nick Vathias—or Vadios
Or Vadlas—gunned down at the door to the strikers' kitchen
Excusable homicide.

References

Burton, Sue D. 2016. "Little Steel." Mudlark 60. http://bit.ly/2Gaeu9B

Rees, Albert. 1962. *The Economics of Trade Unions.* Chicago, IL: University of Chicago Press.

White, Ahmed. 2016. *The Last Great Strike: Little Steel, the CIO, and the Struggle for Labor Rights in New Deal America.* Oakland, CA: University of California Press

VIII. 2017 LERA Lifetime Achievement Award

Remarks

SIR PETER CARR
English National Health Service (retired)

It was an immense privilege to receive this Lifetime Achievement award from LERA. I am really sorry that I cannot be there in person to thank you. My friendship and work with LERA and American colleagues has been an enormous pleasure over the years.

I started my working life when I left school at fourteen and took an apprenticeship as a carpenter and joiner, working in the building industry. This early working experience shaped my future career. It has been a lifetime of studying, teaching, organising, regulating, mediating and managing, in support of the wider public interest.

My early industrial relations work was in key British government institutions, as well as extended work in the United States and Sweden, as well as evidence gathering in many other countries.

From the 1950s to the late 1970s, Britain suffered from a chaotic bargaining structure and deep antipathy between unions and employers. With hindsight, we might now judge that it was an impossible task to successfully engage in a consensual reform of the system as it was. But for a group of us who left the teaching of industrial relations to engage in the reform programme of the late 1960s, the opportunity to be directly involved was a dream come true.

I came into industrial relations practice from the Oxford School, under the tuition of Alan Flanders and Hugh Clegg. Back then, we nurtured the concept of rational structures, encouraging a more articulate and effective contribution by trade unions, and an adherence to mutually agreed procedures. Central to this philosophy was the idea that collective bargaining was the best means of determining relationships between management and labour.

The main institution that came out of this Oxford School thinking was the Commission on Industrial Relations (CIR). The CIR took me on as a director and we set out to produce effective procedures and conflict resolution methods in companies and industries with the most disruptive histories. I had previously been employed part-time at the National Board for Prices and Incomes (NBPI), which attempted to reform pay determination and aimed to spread the practice of productivity bargaining to the benefit the employer, the majority of employees and to the consumer. The pay bargaining experience gained at the NBPI provided skills that we deployed in other national reform initiatives at the CIR. It was a rational, researched and liberal approach to industrial relations. Although it may have had only a partial success, I believe that it could provide vital lessons worth considering today, as we move into a new era of disruptive technologies that are again set to radically change the world of work and working relations.

The introduction of a legal framework in Britain, in many ways mirroring the American system, dominated all our agendas in the 1960s and early 70s. Back then, national strikes could erupt on matters of fine principle. Yet we established a significant methodology to deal with the problems. For example, with a team of researchers I spent over a year in the national newspaper industry for the Royal Commission on the Press, to form a new agenda for industrial relations in that industry. The thorough nature of that study continues to receive praise to this day. The case study methodology we used in union recognition cases was

Sir Peter Carr was not able to be physically present at the June 2017 conference in Anaheim to accept the Lifetime Achievement Award, but he sent us his acceptance remarks, which detail his involvement with colleagues in the United States and the Washington LERA chapter. He subsequently passed away in October 2017 at the age of 87. His obituary can be found at https://lera.memberclicks.net/sir-peter-carr-obituary reviewed in a recent study. In the end, a changed political environment enabled the newspaper employers to sort out their industry in their own way, and in their favour.

My keen interest in Worker Participation led me to travel to six European countries to study their various organisational forms. We took some elements of that learning through the UK Parliament, including the introduction of standards applying to the provision of information for union representatives. Of course, such provisions have no legal effect these days.

In the 1970s, I was repeatedly drawn to America as a country from which to learn from the experience of free collective bargaining within a strong legal framework. In 1976, the American Ambassador in Britain, Ann Armstrong, provided a generous opportunity to undertake a study tour in America to broaden my experience of the way the American systems operate.

I learned a lot in that period from the experience of American academics, trade unions and employers. During that tour, I had a memorable meeting with George Meany and developed a relationship which we retained for many years. We also held several interesting debates in Oxford with Walter and Gladys Gershenfeld. I even attempted, but failed, to recruit Tia Denenberg to the UK during Richard Denenberg's study period in Britain. I had more success later with Eileen Hoffman's recruitment into the UK Conciliation Service (ACAS) who came on an exchange scheme that I established with the FNCS.

My appointment as Counsellor for Labour with the British Embassy in Washington came in 1978. By the time I arrived in Washington, I already had many American friends and colleagues. The job took me to every state and brought me into contact with many of the great figures in American labour history. I met A. Philip Randolph, whose organising skills had established the rights of sleeping-car porters. I was also able to meet Bayard Rustin who told me about his role in organising the Great March on Washington. I also learned a great deal from Victor Reuther of his and Walter Reuther's organisation of the autoworkers.

A major task I undertook during my Washington British Embassy tenure involved me going into American Universities, from which I produce a series of papers on the functioning of collective bargaining in the US. Those papers, in turn, re-shaped the British government's thinking of its own industrial relations system in the early 1980s. Altogether, I think that I must have produced over two hundred papers on aspects of the American Labour market. Looking back through those papers recently, it is clear how much has changed since then. They were written before the profound effect of new technology on the labour market. However, some pivotal assumptions continue to be relevant. I am convinced that the relationship of employer and employee remains a pluralistic process, and that to remain healthy this requires effective employee representation, whatever the technology. We should now be experimenting with new ways for employee views to be articulated in the modern workplace.

In 1982, during my time in Washington, the American Labor Department persuaded me to participate in a collective bargaining conference they were sponsoring in Rio de Janeiro. This was before the fully democratic elections in Brazil. It had been arranged for me to talk to a shop-stewards group at the Volkswagen car plant, to which the Brazilian security police raised objections. I came back from Brazil reinforced in the conviction that trade unions are an essential component for a truly democratic society. A senior shop steward called Luiz Inácio Lula da Silva was a participant on that course. He later went on to become the democratically elected President of the Brazilian Republic.

On completion of the Washington diplomatic post, I returned to Britain to head a team to deal with the impact of the 1980s recession and its consequent devastation of the industrial infrastructure, supporting the regeneration of the North-East economy. My experience in America provided many lessons for establishing effective community responses to such rapid industrial change.

I took retirement from government service around twenty years ago but was soon encouraged back to work again, this time with the British National Health Service (the NHS), and in turn headed up five major health organisations. I am proud to say that at one point the North-East health system received the accolade of being the best operating part of the National Health Service. In my work for these health bodies, the discipline and constraints acquired from my industrial relations experience have been essential.

Finally, I would like to thank LERA for its friendship over the years, including Janice Bellace who brought this wonderful award over to the UK for me. In particular, I would like to extend a personal thanks to Greg Bamber in Australia who has been a constant sounding board for many years since we first worked together at the Commission on Industrial Relations.

LERA stands in a good position to help define the boundaries and the processes that will be needed for the challenging new economy ahead. As a forum for exchanging experience and ideas, it has a unique and vital role to play. Long may you continue with your important work!

VIII. Dynamics of Low-Wage Labor Markets: Implications for Minimum Wage Policy

When Hours Decline: Tides of Change in Low-Wage Labor Markets

WENDY RAYACK
Wesleyan University

Using a sample from the PSID for 1997–2013, we document features that characterize flows of workers through low-wage markets over time. We show that half of the population moves through these markets at some point in their lives. Longitudinal analysis reveals a constant churning of the labor force and multiple strategies for adjusting to shocks, traits often masked by cross-section snapshots. In such an environment, higher wages could promote attachment, bring lower turnover, and yield gains in productivity, prospects that suggest new ways to think about predicted consequences of minimum-wage hikes.

Dramatic changes in the U.S. labor market constitute a growing "national crisis," according to many accounts. Those reports point to men of prime working age who have no steady connection to paid work and men who have dropped out of the labor force entirely[1] (Eberstadt 2016). Parallel stories report both women and men unable to sustain families on minimum-wage earnings. Both developments suggest an urgent need for attention to these markets. While some contend that hiking the minimum wage would help, others worry that a higher minimum wage would only push jobs further out of reach for those least prepared for the modern world of work[2] (Belman and Wolfson 2014; Neumark and Wascher 2008). We argue that these debates would benefit from a closer look at how low-wage labor markets operate when responding to shocks. Are jobs simply wiped out, or are hours and work conditions altered to reduce layoffs? Do shocks fall on otherwise stable low-wage markets or are such markets typified by volatility and a constantly changing workforce? To what extent are workers dropping out of the workforce completely as opposed to cycling in and out for a variety of reasons?

The growing literature on puzzles confronting minimum-wage research gives these questions heightened importance. Why, for example, do minimum-wage studies frequently find small and insignificant impacts on jobs? Could the volatility faced by low-wage sectors spur "multiple paths of adjustments" and explain the small to insignificant jobs effects found in some minimum-wage studies3 (Hirsch, Kaufman, and Zelenska 2015)? Would the most vulnerable people still lose an already tenuous attachment to steady work, or would higher wages transform secondary jobs, with negative traits, into jobs more like those in the primary sector, with increased worker attachment and less costly turnover?

In addressing these issues, we argue that snapshots of the labor market based on short-term cross-section data can hide central features of markets. In particular, they risk missing the strategies for adjusting to shocks and understating the flows of workers through these markets over time. To capture such changes, we use data from the Panel Study of Income Dynamics (PSID) for the period 1997 to 2013 and document the alterations in labor market status as work lives and family lives unfold.

In recent years, the PSID has collected information every other year rather than annually. Yet that limitation is outweighed by the ability to follow the same people from survey to survey and to include years before, during, and after the Great Recession. Exploiting the panel nature of the data, we explore what can be

Author's address: Wesleyan University, Public Affairs Center, 327, 45 Wyllys Avenue, Middletown, CT 06459

learned by following people as they navigate their way in and out of low-wage jobs over a substantial period of time. Our weighted sample includes observations on about 7,000 individuals per year, ages 19 to 64 (Appendix Table A1 and Appendix Table A2). We take advantage of the PSID's particularly high level of detail on the labor market activities of wives, husbands, and single women who head households.

Section I explores the distinction between permanent and temporary low-wage status. Section II compares transition patterns among labor market categories for workers starting from low- and higher-wage jobs. Section III links the observed patterns to increased labor market slack during the Great Recession and tracks long-run sequences of labor force exits and re-entry. Section IV makes the statistical links explicit. Using regression analysis, we estimate the magnitude and statistical significance of adjustments that occur in both high- and low-wage markets when shocks cause hours to decline.

Permanent Versus Temporary Low-Wage Status

It is common to talk about low-wage workers as if such workers come branded with a permanent status. However, our work suggests frequent movement is more typical, with workers often switching labor market categories. Although the percentage in each category may stay relatively stable over time, the actual people in those groups are frequently trading places, and that place-trading is a telling trait of this market.

In our study, we define "low wage" as a wage rate at or below the 30th percentile of the U.S. wage distribution. Although setting that cutoff is straightforward, identifying low-wage workers is not as easy. There really are no "low-wage workers," only low-wage jobs into which people are slotted during one or more periods of their lives. In our sample of over 7,700 people observed every other year from 1997 to 2013, 50% of those with wages are never low wage in the years we observe them while 50% are low-wage at least once during the sample years (Table 1, next page). The fact that a full 50% of the population marches through these markets at some point in their lives is a fact to keep in mind.

If we zero in on those who were ever low wage (i.e., low wage at least once), we find that even the people in this group spent only 42% of their earning years in low-wage jobs while 45% of their earning years were spent in higher-wage positions. As for those "stuck" in permanent low-wage status, we find that those cases are rare. Only 4.4% were low wage in all years. In fact, if we limit our focus to those with positive wages who are observed in at least five of the nine survey years, the percentage with permanent low-wage status drops to 1.2%. It is in this sense that most people defy categorization as low-wage workers. They simply work in low-wage jobs at some point in their work lives.

Although permanent low-wage status seems like a rarity according to this preliminary look, one might argue for broadening the focus to those who have either low or zero wage (LZW) in any given year. We explore that group next, and the results show why the panel analysis is so valuable. Of those between the ages of 19 and 64, only 30% are never LZW in the years we observe them, while 70% are LZW at least once during the sample years. This is not surprising. Among those with zero wages, we see people who are attending school (9%), people who are temporarily or permanently retired (13%), people reporting a permanent disability (15%), the unemployed (26%), workers on temporary layoff (3%), and a substantial number who report their activity as "keeping house" (32%). Omitting these people from the analysis would cloud our understanding, as their status can be a result of unattractive opportunities in the labor market. In fact, we observe movement back into employment even from retirement and "permanent" disability status. Keeping these people in the analysis for now, we find that those seemingly "stuck" in permanent LZW status make up 16% of the sample. Among those who were ***ever*** LZW, 23% are LZW in ***all*** years observed. Of course, this means that the vast majority are *not* permanently stuck in that category. If we focus on those observed in at least five of the nine survey years, the ***"permanently"*** LZW group shrinks to 17%, and the percentage *not* "stuck" rises to 83%. Again, most people who pass through the low-wage labor market defy categorization by permanent low- or zero-wage status. This is not to trivialize the consequences of low wages, especially for those who *are* trapped in that world. Instead, the point is that the low-wage job market is in constant motion, churning through a frequently changing workforce.

TABLE 1
Temporary Versus Permanent Low-Wage Status

Category		
Never low wage		49.8%
Ever low wage (at least once during the sample years)		50.2%
Percent of earning years in low wage jobs		41.5%
Percent of earning years with higher wages		44.7%
Low wage all years observed		4.4%
Observed at least 5 of the 9 survey years		1.2%
Ever low or zero wage (at least once during the sample years)		70.0%
Never low or zero wage		30.0%
Low or zero wage all years		16.4%
Observed at least 5 of the 9 survey years		12.0%
Of those ever low or zero wage		23.4%
If observed at least 5 of the 9 survey years		16.6%
Employment Status	**Zero Wage**	**Positive or Zero Wage**
Working	0.0%	76.9%
Temporarily laid off	3.0%	0.7%
Looking for work, unemployed	26.3%	4.8%
Retired	13.0%	4.5%
Permanently disabled	15.2%	3.4%
Housewife; keeping house	32.3%	8.0%
Student	8.5%	1.4%
Other	1.8%	0.4%

Source: Author's calculations based on extract drawn from the PSID for the survey years 1997 to 2013. All calculations use data weighted by the PSID family weights.

Labor Force Transitions in Low-Wage Markets for Workers of Prime Working Age

Labor force transitions are distinctly different for workers in low-wage jobs. If we examine transitions among four different categories of labor market status, we see this quite clearly. We limit this look to workers in their prime work years of age 25 to 54 in order to minimize interference from late schooling and early retirement, and we report their transitions for all survey years from 1997 to 2013. For those with wages above the 30th percentile prior to each survey year, a full 93% remain employed from one survey year to the next (Table 2, next page). That figure drops to 84% for workers starting from low-wage jobs prior to each survey and to 82% for people with a recent history of a zero-wage year.

The flip side of this story is the movement from employment to being unemployed or out of the labor force (OLF). For the higher-wage group, the percentage moving from employment to OLF or unemployment is relatively low. While 2.9% become unemployed, 3.4% exit the labor force. Such transitions are more than twice as high for workers starting from low-wage positions (15%) and nearly three times as high for those reporting a year of zero wages in the recent past (17%). Importantly, exits from employment into OLF status are highest, and substantially so (10.4%), for the latter group.

TABLE 2
Transitions Among Labor Force Categories by Wage Category

Table 2a: High Wage in Income Year t-3

	Employment Status, Survey Year t				
Employment Status, Survey Year t-2	**Employed**	**Temporarily Laid Off**	**Unemployed**	**Out of the Labor Force**	**Total**
Employed	93.1	0.6	2.9	3.4	100%
Temporarily Laid Off	68.0	7.2	9.1	15.7	100%
Unemployed	66.9	1.2	20.3	11.6	100%
Out of the Labor Force	48.9	0.7	7.5	42.9	100%

Table 2b: Low Wage in Income Year t-3

	Employment Status, Survey Year t				
Employment Status, Survey Year t-2	**Employed**	**Temporarily Laid Off**	**Unemployed**	**Out of the Labor Force**	**Total**
Employed	84.4	0.9	6.3	8.4	100%
Temporarily Laid Off	58.6	4.1	12.6	24.6	100%
Unemployed	57.4	1.5	26.9	14.2	100%
Out of the Labor Force	42.3	1.3	7.9	48.5	100%

Table 2c: Zero Wage in Income Year t-3

	Employment Status, Survey Year t				
Employment Status, Survey Year t-2	**Employed**	**Temporarily Laid Off**	**Unemployed**	**Out of the Labor Force**	**Total**
Employed	82.0	0.8	6.8	10.4	100%
Temporarily Laid Off	33.4	0.0	40.2	26.4	100%
Unemployed	41.7	1.2	29.9	27.2	100%
Out of the Labor Force	20.7	0.3	4.8	74.2	100%

Notes: Author's calculations from the PSID for survey years 1997-2013. Sample includes all persons ages 25–54.

Higher-wage workers fare better if placed on temporary layoff. For those who recently held a position paying above the 30th percentile, 68% move back into employment after a temporary layoff. The corresponding figure for those recently in a low-wage job is 59%. Recent higher-wage status also provides an advantage to the unemployed, with 67% reporting employment in the subsequent survey year, compared with 57% for those with a recent history of a low-wage job and 42% for those with a recent year without wages. For the last group, instead of finding employment, the majority of unemployed workers either remain unemployed or drop out of the labor force (57%). Remaining unemployed or dropping out of the labor force also characterizes 41% of unemployed workers who recently held a low-wage job. For those recently in higher-wage jobs, the corresponding figure drops to 32%.

Even leaving OLF status appears easier for those who held a higher-wage job before dropping out the labor force. Among those with higher wages prior to their OLF status, 49% are back at work by the subsequent survey year. For those starting from low-wage jobs prior to OLF status, the figure dips to 42%, while for those with a zero-wage year prior to the OLF status, only 21% move back to work by the next survey year. The figures for these 25- to 54-year-olds remain basically unchanged if we remove from the analysis persons reporting permanent disability, retired persons, and students.

Women in all three wage categories are much more likely than men to move to OLF status from employment, unemployment, or temporary layoff and to remain OLF once there (Appendix Table A3). Yet the likelihood of moving from these labor force categories into OLF status is largest for the women reporting low or no wages in the recent past. If recently in a low-wage job, 20% of unemployed women compared with 7% of unemployed men left the labor force after becoming unemployed. The figures jump to 33% and 20%, respectively, for women and men if their recent past includes a zero-wage year. The unemployed men, while less likely to exit the labor force, are more likely than the women to remain unemployed.

Movement between low- and higher-wage jobs is another common form of transition, and one that challenges use of the label "low-wage worker." Workers with wage rates below the 30th percentile often move up, suggesting that the job, rather than the worker, determines the wage status. Mobility of that type can result from upgrading and downgrading of hiring standards during business cycles. The pattern is one emphasized by macroeconomic theories of cyclical labor market mobility and is known for increasing the chances for women, workers of color and those with less education to gain a permanent foothold in markets that would otherwise be out of reach[4] (Okun 1981). Between any two survey years, 35% of low-wage women and 47% of low-wage men move from a wage that is at or below the 30th percentile to a wage that is above that cutoff (Table 3). That type of upward mobility is the least likely for low-wage women who are single heads of households. Yet, even for that group, 33% make such wage gains from one survey year to the next.

TABLE 3
Transitions Between Low- and High-Wage Jobs by Gender and Family Status

	Wage Status Relative to 30th Percentile, Year t		
Wage Status, Relative to 30th Percentile, Year t-2	**At or Below**	**Above**	
Women			
Low Wage	65.32	34.68	100%
Wage over 30th Percentile	12.55	87.45	100%
Men			
Low Wage	53.2	46.8	100%
Wage over 30th	8.09	91.91	100%
Single Women Who Head Households			
Low Wage	67.44	32.56	100%
Wage over 30th	15.72	84.28	100%
Wives			
Low Wage	63.91	36.09	100%
Wage over 30th	11.12	88.88	100%
Not Wives or Heads of Households			
Low Wage	61.54	38.46	100%
Wage over 30th	16.67	83.33	100%

Notes: Author's calculations from the PSID, survey years 1997-2013. Sample includes all persons ages 25–54.

We also note downward mobility. While only 8% of high-wage men drop from the higher- to the lower-wage category from one survey year to the next, 13% of higher-wage women experience such wage erosion. Again, wives fare better than single women who head households. While 11% of high-wage wives drop from higher- to lower-wage positions, 16% of high-wage single women who head households exhibit this type of downward mobility in wage status.

The churning in low-wage markets is also visible in the data on job tenure or "years with present employer." Accumulating multiple years with the same employer is much less likely for those in low-wage jobs. For all persons, average tenure is 5.9 years. That figure drops to 3.3 years for workers who are in low-wage jobs and to 2.2 years for workers who are in low-wage jobs 80% of the time. The higher volatility can also be characterized by the number of times people change their labor market status. Taking advantage of the long-period panel data, we focus here on those observed in all nine survey years between 1997 and 2013. While workers recently in higher-wage jobs change labor force status 11% of the time, those recently in low-wage jobs switch labor force status 18% of the time. The figures are higher for women than for men and highest (20%) for single women who head households.

The Great Recession and Long-Run Sequences of Employment Exits and Re-Entry

While the constant movement that we have documented is interesting in and of itself, we have yet to connect the observed movement to national or local shocks that frequently jolt low-wage markets. We do this now in two stages. First we explore the period of the Great Recession, tracking sequences of moves during the slump and ensuing recovery. Second, we use regression analysis to estimate the magnitude and statistical significance of links between market adjustments and increased labor market slack.

We explore sequences of moves starting in 2005, from well before the Great Recession; progressing through 2007 to 2009 when the recession gains full force; continuing into 2009 to 2011 when the recovery starts; and ending with 2011 to 2013, when the recovery gathers momentum. We consider all workers between the ages of 19 to 64 in order to include school and retirement reactions to the changing market conditions. In addition, we group workers by the wage reported in a year just prior to the survey years being explored. From 2005 to 2007, despite being a time of relative stability, the risk of moving from employment to unemployment is already higher for workers recently in low-wage jobs (4% versus 2%). More important, this risk more than doubles from 2007 to 2009, reaching 9% in that period and remaining elevated between 2009 to 2011 (7%) and 2011 to 2013 (6%). The rise for workers recently in higher-wage jobs is much more modest.

Moves from employment to retirement display a gradual upward trend from 2005 to 2013 for those recently in low-wage jobs and show a substantial jump, from 1.8% to 4.2%, in the depths of the recession for those recently reporting a zero-wage year. Some of these same workers re-enter the labor force at a later date.

Leaving employment for "keeping house" becomes less common during the recession, likely reflecting the greater reluctance to leave a job when economic uncertainty threatens livelihoods and savings. The fall-off in this move from employment to "keeping house" is most evident for those recently reporting a year of no wages. Transitions from employment to student status move in the opposite direction for this group. A rising percentage of those reporting a recent experience of low or zero wages move from employment to education as the job market worsens in 2007-2009. The same is true for those who begin the period unemployed. They show an increasing tendency to enter student status as the recession unfolds. We see signs that this pays off when we view sequences that include student-to-employment moves in the final years of our sample. By 2011-2013, we see a notable rise in the percentage entering employment from student status. Plus, those who had a recent year of zero wages appear to remain in school longer just after the recession. This is suggested by the increased figures, post-recession, in the "Student to Student" transition for this group.

To carefully document the sequences of moves driven by the Great Recession, we identified 35 possible paths from employment in 2007 to loss of employment in 2009 or 2011 and back to employment by 2013. This method shows that certain sequences are much more common than others for workers starting from low-wage jobs. Moving from employment in both 2007 and 2009, to temporary layoff in 2011, and back to employment in 2013 is less typical for men and women starting from low-wage jobs than for those starting the period in higher-wage positions (Appendix Table A4). A similar sequence, this time with employment in 2007–09 interrupted by unemployment in 2011, is much more common for all. Among men who start and end the period employed, over a fifth from both low- and high-wage jobs report this series of changes, a sequence that is less common for low-wage women. By far the most common sequence for those who start and end the period with a job is employment in 2007, followed by unemployment in 2009 with a return to employment in 2011 and 2013. Comparison of the two sequences shows that, for men starting from low-wage jobs, unemployment hits earlier. Reports of unemployment in two consecutive survey years describes yet another and more difficult path back to employment. A much larger percentage of men from low-wage jobs report this sequence of events (17%). The comparable figure for men recently in a better-paying job is much lower (6 %). In contrast, after employment ends, the women are more likely to report "keeping house" as their activity.

A small but interesting group consists of people who, after starting the period employed, move into retirement or disability status and then re-enter the labor force by 2013. If we combine all those who make temporary moves from employment into retirement or disability status and back to employment again, we find that more low-wage women (7.2%) than low- or higher-wage men (6%) make such recession-timed moves.[5]

A larger group of people drop out of the labor force during the recession to "keep house" or pursue education. We focus first on the moves from employment to education and back to employment again. A higher percentage of those from low-wage positions follow that path in the recession years. Summing over the high-unemployment years 2009-2011, we find 13% of women and 11% of men from low-wage jobs making such moves compared to 9% of higher-wage workers.

So far, we have focused on those who succeeded in returning to employment by 2013. Yet many paths end in less success, without a return to employment by 2013. Several patterns are worth noting. First, temporary layoff does not guarantee a return to employment, even for those in higher-wage positions. "Temporary" layoff is not always temporary. Second, even as the economy recovers, labor markets lag behind. Third, the lag in labor markets means that, despite staying employed in 2007 and 2009, 10% of the men from low-wage jobs report unemployment in the final two survey years, 2011 and 2013. That extended unemployment is again less common for women and for those who recently held a higher-wage job. Fourth, while unemployment in 2011 often ends in retirement by 2013, those starting from low-wage jobs are likely to move from unemployment in 2011 into disability status in 2013. This difference is understandable given the lower savings, smaller pensions, and greater physical demands typical of low-wage work. Women who recently held low-wage jobs are again more likely to follow a report of unemployment in 2011 with a report of "keeping house" in 2013. Fifth, moving from employment to student status in 2009 or 2011 is no guarantee of employment by 2013. Among those who are no longer in school in 2013, 7.1% of women and 6.3% of men from low-wage jobs have not returned to employment by 2013 even after ending their student status in 2009 or 2011. For those recently holding a better-paying job, ending student status, but failing to become employed, is much more unusual (2%).

When Hours Decline: Estimating the Variety and Scale of Adjustments in Low-Wage Markets

We now make the statistical links explicit by estimating the magnitude and significance of adjustments in low-wage markets when hours decline. Studies of labor markets often report estimates of the "elasticity of employment" with respect to specific economic shocks. In efforts to determine the meaning of those studies, some in the popular press interpret a negative elasticity with respect to changes in the minimum wage as jobs wiped out. Yet a decline in hours can be distributed in multiple ways, not all of which culminate in jobs eliminated. For example, a simple regression analysis of annual hours on state unemployment rates shows that a single percentage point increase in those rates causes annual hours to fall by 8% overall, 5% for workers who are low wage at least 50% of the time that we observe them and 17% for workers LZW at least 50% of the years observed (Table 4, next page). Some of those hours show up as reduced hours per week, which fall 4.0%, 3.3%, and 10%, respectively, for all persons and for the two wage categories. Other adjustments reflect fewer weeks worked per year, 4.4%, 2.6%, and 9.1%, respectively. By contrast, the probability of working (i.e., having positive hours or not) falls by about .0096, .0067 and .02, respectively, starting from a proportion with positive hours of 0.84 for the sample as a whole.[6] Though significant, those declines appear economically small. Likewise, the probability of losing all annual hours of work worsens by .004 for all persons and by .006 for those recently in a low-wage job.[7] Although not reported in Table 4, we also find evidence of offsetting ***increases*** in hours of overtime particularly for low-wage single women who head households.[8] The low-wage market thus has multiple ways to adjust to economic shocks, and lost hours of one type can be partially offset by increased hours elsewhere.

TABLE 4
Impacts of a Percentage Point Change in State Unemployment Rates
(between year t and year t+2, 1997-2013)

Dependent Variable	**All Persons**	**Low Wage at Least 50% of the Time**	**Low or Zero Wage at Least 50% of the Time**
Annual hours	-23.4 ***	–14.4**	–37.5 ***
ln(annual hours)	–8.1%***	–5.3%***	–17%***
Average hours per week	–0.44 ***	–0.40 ***	–0.93 ***
ln(average hours per week)	–4.4%***	–3.3%***	–9.6%***
Weeks per year	–0.48***	–0.17	–0.81***
ln(weeks per year)	–4.4%***	-2.6%**	–9.1%***
Tenure in years[a]	0.69 ***	0.54 ***	0.46 ***
ln(tenure)	11%***	12% ***	12%***
Annual overtime hours[b]	4.8 ***	6.3*	6
ln(overtime hours)	0.7%	2.6%	0.7%
Annual pay from extra jobs[c]	$68.70	$70.90	$70.00
Ln(pay from extra jobs)	6.47%	–1.48%	–1.47%
Probability of working[d]			
Linear probability estimates	–0.00961***	–0.00668***	–0.02137***
Probit estimates	–0.00666 ***	–0.00516***	–0.01509***
Probability of losing all hours[e]			
Linear probability estimates	0.00374***	0.00609***	0.000937
Probit estimates	0.0025***	0.00461***	0.00583

Notes: Based on data drawn from PSID, all persons ages 19–64, 1997 to 2013.

Calculations are panel estimates with individual and year fixed effects and data weighted by PSID's longitudinal family weights. Significance tests use clustered robust standard errors with clustering at the individual level.

a. Sample limited to wives and heads of households, with positive values for tenure.

b. Sample includes wives, heads of households, with positive values for overtime hours.

c. Sample limited to heads of households with positive values for pay from extra jobs.

d. Dependent variable equals 1 if hours are positive, zero if hours are zero.

e. Dependent variable equals 1 if change in hours from year t-2 to year t is negative and hours in year t are zero. Otherwise the dummy equals zero (zeros include those who kept some hours, gained hours, or had no change in hours).

Key for significance levels: *p<0.10; **p<0.05; ***p<0.01.

One might reasonably argue that, without controls for confounding factors, these estimates are less than precise and likely to be biased. Two points are relevant here: By controlling for personal characteristics, we implicitly assume that all of those personal traits are fixed. Yet one point of this study has been to suggest that markets and people often change and that markets can spur those changes in behavior. Second, while we do find that controls for personal characteristics alter the magnitude and significance of the estimates, this is perhaps the less notable finding. A fact that we find much more interesting is the role that tenure on the job (or what PSID calls "years with present employer") plays in influencing estimated effects by gender, family status and wage category (Table 5, next page). Our controls are the following: age, age-squared, high school education, college, number of children, age of the youngest child, whether white, and whether low or zero wage in a prior, but recent, survey year. In addition, we interact the dummy variable for the LZW category with the state unemployment rates in order to estimate the extra impact of unemployment on people with recent LZW status, and we show the results both with and without the tenure variable.

TABLE 5
The Interaction of Low-Wage Status with State Unemployment Rates
(between year t and year t+2, 1997–2013)

Dependent Variable = Annual Hours	**Male Household Heads**				**Female Household Heads**				**Wives**			
	model a		**model b**		**model a**		**model b**		**model a**		**model b**	
Unemployment rate, (UR)	-11.27	***	-13.11	***	-12.17	*	-18.31	***	–6.92	*	-10.71	***
(If low wage in t-2) x UR	-20.96	***	–12.12	**	–19.39	**	–7.80		–8.05		3.90	
If low wage in t-2	25.11		20.83		35.63		10.70		–119.21	***	–129.44	***
Age	98.74	***	73.50	***	94.80	***	73.90	***	82.16	***	52.01	***
Age-squared	–1.37	***	–1.12	***	–1.23	***	–1.05	***	–1.06	***	–0.78	***
High school	–78.26		–75.00		229.87	***	216.74	***	3.05		–9.39	
College	89.97	**	89.85	**	156.50	**	131.84	**	96.27	***	77.88	**
No. of children	–17.80	**	–6.59		–55.46	***	–44.50	**	–196.76	***	–176.52	***
Age youngest child	0.28		–0.91		1.12		1.97		12.62	***	12.86	***
White	35.28		20.86		–64.06		36.77		12.00		23.11	
Years with present employer			25.85	***			–62.06	***			37.00	***
Constant	520.01	***	944.50	***	–161.29		208.86		50.05		603.49	***
Number of Observations	35,729		35,521		15,356		15,288		29,968		29,819	

Notes: PSID, all household heads and wives, ages 19–64, 1997 to 2013. Calculations are panel estimates with individual and year fixed effects and data weighted by PSID's longitudinal family weights. Significance tests use clustered robust standard errors with clustering at the individual level.

* p<0.10; **p<0.05; ***p<0.01.

Here is what we find most telling. For both women and men, for male household heads, and for wives and single women who head household, the impact of recently holding a low-wage job significantly and substantially increases the impact of rising unemployment rates on the measures of hours discussed above. However, with addition of the tenure variable, the statistical significance disappears for all but the men, and even for them the magnitude drops dramatically. The meaning of this becomes clear when we substitute tenure as the dependent variable (Table 6, next page). For most workers, tenure increases when unemployment rates rise. Workers hold on to jobs longer when the economic future is uncertain, and employers hoard favored workers, protecting their investment in skilled workers when recessions hit. For the low-wage group, in contrast, we see a significant decline in tenure equal to a quarter of a year for each percentage point rise in the unemployment rate. While low-wage workers who have been with an employer for several years might ride out an economic shock, adjusting through reduced weeks per year or reduced hours per week, and offsetting with extra overtime, those with less than a quarter year of tenure will be out of luck, even with a single percentage point increase in the state's unemployment rate. If the rise is more substantial, those who have accumulated more tenure on the job will start to fare poorly.

TABLE 6

The Impact of Unemployment and Low-Wage Status on Tenure
(between year t and year t+2, 1997–2013)

Dependent Variable = Tenure	Male Heads of Households		Single Female Heads of Households		Wives	
State Unemployment rate, (UR)	0.08	**	0.17	***	0.10	***
(If low wage in t-2) x UR	–0.33	***	–0.30	***	–0.32	***
If low wage in t-2	0.09		0.57		0.23	
Age	0.95	***	0.56	***	0.83	***
Age-squared	–0.01		0.00	***	–0.01	***
High school	0.13		0.07		0.29	
College	0.06		0.65		0.58	**
No. of children	–0.43	***	–0.30	***	–0.55	***
Age youngest child	0.05	***	–0.03		–0.01	
White	0.73	*	–0.42		–0.24	
Constant	–16.25	***	–9.31	***	–15.29	***
N	35,521		15,288		29,819	

Notes: Based on sample from PSID of all household heads and wives, ages 19–64, for the period 1997 to 2013. Calculations are panel estimates with individual and year fixed effects and data weighted by PSID's longitudinal family weights. Significance tests use clustered robust standard errors with clustering at the individual level.

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Putting It All in a Larger Context

We have shown that permanent and uninterrupted low-wage work is less common than low-wage work interrupted by spells outside of that market. These interruptions include periods of nonparticipation, unemployment, education, home-making, and forays into better-paid work. Even if we limit our view to people who are observed in their prime working years and observed in nine of the survey years from 1997–2013, we still see this stop-start pattern of engagement with low-wage jobs. Those who were ever low-wage workers average about one third of their observed years in low-wage positions. These same individuals average about 16% of their observed years with zero wages. In fact, one could view the percentage of time in zero-wage status as a function of the low wages and poor work conditions that these jobs provide. Of course, a reaction to poor opportunities is only one way to interpret the data. The stop-start nature of these jobs also reflects the vulnerability of this market to bombardment from economic shocks.

One view that we question is that prime-age men are disappearing completely from participation in the labor market. Fixed snapshots of cross-section data contribute to this view. Panel data reveals that the men who make up that group of supposed non-participants are revolving in and out of the low-wage market. In other words, a different set of individuals makes up that non-participant group in any given time period. Instead of complete withdrawal from the labor market, as suggested by the cross-section data, these men seem to take turns dipping into the market and then leaving it, a behavior that may be perfectly rational given the working conditions that characterize most low-wage jobs. We observe a continual flow of people from low-wage to higher-wage jobs, from wage to no-wage activities, and back again, and that seems the more typical pattern in these labor markets. That observation belies the static "men-permanently-without-work" story that suggests something is wrong with the men themselves.

Our investigation also suggests the significance of an older story, one in which a rational response to poor job conditions is high job turnover and low attachment to jobs. According to that theory, primary sector jobs, with on-the-job training, skill accumulation, stable employment, job ladders, decent wages and fringe benefits, encourage attachment between employer and employee while secondary jobs, with little training or skill acquisition, no promise of stable employment, zero chance for advancement, low wages and few fringe benefits, discourage long-term attachment between employers and workers. In most versions of this theory, it is not the workers who bring poor traits to the jobs, but, instead, it is the typical design of the job that promotes high turnover, lack of investment in workers, and lack of attachment. Worker behavior is understood as a rational reaction to the poor conditions and lack of opportunity that these jobs create. An interesting policy possibility emerges from this perspective. As Zuberi creatively demonstrates in his book, “Differences that Matter,” the same job task, even one performed for the same hotel chain, can offer dramatically different work conditions, benefit packages, wages, and opportunities if performed under vastly different policy regimes[9] (Zuberi 2006). For example, the hotel workers in Seattle in 2001 faced typical, secondary market conditions and poor job incentives while, just across the border in Vancouver, hotel workers for the same company had benefits and job conditions less characteristic of the secondary market. The picture of low-wage markets that emerges from our analysis aligns with this concept of using higher wages and pro-labor policies to transform secondary work into jobs that promote attachment, lead to lower turnover, and perhaps yield gains in productivity. That approach offers an intriguing possibility for addressing the traits of low-wage markets that we have documented here and for thinking in new ways about the possible consequences of minimum-wage hikes.

Appendix

TABLE A1
Variables: Descriptive Statistics

Variable	Definition	Mean	Std. Dev.	Min.	Max.
Age	Age in years	41.85	12.50	19	64
anHRS	Annual hours of work	1576.82	964.91	0	5824
anWKS	Weeks of work per year	37.86	19.15	0	52
AWH	Average weekly hours of work	34.35	19.10	0	112
Black	Proportion black	0.13	0.34	0	1
Children	Number of children in family	0.84	1.15	0	11
College	Dummy=1 if years of education is greater or =16	0.32	0.47	0	1
Ed	Education in years	13.35	2.80	0	17
ErnXTRA	Earnings from extra jobs (if positive)	$138.39	$269.26	0.01	$2,763
High school	Dummy=1 if years of education is greater or = 12	0.89	0.31	0	1
If low wage	Dummy=1 if person is low wage in prior survey year	0.24	0.42	0	1
LostALL	Dummy=1 if person lost all annual work hours	0.0553	0.2285	0	1
LRZ	Dummy=1 if person is low or zero wage prior year	0.3620	0.4806	0	1
Observed	Number times observed in the sample	7.13	2.64	1	9
OT	Overtime work hours (if positive)	160.16	199.56	1	2704
PosHRS	Dummy=1 if person has positive annual work hours	0.8367	0.3697	0	1
Tenure	Years with present employer	5.93	8.18	0	49
UR	State unemployment rate in year t prior to survey year	6.1	2.1	2.2	14.4
Wage	Wage rate in real dollars, base year=2015	$27.57	$36.35	$0.01	$1,316.41
Low wage	Wage rate below the 30th percentile	$8.39	$2.87	$0.01	$13.07
White	Proportion white	0.77	0.42	0	1
Youngest	Age of the youngest child	3.25	5.09	0	17

Source: Author’s calculations from the Panel Study of Income Dynamics for survey years 1997 to 2013. All figures are weighted by PSID family weights.

TABLE A2
Weighted Observations by Gender, Age, Family Category

Category	**Number**	**Percent**
Total	93,877	100%
by Gender		
Male	44,272	47.16%
Female	49,605	52.84%
by Family Category		
Single Female Heads of Households	14,091	15.01%
Not Heads of Households or Wives	9,961	10.61%
Wives	31,282	33.32%
Husbands or Single Male Heads of Households	38,543	41.06%
by Age Category		
Young Workers (ages 19–24)	9828	10.47%
Prime Working Age (25–54)	65835	70.13%
Older Workers (ages 55–64)	18214	19.4%

Source: Author's extract from the Panel Study of Income Dynamics for survey years 1997 to 2013. All figures are weighted by PSID family weights.

TABLE A3
Transitions Among Labor Force Categories by Gender

a: High Wage in Income Year t-3

	Employment Status, Survey Year t				
Employment Status, Survey Year t-2	**Employed**	**Temporarily Laid Off**	**Unemployed**	**Out of the Labor Force**	**Total**
Employed					
Men	94.56	0.5	3.13	1.81	100%
Women	91.39	0.73	2.57	5.32	100
Temporily Laid Off					
Men	67.9	9.09	11.99	11.03	100
Women	68.06	5.54	6.6	19.8	100
Unemployed					
Men	65.65	1.23	25.71	7.4	100
Women	68.75	1.24	12.45	17.56	100
Out of the Labor Force					
Men	55.17	1.11	9.7	34.02	100
Women	46.49	0.51	6.67	46.33	100

(Table A3 continues, next page)

b: Low-Wage in Income Year t-3

	Employment Status, Survey Year t				
Employment Status, Survey Year t-2	**Employed**	**Temporarily Laid Off**	**Unemployed**	**Out of the Labor Force**	**Total**
Employed					
Men	87.01	1.01	8.11	3.87 |	100%
Women	82.87	0.88	5.23	11.02	100
Temporily Laid Off					
Men	62.16	10.13	19.4	8.31	100
Women	56.36	0.27	8.31	35.06	100
Unemployed					
Men	59.41	1.77	31.43	7.39	100
Women	55.68	1.33	22.96	20.03	100
Out of the Labor Force					
Men	45.4	1.07	11.06	42.48	100
Women	41.75	1.39	7.25	49.62	100

c: Zero-Wage in Income Year t-3

	Employment Status, Survey Year 7				
Employment Status, Survey Year t-2	**Employed**	**Temporarily Laid Off**	**Unemployed**	**Out of the Labor Force**	**Total**
Employed					
Men	87.73	1.07	7.01	4.2	100%
Women	76.68	0.54	6.55	16.23	100
Temporily Laid Off					
Men	51.56	0	31.12	17.33	100
Women	0.35	0	56.84	42.81	100
Unemployed					
Men	42.41	1.37	35.99	20.24	100
Women	41	1.11	24.62	33.27	100
Out of the Labor Force					
Men	21.61	0.02	6.94	71.42	100
Women	20.46	0.35	4.34	74.85	100

Notes: Author's calculations from the PSID, survey years 1997–2013. Sample includes all persons ages 25–54.

TABLE A4
The Great Recession and Long-Run Sequences of Labor Force Exits and Re-Entry

Sequences of Moves During the Great Recession and Recovery [a]				All Wage Groups	Low or Zero Wage in Previous Survey			Wage Above 30th Percentile in Previous Survey
2007	**2009**	**2011**	**##**		**All**	**Women**	**Men**	
E	E	T	E	3%	1.7%	2.4%	0.8%	4.5%
E	E	U	E	21.2	19.2	17.1	22.3	24.5
E	E	R	E	1.3	1.9	2.6	0.8	1.1
E	E	D	E	1.0	0.9	0.6	1.2	1.3
E	E	H	E	5.5	5.7	9.4	2.0	5.8
E	E	S	E	2.9	2.6	3.0	1.5	2.6
E	U	E	E	30.1	29.6	23.9	38.3	31.3
E	U	U	E	8.8	10.8	6.7	17.0	5.6
E	H	E	E	4.2	4.1	6.8	0	4.9
E	H	U	E	0.9	1.3	1.8	0.5	0.7
E	H	H	E	2.3	4.4	7.2	0	0.5
E	S	E	E	6.1	4.4	2.5	7.3	5.8
E	S	U	E	0.6	1.4	2.3	0	0
E	S	S	E	0.7	1.1	1.5	0.4	0.3
E	D	E	E	1.0	0.5	0.6	0.3	1.1
E	D	H	E	0.2	0.4	0.7	0	0
E	R	E	E	1.4	1.6	1.9	1.3	1.4
E	R	R	E	1.0	1.3	1.5	1.0	0.8
E	T	E	E	4.0	2.2	2.6	1.6	6.3

a. Sequences are defined in the key provided below.

Key: D=disabled; E=employed; H=keeping house; R=retired; S=student; T=temporarily laid off.

Source: Author's calculations from PSID, survey years 2007–2013 using PSID family weights.

References

Belman, Dale, and Paul J Wolfson. 2014. *What Does the Minimum Wage Do?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Eberstadt, Nicholas. 2016. *Men Without Work: America's Invisible Crisis*. West Conshohocken, PA: Templeton Press.

Hirsch, Barry T., Bruce E. Kaufman, and Tetyana Zelenska. 2015. "Minimum Wage Channels of Adjustment." *Industrial Relations*, Volume 54, Issue 2, pp. 199-239.

Neumark, David, and William L. Wascher. 2008. *Minimum Wages*. Cambridge, MA: The MIT Press.

Okun, Arthur. 1981. *Prices and Quantities: A Macroeconomic Analysis*. Washington, D.C: Brookings Institution Press.

Zuberi, Dan. 2006. *Differences That Matter: Social Policy and the Working Poor in the United States and Canada*. Ithaca, NY: Cornell University.

Endnotes

[1] Eberstadt, Nicholas. 2016. *Men Without Work: America's Invisible Crisis*. West Conshohocken, PA: Templeton Press.

[2] For two comprehensive and competing perspectives on the existing literature see Belman, Dale, and Paul J. Wolfson. 2014. *What Does the Minimum Wage Do?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research and Neumark, David and William L. Wascher. 2008. *Minimum Wages*. Cambridge. MA: The MIT Press.

[3] This hypothesis is suggested by Hirsch, Barry T., Bruce E. Kaufman, and Tetyana Zelenska. 2015. "Minimum Wage Channels of Adjustment." *Industrial Relations*, Volume 54, Issue 2, pp. 199-239.

[4] Okun, Arthur. 1981. *Prices and Quantities: A Macroeconomic Analysis*. Washington, D.C: Brookings Institution Press.

[5] Note: Not all such moves are included in the table. The calculations are available from the author upon request.

[6] The Probit estimates are slightly lower than these linear probability estimates.

[7] The dependent variable is 1 if the change in hours from year t-2 to year t is negative and if all annual hours of work are lost. The variable is zero for those who kept some hours, gained hours, or had no change in hours. In comparison, the proportion of the sample as a whole losing all annual hours averages 0.0553 over the full period from 1997 to 2013. The estimates from the linear probability model and the Probit model differ substantially for the LZW group, ranging from 0.00094 from the linear probability model to 0.0058 from the Probit model.

[8] Those results are available from the author upon request.

[9] Zuberi, Dan. 2006. *Differences That Matter: Social Policy and the Working Poor in the United States and Canada*. Ithaca, NY: Cornell University.

IX. Toward a Secure Retirement: Challenges and Solutions

Retirement Income Is Inadequate for Most Americans

HEATHER GROB
Saint Martin's University

Typically, we think of retirement savings as being a three-legged stool: personal retirement savings, pensions, and Social Security. For most individuals, the lack of either of the first two leads to an overwhelming anxiety about the availability of the last. This session examines the viability of two very important parts of the stool: individuals' retirement savings and pensions.

The U.S. Government Accountability Office (GAO) study, "Retirement Security: Most Households Approaching Retirement Have Low Savings," is particularly helpful in asking whether or not vulnerable populations or people who are near retirement have enough savings, other than pensions. Here we find a story of "haves" and "have nots." Some very striking figures are that a full 41% of individuals in pre-retirement ages (between the ages of 55 and 64) have no other form of savings, and 85% have less than $25,000. The median is $104,000, which means that we have a terribly lopsided distribution of retirement savings. Older individuals with few retirement assets are also far less likely to have defined benefit pensions. Poverty risks to the "have nots" are great.

Income replacement is complicated, and the GAO does a good job of addressing methodology while reviewing seminal studies in the field of retirement income adequacy. By any measure, we can say that large portions of American workers are ill prepared for retirement. There is a huge disparity by household income, with the risks being much higher for low income: long-term care or medical costs needs could rapidly deplete what little savings they have.

The pension crisis is to a large degree, one that is born by women, as shown by the National Institute on Retirement Security (NIRS) study (Brown et al. 2016). While participation in pension plans are greater than they used to be, eligibility is still a problem. Systemic underfunding is a larger problem stemming from labor market segmentation along gender and race. For example, women are more likely to work in short term or part time employment and are therefore less likely to qualify for defined contribution plans than are men. And, for both men and women, the number of those offered and participating is still quite low, about 46%.

Of course, for those who have opportunities to invest, a very significant problem is the gender wage gap. The conclusion in the NIRS study is fairly glaring. Not only do women have fewer wages but they're also less likely to be able to retire, less likely to be able to enjoy their retirement, and more likely to fall into poverty in old age. Relative to men, women who are 65 or over are 80% more likely to fall into poverty. Women aged 75 through 79 are *three times* more likely to fall into poverty than are men.

The problem worsens for people of color as the labor market further segregates Latinas and black women into occupations that are less likely to allow for retirement savings. Brown et al. (2016) also indicate that when offered retirement plans, women of color are more likely to participate than are men of color. More research would be helpful indicating why this is the case: is it that men of color don't expect to reach retirement or have other plans for their income? Interestingly, composition of income between men and women is very similar, but the dollar amounts contributed are not. People of color therefore find themselves highly reliant on Social Security as their sole source of retirement savings. Unfortunately, Social Security is not keeping up with the Elder Index either.

Author's address: Saint Martin's University, Old Main 369, 5000 Abbey Way SE, Lacey, WA 98503

Not surprisingly, women who worked in jobs as nurses, teachers, or in government administration were better off because they were more likely to have a saving grace: collectively bargained, defined benefit plans.

The NIRS report could further highlight particular issues dealing with complicated issues of marital status and changing definitions of marriage. The report highlights that women who were separated or never married are more likely to be working past 65 than are men, and more than widowed or divorcees, and they lack access to defined benefit and defined contribution plans.

From a policy standpoint, we could take a cue from behavioral economics, deaSling with the psychology of loss aversion and perceived risks. Why don't people save? There are many reasons, of course: ability, opportunity, wishful thinking, attitudes, and so on. The forthcoming report by The Pew Charitable Trusts will be very helpful understanding what employers and individuals like and do not like about automatic enrollment in individual retirement accounts (IRA). They use a very clever methodology to get to specifics. The good news is that both workers and employers of small- to medium-sized businesses generally like the idea of automatic IRA enrollment. Employers want to help their employees save, and, when they are unable to offer their own plan, this is an attractive alternative. When asked if they would offer their own plan or take part in the government's plan, roughly half of employers said they would start their own. It is interesting to note that many oppose government intervention while they seem to support financial intermediation.

The NIRS report also discusses many possible solutions including: eligibility changes, portable savings accounts, exclusion changes under the Employee Retirement Income Security Act of 1974, Social Security benefit enhancements, caregiver support, and automatic IRA, the state retirement and savers plan or new defined benefit plans may also help.

To add, there are also systemic risks that are due to reliance on employee benefit system: job loss, access to health insurance through one's job, and so on. More recently, the further "fissuring" of employment relations through involuntary self-employment, independent contracting, subcontracting and franchising was documented by Weil (2014). We are dealing with a system that has been "fracked": employment benefits are very fragile. As I mentioned at last year's meetings on the viability of multi-employer plans, the amount of lost income not just to individuals but throughout our economy of these perpetuating and worsening conditions of retirement adequacy should be of great concern to all.

These studies are cross sections of the retirement savings world and provide ample room for thought and further study. My main question is whether or not retirement income should be based on employment at all. Our labor markets are changing in ways that threaten the basic system of relying on employment benefits: we will have to think of creative very solutions for people to be able to save what they can, when they can.

References

Brown, Jennifer, Nari Rhee, Joelle Saad-Lessler, and Diane Oakley. 2016. *Shortchanged in Retirement: Continuing Challenges to Women's Financial Future.* Washington, DC: National Institute on Retirement Security. http://bit.ly/2k6xoG4

Scott, John, Andrew Blevins, Theron Guzoto, Alison Shelton, and Sarah Spell. "Employer and Employee Reactions to State-Level Retirement Savings initiatives for Private Sector Workers." Unpublished paper. The Pew Charitable Trusts.

U.S. Government Accountability Office. 2015. "Retirement Security: Most Households Approaching Retirement Have Low Savings: Report to the Ranking Member, Subcommittee on Primary Health and Retirement Security, Committee on Health, Education, Labor and Pensions." U.S. Senate GAO-15-419. http://bit.ly/2k6N0JX

Weil, David. 2014. *The Fissured Workplace: Why Work Became So Bad for So Many and What Can Be Done to Improve It.* Cambridge, MA: Harvard University Press.

X. Rethinking Pension Fund Activism for Employment Equity and Capital Stewardship

Mortgage Fraud, the Great Recession, and Pension Fund Activism

THOMAS HERNDON
Loyola Marymount University

Losses in private mortgage backed securities (MBS) were at the epicenter of the 2007-2008 financial crisis, causing the failure of institutions invested in them or derivatives based on them. I argue that these losses revealed substantial problems with asymmetric information in MBS which created perverse incentives for abuses, including outright fraud. These losses were particularly severe for pension funds, who have had limited ability to recover losses through ex-post litigation. I argue that pension funds have unique tools, including shareholder activism and access to capital, which would be valuable for activism aimed at preventing these abuses in the future.

Introduction

Losses in private mortgage backed securities (MBS) were at the heart of the financial crisis of 2007-2008. The failure of the mortgages underlying these securities caused substantial losses for the institutions directly invested in them, such as pension funds, as well as loss of wealth for the communities in foreclosures occurred. The purpose of this paper is to discuss how pension fund activism can improve capital stewardship by helping to address the significant problems with the regulation of financial institutions revealed by the failure of private MBS. This paper will argue that losses in private MBS revealed substantial problems with asymmetric information throughout the structure of private mortgage securitization. These problems allowed financial industry insiders to use private information to profit at the expense of users of the financial system, often through outright fraud. This paper will then discuss how pension funds have tools unique to them, such as shareholder rights and access to capital, that would allow them to make a substantial contribution to activism aimed at improving protection from deception for all those who rely on the financial system.

This paper is organized into two sections. The first section will describe how asymmetric information in the origination, distribution, and servicing portions of the private mortgage securitization supply chain allowed financial industry insiders to use deception and outright fraud to profit at the expense of borrowers, savers, and shareholders in financial institutions. This section will describe how executives of institutions originating loans to be privately securitized had perverse incentives to systemically conceal borrower risk in an effort to increase loan volume at the expense of quality. The section will then describe how sellers of private MBS concealed the fraudulent and negligent origination practices from those who purchased these securities. Finally, the section will discuss how servicer fee compensation created a conflict of interest that prevented loss mitigation for delinquent loans, and increased costs of foreclosure for investors. These problems caused a historic loss of wealth for borrowers subjected to fraudulent loans, investors in securities based on these loans, and shareholders of fraudulent financial institutions who either lost their investment, or were left to pay the fine. These losses show that pension funds have a common interest in promoting increased protection for all users of financial institutions. The second section will describe how pension funds have unique tools available that would allow them to make a substantial contribution to efforts to activism aimed at preventing financial sector fraud, and recovering from the damage caused by it. This section will discuss two potential avenues for pension fund activism. The first is shareholder activism to prevent fraudulent or

Author's address: Loyola Marymount University, University Hall, Suite 4218, 1 LMU Drive, Los Angeles, CA 90045

abusive financial practices. I argue that pension funds could use the tools available to them as shareholders in financial institutions to eliminate perverse incentives in executive compensation, develop stronger internal controls against fraud, monitor private information, and work with consumer protection groups, regulatory agencies, and the media to hold financial institutions accountable for abusive practices. Second, I argue that pension funds could help working-class communities and communities of color recover from the Great Recession through working with non-profit financial institutions to purchase distressed mortgages, and restructuring the debt to allow families to remain in their home.

To be sure, the outcome of activism and organizing is based on a conflictual process, and hence is always uncertain. We should be sanguine about the ability of these efforts to completely eliminate fraud, or otherwise ensure the financial system serves social goals. Still, I argue pension funds possess powerful tools that could make meaningful contributions to activism. If we are fortunate, this may result in an improvement to the large shortcomings of current regulation of financial institutions.

Mortgage Fraud in Origination, Distribution, and Servicing During the Great Recession

The market for private MBS grew dramatically from 2002-2007, with the total outstanding balance of mortgages increasing from roughly $1 trillion to $2.7 trillion (Herndon, 2016*a*). This provided a large increase in the supply of credit for mortgages which drove the housing bubble (Mian and Sufi, 2014; Griffin and Maturana, 2014). As the housing bubble collapsed, losses in these securities were at the epicenter of the financial crisis of 2007-2008. A large body of academic research (Black, 2013; Crotty, 2009; Griffin and Maturana, 2016; Herndon, 2016*a,b*; Jiang, Nelson and Vytlacil, 2014; Mian and Sufi, 2015; Piskorski, Seru and Witkin, 2015; Taub, 2014), government reports (FCIC, 2011; FBI, 2007), court records, and popular accounts (Hudson, 2010; Dayen, 2016) has now shown that a significant portion of losses in these securities was caused by mortgage fraud all along the originate to distribute supply chain. For example, as early as 2004 the FBI warned of an epidemic of mortgage fraud that could cause a financial crisis (Black, 2013). Additionally, the Financial Crisis Inquiry Commission (FCIC) concluded that a systemic breakdown in accountability and ethics was an essential contributor to the crisis. The report cites the dramatic increase in the filing of suspicious activity reports with the FBI as evidence of the widespread increase in mortgage fraud in the years leading up to the crisis. The filing of suspicious activity reports grew twentyfold between 1995-2005 and then doubled again between 2005-2007 (FCIC, 2011). This section will review this literature to describe the severe problems in the origination, distribution, and servicing portions of the private securitization supply chain.

Fraud at Origination

Mortgage fraud at origination occurred when loan officers and underwriters used a variety of techniques to falsify borrower financial information such as appraisal value inflation, unreported second liens, income overstatement, and misreported owner occupancy status. This was done to conceal borrower leverage and risk to qualify borrowers for loans larger than they would otherwise be able to obtain. This section will begin by describing how fraud originated within the industry, rather than by dishonest borrowers. The section will then describe how short-term compensation for financial industry executives created perverse incentives for fraud.

The direct falsification of borrower financial information was largely committed by loan officers and underwriters within the industry, who coached borrowers on the specific ways to falsify their information, rather than by borrowers who defrauded otherwise honest lenders. For example, based on investigations and fraud reports, the FBI found that 80% of fraud cases involved collusion or collaboration with industry insiders (FBI, 2007). Interviews in lawsuit documents with loan officers or underwriters also described coaching borrowers. One loan officer who originally worked at subprime originator Argent, but then was employed at Wells Fargo, said that, "[t]he loan officers were stretching the truth. They would say [to the borrower], 'You need to make this much.' So, of course, the borrower would say, 'Ok, I make that much'."[1] Even worse, a loan officer from Ameriquest, Omar Khan, explicitly described deceiving borrowers who were not comfortable with falsifying their information. He stated, "Every closing was a bait and switch, because you could never get them to the table if you were honest," and further elaborated that "there were instances where the borrower felt uncomfortable about signing the stated income letter, because they didn't want to lie, and the stated income letter would be filled out later on by the processing staff."[2] Perhaps most infamously, workers at one Ameriquest branch dubbed their break room the "Art Department" because it contained all the tools needed to falsify documents (Hudson, 2010).

Interviews with loan officers and underwriters also described immense pressure coming from top-level executives to falsify documents in order to expand loan volume at the expense of loan quality, as well as penalties for refusing to do so. For example, one confidential witness was employed as an Underwriter at Wells Fargo Home Mortgage in San Bernardino from 2002 to 2005, and Senior Underwriter from May 2005 to April 2006. This underwriter described Wells Fargo as a, "loan producing machine." They stated that, "[Managers] always said that we didn't have to approve loans we didn't want to approve, but if you didn't do them you wouldn't be around very long. We knew what we had to do to keep our jobs." They elaborated that, "sometimes it felt like I was in sales, because they wanted production, period."[3] In addition to firing employees who refused to originate risky loans, those who called attention to risky or fraudulent practices were also punished. For example, Washington Mutual CEO Kerry Killinger hired and fired nine different compliance officers from 2000-2007 (Taub, 2014).

An obvious question is why executives would pressure loan officers, underwriters, and compliance officers to facilitate fraudulent loans, when it was these employees' *raison d'etre* to ensure that such practices did not occur. Fraud at origination occurred because executives at these institutions had perverse incentives to increase short-term profits based on the volume of loans originated, rather than the quality of loans. This was because executives were able to receive large bonus compensation for short-term gains, for example through stock options, that were not required to be paid back if the firm went bankrupt.[4] Fraud was particularly useful for increasing short-term revenues because riskier loans had higher closing costs and interest rates. This allowed originators to report high short-term fee revenue that could be extracted before losses occurred. This pattern of fraud is also similar to that which occurred during the S&L crisis (Black, 2013).

Another incentive to originate risky loans is that many of these loans could be sold for packaging into MBS for a higher price than safer loans (Taub, 2014). This has led to calls for financial regulation that requires originating institutions to have "skin in the game" by holding a portion of the mortgages they originate on their balance sheets. However, these skin-in-the-game regulations would likely not have stopped fraud at origination. Indeed, many of the originators did hold a large portion of the toxic loans in their portfolio, and went bankrupt as a result. These institutions in fact had substantial skin in the game, which caused their failure. However, their executives did not. The pattern of extreme executive compensation, despite the failure of their firms, could reasonably be described as "looting." Looting occurs when owners or executives have limited liability for a firm, and maximize short-term payouts at the expense of the long run health of their firm, resulting in bankruptcy. Looting has been described as bankruptcy for profit (Akerlof and Romer, 1993). Preventing looting would likely have required increased monitoring of institutions, limits to extreme compensation packages, and criminal prosecution of top executives (Black, 2013).

Fraud in Distribution

Fraud also occurred in the distribution phase of the supply chain because sellers of MBS concealed these fraudulent origination practices from investors in order to make the securities marketable. The sale of loans that were originated with fraudulent practices, or simply negligent underwriting, typically violated market regulations and contractual obligations. These rules require the accurate disclosure of loan quality; however, these practices obviously were not disclosed.[5] The basic issue underlying fraud in distribution was succinctly summarized in a recent ruling by District Judge Denise Cote,

> "This case is complex from almost any angle, but at its core there is a single, simple question. Did the defendants accurately describe the home mortgages in the Offering Documents for the securities they sold that were backed by those mortgages? Following trial, the answer to that question is clear. The Offering Documents did not correctly describe the mortgage loans. *The magnitude of falsity, conservatively measured, is enormous.* Given the magnitude of falsity, it is perhaps not

> surprising that in defending this lawsuit defendants did not opt to prove that the statements in the Offering Documents were truthful" [emphasis added].

A recent body of empirical research has also estimated the incidence of mortgage quality misrepresentation in private MBS. For example, using conservative measures Griffin and Maturana (2016) find that 48% of loans that were privately securitized contain at least one of three relatively easy to quantify forms of fraud: appraisal inflation, unreported second liens, and misreported owner occupancy status. They find that loans with one of these forms of fraud were 51% more likely to become delinquent.

My research has also shown that this fraud was also particularly costly to investors in these securities. Total losses to foreclosure in the private-label MBS was roughly $500 billion dollars from 2008-2012. My research found that loans that lacked documentation of income, which were so notoriously fraudulent that they were known colloquially within the industry as "Liar's Loans," accounted for $350 billion of these losses. Liar's loans were 25% more likely to default than a control group of full documentation loans, and lost roughly $20,000 more in foreclosure. Therefore, the higher than expected losses to investors due to this single form of fraud account for roughly one-fifth of total losses to foreclosure, or $100 billion (Herndon, 2016*a*).

In contrast to the problems with originating institutions that could reasonably be described as looting, the problems in the market for securities based on these loans are more accurately described as a "market for lemons." The term "lemon" refers to a car that is poor quality, or more generally, to any product that is poor quality. A market for lemons is a market where good and bad quality products are sold, but where the buyers cannot know beforehand whether they are buying a good or bad product. In these markets, bad products tend to push out good products because good and bad products must sell at the same price (Akerlof, 1970). Over the course of the housing bubble, it is clear that bad practices in this market had pushed out good practices because a "significant degree of misrepresentation exists *across all* reputable intermediaries involved in the sale of mortgages," [emphasis in original] (Piskorski, Seru and Witkin, 2015).

Litigation is the most direct method for defrauded investors to recover losses and deter future fraudulent activities. To this end, diverse institutions that bought fraudulent MBS, including pension funds, government agencies, and mortgage insurers, have initiated a large amount of litigation against all major sellers of MBS.[7] To be sure, there have been several notable settlements. The latest tally of recoveries I was able to locate is from 2014, and puts the total amount recovered at roughly $100 billion (Levitin, 2014). Since then, there have been several additional settlements, which would raise the total amount recovered to perhaps around $130-$140 billion. However, I argue that the outcome of these settlements shows the limits of private investors to recover damages or create a credible deterrent against future fraud.

First, the settlement total shows that in general, purchasers of MBS have not been able to enforce their contractual rights and recover damages from those that defrauded them. On the face of it, the aggregate settlement amount of roughly $130-$140 billion is much less than the $500 billion lost to foreclosures in the private-label RMBS market from 2007-2012. Additionally, from the perspective of any single party defrauded in the purchase of RMBS, these lawsuits required large commitments of time and money for an uncertain outcome. This suggests that all parties faced significant limits to their ability to recover damages.

More significant for pension funds, the distribution of settlements shows that private investors were able to recover much less than any other party. Private MBS litigation settlements only account for roughly 2% of the total settlement amount as of 2014, or roughly $1.67 billion. Indeed, private MBS litigation has only been able to recover roughly 4% of the amount that GSEs were able to, and one-quarter of what monoline insurers have been able to recover (Levitin, 2014). To be sure, some public pension funds, such as CalPERs have recently recovered large amounts as part of DoJ settlements. CalPERs was able to recover roughly $250 million from Bank of America, $261 million from JP Morgan, $88 million from Citigroup, $100 million from Moody's, and $125 million from S&P.[8] However, private pensions and other investors have had difficulty recovering the full amount of damages. Indeed, at roughly $800 million, the settlements received by CalPERs alone are roughly 50% of the total recovery by private MBS legislation as of 2014.

Second, this body of litigation has also shown the limits of any party to impose substantive deterrents for fraudulent behavior on financial crises. First, while I have not been able to locate data on the profits generated by the financial sector in the sale of MBS, the financial penalties imposed seem far too small to make the costs of engaging in fraud higher than the payoff for a financial institution. Additionally, there has been a noticeable lack of prison sentences for executives who oversaw MBS fraud, or any other form of fraudulent behavior for the activities that led to the financial crisis. In stark contrast, there were over 1000 felony convictions during the S&L crisis (Black, 2013). Without criminal prosecution of the actual executives responsible for fraud, it is unlikely fraud will be deterred. Fines that are imposed on institutions will be paid for by shareholders and employees, rather than the executives who committed the actual abuses.

Fraud in Servicing

Servicer misconduct also negatively affected investors by increasing the number of foreclosures that occurred and increasing the costs of foreclosure. Servicers often charged borrowers arbitrary fees and misapplied payments so that they could charge delinquency fees. This prevented delinquent borrowers from curing, and even pushed borrowers who never missed payments into foreclosure. Once in foreclosure, it was in servicers' financial interest to impose arbitrary fees that would be recovered out of foreclosure proceeds prior to any revenue given to investors. For example, in December 2013 one of the largest servicers, Ocwen, settled a complaint with the Consumer Financial Protection Bureau and attorney generals from 49 states for $2 billion. CFPB director, Richard Cordray, stated that, "Ocwen took advantage of borrowers at every stage of the process." The complaint documented how Ocwen "took advantage of homeowners with servicing shortcuts and unauthorized fees," "deceived consumers about foreclosure alternatives and improperly denied loan modications," and "engaged in illegal foreclosure practices."

At the root of servicer misconduct was a conflict of interest based on the servicer's cost-plus compensation structure. Servicer compensation is not aligned with the investors interest in maximizing the net present value of the loan. Instead, the servicer's choice of modification or foreclosure, and type of modification, is based on the incentives in their own compensation structure. Servicers receive three main types of income: a fixed-rate fee based on the unpaid principal balance of a loan; float income from the period in which the servicer receives monthly payments but has not remitted them to the trust; and ancillary fees. The main types of ancillary fees include delinquency fees and reimbursement for costs associated with foreclosure, such as property maintenance fees, title search fees, process serving fees, appraisal fees, other legal fees, or any of a number of other fees. There is no effective oversight of the reasonableness of these fees, and servicers are able to be reimbursed for these fees out of the proceeds of the foreclosure sale prior to any revenue being given to investors (Levitin and Twomey, 2011; Thompson, 2011; COP, 2009).

Lack of oversight of fees charged in foreclosure caused two main problems for investors during the waves of foreclosures that followed the collapse of the housing bubble. First, these fees can be quite lucrative and create an incentive to foreclose, even when it is in the investor's best interest to modify, because modification is costly. Modification is costly for three reasons. First, modifications require substantial labor costs such as re-underwriting the loan. Second, if the modification reduces monthly payments through reducing the unpaid principal balance, the servicer loses its fixed-rate fee. Third, servicers must advance missed payments while the loan is delinquent. They can recoup these advances in cases of foreclosure or if the loan becomes current, but not in many types of modifications.

In contrast to the costs associated with modifications, the fees associated with managing delinquency and foreclosure can be quite lucrative. For example, analysis of Ocwen showed that late fees and loan collection fees made up 18% of its revenue in 2008 (Thompson, 2011). There can also be an incentive to keep a borrower delinquent so that the servicer can receive revenue from delinquency fees, until the cost of financing advances outweighs the revenue received from the fees. This has been described as keeping the borrower in a default fee "sweatbox" (Levitin and Twomey, 2011). Essentially, the servicer's choice between "modification and foreclosure is a choice between limited fixed-price income and a cost-plus contract arrangement with no oversight of either the costs or the plus components," (COP, 2009). Even worse for the investor, this cost-plus structure creates an incentive to foreclose in a more costly manner than less, because servicer compensation is positively related to costs and has the senior claim on foreclosure sale revenue. Cost-plus compensation is typically banned from government contracts due to these perverse incentives (Levitin and Twomey, 2011; COP, 2009).

The second problem created by this compensation structure is that it provides incentives for servicers to choose types of modifications that promote their own interests, even if these modifications have a higher re-default rate and hence do not promote the investor's interests. For example, reducing monthly payments through principal reduction has been shown to be the most effective form of modification at preventing re-defaults (Haughwout, Okah and Tracy, 2009; Goodman et al., 2012). However, servicers are disincentivized to perform principal reduction because it reduces the amount of revenue they receive from their fixed-rate servicer fee, which is assessed on the unpaid principal balance of the loan. In contrast, servicers prefer modifications that increase the unpaid principal balance of the loan through capitalizing missed interest payments and fees because this increases the revenue from their fixed-rate fee. But these modifications that increase borrower indebtedness have higher re-default rates, which result in costly foreclosure for investors. Providing unsustainable modifications designed to re-default can also be a source of profit for servicers, because they can receive the lucrative foreclosure fees described above (Thompson, 2011; COP, 2009).

An obvious question is what is preventing market competition from correcting the principal-agent problem by creating incentives for "good" servicers who can meet the needs of investors? Market competition is unlikely to self-correct the misalignment of incentives because of investors in these securities lack the ability to monitor servicers, and the mechanism to fix abuses. Investors cannot effectively monitor servicers because they typically lack the information to do so. In general, investors do not have access to the detailed loan-level data necessary to evaluate the re-underwriting of modifications. Additionally, investors often lack the mechanism to address abuses when detected due to collective action problems. Investors faced two main collective action problems for addressing problems. First, many pooling and servicing agreements for private MBS had collective action clauses requiring a super majority of investors to amend any contractual terms. However, there were typically large numbers of geographically dispersed investors party to most of the major securitizations. Second, the investors often had different interests regarding the type of loan modification they would desire because they received compensation based on different parts of the cash flow, such as principal or interest payments. Therefore, some modifications would be favorable to some subset of investors, while wiping out a different subset of investors. These information and collective action problems effectively undermined investors' ability to perform meaningful oversight of servicers (Levitin and Twomey, 2011).

The findings in my research are also consistent with the reports of servicer conflict of interest. I found that foreclosures were much more frequent than modifications, with 88% more foreclosures occurring. These foreclosures were also incredibly costly to investors, on average losing between 45%–65% of the original balance. I also found that the overwhelming number of modifications favored servicers' interests over investors' by increasing debt. Modifications that resulted in net reduction in debt were incredibly rare, with only 5% of modifications reducing net debt. Indeed, modifications in this market resulted in a total net increase to borrower debt balances of $20 billion from 2008-2014. The amount of debt added per modification also grew from 2010-2014, roughly doubling from 5.6% to 11.3% of the original balance, or from $16,000-$26,000. Additionally, the growth in debt added per modification is consistent with increased fees assessed by servicers, but not increased missed interest payments, because missed interest payments per modification was constant from 2010-2014 (Herndon, 2016*b*).

What Is to Be Done?

The discovery of the problems in the previous section caused private investors to abandon the market for private MBS. New originations in this market disappeared entirely in 2009, and have since only existed at a low level. This caused to total outstanding balance of this market to shrinking to less than $1 trillion in 2014, from its $2.7 trillion peak in 2007. Currently, the mortgage market is roughly 80% government supported, with GSE's guaranteeing roughly 60% of mortgages, and the FHA insuring another 20% (Levitin and Wachter, 2013). However, going forward almost all reform proposals for the secondary market envision a substantially increased, if not exclusive, role for private institutions.

A common theme of the description fraud in the previous section was that the problems of asymmetric information that allowed insiders to defraud outsiders negatively affected all users of the financial sector. Financial institution insiders used their access to private information to profit at the expense of borrowers, savers, and shareholders in their institutions. Therefore, going forward pension funds have a common interest with all other users of the financial sector in eliminating these problems. This will be particularly more important if the private role in the secondary market is substantially increased in the near future. This section will describe how pension funds have unique tools that could enable pension fund activism to make a significant contribution to preventing fraud in the future, and recovering from the damage. Based on the tools available to pension funds, this section proposes two areas for activism that could potentially be fruitful: shareholder activism and debt relief.

Shareholder Activism and Corporate Governance

In this section, I describe how tools available to pension funds in their position as a shareholder could make significant contributions to fraud prevention. This includes preventing fraud that directly affects pension funds as shareholders in looted institutions, as well as fraud and abusive practices affecting users of services offered by the financial institution in which a pension fund is invested. In particular, pension funds could help to eliminate fraud through preventing perverse incentives in executive compensation packages, strengthening internal controls for fraud prevention such as compliance managers, and direct monitoring of fraudulent or abusive activities. Direct monitoring could also work in tandem with consumer protection groups, regulatory agencies, and the media to hold financial institutions accountable for abusive practices. To be sure, the ability of shareholder activism to achieve its goals relies on the outcomes of conflicts between parties, and thus is always uncertain. That being said, these particular tools should provide real points of leverage to be used in this conflict.

As we saw in the discussion of fraud in the origination of mortgages, perverse incentives for executives drove them to loot their companies. Looting occurs when executives have limited liability and the ability to extract large payments from their institutions, especially compensation such as stock options that do not have to be paid back in event of insolvency. This gives them the incentive to generate large short-term cash flows based on fraudulent behavior and extreme leverage, which can then be extracted from the institution before the losses inevitably come due (Black, 2013). If shareholders are able to be effectively organized, they have some formal power to monitor executive compensation and limit opportunities for extracting short-term cash flows. A simple mechanism for this would be "clawback" clauses that require executives to repay compensation in the event of firm failure. At the most extreme, this may require organizing to elect different members to the board of directors of the corporation. To be fair, limiting excessive executive compensation might prove to be extremely difficult. For example, there is some evidence to show that proxy resolutions to limit executive compensation have had less success than other resolutions (Daily, Dalton, and Rajagopalan, 2003). Still, if shareholders could successfully organize to limit of the ability of executives to extract payments, this would make a substantial contribution to fraud prevention.

Next, shareholder activism can strengthen internal controls to prevent fraud. Successful looting of financial institutions by executives requires them to use their power to disarm internal controls such as auditors and compliance managers. The financial crisis produced numerous reports from auditors and compliance managers who were fired for reporting fraud. For example, Kerry Killinger from Washington Mutual went through nine separate compliance managers from 2000-2007. Perhaps most ironically, an auditor named Ed Parker from Ameriquest earned the nickname of "Darth Vader" from the loan origination staff through his attempts to prevent origination of fraudulent loans. Instead of being promoted, he was fired (Taub, 2014). Fraud would not have been able to remain concealed or cause the same extent of damage had these whistleblowers' efforts received the support of shareholders or the board, rather than punishment. Without defeating these internal controls, top management will not be able to defraud borrowers, savers, and shareholders in their institutions.

Shareholders in corporations also often have greater access to private information than consumer protection groups or often regulatory agencies do. Direct monitoring by shareholders can play a large role in ensuring that the general public is not defrauded because successful fraud relies on concealing private information (Daily, Dalton, and Rajagopalan, 2003). Shareholders could possibly work in tandem with consumer protection groups, regulatory agencies, and the media. Consumer protection groups and regulatory agencies can be early warning groups who sound the alarm for abusive practices. Shareholders could use their access to inside information to confirm these practices. They could then work with the media and regulatory agencies, such as the Consumer Financial Protection Bureau (CFPB), to hold the executives responsible accountable for these abuses.

Debt Relief?

Pension fund activism could also speed recovery in working-class communities and communities of color through offering debt relief. I argue that pension funds should work with local non-profit financial institutions to buy distressed mortgages, and modify these mortgages to allow families to remain in their homes. Essentially, this proposal is for pension funds to help provide debt relief similar to the New Deal era Homeowner Loan Corporation (HOLC). At the height of the Great Depression in 1933, roughly one-half of the mortgages in the country were in default, and 10% were in foreclosure. To address this crisis, the HOLC bought up defaulted mortgages, wrote down the negative equity in these loans, and restructured the terms of the mortgages to create a more stable structure. In its first year, the HOLC received applications from 40% of all mortgage holders, and refinanced half of them (Levitin and Wachter, 2013). The HOLC is widely regarded as being highly successful, and I argue that pension funds could work with local non-profit institutions to provide similar debt relief. This would help prevent further foreclosures, and stimulate local aggregate demand through facilitating household deleveraging.

Currently, the largest government program for selling distressed loans has been the Distressed Asset Stabilization Program (DASP), which sells distressed loans insured by the FHA. In 2010, HUD began a pilot test for this program, and formally launched it in 2012. In 2014, Freddie Mac began to test pilot programs for distressed loan sales, with Fannie Mae following suit in 2015. As of 2016, these programs have sold roughly 100,000 distressed mortgages, with an unpaid principal balance of $18 billion, across 175 different pools. The distressed mortgages in the DASP program also overwhelmingly come from working-class and minority communities, with 84% of mortgage notes in the DASP program coming from communities with the share of minorities above the national median (Edelman, Zonta and Rawal, 2016). Therefore, debt relief would be well suited for helping these communities deleverage and recover. Currently, there are roughly 800,000 distressed loans guaranteed either by the FHA or the GSEs, so there is still ample room to increase the scale of purchases (Edelman, Gordon and Desai, 2014; Goodman et al., 2016). To date, the distressed mortgage market has been dominated by for profit financial institutions such as private equity firms. The two largest are Lone Star Funds, a private equity group which has purchased 23% of DASP loans, and Bayview Asset Management, which has purchased roughly 20% of DASP loans and is funded by Blackstone Private Equity (Goldstein, 2015).

However, similar to the description of servicer misconduct in the previous section, there have been significant consumer protection complaints lodged against these for profit financial institutions for refusing to modify loans. For example, borrowers have reported being in the process of negotiating a modification prior to sale of the distressed loan, but having the new servicer disregard the ongoing negotiations and initiate foreclosure. Additionally, servicers have been criticized for refusing to offer modification with principal reduction. HUD had sold the loans at a discount with the intent that private buyers would grant principal reduction to borrowers; however, this has rarely occurred. For example, Fitch Ratings reviewed loan modifications done by Calibre Home Loans, the lead servicer for Loan Star Funds, during the first half of 2015. Fitch Ratings was unable to locate even a single instance of a completed modification with permanent principal reduction. Instead, modifications included reductions in payments or only required interest payments for a temporary period of up to 5 years. At the end, any deferred unpaid principal or unpaid interest were added back to the principal balance of the loan, resulting in higher payments than prior to modification. Therefore, these modifications only added temporary relief, before often leaving borrowers more in debt than before. In a letter to HUD, the refusal to grant sustainable modifications in favor of foreclosures led Massachusetts Representative Michael Capuano (D) to remark that HUD sales, "may turn out to be an efficient new mechanism for increasing evictions," (Goldstein, 2015).

However, non-profit financial institutions have had a better track record of working to keep families in their homes. Several well-established community development financial institutions, which are non-profit financial institutions with a social mission, have also participated in HUD sales. For example, Hogar Hispano Inc. (HHI), founded by the National Council of La Raza, purchases delinquent mortgages and works with families to keep them in their home. HHI has already helped homeowners reduce $4 million in principal through modifications (Dreier and Sen, 2015). Additionally, Boston Community Capital has worked with the community organization Springfield No One Leaves to provide debt relief to homeowners (Kinney, 2013).

While non-profits have shown better performance at keeping families in their homes, to date they have only been able to purchase roughly 2% of loans from DASP (Edelman, Gordon, and Desai, 2014). To increase their participation, in 2015 HUD created new rules for the DASP bidding to give non-profits a "first-look," or the first option to purchase vacant properties, and took steps to create a non-profit only auction (Edelman, Zonta and Rawal, 2016).

I argue that pension funds could play a useful role in partnering with CDFIs or other non-profit institutions by providing the funding necessary to substantially increase their scale of participation in this market. Unfortunately, to date some public pensions have been funding the private equity institutions in this market, such as Lone Star (Goldstein, 2015). However, funding institutions with better loss mitigation practices could greatly help working-class families and communities of color. The recovery in these communities is still tepid, and thus vulnerable to increased foreclosures and predatory servicer practices. Debt relief would allow pension funds to prevent abusive practices in these communities, and stimulate recovery.

Conclusion

This paper has described how the failure of private MBS at the core of the 2007-2008 financial crisis revealed substantial agency problems associated with asymmetric information, including widespread fraud. Financial reform since the crisis, such as the restrictions on mortgage origination enacted by the CFPB, has helped to mitigate the worst of the excesses. However, the perverse incentives generated by asymmetric information have not entirely been eliminated. Moreover, there has been a noticeable lack of criminal prosecution of the executives who committed fraud to serve as a deterrent. This suggests that mortgage fraud, or other forms of abuse by the financial services industry, could continue to be a persistent problem negatively affect borrowers, savers, and shareholders in financial institutions. This would be especially dangerous if private participation in MBS increases to its pre-crisis levels, as is proposed in most secondary market reforms. Therefore, defrauded parties have a common interest in organizing to enact significant changes to financial regulation. Using the unique tools available to pension funds, I hope they will be able to make a substantial contribution to activism aimed at preventing fraud by the financial services industry in the future.

Endnotes

[1]Interview with confidential witness from *General Retirement System of the City of Detroit v. Wells Fargo et al.*, 2009.

[2]*National Credit Union Administration Board v. Wells Fargo Bank, National Association*, 2014.

[3]Interview with confidential witness from *General Retirement System of the City of Detroit v. Wells Fargo et al.*, 2009.

[4]Perverse incentives due to extreme bonus compensation were not limited to this market. They were a consistent feature of the expansion of the financial system following deregulation (Crotty, 2009).

[5]The typical offering documents included prospectus supplements that described the quality of collateral underlying the securities. These documents tended to include boilerplate language such as "Wells Fargo Bank's underwriting standards are applied by or on behalf of the Wells Fargo Bank to evaluate the applicant's credit standing and the ability to repay the loan, as well as the value and adequacy of the mortgaged properties collateral" [*General Retirement System of the City of Detroit v. Wells Fargo et al.*, 2009]. If the trustee discovered a breach of these representations and warranties, such as falsification of borrower financial characteristics, violations of assurances that loans were originated following proper underwriting standards, or that the appraisal value for the collateral was inflated, the "trustee must notify the appropriate parties and take steps to enforce the responsible parties obligation to cure, substitute, or repurchase the defective mortgage loans" [*National Credit Union Administration Board v. Wells Fargo Bank, National Association*, 2014]. It should be noted that origination practices that could be argued were simply negligent or dubious, but did not involve outright falsification, were still fraudulent in distribution because they violated the representations made in offering documents.

[6]From ruling in *Federal Housing Finance Agency v. Nomura Holding America*, May 11, 2015. The FHFA sued 16 trustees for misrepresentations made in offering documents and prospectuses for securities sold to Fannie Mae and Freddie Mac. All but Nomura and Royal Bank Scotland settled out of court, and the court ruled against these institutions in trial on May 11, 2015. http://nyti.ms/2kAGs5u [June 26, 2015].

[7]An older list of 58 lawsuits filed between 2008-2012 can be found in the appendix to Piskorski, Seru, and Witkin (2015). However, this list is not exhaustive, as the 2009 class action lawsuit used in this paper was not on the list (*General Retirement System of the City of Detroit v. Wells Fargo et al.*, 2009). In addition, several similar lawsuits have been filed for violations of the False Claims Act or the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA), for actions such as misrepresenting the quality of loans to entities that insured these loans.

[8]CalPERs settlement totals can be found at http://bit.ly/2kAzFZN

References

Akerlof, George. 1970. "The Market for "Lemons": Quality Uncertainty and the Market Mechanism." *The Quarterly Journal of Economics,* 488–500.

Akerlof, George, and Paul Romer. 1993. "Looting: the Economic Underworld of Bankruptcy for Profit." Brookings Papers on Economic Activity, 1–73.

Black, William K. 2013. *The Best Way to Rob a Bank is to Own One: How Corporate Executives and Politicians Looted the S&L Industry*. University of Texas Press.

COP. 2009. "Foreclosure Crisis: Working Towards a Solution." Congressional Oversight Panel.

Crotty, James R. 2009. "The Bonus Driven Rainmaker Financial Firm: How These Firms Enrich Top Employees, Destroy Shareholder Value and Create Systemic Financial Instability." Political Economy Research Institute Working Paper.

Daily, Catherine M, Dan R Dalton, and Nandini Rajagopalan. 2003. "Governance Through Ownership: Centuries of Practice, Decades of Research." *Academy of Management Journal*, 46(2): 151–158.

Dayen, David. 2016. *Chain of Title*. The New Press.

Dreier, Peter, and Aditi Sen. 2015. "Hedge Funds: The Ultimate Absentee Landlords." *American Prospect.*

Edelman, Sarah, Julia Gordon, and Aashna Desai. 2014. "Is the FHA Distressed Asset Stabilization Program Meeting Its Goals?" Center for American Progress.

Edelman, Sarah, Michela Zonta, and Shiv Rawal. 2016. "Protecting Communities on the Road to Recovery." Center for American Progress.

FBI. 2007. "Financial Institution Fraud and Failure Report Fiscal Years 2006 and 2007."

FCIC. 2011. "The Financial Crisis Inquiry Commission Report: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States." Financial Crisis Inquiry Commission.

Goldstein, Matthew. 2015. "As Banks Retreat, Private Equity Rushes to Buy Troubled Home Mortgages." *New York Times DealBook.*

Goodman, Laurie, Erik Cribbs, Eric Stein, Don Mullen, and Julia Gordon. 2016. "HUD and GSE Nonperforming Loan Sales: Are Further Improvements Necessary?" Urban Institute Sunset Seminar.

Goodman, Laurie S, Lidan Yang, Roger Ashworth, and Brian Landy. 2012. "Modification Effectiveness: The Private Label Experience and Their Public Policy Implications." Washington, DC: Pew Commissioned Research Paper, 15.

Griffin, John M, and Gonzalo Maturana. 2014. "Did Dubious Mortgage Origination Practices Distort House Prices?" Available at SSRN 2485308.

Griffin, John M, and Gonzalo Maturana. 2016. "Who Facilitated Misreporting in Securitized Loans?" Review of Financial Studies.

Haughwout, Andrew, Ebiere Okah, and Joseph Tracy. 2009. "Second Chances: Subprime Mortgage Modification and Re-Default."

Herndon, Thomas. 2016a. "Liar's Loans, Mortgage Fraud, and the Great Recession." Dissertation at University of Massachusetts Amherst.

Herndon, Thomas. 2016b. "Punishment or Forgiveness? Loan Modifications in Private Label Mortgage Backed Securities from 2008-2014." Dissertation at the University of Massachusetts Amherst.

Hudson, Michael W. 2010. The Monster: How a Gang of Predatory Lenders and Wall Street Bankers Fleeced America—and Spawned a Global Crisis. Macmillan.

Jiang, Wei, Ashlyn Aiko Nelson, and Edward Vytlacil. 2014. "Liar's loan? Effects of origination channel and information falsification on mortgage delinquency." *The Review of Economics and Statistics*.

Kinney, Jim. 2013. "Homeowners Call for Mortgage Help at 'Springfield No One Leaves' Advocacy Group." *Springfield Republican*.

Levitin, Adam. 2014. "MBS Settlements Following the Money." *Credit Slips*.

Levitin, Adam J., and Susan M. Wachter. 2013. "The Public Option in Housing Finance." *UC Davis Law Review*, 46: 1111–1655.

Levitin, Adam J., and Tara Twomey. 2011. "Mortgage Servicing." *Yale Journal on Regulation*, 28(1).

Mian, Atif, and Amir Sufi. 2014. *House of Debt: How They (and You) Caused the Great Recession, and How We Can Prevent It from Happening Again*. University of Chicago Press.

Mian, Atif R., and Amir Sufi. 2015. "Fraudulent Income Overstatement on Mortgage Applications during the Credit Expansion of 2002 to 2005." National Bureau of Economic Research Working Paper 20947.

Piskorski, Tomasz, Amit Seru, and James Witkin. 2015. "Asset Quality Misrepresentation by Financial Intermediaries: Evidence from the RMBS Market." *The Journal of Finance*, 70(6): 2635–2678.

Taub, Jennifer. 2014. *Other People's Houses*. Yale University Press.

Thompson, Diane. 2011. "Foreclosing Modifications: How Servicer Incentives Discourage Loan Modifications." *Washington Law Review*.

XI. The Economics of Prevailing Wage Laws

Prevailing Wage Laws, School Construction Costs, and Side-By-Side Bids

KEVIN DUNCAN
Colorado State University–Pueblo

School districts in Maryland may ask contractors for two bids for the same construction project. One bid requires the payment of prevailing wages while the other does not. These side-by-side bids provide a unique opportunity to examine how contractor bid behavior affects the measured cost of the wage policy. Results indicate that the gap between the two bids decreases as bid competition and contractor bid experience increases. The disparity in side-by-side bids is also influenced by a contractor's eagerness to win a project. Additional analysis illustrates how the average bid gap of 9.9% disappears under particular bid behaviors and outcomes.

Introduction

Prevailing wage laws establish location and job-specific minimum wage and benefit rates for construction workers employed on public works projects. These standards apply to construction funded by the federal government, to building activity financed by 29 state governments, and by numerous municipalities.[1] Regardless of the jurisdiction, the purpose of the wage and benefit floor is to prevent large government projects from distorting local compens-ation standards.[2] Large projects may attract contractors from areas where wages are lower with competition between these low-wage, out-of-area builders and local establishments depressing area rates. The floor allows all contractors to compete without affecting wage and benefit rates that are determined in local construction labor markets. While research has examined the impact of the wage policy on local economic activity, safety and training in the construction industry, the racial composition of the construction labor force, and the provision of health and retirements benefits for construction workers, the public policy debate has centered on the impact of the wage floor on the cost of public construction (Duncan, Lantsberg, and Manzo 2015; Azari-Rad 2005; Bilginsoy 2005; Bellman 2005; Kessler and Katz 2001; and Waddoups 2005).

This paper contributes to the literature and the policy debate by exploiting unique school construction bid data from Maryland. School districts in this state may request contractors to submit two bids for the same project: one bid requires the payment of prevailing wages; the other bid does not. These side-by-side bid data allow for an examination of the level of bid competition, accumulated contractor bid experience, and contractor motivation to win a project on the relative cost of projects covered by the wage policy. The results of the study provide insight into the cost impact of the wage requirements as well as illustrate how contractor bid behavior evolves and responds to prevailing wage requirements. The remainder of this paper is organized as follows. The next section contains a survey of the existing literature on prevailing wage regulations and school construction costs as well as a description on how the data used in this study differ from the information that is typically available. The data and the statistical model are described in more detail in the following sections. The paper concludes with a discussion of results and implications for future research addressing the cost implications of prevailing wage regulations.

Author's address: Hasan School of Business, University of Colorado–Pueblo, 2200 Bonforte Boulevard, Pueblo, CO 81001-4901

Previous Research on Prevailing Wage Laws and School Construction Costs

Most of the studies examining the cost effect of prevailing wage regulations focus on school construction as these projects are relatively uniform and numerous.[3] Many of the school studies use project-level data obtained from Dodge Data & Analytics. This organization collects and distributes project bid information to the construction industry. Dodge reports the winning bid for a project, but does not include change orders that determine final (total) project costs.[4] This is a uniform practice across all data used in this literature where the winning, low bid is the measure of total construction costs. The Dodge data also contain information on project location and bid letting date that allow researchers to determine if prevailing wage regulations apply. Other detailed project-level data include measures of project size (square feet and number of stories), whether the project is new or an addition, and framing and flooring type, etc.

Azari-Rad, Philips, and Prus (2002 and 2003) use Dodge data to examine school construction across the U.S. during the 1990s and fail to find any statistically significant evidence that schools built in states with prevailing wage laws are more costly. Philips (2014) examines new school construction in Kentucky, Michigan, and Ohio when these states enacted, suspended, or repealed prevailing wage policies in the 1990s and finds that there is no statistically significant difference in average square foot costs associated with fluctuations in state-level wage policies. In an analysis of Maryland school construction, Prus (1999) finds that schools built in counties with prevailing wage requirements are no more expensive than the cost of comparable facilities built in counties that do not have the wage policy. Both of the studies by Prus and Philips utilize Dodge data. On the other hand, Vincent and Monkkonen (2010) also use Dodge data to examine school construction across the U.S. between 1995 and 2004 and find a prevailing wage cost effect ranging from 8% to 13%.

Several other studies use data similar to Dodge to examine the effect of the introduction of prevailing wage requirements on school construction in British Columbia.[5] This wage policy is similar to several strong state-level policies in the U.S.[6] Bilginsoy and Philips (2000) use the CanaData and find that public school bid costs under the wage policy did not differ in terms of statistical significance from the bids of public schools built before the introduction of the prevailing wage requirement. Duncan, Philips, and Prus (2014) examine the effect of British Columbia's prevailing wage standard by including a control group of private school projects. This difference-in-differences analysis indicates that before the introduction of the prevailing wage policy, the cost of building public schools was approximately 40% more expensive than the costs of comparable private schools. The differential between public and private school construction cost did not change after the wage policy was introduced. These authors have also used the British Columbian example to study the effect of prevailing wage laws on the productivity and efficiency of construction (see Duncan, Philips, and Prus 2012, 2009, and 2006). They find that prior to the introduction of the wage legislation, public school projects were 16% to 19% smaller, in terms of square feet, than comparable private structures (given the same project expenditure). This size differential did not change after the policy was in effect. These results suggest that prevailing wage requirements do not alter labor or other input utilization in a way that significantly affects the relative size of covered and uncovered projects. The authors also find that average total efficiency for public school construction is 94.6%. Average efficiency for projects covered by the introductory stage of British Columbia's construction wage legislation was 86.6%. By the time of the expansion of the policy 17 months later, the average efficiency of covered projects increased to 99.8%. These findings suggest that the introduction of prevailing wage laws disrupted construction efficiency. However, in a relatively short period of time, the construction industry adjusted to wage requirements by improving overall construction efficiency in a way that is consistent with stable total costs. A similar pattern was observed with respect to cost efficiency. While these studies utilize different sample configurations and statistical methods, they uniformly fail to find evidence that prevailing wages increase construction costs.

Atalah (2013a, 2013b) uses data obtained from the Ohio School Facilities Commission (hereinafter, OSFC) to test the hypothesis that prevailing wages increase school construction costs in Ohio. These data are limited to information that identifies the school district, participating contractors, all bid submissions for a project, and project size. The advantage of these data is that there are over 8,000 bids in the OSFC data set. With this information, Atalah is able to compare bids submitted by contractors who are signatories to collective bargaining agreements and to those submitted by "open shop" contractors. While schools were exempted from Ohio's prevailing wage law in 1997, union rates are the prevailing rates for other construction funded by the State of Ohio.[7] Consequently, Atalah's union-nonunion comparison is an indirect test of the impact of prevailing wage and benefit rates, omitting any other unique administrative costs associated with the policy.

Results from the first study (Atalah 2013a) indicate that the lowest (winning) bid costs per square foot for projects paying union wages are no more expensive than projects paying open shop rates. The exception is projects in the southern region of the state where bid costs per square foot are 51% lower for construction based on *union* rates. This difference is statistically significant at the 0.0005 level. While Atalah's first study examines the consequences of prevailing wage laws by comparing projects completed by union or nonunion workers, the second study (Atalah 2031b) compares the lowest bid costs by trade (plumbing, electrical, etc.) and union status. These results indicate that bid costs per square foot were higher for five of 18 (27.8%) of the trades involved in school construction that paid union rates. There were no statistically significant differences in bid costs per square foot for 72.2% (13/18) of the trades, regardless of union status.

Keller and Hartman (2001) use project cost data provided by the Pennsylvania Department of Education, applicable prevailing wage rates, and total compensation rates from a large nonunion contractor to examine the effect of Pennsylvania's prevailing wage requirement on school construction costs. By substituting nonunion wages for prevailing wage rates and adjusting for labor costs as a percent of total construction costs, these authors find that prevailing wages add 2.25% to the cost of building public schools. A shortcoming of the method used by Keller and Hartman is that their comparison of prevailing and open shop wage rates ignores the changes in labor productivity and utilization that take place when wages change in the construction industry. For example, Blankenau and Cassou (2011) report that the use of skilled and unskilled workers in the construction industry is sensitive to wage rates. Skilled workers are defined as those with more than a high school degree while unskilled workers have less than a high school education with the elasticity of substitution between these two grades of labor equal to approximately 9.0. Additionally, Balistreri, McDonald, and Wong (2003) find that capital equipment replaces labor when construction wages increase, though the elasticities of substitution between capital and labor are inelastic in the short and long-run. Taken together, the results of these studies indicate that labor productivity and utilization change with wage rates in the construction industry. The method used in the study by Keller and Hartman does not take these changes into consideration when calculating the cost impact of prevailing wages. As a consequence, the estimate reported in this study is too high.

This survey of the literature indicates that the preponderance of research fails to find a statistically significant prevailing wage cost effect. One reason why prevailing wages may not affect construction costs is that labor costs (wages and benefits) are typically a low percent of total construction costs. According to data from the *Economic Census of Construction*, labor costs (wages and benefits) represent about 23% of total construction costs for the entire U.S. construction industry in 2012 (U.S. Bureau of the Census 2012).

While most of the previous studies utilize data that include controls for project size and local economic conditions, it is also important to consider the influence of contractor incentives and bid behavior on the relative cost of projects covered by prevailing wage requirements. Contractors, particularly nonunion establishments who pay rates below prevailing levels, may adjust their bids on prevailing wage projects as they become more familiar with the requirements. Bids may also change with the level of bid competition, or eagerness to win a project. These issues have been largely ignored in the literature.[8] The side-by-side bid data for school construction in Maryland provide an opportunity to explore these issues when two bids are submitted by the same contractor for the same project, under equal local economic and market conditions. The side-by-side bids arise from the characteristics and provisions of the prevailing wage standard in Maryland.

Maryland's Prevailing Wage Policy, Side-By-Side Bids, and Contractor Bid Behavior

Prevailing wage rates for construction projects receiving funding from the State of Maryland are determined for all 23 counties and the City of Baltimore (State of Maryland, *Compliance and Frequently Asked Questions*). Minimum rates for projects covered by Maryland's prevailing wage regulation are determined by the following process: the prevailing wage rate is the rate paid to 50% or more of local workers in a detailed job classification. If fewer than 50% of local workers in a classification receive the same wage, the prevailing wage is the rate paid to at least 40% of the local workers in the classification. If fewer than 40% of local workers in the same job classification earn the same wage, the prevailing wage rate is the average wage, weighted by the number of workers receiving different wage rates. Between 2000 and 2014, prevailing wage requirements in Maryland applied to school construction projects with a value of at least $500,000 and when state funding was 50% or more of project construction costs. As of July 1, 2014, prevailing wages are required on projects with a value of at least $500,000 and when state funding is 25% or more of total construction costs (Maryland General Assembly, "*Prevailing Wage Law*").

School districts have the choice of opting out of prevailing wage requirements by accepting less than 25% in state funding (or less than 50% prior to July 2014).[9] When projects are expected to be close to either the $500,000 value threshold or to the minimum state funding contributions, school districts may ask contractors to submit two bids for the same project: one based on the payment of prevailing wages with the other ignoring this minimum wage requirement. These side-by-side bids allow a school district to determine which pay schedule is most advantageous by comparing the decrease in state funding to the bid-cost savings associated with avoiding the payment of prevailing wages. For example, if the side-by-side bids of the lowest submissions indicate a project cost savings of 20% by opting out of the wage policy, and if state funding for the project decreases by 10% if the wage regulations are avoided, it is practical for the school district to opt out of wage policy coverage.

Based on an examination of 266 side-by-side bids for 67 separate school construction projects, the Public School Construction Program found that, on average, bids based on prevailing wage rates were 11.7% higher than bids without prevailing wages. This cost impact is based on the comparison of all bids including the lowest bid for projects built between January 2012 and December 2015. This gap persists when only low bids are considered. For example, for the subset of roof replacement projects there were a total of 83 bids on 17 roofing projects between 2012 and 2015. The average gap between prevailing wage bids and bids that were not based on the payment of prevailing wages is 9.67%. The gap between the 17 lowest bids is 9.10%. The result obtained from the analysis of side-by-side bids is viewed as "incontrovertible evidence" that prevailing wages increase construction costs (Public School Construction Program, "*The Cost of School Construction*" 2015). Side-by-Side bids have been used elsewhere as evidence that prevailing wage laws increase construction costs. The Westlake City School District in Ohio required contractors to submit two bids, one subject to prevailing wage requirements and one bid exempt from the wage policy. An examination of these side-by-side bids suggests an overall construction cost savings of 5.8% without prevailing wages (Legislative Service Commission 2002).

The evidence based on the side-by-side comparisons is at variance with earlier research of Maryland schools. As described above, Prus (1999) finds no statistically significant cost difference in schools built in counties with and without prevailing wage requirements. An important difference is that Prus examines an array of school projects (new construction and renovations) while the side-by-side analysis is based on projects that are close to the project value and state funding thresholds. This is a critical distinction that influences contractor incentives, the disparity in side-by-side bids, and the implied cost estimate of prevailing wages. When school districts request side-by-side bids, they are sending a signal to contractors that some state funding may be sacrificed *if* significant savings can be promised by avoiding the payment of prevailing wages. Under these circumstances, contractors, particularly nonunion contractors, have an incentive to inflate estimates on prevailing wage bids.

To illustrate, consider a project with one nonunion bidder. Without any competition, both bids, with and without the payment of prevailing wages will be inflated. If this contractor wishes to avoid the payment of prevailing wage rates and other requirements of the policy including the submission of certified payrolls, apprenticeship registration, arranging benefits that meet prevailing standards, and other administrative responsibilities, the bid based on the payment of prevailing wages will be particularly inflated.[10] Expanding this concept to a more realistic setting with multiple bidders suggests that when bid competition is low and the likelihood of winning is relatively high, the difference in side-by-side bids may be relatively large. A tacit or collusive agreement to increase disparity in side-by-side bids may be made between contractors when bid competition is low. This type of arrangement is in the best interest of all nonunion contractors bidding on projects requesting two submissions and may be considered self-reinforcing to some extent. However, in a more competitive situation, the disparity in side-by-side bids may collapse as the likelihood of winning decreases and uncertainty over how other bidders will behave increases.[11]

Contractor experience with bidding on prevailing wage projects, as well as the dual-bid format, may also influence the gap in bids. Those who are new to prevailing wage projects may have greater uncertainty regarding all of the attendant requirements and regulations associated with the wage policy. As a consequence, less experienced contractors may pad these bids accordingly. As experience with this bidding format and the wage policy increases, contractors may reduce the disparity in bids that do and do not require the payment of prevailing wages. This suggests that relatively new bidders will have larger differences in side-by-side bids and that the gap between bids will decrease with accumulated bid experience.[12]

When a contractor is motivated to win a project, regardless of whether prevailing wages are required, it is likely that differences in side-by-side bids are reduced. This outcome may be observed during the peak bid season. For the counties and projects (roof replacements) examined in this study, 41% of all projects are open to bidding in March with 48% of all bids submitted during this peak month. It is likely that contractors who are very eager to win projects during the peak season submit low bids regardless of the payment of prevailing wages. Several other factors such as a backlog of unfinished work or the desire to work with a particular owner may also influence a contractor's motivation to win a project.[13] When a nonunion contractor is not eager to win, both bids may be higher with the bid based on prevailing wages being particularly high. Under these conditions, a contractor's bid may also be less competitive and finish with a higher ranking/place. This illustration suggests that if a contractor is highly motivated to win a bid, regardless of prevailing wage coverage, it is expected that the bid ranking will be lower as well as the disparity is side-by-side bids.

The policy change in 2014 that lowered the threshold for prevailing wage coverage to school projects receiving 25% of funding from the state may also affect the behavior of contractors and their side-by-side bids. According to information reported by the Department of Legislative Services, this policy change made virtually all K-12 projects funded by the State of Maryland eligible for the payment of prevailing wages that exceeded the $500,000 value threshold (Maryland General Assembly, "*Prevailing Wage Law*"). Under these conditions, nonunion contractors participating in projects requesting side-by-side bids may have responded to expanded prevailing wage coverage by inflating bids based on prevailing wages if they wished to avoid the requirements of the wage policy. This explanation suggests that the disparity in side-by-side bids will be larger after the July 1 policy change.

Side-By-Side Bid Data and Results

Data for the study were obtained from the Public School Construction Program, Interagency Committee on School Construction, Board of Public Works, State of Maryland. From January 2012 to December 2015, the Public School Construction Program collected 266 side-by-side bids for 67 school construction projects completed throughout the state. These projects largely consist of renovation work involving a variety of trades and tasks such as carpentry, concrete, demolition, drywall, electrical, flooring, HVAC, masonry, and roofing, etc. Roof replacement projects are selected for this study due to the relative homogeneity of these types of projects and the relatively large number of projects and bids. Over the period, there were 83 side-by-side bids by 18 different contractors on 17 roof replacement projects located in Carroll, Frederick, Howard, and Washington counties. Since 75 of these bids were submitted by ten contractors who participated in at least two projects between 2012 and 2015, an unbalanced panel of nonunion contractors was created for the statistical analysis.[14]

Table 1 includes data on the lowest and highest differences in contractor side-by-side bids. To illustrate, consider Contractor #1. In one of these bids submitted by this contractor, the difference between the prevailing wage bid and the bid without prevailing wages was as low as 5.3%. In another bid by this same contractor, the difference in side-by-side bids was as high as 30.1%. There is considerable variation between contractors. This is evidenced by the average difference in bids (see column 4 in Table 1). For example, the average bid difference for Contractor #1 is 12.7% and 5.5% for Contractor #2. The variation between contractors is also revealed by the range in lowest and highest differences. Contractor #5 submitted at least one bid where there was no difference between the prevailing wage and non-prevailing wage bid (where the lowest bid difference is 0.0%). On the other hand, Contractor #6 had one bid where the difference was as high as 42.1% (see highest bid difference for #6). The averages for the 75 bids included in the study indicate a mean low difference in side-by-side bids of 3.9%, a mean high of 20.5%, and an overall average gap in the two bids of 10.2%.

TABLE 1
Percent Differences in Side-By-Side Bids by
Contractor for Roof Replacements, 2012–2015.

Contractor Identity	Lowest Bid Difference	Highest Bid Difference	Average Bid Difference
Contractor #1	5.3%	30.1%	12.7%
Contractor #2	1.8%	16.7%	5.5%
Contractor #3	3.4%	33.1%	10.2%
Contractor #4	3.4%	15.4%	11.7%
Contractor #5	0.0%	5.3%	3.2%
Contractor #6	8.9%	42.1%	17.4%
Contractor #7	1.1%	5.7%	3.0%
Contractor #8	8.1%	17.7%	13.5%
Contractor #9	1.5%	26.8%	14.7%
Contractor #10	5.7%	12.5%	9.8%
Overall Averages	3.9%	20.5%	10.2%

Source: Public School Construction Program.

Differences in side-by-side bids may be due to the payment of prevailing wage and benefit rates when contractors plan to use the same workers and production methods on a project. The substitution of skilled for unskilled labor and capital equipment for all grades of labor that typically accompanies wage increases in the construction industry requires time or the entry of contractors with varying skilled workforces and capital intensities (Blankenau and Cassou 2011; Balistreri et al. 2003). The resulting changes in labor productivity and utilization may mitigate some of the cost effect of higher wage rates. However, in the side-by-side bid format, the contactor may face inflexibilities that prevent substitutions with increased wage rates passing directly through to bid costs. This may explain some of the difference in side-by-side bids, but the disparities reported in Table 1 are too large to entirely attribute to labor costs. Many of the "highest bid differences" reported in Table 1 are greater than labor costs for this type of construction activity. Information from the most recent *Economic Census of Construction* indicates that labor costs (wages and benefits) for specialty trade roofing contractors in Maryland are approximately 19.3% of total construction costs(U.S. Bureau of the Census 2012). A bid, like that of Contractor #6 which is 42.1% higher with the payment of prevailing wages is approximately 2.2 times larger than percent labor costs for these types of projects. If the effect of prevailing wages is isolated from other factors that also influence construction costs, the impact of prevailing wages on bids should be fairly uniform from one project and bid to the next. For example, if prevailing wage rates add 10% to the cost of roof replacements, the side-by-side bids should uniformly vary by about 10%, depending on wage differences between counties and over time.

Another possible explanation for varying side-by-side bids is that, while roof replacements are relatively homogenous projects, some may require sheet metal work. Without the payment of prevailing wages, a nonunion contractor would likely have a roofer with suitable experience perform this work with the same rate of pay. But Maryland's prevailing wage regulations, like the federal Davis-Bacon Act and most other state laws, set wage rates for workers performing specific jobs. As a consequence, under the wage policy an employee who splits their time between roofing and sheet metal work must be paid the rates for each job classification accordingly. On average, the total hourly prevailing wage compensation of sheet metal workers is 27.9% higher than the comparable compensation for roofers (State of Maryland, "*Prevailing Wage Information Rates*"). This substantially higher rate may appear to explain some of the bid differences reported in Table 1. However, this implication must be tempered by the fact that labor costs are a low percent of total roofing construction costs. Even if all employees were upgraded to the sheet metal rate, it would affect a relatively small component of total costs and bids. For example, if all roofer labor costs rose by 27.9% to the sheet metal rate and labor costs are 19.3% of total costs, overall costs would increase by about 5.4% (27.9% x 19.3%), assuming that all else is unchanged. The variation in side-by-side bids that cannot be explained by differences in wage rates and the absence of input substitution suggests that factors other than the payment of prevailing wages have an impact on bid differences.

The unbalanced panel of 75 bids by nonunion roofing contractors is used to examine the impact of contractor bid behavior on differences in side-by-side bids by estimating the following one-way fixed effects model:

$$\%\ \textit{Difference in Bids}_{it} = \beta_0 + \beta_1\ \textit{Contractor}_i + \beta_2\ \#\ \textit{Bidders}_{it} + \beta_3\ \textit{Bid History}_{it} + \beta_4\ \textit{Bidder Rank}_{it}\ \beta_5\ \textit{Peak Bid Month}_{it} + \beta_6\ \textit{2014 Policy}_{it} + \beta_7\ \textit{Real Midpoint Bid}_{it} + \beta_8\ \textit{County}_{it} + \mu_{it}$$

where *% Difference in Bids* is the difference between the prevailing wage bid and the bid without prevailing wages, divided by the bid omitting prevailing wages (x 100) for roof replacement bids submitted by contractor *i* in time period *t*. *# Bidders* equals the number contractors who submitted a bid for each of the 17 projects. *Bid History* is the accumulated bid experience of each contractor. This information is collected using the longitudinal aspect of the data set where the number of project bids submitted by each contractor is traced from 2012 through 2015.[15] *Bidder Rank* is equal to the order of each bid submitted by the contractors included in the panel. *Peak Bid Month* equals one for bids submitted in March, zero otherwise. *2014 Policy* is a binary variable equal to one for the projects that were completed after the July 1, 2014, prevailing wage policy expansion that lowered the state funding threshold to 25%, zero otherwise. Since this variable captures a time component, year dummy variables are not included for a two-way fixed effects estimate. Since the effects described above may vary with the size of a project, the *Real Midpoint Bid* is added as a control. This variable is the inflation-adjusted midpoint between a contractor's side-by-side bids and allows for the effects of the number of bidders, and bid history, etc. to be measured taking the contractor's perceived value of the project into consideration. *County* is another control variable that takes into consideration regional differences in market and economic conditions. *County* is a dummy variable identifying projects in Carroll, Frederick, and Howard counties with Washington County as the reference category. μ is the error term.

Results

Summary statistics for the variables included in the model are reported in Table 2 (next page). The average difference in prevailing wage bids and bids estimated without the payment of prevailing wages submitted by nonunion roofing contractors is about 10%. Across the ten contractors, this difference was as low as 0.0% and as high as 42%. The number of bidders ranges from two to eight participants per project, with an average of 5.3. The bid history of these contractors is traced longitudinally between 2012 and 2015 and ranges from the first bid to a high of 13 bids with an average of 4.6. It is not possible to determine bid history before 2012, so the measure used here is based on the accumulation of bid experience during the period of the study. The bid ranking of any contractor ranges from the first to the eighth position with an average of about third place. Roofing projects are open to bids in six months of the year (January, February, March, April, August, and December). The peak month for bidding on roof replacement projects is March when 41% of the projects are let and 48% of the bids are placed. One-third (25) of the bids were placed after the policy change in July of 2014 that reduced the state funding threshold to 25% of construction costs. Fifty of the bids were placed under the previous state funding threshold of 50%. The distribution of roof replacements was unevenly distributed with 57% of projects located in Howard County, 21% in Frederick, 16% in Carroll, and 5% in Washington County. The inflation-adjusted midpoint between the bid based on the payment of prevailing wages and the bid omitting the wage requirement is approximately $1.2 million.

Regression results for the fixed effects estimate are reported in Table 3.[16] Because there are *a priori* expectations regarding the effects of the number of bidders, bid history, contractor bid rank, peak bid month, and the 2014 policy change, the coefficients for these variables are evaluated with one-tailed tests. All other coefficients are evaluated with two-tailed tests. Results indicate that the effect of another bidder decreases the gap between bids that are, and are not based on prevailing wage rates by approximately 1.6 percentage points.

Findings also support the notion that as contractors gain experience with side-by-side bidding, the gap between the two bids decreases. The coefficient for bid history reveals that the gap in side-by-side bids decreases by about 1.2 percentage points with each bid experience. The effects of bid competition and bid history are significant at the 0.05 level.

TABLE 2
Summary Statistics of Side-By Side Contactor Bids,
Roof Replacement Projects, Fiscal Years 2012–2015

Variable	**Mean**
% Difference in Bids	9.940 (7.704)
# Bidders	5.293 (1.514)
Bid History	4.640 (2.990)
Bidder Rank	3.107(1.805)
Peak Bid Month (March)	0.480 (0.503)
2014 Policy	0.333 (0.478)
Carroll County	0.160 (0.369)
Frederick County	0.213 (0.412)
Howard County	0.573 (0.498)
Washington County	0.053 (0.226)
Real Midpoint Bid	$1,178,718 (610,602.8)
N	75

Source: Public School Construction Program, State of Maryland.
Standard deviations in parentheses.

TABLE 3
Fixed Effects Regression Results of Side-By Side
Contactor Bids (With and Without Prevailing Wage Rates),
Roof Replacement Projects, Fiscal Year 2012-2015
(Dependent Variable = % Difference in Bids)

Variable	**Coefficient**
# Bidders	–1.558 λλ (0.737)
Bid History	–1.242 λλ (0.532)
Bidder Rank	1.021 λλλ (0.257)
Peak Bid Month (March)	–8.005 λλλ (2.252)
2014 Policy	4.500 λ (2.647)
Carroll County	0.625 (0.369)
Frederick County	13.948 *** (2.181)
Howard County	4.775 ** (2.069)
Real Midpoint Bid	–0.0001 (0.0001)
Constant	18.110** (5.828)
N	75
F	211.24
R^2 (overall)	0.423
F Test, All Individual Effects = 0	4.58

Source: Public School Construction Program, State of Maryland.
Standard errors corrected for heteroskedasticity in parentheses.
λλλSignificant at the 0.01 level (one-tailed test).
λλSignificant at the 0.05 level (one-tailed test).
λSignificant at the 0.10 level (one-tailed test).
***Significant at the 0.01 level (two-tailed test).
**Significant at the 0.05 level (two-tailed test).
*Significant at the 0.10 level (two-tailed test).

Model estimates also support the view that eagerness to win a project affects differences in bids. An increase in bid ranking or place increases the gap by approximately 1 percentage point while side-by-side-bids submitted during the peak month of March are closer by 8 percentage points. Both of these results are significant at the 0.01 level.

Differences in side-by-side bids increased by 4.5 percentage points after the expansion of the prevailing wage policy in 2014. This effect is significant at the 0.10 level. Since the effect of the policy change is measured by comparing bids submitted before and after July 1, 2014, other factors that changed over this time period may also influence the estimated 4.5% increase. One possible influence is the increase in prevailing wage rates over time that would inflate bids if the wage policy applies. However, growth in prevailing wage rates for roofers/waterproofers in the four Maryland counties included in this study was relatively low over the period of the study. Between 2012 and 2015, the prevailing wage and benefit rates for this job classification increased by an average of 3.5%.[17] This increase is substantially lower than the 9.2% increase in the producer price index for roofing contractors over the same period (U.S. Bureau of Labor Statistics, *Producer Price Index by Industry*). These data suggest that prevailing wage growth in Maryland increased proportionately less compared to overall costs for nonresidential roofing contractors. Also, given that labor costs are a low percent of total costs for Maryland roofing contractors, the impact of the increase in prevailing wages on total costs is disproportionately low. If wages increase by 3.5% and labor costs are 19.3% of total costs, the effect of the wage increases is approximately 0.7% (3.5% x 19.3%).[18] Consequently, the change in prevailing wage rates is insufficient to account for the 4.5% increase in side-by-side bids after 2014.

It is also unlikely that the mere expansion of the policy to projects receiving at least 25% in state funding would increase contractor costs and bids. If prevailing wages have a cost impact, it would be measured directly at the level of the project. That is, if a contractor bids on a project that requires prevailing wages and if the contractor expects increased costs as a result, the bid on that project will be higher. The policy change in 2014 would not have an across-the-board impact on project costs and bids. The impact of prevailing wages would still be measured at the project level, regardless of the change in the state funding threshold. Bid costs may increase if the expansion of the policy reduced bid competition. However, the 4.5% increase in side-by-side bids after July 2014 is measured with the level of bid competition held constant.[19] The remaining explanation is that the increase in side-by-side bids is due to the reaction of nonunion contractors who are 'promising' greater saving without the payment of prevailing wages at a time when prevailing wage coverage is expanding.

Holding all other factors constant, differences in side-by-side bids are larger in Frederick and Howard counties compared to Washington County (by about 14 and four percentage points, respectively). While the impacts for these two counties are significant at least the 0.05 level, there is no statistically significant difference in bids between Carroll and Washington counties. The estimate for Real Midpoint Bid is essentially zero in terms of magnitude and statistical significance. This finding indicates that the difference between the two bids does not vary with project size. The results of the F test indicate that the null hypothesis that all coefficients equal zero is rejected at the 0.01 level.[20] The model explains 42% of the total variation in side-by-side bids. The F test implying that individual contractor effects are zero is also rejected at the 0.01 level.[21] This test result indicates that the fixed effects estimate is preferred to an OL estimate that does not control for individual contractor effects.

The results reported in Tables 2 and 3 can be used to illustrate changes in side-by-side bids as the regression equation is solved with a given value of one variable, holding all other variables at their averages. For example, consider changes in the overall average gap in roof replacement bids of 9.9% (as reported in Table 2) when accumulated bid history changes from its average value of 4.64 bids to the maximum number of 13 bids. With the 13th bid the difference between bids based on the payment of prevailing wage and tenders that do not adhere to the wage policy collapses to – 0.4%, holding all else constant. Similarly, if the number of bidders is at its maximum value of eight competitors, bid rank equals first place, and bids are submitted in the peak month of March (with all other variables held at average values), the average gap in side-by-side bids vanishes as the average falls from 9.9% to – 0.6%. While these illustrations do not take into account the confidence intervals of the coefficients or the standard error of the estimate when solving the regression equation, these exercises illustrate the extent to which the difference in bids that are based on the payment of prevailing wages and comparable bids that do not include prevailing wages vary with changes in the bid behavior and outcomes.

Conclusion

The data typically used in studies examining the effect of prevailing wage laws on construction costs allows for the measurement of the policy impact while controlling for other project characteristics that may also be related to costs. The influence of contractor bid behavior has largely been ignored. The side-by-side bid data for Maryland public school tenders provide an opportunity to examine the effects of the level of bid competition, accumulated contractor bid experience, and motivation to win on the relative cost of projects covered by prevailing wage regulations. Results from the fixed effects estimate of an unbalanced panel of roofing contractors indicate that the gap between bids that require and do not require the payment of prevailing wages decreases as the level of bid competition and accumulated contractor bid experience increases. The disparity in side-by-side bids is also influenced by a contractor's eagerness to win a project. Additional analysis illustrates how the average gap between the two bids of 9.9% disappears under particular bid behaviors and outcomes. This evidence from nonunion contractors in Maryland springs from the unique circumstances of this state's prevailing wage policy. Yet, the results provide insights into how contractors, particularly nonunion contractors respond to the requirements of the wage policy.

Endnotes

[1] The Davis-Bacon Act applies to all federally assisted and funded construction with a value in excess of $2,000. See U.S. Department of Labor, "Davis-Bacon and Related Acts." At present, 29 states have prevailing wage laws. Kentucky repealed its prevailing wage law in early 2017, West Virginian repealed in 2016, and Indiana in 2015. For a list of the 18 other states without prevailing wage policies, see U.S. Department of Labor, "Dollar Threshold Amount for Contract Coverage." For an example of a municipal-level prevailing wage standard, see City and County of Denver, "About Prevailing Wage."

[2] As an example, see U. S. Department of Labor, "The Davis-Bacon Act Protecting Wage Equality Since 1931."

[3] See Duncan (2015a) for a comprehensive research review that includes various types of construction.

[4] Change orders and cost overruns may be related to prevailing wage legislation. The single study that has been able to obtain data on cost overruns report that overruns for road construction in Utah tripled in the decade following the 1981 repeal of prevailing wage requirements in this state. See Philips, Mangum, Weitzman, and Yeagle (1995).

[5] See CanaData as an example.

[6] For a description of this policy, see Duncan, Philips, and Prus (2014).

[7] See Ohio Laws and Rules, "Chapter 4115: Wages and Hours on Public Works."

[8] The single study that has examined this issue examines bid behavior as contractors switch from highway resurfacing projects funded by the federal government (and are covered by the Davis-Bacon Act) to projects that are funded by the State of Colorado that are not covered by a prevailing wage standard. See Duncan (2015b).

[9] Information obtained from the Public School Construction Program personnel.

[10] For a description of Maryland's law, see State of Maryland, "Compliance Frequently Asked Questions."

[11] Based on information provided by personnel from the Public School Construction Program, bidders on public works projects in Maryland know the number and identity of bidders for a project. This information would facilitate agreements between contractors.

[12] The data used in this study span 4 years and are insufficient to identify entrant bidders. Others have examined the bids of new contractors. Li and Philips (2012) find that the bids of entrants are more widely dispersed around the central bid tendency. De Silva, Dunne, and Kosmopoulo (2003) find that entrants bid more aggressively than incumbent firms did.

[13] Previous research indicates that bids are higher when a contractors' productive capacity is obligated to previously awarded projects. See Jofre-Bonet and Pesendorfer (2003).

[14] Information from Roofers Local 30, United Union of Roofers, Waterproofers, and Allied Workers of Philadelphia, Pennsylvania, was used to identify roofing contractors who are signatories to collective bargaining agreements. The single union roofing contractor included in the master data file bid on only one project over the time period. According to information provided by the Fair Contracting Foundation, union contractors are hesitant to bid on projects requesting side-by-side bids due to the uncertainty regarding the outcome and whether prevailing wages will be paid or not.

[15] There were a few occasions when projects shared the same bid date. When this is the case, the measure of bid history is the same for both projects.

[16] Standard errors reported in Table 3 are corrected for heteroskedasticity.

[17] In Carroll and Howard Counties, the total prevailing rate (wages and benefits) increased by 2.1% between 2012 and 2015. The corresponding percentage change was 2.4% in Washington County and 7.5% in Frederick County. Data were obtained from State of Maryland, "Prevailing Wage Information Rates."

[18] This method of estimating the increase in total costs due to an increase in prevailing wage rates is over-simplistic as other factors that change with wages (such as labor productivity and use of capital equipment) are ignored. This method is used here to illustrate that the impact of wage increases on total costs is very low.

[19] When the statistical model is estimated without a control for the number of bidders, the measured effect of the 2014 policy change increases to 6.27% with a computed z-statistic of 3.36. Additionally, the two academic studies that examine the effect of prevailing wage laws on bid competition both fail to find a statistically significant impact. See Duncan (2015a) and Kim, Chang, and Philips (2012).

[20] The critical F statistic is 5.35 at the 0.01 level.

[21] The relevant critical F statistic is 2.72 at the 0.01 level.

References

Atalah, Alan. 2013a. "Comparison of Union and Non-Union Bids on Ohio School Facilities Commission Construction Projects." *International Journal of Economics and Management Engineering*, Vol. 3, no. 1, pp. 29-35.

Atalah, Alan. 2013b. "Impact of Prevailing Wages on the Cost among the Various Construction Trades." *Journal of Civil Engineering and Architecture*, Vol. 7, no. 4, pp. 670-76.

Azari-Rad, Hamid, 2005. "Prevailing Wage Laws and Injury Rates in Construction." In Hamid Azari-Rad, Peter Philips, and Mark Prus, eds., *The Economics of Prevailing Wage Laws*. Aldershot, UK: Ashgate, pp. 169-87.

Azari-Rad, Hamid, Philips, Peter and Prus, Mark. 2002. "Making Hay When It Rains: The Effect of Prevailing Wage Regulations, Scale Economies, Seasonal, Cyclical and Local Business Patterns Have On School Construction Costs." *Journal of Education Finance*, Vol. 27, 997-1012.

Azari-Rad, Hamid, Philips, Peter and Prus, Mark. 2003 "State Prevailing Wage Laws and School Construction Costs." *Industrial Relations*, Vol. 42, no. 3, pp. 445-57.

Balistreri, Edward, McDaniel, Christine and Wong, Eina Vivian. 2003. "An Estimation of U.S. Industry-Level Capital-Labor Substitution Elasticities: Support for Cobb-Douglas." *The North American Journal of Economics and Finance*, Vol. 14, no. 3, 343-56.

Belman, Dale. 2005. "Prevailing Wage Laws, Unions, and Minority Employment in Construction." In Hamid Azari-Rad, Peter Philips, and Mark Prus, eds., *The Economics of Prevailing Wage Laws*. Aldershot, UK: Ashgate, pp. 149-68.

Bilginsoy, Cihan. 2005. "Wage Regulation and Training: The Impact of State Prevailing Wage Laws on Apprenticeship." in Hamid Azari-Rad, Peter Philips and Mark Prus, eds., *The Economics of Prevailing Wage Laws*, Aldershot, UK: Ashgate, pp.149-68.

Bilginsoy, Cihan and Philips, Peter. 2000. "Prevailing Wage Regulations and School Construction Costs: Evidence from British Columbia." *Journal of Education Finance,* Vol. 24, pp. 415-32.

Blankenau, William and Cassou, Steven. 2011. "Industry Differences in the Elasticity of Substitution and Rate of Biased Technological Change between Skilled and Unskilled Labor." *Applied Economics*, Vol. 43, pp. 3129-42. CanaData. http://bit.ly/2k2ss50 [January 23, 2017].

City and County of Denver, "*About Prevailing Wage*." Denver Auditor's Office. http://bit.ly/2k2wXwt [January 23, 2017].

De Silva, Dakshina, Dunne, Timothy, and Kosmopoulou, Georgia. 2003. "An Examination of Entrant and Incumbent Bidding in Road Construction Auctions." *The Journal of Industrial Economics*, Vol. 51, no. 3, pp 295-316.

Dodge Data & Analytics. http://construction.com/. [January 23, 2017].

Duncan, Kevin. 2015a. "The Effect of Federal Davis-Bacon and Disadvantaged Business Enterprise Regulations on Highway Maintenance Costs." *Industrial and Labor Relations Review*. Vol. 68, no. 1, pp. 212-37.

Duncan, Kevin. 2015b. "Do Federal Davis-Bacon and Disadvantaged Business Enterprise Regulations Affect Aggressive Bidding? Evidence from Highway Procurement Auction." *Journal of Public Procurement*, Vol. 15, no. 3, pp. 291-316.

Duncan, Kevin, Lantsberg, Alex, and Manzo Frank. 2015. "The Cost of Repealing Michigan's Prevailing Wage Policy: Impacts on Total Construction Costs and Economic Activity." http://bit.ly/2k2kdWQ [January 23, 2017].

Duncan, Kevin, Philips, Peter, and Prus, Mark. 2006. "Prevailing Wage Legislation and Public School Construction Efficiency: A Stochastic Frontier Approach." *Construction Management and Economics*, Vol. 24 (June), pp. 625-34.

Duncan, Kevin, Philips, Peter, and Prus, Mark. 2009. "The Effects of Prevailing Wage Regulations on Construction Efficiency in British Columbia." *International Journal of Construction Education and Research*, Vol. 5, no.1, pp. 63-78.

Duncan, Kevin, Philips, Peter, and Prus, Mark. 2012. "Using Stochastic Frontier Regression to Estimate the Construction Cost Efficiency of Prevailing Wage Laws." *Engineering, Construction and Architectural Management*, Vol. 19, no. 3, pp 320-34.

Duncan, Kevin, Philips, Peter, and Prus, Mark. 2014. "Prevailing Wage Regulations and School Construction Costs: Cumulative Evidence from British Columbia." *Industrial Relations*, Vol. 53, no. 4, October, pp. 593-616.

Jofre-Bonet, Mireia and Pesendorfer, Martin. 2003. "Estimation of a Dynamic Auction Game." *Econometrica*, Vol. 71, no. 5, pp. 1443-89.

Kessler, Daniel and Katz, Lawrence. 2001. "Prevailing Wage Laws and Construction Labor Markets." *Industrial and Labor Relations Review*, Vol. 54, no. 2, pp. 259-74.

Kim, JaeWhan, Chang, Kuo-Liang, and Philips, Peter. 2012. "The Effect of Prevailing Wage Regulations on Contractor Bid Participation and Behavior: A Comparison of Palo Alto, California with Four Nearby Prevailing Wage Municipalities." *Industrial Relations*, Vol. 51, no. 4 (October), pp. 874-91.

Legislative Service Commission. 2002. "S.B. 102 Report. The Effects of the Exemption of School Construction Projects from Ohio's Prevailing Wage Law." http://bit.ly/2k2e5xU [January 23, 2017].

Li, Sheng and Philips, Peter. 2012. Construction Procurement Auctions: Do Entrant Bidders Employ More Aggressive Strategies than Incumbent Bidders?" *Review of Industrial Organization*, Vol. 40, no. 3, pp. 191-205.

Maryland General Assembly. 2016. "Prevailing Wage Law – Applicability to the University of Maryland System, Morgan State University, and St. Mary's College of Maryland." Fiscal and Policy Note, First Reader, Department of Legislative Services. http://bit.ly/2k2IkVg [January 23, 2017].

Ohio Laws and Rules. "Chapter 4115: Wages and Hours on Public Works" http://codes.ohio.gov/orc/4115 [January 23, 2017].

Philips, Peter. 2014. "Kentucky's Prevailing Wage Law: An Economic Impact Analysis." http://bit.ly/2k3f94x [January 23, 2017].

Philips, Peter, Mangum, Garth, Waitzman, Norm, and Yeagle, Anne. 1995. "Losing Ground: Lessons from the Repeal of Nine 'Little Davis-Bacon' Acts." http://bit.ly/2k3nHsh [January 23, 2017].

Public School Construction Program. 2015. "The Cost of School Construction: A Comparison of the Monarch Global Academy and Conventional School Facilities." October 28. http://bit.ly/2k41yK8 [January 23, 2017].

Prus, Mark. 1999. "Prevailing Wage Laws and School Costs: An Analysis for Public School Construction in Maryland and the Mid Atlantic States." http://bit.ly/2k3Hfwv [January 23, 2017].

State of Maryland. "Compliance Frequently Asked Questions (FAQs)—Prevailing Wage for State Funded Construction Contracts." Department of Labor, Licensing, and Regulation. http://bit.ly/2k4HJlV [January 23, 2017].

State of Maryland. "Prevailing Wage – Division of Labor and Industry." http://bit.ly/2k3jvZu [January 23, 2017].

State of Maryland. "Prevailing Wage Information Rates." http://bit.ly/2k2IZpO [January 23, 2017].

U.S. Bureau of the Census. 2012. Economic Census of Construction, Construction: Geographic Area Series: Detailed Statistics for Establishments. http://bit.ly/2k2wudY [January 23, 2017].

U.S. Bureau of Labor Statistics. "Producer Price Index by Industry: Roofing Contractors, Nonresidential Building Work." http://bit.ly/2k0YT3Y [January 23, 2017].

U.S. Department of Labor. "Davis-Bacon and Related Acts." http://bit.ly/2k5yYZ9 [January 23, 2017].

U.S. Department of Labor. "Dollar Threshold Amount for Contract Coverage." http://bit.ly/2k3qq4U [January 23, 2017].

U.S. Department of Labor. "The Davis-Bacon Act: Protecting Wage Equality Since 1931."

Vincent, Jeffrey and Monkkonen, Paavo. 2010. "The Impact of State Regulations on the Cost of Public School Construction." *Journal of Education Finance*, Vol. 35, no. 4 (Spring), pp. 313-30.

Waddoups, C. Jeffrey. 2005. "Health Care Subsidies in Construction: Does the Public Sector Subsidize Low Wage Contractors?" in Azari-Rad, Hamid, Peter Phillips, and Mark Prus, eds. *The Economics of Prevailing Wage Laws,* Ashgate Publishers, pp. 205-24.

XII. LERA Annual Reports

LERA Executive Board Meeting Minutes

10:30 a.m., January 8, 2017
Hyatt Regency, Chicago, IL

In attendance:

- ***Officers***: *Janice Bellace (President), Bonnie Castrey (Past President), Harry Katz (President-Elect); Craig Olson (Secretary-Treasurer)*
- ***Board Members***: *Annette Bernhardt, John Budd, Jonathan Donehower, Eric Fidoten, Owen Herrnstadt, Patrice Mareschal, Dan Marschall, Jeff Wheeler*
- ***Other guest***: *Susan Houseman, LERA Winter Meeting Program Committee Co-Chair*
- ***LERA Staff***: *Emily Smith, Bernadette Tiemann*

Call to order. The meeting was called to order at 10:28 a.m. by Janice Bellace, President.

Approval of the Minutes

The minutes of the December 2017 LERA Executive Board meeting were reviewed and approved by the Board.

President's Report

ASSA Space Allocation Meeting. LERA attended (Susan Houseman, LERA Program Committee Co-Chair, Janice Bellace, LERA President; and staff Emily Smith and Bernadette Tiemann) the ASSA Space Allocation meeting held Sunday morning, January 8, 2017 in Chicago, and learned that LERA has been removed from their attendance watch list because our attendance has increased dramatically in recent years.

As background, LERA has been conducting sessions at the ASSA meeting for 69 years (since our inception), and LERA is one of the founding ASSA organizations. Up until a few years ago, the ASSA shared revenue with this small group of founding ASSA organizations (about 7 of them), but in 2011, the ASSA decided they no longer wished to continue sharing revenue with this group.

Previously, ASSA had shared revenue with this small group because these founding organizations spent time and resources marketing the event and all contributed to increased registration. Because of their shift in policy in sharing revenue with LERA and the benefits of greater freedom in an independent meeting, LERA decided to continue its sessions at ASSA, but to move special events and the "annual meeting" to the June time-frame, replacing the LERA National Policy Forum. This change in meeting architecture was the result of a review conducted by a special meetings architecture committee which brought their recommendations to the board in 2011, and the new meeting architecture begin in 2012. In January of 2012, LERA met with the ASSA, and conducted our 27 sessions as usual, but moved all its special events to the new independent Annual Meeting, which was held May 2013 in St. Louis, MO.

In 2012 and 2013, LERA's session attendance dropped at ASSA, and ASSA subsequently reduced our sessions from 27 to 18. The Program Committee, then headed by Eileen Appelbaum felt this was an appropriate fit for LERA, and that 27 was unsustainable number of sessions. The program committee then began working towards the goal of increasing attendance at the LERA@ASSA in 2016 and 2017 and our session attendance improved, and the ASSA has now removed LERA from its watch list.

Webcasting. Bernadette Tiemann summarized initiative of webcasting preconference developmental workshops and it is decided to pursue software from University of Illinois and trying in Anaheim.

Expanding Onsite Visibility, Janice Bellace, President discussed the possibility of having an internship for building an app for smartphone use. Eric Fidoten commented that the value of an organization is human capital. Let's value webcasting and expand webcasting over building an online application for LERA for now.

- Training for unions to webcast from LERA pre-conference professional development workshops
- How do we attract more union officials to LERA programming?
- Favorable towards proposal- explore e-options, look into a proposal by Anaheim (punch-free domain, ask Eric Fidoten.)

Implementation Committee's Report

Bonnie Castrey reported that the Implementation Committee recommends:

1. To set Apprenticeship student dues at the same level as Student Member dues. This motion passed unanimously.
2. That LERA will send a list of potential members, who do not belong to a local chapter, to local chapters, twice annually. The board discussed the implementation of this and suggests that we - prepare a draft letter about joining to distribute to the committee; opting to test out a soft-approach.
3. To establish an evolving understanding of what our new Regional Vice Presidents will set out to accomplished; motion passed. *Discussion:* Regional VP's are created to
    a. Enhance communication between national and chapters
    b. Organize regionally
    c. Serve as a member of this board and of the National Chapter Advisory Council.
4. Implementation Committee and Regional VP's will begin to create structures and duties as the process evolves. Jeff Wheeler suggested we simplify roles and objectives, and that we specify the meetings that these individuals are expected to attend annually.
5. Emily Smith and Joel Cutcher-Gershenfeld will put together a survey for chapters and help connect chapters and help connect chapters with list serves, webcasting etc.
6. Motion initial start-up phase – strive for achieving in sectoral diversity, but primary goal is to enhance communication and we will be flexible to achieve that.
7. First term for Regional VP's will be 3 years as well as thereafter
8. Regional VP's will need to be elected nationally; we will invite them to attend our June meetings so members can meet the candidates.
9. In our bylaws, we use the nomenclature "Affiliates" instead of "Affiliate Members". National members are members of LERA, Chapter members are members of a LERA chapter, and chapter members are also affiliates of the national organization.
10. Committee recommends working with the secretary/treasurer and Emily Smith to determine if a dues increase for chapters is recommended instead of having individual "head tax" for affiliates; motion passed unanimously and some of the discussion was:
    - Chapters are currently reviewing their own dues structures
    - Let's begin with a comprehensive and inclusive pricing policy (Chapter dues covers the cost of affiliates) and then invite these people to participate in activities that raise revenue
    - UCIRHRP Chairs need to be invited to sit on the LERA Executive Board each year
    - 2017 LERA President Elect will Chair the LERA 70th Annual Meeting Program Committee and that structure will continue going forward, although the President will have final say and input.

Financial and Membership Report

Craig Olson, LERA Secretary-Treasurer, reported that overall our budget is in the black by around $23,000, our first surplus in about ten years. This is due to having only one full-time staff member at LERA and increasing revenue associated with the LERA Annual Meeting, and also because we saved money in a few areas.

Sponsorships will be an important part of the LERA 2017 budget, at $30,000 factored in, but we do not know yet where this sponsorship will come from, and we hope that Kaiser Permanente will again sponsor LERA. Owen Herrnstadt will talk to LERA staff about contacting Ford again about sponsoring LERA in 2017.

A second full-time LERA staff member is factored into the proposed 2017 budget; this is an important measure as overtime can only carry the organization so far.

In terms of expenses, LERA saved some money in 2016. LERA's publication costs were only two-thirds of projections with savings reported for both the LERA Research Volume and the *Perspectives on Work* magazine. Some of the cost savings was achieved by carefully reviewing printing bids and estimates. LERA also decreased the number of pages in LERA Perspectives on Work magazine Volume 20 a bit which reduced production costs and allowed us to bind the magazine more cheaply. At the same time, the production team introduced a new layout on the cover, and included award winners, which we think is an attractive and sustainable format. LERA could entertain the idea of giving members an option to opt out of print versions because they can view them online in the future, as an additional cost-savings measure to the organization.

The 2017 budget is structured to break-even, and to achieve this, increases in meeting registration and membership dues are recommended, to begin in January 2017. It is further recommended that a focus group review a comprehensive dues plan for 2018 and beyond. Harry Katz motioned to accept the proposed dues increase be approved and authorize a study group to review dues models (including a comprehensive evaluation beginning with how other comparable association's price membership, sliding dues scales based on income or other structures, increasing dues levels, charging extra for optional components such as Interest Sections, Industry Councils, printed publications, etc., and additional review items such as determining if we are the primary or secondary professional organization for LERA members, etc.); motion passed unanimously.

Other outcomes from this discussion were: Annette Bernhardt and Eric Fidoten should be added to the Development Committee, a menu of sponsor-able activities should be produced, and a 75th Capital Fund campaign should be reviewed by the Development Committee.

LERA Winter Meeting Program Committee Report

Susan Houseman reported that after the shift in meeting architecture in 2012 (to move LERA Annual Meeting in May/June, but keep the sessions at the ASSA meeting in January) attendance has dropped at the ASSA meeting. The program committee's strategy they began was to mainly recruit sessions, specifically sessions of interest to labor economists. This last year, of the 18 sessions that LERA produced at the LERA Winter Meeting, 12 of them were recruited by the program committee members, 6 of them were submitted (and only 3 of those accepted) and the remaining sessions were made of individually submitted papers.

The 2018 Strategy will focus more on reaching out to more colleagues for submitted sessions (over specifically recruited sessions), and the program committee will firmly require LERA membership of at least one author on any paper that will be presented on the program. The program committee is considering running an ad in the Journal of Economics to advertise LERA and our open CFP for 2018, and possibly the ILR Review or the Journal of Labor Economics. They will also make the CFP widely available and send it to the LERA Board members.

LERA Annual Meeting Program Committee Report

Janice Bellace, LERA President and Program Committee Chair reported that supply chain technology is going to be a topic of discussion, as will outsourcing/public sector/Davis Bacon/unpaid interns at Disney. Janice Bellace and Jeff Wheeler will pursue both a session and a sponsorship in reference to Disneyland. To make ends meet at the Hilton Anaheim, where our contract for BEO is a minimum of $50,000, we have two provisions.

The first is a recommendation to increase early bird regular member full conference registration from $295 to $335; that motion seconded by Jonathan Donehower and passed unanimously. The second is a proposal by Kaiser Permanente to conduct a small meeting of about 30 KP staff members to contribute about 10 to 12,000 towards LERA's BEO minimum. This suggestion has also been approved by the LERA Board.

The LERA Board and program committee will continue to think about how to raise money for speaker registration as this topic is brought up each year by various chairs and session organizers who would like to include people in the program who may not be able to afford to pay the full registration price. In terms of marketing the event, we need to make it clear to people to attend the event that it is very important that they get the message that LERA needs them to stay at the LERA hotel, or we may not meet our hotel room block as it is very high this year.

Upcoming LERA Deadlines and Meetings

- LERA 69th Annual Meeting – Thu.-Sun., Jun. 1-4, 2017 (Pre-Conf.: May 31) at the Anaheim Hilton
- Awards nominations due – Sun., Jan. 15, 2017
- Chapter award nominations due – Wed., Feb. 15, 2017
- Winter meeting session proposals due – Thu., Mar. 9, 2017
- Executive Board Meeting – Fri., Jun. 2, 2017, over lunch, at the Anaheim Hilton

President Bellace adjourned the meeting at 1:50 p.m.

LERA Executive Board Meeting Minutes

Noon to 2 p.m., June 2, 2017
Malibu Room, Hilton Anaheim

In attendance:

- ***Officers***: *Janice Bellace, President, Harry Katz, President Elect; Bonnie Castrey, Past President; Kris Rondeau, President Elect-Elect and current board member; Bill Canak, NCAC Chair; Craig Olson, Secretary-Treasurer; and Ariel Avgar, Editor-in-Chief*
- ***Board Members***: *John Budd, Dennis Dabney, Jonathan Donehower, Rebecca Givan, Owen Herrnstadt, Charles Jeszeck, Dan Marschall, Saul Rubinstein, Jeff Wheeler*
- ***Committee Chairs***: *Joel Cutcher-Gershenfeld, IC/IS Coordinating Committee Co-Chair; Marlene Heyser and Jim Pruitt, Development Committee Co-Chairs; David Lewin, Strategic Thinking; and Jeff Keefe, Membership*
- ***Special Guests***: *Incoming Board Members Michele Hoyman, Joan Husted, and Sheila Mayberry*
- ***LERA Staff***: *Emily Smith and Bernadette Tiemann*

Unable to attend: *Annette Bernhardt, James Hayton, Patrice Mareschal, Beth Schindler*

Call to order. The meeting was called to order at 11:55 a.m. by Janice Bellace, President.

Approval of the Minutes

The minutes of the January 2017 LERA Executive Board Meeting and the June 2016 General Membership Meeting Minutes were reviewed and unanimously approved by the Board.

Committee Reports

Financial Report—reported by Craig Olson, LERA Secretary-Treasurer. The financial report was reviewed mid-year 2017 figures, and accepted by the board. Mid-year income is on track with projections, although sponsorships are still unaccounted by and if not procured, will be a large impact to our bottom line. Dennis Dabney pledged support on behalf of Kaiser Permanente in the amount of $20,000 sponsorship in 2017. Saul Rubinstein suggested analyzing whether a switch in our financial calendar to a fiscal year would better suit LERA's needs and meeting structure.

Strategic Thinking Committee/Implementation Committee Reports—reported on by David Lewin and Bonnie Castrey, Chairs. The LERA Strategic Thinking Committee reported on a comprehensive set of bylaws revisions that were voted on in the LERA General Membership meeting in June 2016 (that subsequently passed). David explained the architecture of the new meeting structure in separating from ASSA and the implementation of those changes. Additionally, he explained the connection between local chapter members and national members. The bylaws revisions were approved in Minneapolis; changes have been slow and steady in implementation. We are now welcoming our three new RVPs to the board who have just been elected. The slowest implementation is in obtaining chapter member lists. David also commented that the NAA is in favor of continuing to collaborate in meeting speakers/sessions with LERA. Saul Rubinstein suggested considering integrations with other organizations, specifically the Canadian LERA. Bonnie Castrey commented that we had inquired, but that Canadian LERA said they weren't interested for several years.

Industry Council/Interest Section Coordinating Committee Report—reported on by Joel Cutcher-Gershenfeld, Chair. Originally 8 Industry Councils were established. Three of these have not demonstrated activity of late (auto, public sector, and airlines). Three may need to be organized (sports, arts & entertainment; IT; hospitality and services). Joel suggested that future programs reflect any association with Industry Councils or Interest Section. Rebecca Givan suggested using an "app" to help create "tracks". There has been growth in the Industry Council sites to include updates and dialog. The LERA certification initiative also continues to be of interest.

Development Committee Report—reported on by Marlene Heyser and Jim Pruitt, Co-Chairs. The committee motioned to liquidate $4,000 from the Dunlop and Gershenfeld funds to be used toward those expenses in the LERA budget; the motion passed unanimously. It was suggested that board members help with fundraising by bringing in organizational memberships and personal contributions. Consider approaching unions for organizational memberships, and touching base with expired organizational members. Jim Pruitt requested the expired organizational member list. Janice Bellace suggested starting a 70th Anniversary fund. Marlene Heyser briefly updated the board on the state of the potential project with BlueCross BlueShield NLO. The project has not had forward momentum to date.

Membership Committee Report—reported on by Jeff Keefe, Chair. LERA has experienced a 9-10% growth in membership since Emily took over, but there is no constant growth strategy. Jeff Keefe suggests we need out and build our managerial memberships; that they have decreased over the years, and that w consider, what are we doing programmatically. Do we have to have content that is valuable to them a members? He also suggested that we move towards a LERA journal to help build young members (non-tenure track academics), or to possibly adopt a current journal that could benefit from the backing of LERA.

Editorial Committee Report—reported on by Ariel Avgar, LERA Editor-in-Chief. ILR review competition has launched in 2017. The ILR Special LERA Best Papers volume has had two accepted submissions this year. The research volume continues to speed up; editorial committee has moved towards a model of two working RV's so that we are ahead of the production timeline. The board discussed the proposal 2019 RV; it was unanimously approved move forward with the discussed changes: scholars from varying universities, and an international focus. Ariel suggested an award for best book(s) in the field. The editorial committee will work on the logistics and make a proposal to the board.

National Chapter Advisory Council Report—reported by Bill Canak, NCAC Chair. Bill shared the 2017 LERA Chapter Awards results. Additionally, he introduced the three new RVP's that have now taken their place at the board. One chapter has moved to inactive status, and one close by chapter has been revived. We continue to work out the implementation of providing benefits to LERA chapter affiliates.

Annual Meeting Program Committee Report—reported by Kris Rondeau and Harry Katz, Co-Chairs. The local Baltimore planning team shared a progress update, and the Hilton Baltimore contract was reviewed. Two planning meetings are scheduled for June 2017 and two additional planning meetings will take place via conference call. John Budd suggested a slow increase in registration instead of another large jump in the future.

LERA@ASSA Meeting Program Committee Report—reported by Janice Bellace, President. In an effort to make the most of the LERA@ASSA meeting, the program committee has recently begun to require and enforce a requirement of LERA membership to present a paper at the meeting. Janice Bellace also noted that the new branding is under way. Rebecca Givan asked that the Call for Proposals be upfront about the draw for economists.

Upcoming Dates

The LERA Executive Board will again meet in Philadelphia in conjunction with the LERA@ASSA Meeting on Sunday, January 7, 2018, and then in Baltimore, MD in conjunction with the LERA 70th Annual Meeting, on Friday, June 15, 2018.

The meeting was adjourned at 1:55 p.m. by Janice Bellace.

LERA General Membership Meeting and Awards Ceremony

5:30 p.m., June 3, 2017
California Ballroom C, Hilton Anaheim

Call to order. The meeting was called to order at 5:34 p.m. by Janice Bellace, President

Committee Reports

Nominating Committee Report. Janice Bellace reported the outcome of the most recent LERA Election and welcomed the newest board members from the 2017 election.

Finance and Membership Report. Craig Olson reported that we have made progress again to recover from from past years' deficits. Several sponsors have renewed their commitment to the organization including including Kaiser Permanente and Ford/UAW, and our cohort of University programs. Kaiser Permanente helped to underwrite the LERA 69th Annual Meeting, holding a meeting in conjunction with our own, and in doing so, helped LERA pay for an otherwise expensive meeting contract at the Hilton Anaheim. Dues for 2017 will be held at the current levels. With the new Chapter affiliate initiative, the association is hoping to bridge the communication gap between chapter members and the national organization.

Development and Contributions Committee Report. Marlene Heyser reported that LERA received major sponsorships from both Kaiser Permanente and Ford/UAW this year, and that the development committee will begin a new funding initiative to raise funds this year and honor-a-member at the same time. Additionally, there will be an effort to educate LERA members to how to leave a gifts from their estates.

Editorial Committee Report. Ariel Avgar, Editor in Chief reports that the 2017 Research Volume will be a volume edited by Johanna Westar, "The Contradictions of Pension Fund Capitalism". The Committee is currently preparing concepts for the 2018 and 2019 volumes, including Janice Fine's proposal for a volume on "No One Size Fits All: Worker Organization, Policy and Movement In a New Economic Age", which had initially been tapped as the 2017 edition, but production changes pushed it into 2018. Avgar reported that another task of the Editorial Committee is to pre-review submitted papers for the Best LERA Papers to be published in an *ILR Review* issue. The Committee thanked all who submitted papers for Competitive Papers and for the many paper sessions in the meeting.

Program Committee Report. Harry Katz, President Elect and Program Chair for the LERA 2017 Annual Meeting in Anaheim CA, on June 1-4 at the Hilton Anaheim Hotel shared that the meeting theme is "Jobs, Opportunity and Equity in the New World of Work" and the call for proposals has been issued. Deadline is November 15, 2016.

NCAC Chapter Report and Star Award. Bill Canak, Chair of the National Chapter Advisory Committee, reported on health of LERA Chapters, which are in good shape. A new startup of a Minnesota Chapter could be in the works, and LERA has it's first new student chapter in New Jersey (RU LERA). LERA has now elected our first three Regional Vice Presidents who will work to organize LERA Chapters regionally and provide additional resources to the chapters in their regions, as well as provide a conduit of information between the national organization and the local LERA Chapters. Each Regional Vice President (one from Mid region, one from East region, and one from West region) has a vote on the LERA board and is charged to represent LERA chapter interests. The names of the people who ran for this position were brought forth from the chapter level of the organization, under the direction of the NCAC, and were openly elected. He presented a 2017 Chapter Star Award to both TERRA and Atlanta LERA. Additionally, Long Island LERA received a LERA Outstanding Chapter Award, and LERA Chapter Merit awards were given to Mid-Michigan

LERA, Northwest LERA, Orange County LERA, Oregon LERA, LERA Gateway, RU LERA, Alabama LERA, Southwestern PA LERA, and PA Laurel Highlands LERA.

Implementation Committee Report. Bonnie Castrey, Past President and Chair explained a new initiative from the committee and Board is meant to involve chapter members in the national LERA and requiring national members to belong to a chapter if a chapter is located their area. A new "affiliate" status would be given to all chapter members allowing them access to all LERA publications, news, job board, and other services available from the LERA website. Additionally, the Board will be expanded to include three new regional vice presidents from the chapters, alternating regions and perspectives. The motion was made.

2017 Awards Ceremony

Media Award: David Lewin of the Media Award Committee presented the award to Peter Waldman, Bloomberg and Natalie Kitroeff, Los Angeles Times.

Best Dissertation Award Committee. Jeff Keefe of the Thomas A. Kochan and Steven R. Sleigh Best Dissertation Award Committee awarded the Best Dissertation Award to: Bradley Weinberg, Cornell. Two honorable mentions were also awarded to Jae Eun Lee, Ithaca College, and Akasemi Newsome, UC, Berkeley.

LERA Awards Committee. Co-Chairs Doug Kruse and Tia Denenberg presented the 2017 slate of awards. The John T. Dunlop Outstanding Scholar Award was given to Victor Tan Chen, Virginia Commonwealth University for national research issues and the winner for international contributions was Dionne Pohler, Univ. of Toronto. The Outstanding Practitioner Awardee was Sheldon Freidman, AFL-CIO The Susan C. Eaton Outstanding Scholar-Practitioner Award went to Erica Groshen, Former Commissioner or BLS.Academic Fellows for 2017 are William Holley Jr., Michael Reich, Adrienne Eaton. Practitioner Fellows are Mark Cousens, Bill Dirksen, and Mary Ellen Shea.

James Scoville Best International Paper Committee. Committee chair, John Budd presented the 2017 Best International Paper Award to co-winners: Peter Sheldon, Raoul Nacamulli, Francesco Paoletti, and David E. Morgan.

Susan C. Eaton Grant Award. Committee Chair, Steve Sleigh presented the 2017 Susan C. Eaton Grant Award to Kyle Albert, Harvard University.

LERA Chapter Star Award. NCAC chair, Bonnie Castrey presented the 2017 LERA Chapter Star award to TERRA, Bill Canak accepted the award, and LERA-Atlanta, award was announce, but physical award will be presented at Georgia Labor-Management Conference later this June.

New and Other Business

The next LERA Annual Meeting will be held June 14-17, 2018 in Baltimore, MD, in the Hilton Baltimore Hotel. After asking for any new or other Business items and hearing none, President Janice Bellace thanked the Executive Board and all present and handed over the gavel to Harry Katz, the new LERA President. President Katz adjourned the meeting at 7:25 p.m.

Labor and Employment Relations Association

Champaign, Illinois

Financial Statements

For the Years Ended December 31, 2016 and 2015

Feller & Kuester CPAs LLP
Certified Public Accountants
806 Parkland Court, Suite 1
Champaign, IL 61821
217-351-3192

TABLE OF CONTENTS

Feller & Kuester CPAs LLP

Tax - Audit - Bookkeeping
806 Parkland Court, Suite #1 - Champaign, Illinois 61821
Phone - (217) 351-3192 Fax - (217) 351-4135 Email - neal@fellerkuester.com

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of
Labor and Employment Relations Association
Champaign, Illinois

We have audited the accompanying financial statements of the Labor and Employment Relations Association (a nonprofit organization) which comprise the statements of financial position as of December 31, 2016 and 2015, and the related statements of activities and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility
Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purposes of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Labor and Employment Relations Association as of December 31, 2016 and 2015, and the changes in its net assets and its cash flows for the years then ended in accordance with the accounting principles generally accepted in the United States of America.

Other Matter
Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The schedules of functional expenses on pages 16 and 17 are presented for purposes of additional analysis and are not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Feller & Kuester CPAs LLP

Feller & Kuester CPAs LLP
Champaign, Illinois

April 28, 2017

LABOR AND EMPLOYMENT RELATIONS ASSOCIATION
STATEMENTS OF FINANCIAL POSITION
DECEMBER 31, 2016 AND 2015

	2016	2015
ASSETS		
Current Assets		
Cash and Cash Equivalents	$ 167,732	$ 136,263
Investments	23,796	23,145
Accounts Receivable, Net	-	911
Prepaid Expenses	10,972	2,296
Inventory	6,622	6,729
Accrued Interest and Royalties	-	2,617
Total Current Assets	209,122	171,961
Property and Equipment, Net	276	848
TOTAL ASSETS	$ 209,398	$ 172,809
LIABILITIES AND NET ASSETS		
Current Liabilities		
Accounts Payable	$ 15,421	$ 575
Funds Held for Other Organizations	6,605	5,805
Accrued Liabilities	20,424	15,557
Dues Collected in Advance	61,413	54,742
Subscriptions Collected in Advance	13,584	10,484
Deferred Chapter Dues	7,800	6,300
Other Deferred Revenue	1,500	-
Total Current Liabilities	126,747	93,463
Net Assets		
Temporarily Restricted		
Susan C. Eaton Scholar-Practitioner Memorial Fund	32,413	32,040
Kochan-Sleigh Best Dissertation Award Fund	41,941	43,090
Jim Scoville Award Fund	5,251	6,455
John T. Dunlop Public Policy Fund	20,657	19,809
Gladys and Water Gershenfeld Publication Fund	24,550	23,298
Total Temporarily Restricted	124,812	124,692
Unrestricted Net Assets	(42,161)	(45,346)
Total Net Assets	82,651	79,346
TOTAL LIABILITIES AND NET ASSETS	$ 209,398	$ 172,809

See Accompanying Notes.

LABOR AND EMPLOYMENT RELATIONS ASSOCIATION
STATEMENTS OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	2016			2015		
	Unrestricted	**Temporarily Restricted**	**Total**	**Unrestricted**	**Temporarily Restricted**	**Total**
Support and Revenues						
Membership Dues	$ 115,654	$ -	$ 115,654	$ 118,190	$ -	$ 118,190
Meeting Income	140,661	-	140,661	87,484	-	87,484
Organization Dues & Sponsorships	40,000	-	40,000	49,000	-	49,000
Subscriptions	18,035	-	18,035	18,546	-	18,546
Chapter Fees	9,750	-	9,750	12,760	-	12,760
Member Contributions	13,040	1,570	14,610	11,499	315	11,814
Royalties	4,951	-	4,951	5,772	-	5,772
Ad Income	4,013	-	4,013	1,400	-	1,400
Publications	446	-	446	257	-	257
Mailing List Rental	434	-	434	238	-	238
Administrative Fees	174	-	174	98	-	98
Investment Income	-	651	651	-	289	289
Interest Income	140	323	463	314	177	491
Net Assets Released from Restrictions	2,424	(2,424)	-	1,193	(1,193)	-
Total Support and Revenues	349,722	120	349,842	306,751	(412)	306,339
Expenses						
Program Services						
General	156,097	-	156,097	166,237	-	166,237
Meetings	92,726	-	92,726	89,809	-	89,809
Publications	31,297	-	31,297	41,604	-	41,604
Supporting Services						
Management and General	51,659	-	51,659	50,979	-	50,979
Membership Development	14,758	-	14,758	6,712	-	6,712
Total Expenses	346,537	-	346,537	355,341	-	355,341
Change in Net Assets	3,185	120	3,305	(48,590)	(412)	(49,002)
Net Assets, Beginning of Year	(45,346)	124,692	79,346	3,244	125,104	128,348
Net Assets, End of Year	$ (42,161)	$ 124,812	$ 82,651	$ (45,346)	$ 124,692	$ 79,346

See Accompanying Notes.

LABOR AND EMPLOYMENT RELATIONS ASSOCIATION
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES		
Change in Net Assets	$ 3,305	$ (49,002)
Adjustments to Reconcile Change in Net Assets to Net Cash Provided by (Used in) Operating Activities		
Depreciation Expense	572	739
Net Unrealized (Gains) Losses on Investments	62	412
(Increase) Decrease in Operating Assets		
Accounts Receivable, Net	911	(661)
Prepaid Expenses	(8,676)	3,960
Inventory	107	(1,192)
Accrued Interest and Royalties	2,617	1,688
Increase (Decrease) in Operating Liabilities		
Accounts Payable	14,846	(7,510)
Funds Held for Other Organizations	800	(1,711)
Accrued Liabilities	4,867	(8,758)
Dues Collected in Advance	6,671	(2,015)
Subscriptions Collected in Advance	3,100	3,206
Deferred Sponsorships	-	(25,000)
Deferred Chapter Dues	1,500	(2,260)
Other Deferred Revenue	1,500	(1,755)
Net Cash Provided by (Used in) Operating Activities	32,182	(89,859)
CASH FLOWS FROM INVESTMENT ACTIVITIES		
Reinvested Interest, Dividends, and Capital Gains	(713)	(701)
Net Cash Provided by (Used in) Investment Activities	(713)	(701)
CASH FLOWS FROM FINANCING ACTIVITIES		
None	-	-
Net Cash Provided by (Used in) Financing Activities	-	-
Net Increase (Decrease) in Cash and Cash Equivalents	31,469	(90,560)
Beginning Cash and Cash Equivalents	136,263	226,823
Ending Cash and Cash Equivalents	$ 167,732	$ 136,263

See Accompanying Notes.

NOTE 1 – NATURE OF ACTIVITIES AND SIGNIFICANT ACCOUNTING POLICIES

Organization and Nature of Activities

The Labor and Employment Relations Association (the Organization) was founded in 1947 to encourage research in all aspects of the field of labor, employment, and the workplace. It is a nonprofit scholarly association of academic, labor, business, and neutral communities committed to the full discussion and exchange of ideas between and among its broad constituencies through meetings, publications, and its various electronic listservs and websites. The Organization's National Office is located in Champaign, Illinois and serves the association by planning conferences and meetings and publishing the various researches of its members. The main sources of support and revenues for the Organization are contributions, membership dues and subscriptions, and meeting income.

Subsequent Events

Subsequent events have been evaluated through April 28, 2017, which is the date the financial statements were available to be issued.

Accrual Basis of Reporting

The Organization has chosen to report on the accrual basis of accounting. Accordingly, revenue is recognized when earned and expenses are recognized when incurred in conformity with accounting principles generally accepted in the United States of America (GAAP).

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of reporting cash flows, cash and cash equivalents include all cash and highly liquid investments acquired with an original maturity date of three months or less. Since the penalties of converting certificate of deposits to cash is insignificant, all certificate of deposits have been included with cash and cash equivalents. As of December 31, 2016 and 2015, $101,016 and $101,547 of cash and cash equivalents are temporarily restricted and are subject to donor-imposed stipulations.

Investments

Investments consist of intermediate term bond index funds. All investments are held as temporarily restricted and are subject to donor-imposed stipulations.

Accounts Receivable

Accounts receivable are recorded primarily for outstanding invoices for membership dues and subscriptions. An allowance for doubtful accounts is based on an analysis of expected collection rates determined from experience. The Organization had an allowance for doubtful accounts of $100 at December 31, 2016 and 2015.

Inventory

The Organization's inventory of directories, research volumes, proceedings, and perspective magazines is carried at the lower of cost and market value. Cost is determined on the basis of first in – first out.

Property and Equipment
Property and equipment expenditures in excess of $500 are capitalized at cost. Donated property and equipment are capitalized at estimated cost or fair market value at the time of donation. Depreciation of the assets is computed using the straight-line method over their estimated useful lives. The range of estimated useful lives by type of asset is as follows:

Furniture and Equipment	5-7 years

Net Assets

Net assets of the Organization and changes therein are classified and reported as follows:

Unrestricted Net Assets – Net assets that are not subject to donor-imposed stipulations.

Temporarily Restricted Net Assets – Net assets subject to donor-imposed stipulations that may or will be met, either by actions of the Organization and/or passage of time. When a restriction expires, temporarily restricted net assets are reclassified from restrictions. Contributions received with temporarily restrictions that are met in the same reporting period are reported as unrestricted support and increase unrestricted net assets. The Organization had $124,812 and $124,692 of temporarily restricted net assets as of December 31, 2016 and 2015, respectively.

Permanently Restricted Net Assets – Net assets subject to donor-imposed stipulations that they be maintained permanently by the Organization. Generally, the donors of these assets permit the Organization to use all or part of the income earned on any related investments for general or specific purposes. The Organization had no permanently restricted net assets as of December 31, 2016 and 2015.

Grant Revenue

Grant funds received under contracts that require provision of services by the Organization are recognized as revenue to the extent that expenses have been incurred for the purpose specified by the grantor. The excess of grant monies received over expenses incurred is accounted for as deferred revenue. The excess of grant expenditures over grant monies received is accounted for as grant revenue receivable to the extent that additional grant revenue has been awarded and will be paid.

Grant funds received with only general restrictions and public donations are considered to be available for unrestricted use unless specifically restricted by the donor. When such restrictions exist, the revenue is recorded as temporarily restricted until the restrictions are met.

Contributed Services and Goods

Contributed services are reported as contribution revenue and as assets or expenses only if the services create or enhance a non-financial asset (for example property and equipment) or:

- Would typically need to be purchased by the Organization if the services had not been provided by contribution.
- Require specialized skills.
- Are provided by individuals with those skills (such as accounting, financial, construction, educational, electrical, legal, medical, and other services provided by accountants, investments advisers, contractors, teachers, electricians, lawyers, doctors, and other professional and craftspeople).

For the years ended December 31, 2016 and 2015, the value of contributed services meeting the defined requirements for recognition in the financial statements as outlined above were not material and have not been recorded on the financial statements. The Organization does receive free office space from the University of Illinois. However, the value for the use of this office space has not been reported on the financial statements.

Income Tax Status

The Organization is a nonprofit association that is exempt from federal income tax under Section 501 (c)(3) of the Internal Revenue Code. In addition, the Internal Revenue Service has determined that the Organization is not a private foundation as defined in Section 509(a)(1) and Section 170(b)(1)(A)(vi) of the Code.

The Organization has evaluated its exposure resulting from uncertain income tax position and determined the exposure is not material to the financial statements. In addition, the Organization is not aware of any tax position for which a significant change is reasonably possible within the next 12 months. Therefore, these financial statements do not include a liability for uncertain tax positions. Upon recognition of a liability for an uncertain tax position, the Organization would recognize interest expense and penalties in operating expenses.

The Organization files information tax returns in the U.S. federal jurisdiction and the state of Illinois. Its federal and Illinois information tax returns prior to fiscal year 2013 are closed. The Organization does not have any tax returns currently under examination by either the Internal Revenue Service (IRS) or any U.S. state jurisdiction.

Membership Dues and Advance Subscriptions Collected

Membership dues and subscriptions are assessed and recognized as revenue based on the life of the dues or subscription.

Functional Allocation of Expenses

The costs of providing the various programs and other activities have been summarized on a functional basis in the statement of activities. Accordingly, certain costs have been allocated among the programs and supporting services benefited.

NOTE 2 – ARRANGEMENTS WITH THE UNIVERSITY OF ILLINOIS

The Organization moved its offices to the University of Illinois at the end of 1999. Under an arrangement with the University, the employees of the Organization are employed by the University. The employees' pension and benefits are part of the University's plans. The Organization then reimburses the University quarterly for the cost of its employees.

The University of Illinois holds some cash for the Organization. These "claim on cash" balances were $22,650 and $12,632 as of December 31, 2016 and 2015, respectively. These balances have been included with cash and cash equivalents.

NOTE 3 – UCIRHRP SERVICING ARRANGEMENT TO ADMINISTER BUSINESS

On January 3, 2003, the Organization entered into a servicing arrangement to administer the business of the University Council of Industrial Relations and Human Resources Programs (UCIRHRP). These servicing duties include dues notification and collection, annual meeting arrangement and report preparation, and maintaining a data base and network communications for this separate organization. A separate financial statement is maintained for this company, but UCIRHRP's cash is maintained in the Organization's general bank account. The amount of cash belonging to UCIRHRP in the general account is shown on the Organization's balance sheet as Funds Held for Other Organizations. UCIRHRP's cash balance in the Organization's custody was $6,605 at December 31, 2016 and $5,805 at December 31, 2015. The Organization is allowed to keep 20% of dues collected each year as an administrative fee.

NOTE 4 – CONCENTRATIONS OF CREDIT RISK

Financial instruments that potentially subject the Organization to credit risk consist principally of checking accounts, money markets accounts, and certificates of deposits at financial institutions. However, management continuously monitors the Organization's balances at financial institutions. Deposits held at any financial institutions were fully insured by the Federal Deposit Insurance Corporation (FDIC) at December 31, 2016 or 2015. The "claims on cash" held with the University of Illinois as stated in Note 2 is not insured since it is not held in a financial institution.

Gladys and Walter Gershenfeld Publication Fund

On May 8, 2010, the Organization established a temporarily restricted fund to honor the memory of long-time members and past presidents Walter and Gladys Gershenfeld for the purpose of supporting the Organization's electronic and print publications. The fund will be so named for ten years, at which time the Organization will review the fund's purpose and uses, and whether to continue or modify the fund. The Organization's Executive Board directed that 10% of any gifts received each year are unrestricted and can be used for administrative expenses. As of December 31, 2016 and 2015, these temporarily restricted funds totaled $24,550 and $23,298, respectively.

NOTE 6 – INVESTMENTS

Financial Accounting Standards Board ("FASB") Codification 820, Fair Value Measurements, establishes a framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarch gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under FASB Codification 820 are described below:

> Level 1 – Inputs to the valuation methodology are based on unadjusted quoted prices for identical assets or liabilities in active markets that the Organization has the ability to access.
>
> Level 2 – Inputs to the valuation methodology include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in inactive markets, inputs other than quoted prices that are observable for the asset or liability, and inputs that are derived principally from or corroborated by observable market data by correlation or other means. If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.
>
> Level 3 – Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The asset's and liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes in the methodologies used at December 31, 2016 and 2015.

> *Intermediate Term Bond Funds:* Valued at the NAV of shares held by the Organization at year-end based on readily determinable fair values,

which are published daily and are the basis for current transactions.

The preceding methods described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Organization believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in different fair value measurements at the reporting date.

The following table sets forth by level, within the fair value hierarchy, the Organization's assets at fair value as of December 31, 2016 and 2015:

Assets at Fair Value as of December 31, 2016

	Level 1	Level 2	Level 3	Total
Intermediate Term Bond Funds	$23,796	-	-	$23,796

Assets at Fair Value as of December 31, 2015

	Level 1	Level 2	Level 3	Total
Intermediate Term Bond Funds	$23,145	-	-	$23,145

Net investment earnings for the years ended December 31, 2016 and 2015 are summarized as follows:

	2016	2015
Dividends	$ 618	$ 622
Capital Gains Distributions	95	79
Net Unrealized Gains (Losses)	(62)	(412)
Total Investment Income	$ 651	$ 289

This investment income, including unrealized gains and losses, are being reported on the statement of activity as investment income.

NOTE 7 – PROPERTY AND EQUIPMENT

As of December 31, 2016, Property and Equipment consists of:

Furniture and Equipment	$ 12,952
Less: Accumulated Depreciation	(12,676)
Property and Equipment, Net	$ 276

As of December 31, 2015, Property and Equipment consists of:

Furniture and Equipment	$ 14,551
Less: Accumulated Depreciation	(13,703)
Property and Equipment, Net	$ 848

Depreciation expense for the years ended December 31, 2016 and 2015 was $572 and $739, respectively.

NOTE 8 – ACCRUED EXPENSES

As of December 31, 2016, Accrued Expenses consist of:

Accrued Payroll	$ 5,318
Accrued Benefits/Taxes	1,653
Accrued Vacation	13,453
Total	$ 20,424

As of December 31, 2015, Accrued Expenses consist of:

Accrued Payroll	$ 4,073
Accrued Benefits/Taxes	1,352
Accrued Vacation	10,132
Total	$ 15,557

NOTE 9 – COMMITMENTS

On February 26, 2013, the Organization signed a 12 month contract from March 1, 2013 to February 28, 2014 with a company to provide services to manage the EPRN website and provide content for the Organization's website. The contract states that the Organization will pay this company $2,400 per month for a total of $28,800. The Agreement automatically renews for consecutive 12 month terms, unless the Agreement is terminated by one or both of the parties as set forth herein. Beginning the second cycle and continuing until termination or renegotiation, the Organization will increase the base rate every year by two percent (2%) over the previous year's base rate. For example: $2,448 per month for twelve months starting March 1, 2014; $2,497 per month for twelve months starting March 1, 2015; $2,546 per month for twelve months starting March 1, 2016; and so on.

The Organization has signed contracts with hotels in Minneapolis, Anaheim, and Baltimore for the 2016, 2017, and 2018 Annual Meetings. If these contracts were cancelled at December 31, 2016 and 2015, the Organization would have owed $128,000 and $109,521, respectively, to the Minneapolis, Anaheim, and Baltimore hotels.

NOTE 10 – PENSION PLAN AND RETIREMENT CONTRIBUTIONS

The University of Illinois (the University) contributes to the State Universities Retirement System of Illinois (SURS), a cost-sharing multiple-employer defined benefit plan with a special funding situation whereby the State of Illinois (the State) makes substantially all actuarially determined required contributions on behalf of the participating employers. SURS was established July 21, 1941 to provide retirement annuities and other benefits for staff members and employees of state universities, certain affiliated organizations, and certain other state educational and scientific agencies and for survivors, dependents, and other beneficiaries of such

NOTE 5 – TEMPORARILY RESTRICTED NET ASSETS

Susan C. Eaton Scholar-Practitioner Memorial Fund

The Organization set up a memorial fund in honor of an author of a 1998 "Perspectives on Work" article and active young the Organization member, who died on December 30, 2003. At its June 1, 2004 meeting, the Organization approved the establishment of an annual Susan C. Eaton Scholar-Practitioner award and grant to be paid to one or more qualified scholar researchers in even-numbered years or practitioners in odd-numbered years doing research in the labor and employment relations or related field. The Organization's Executive Board directed that 10% of any gifts received each year are unrestricted and can be used for administrative expenses. As of December 31, 2016 and 2015, these temporary restricted funds totaled $32,413 and $32,040, respectively.

Kochan-Sleigh Best Dissertation Award Fund

On March 27, 2006, the Organization set up a temporarily restricted fund with contributions from a member and matching contributions from General Electric. The fund is restricted for a minimum of fifteen years and may be used to pay for the $1,000 annual best dissertation award and plaque. After the fifteen year period, the fund may be continued or the amount remaining in the fund may be released and become available to the Organization for unrestricted purposes. The Organization's Executive Board directed that 10% of any gifts received each year are unrestricted and can be used for administrative expenses. As of December 31, 2016 and 2015, these temporary restricted funds totaled $41,941 and $43,090, respectively.

Jim Scoville Award Fund

On January 9, 2009, the Organization set up a temporarily restricted fund with a $10,000 contribution from the University of Minnesota's Industrial Relations Center to honor a member and retiring professor. The fund was established to pay an annual award of $500 and a plaque for best paper on international and comparative employment issues. The Organization's Executive Board directed that 10% of any gifts received each year are unrestricted and can be used for administrative expenses. As of December 31, 2016 and 2015, these temporarily restricted funds totaled $5,251 and $6,455, respectively.

John T. Dunlop Public Policy Fund

On May 8, 2010, the Organization established a temporarily restricted fund to subsidize a named John T. Dunlop Public Policy Session at future the Organization National Policy Forums and/or at the Organization annual meetings. The Organization's Executive Board directed that 10% of any gifts received each year are unrestricted and can be used for administrative expenses. This fund will be so named for five or ten years, at which time the Organization's Executive Board will review the fund to determine whether to continue or modify the fund. As of December 31, 2016 and 2015, these temporary restricted funds totaled $20,657 and $19,809, respectively.

employees. SURS is considered a component unit of the State of Illinois' financial reporting entity and is included in the State's financial reports as a pension trust fund. SURS is governed by Section 5/15, Chapter 40 of the *Illinois Compiled Statutes*. SURS issues a publicly available financial report that includes financial statements and required supplementary information. That report may be obtained by accessing the website at www.SURS.org.

Benefits Provided. A traditional benefit plan was established in 1941. Public Act 90-0448 enacted effective January 1, 1998, established an alternative defined benefit program known as the portable benefit package. The traditional and portable plan Tier 1 refers to members that began participation prior to January 1, 2011. Public Act 96-0889 revised the traditional and portable benefit plans for members who begin participation on or after January 1, 2011, and who do not have other eligible Illinois reciprocal system services. The revised plan is referred to as Tier 2. New employees are allowed 6 months after their date of hire to make an irrevocable election. A summary of the benefit provisions can be found in the SURS' comprehensive annual financial report (CAFR) Notes to the Financial Statements.

Contributions. The State of Illinois is primarily responsible for funding SURS on behalf of the individual employers at an actuarially determined amount. Public Act 88-0593 provides a Statutory Funding Plan consisting of two parts: (i) a ramp-up period from 1996 to 2010 and (ii) a period of contributions equal to a level percentage of the payroll of active members of the System to reach 90 percent of the total Actuarial Accrued Liability by the end of fiscal year 2045. Employer contributions from "trust, federal, and other funds" are provided under Section 15-155(b) of the Illinois Pension Code and require employers to pay contributions which are sufficient to cover the accruing normal costs on behalf of applicable employees. The employer normal cost is currently 12.54 percent of employee payroll. The normal cost is equal to the value of current year's pension benefit and does not include any allocation for the past unfunded liability or interest on the unfunded liability. Plan members are required to contribute 8.0 percent of their annual covered salary. The contribution requirements of plan members and employers are established and may be amended by the Illinois General Assembly. During the years ended December 31, 2016, 2015 and 2014, the Organization reimbursed the University of Illinois $10,388, $13,231, and $14,743, respectively, for the employer's payments to SURS for eligible employees.

In addition to providing pension benefits, the State of Illinois provides certain health, dental and life insurance benefits to annuitants. This includes annuitants of the Organization. Substantially all State employees, including the Origination's employees, may become eligible for postemployment benefits if they eventually become annuitants. Health and dental benefits include basic benefits for annuitants under the State's self-insurance plan and insurance contracts currently in force. Life insurance benefits for annuitants under age 60 are equal to their annual salary at the time of retirement; life insurance benefits for annuitants age 60 or older are limited to $5,000 per annuitant. Currently, the State does not segregate payments made to annuitants from those made to current employees for health, dental and life insurance benefits. These costs are funded by the State and are not an obligation of the Organization.

Employees of the Organization may also elect to participate in several tax deferred annuity plans and defined contribution plans. These are single employer plans under which benefits are provided to participating employees through contracts issued to each individual. Participation and the level of employee contributions are voluntary. The Organization is not required to make contributions.

LABOR AND EMPLOYMENT RELATIONS ASSOCIATION
SCHEDULE OF FUNCTIONAL EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2016

		MEETINGS			PUBLICATIONS			SUPPORTING SERVICES		
	General	Annual Conference	ASSA Meeting	Other Meetings	Perspectives	Research Volume	Other Publications	Management & General	Membership Development	Totals
Compensation	$ 76,785	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,382	$ -	$ 94,167
Payroll Taxes & Fringes	26,979	-	-	-	-	-	-	7,533	-	34,512
Contract Labor	52,333	-	-	-	-	-	-	-	-	52,333
Depreciation	-	-	-	-	-	-	-	572	-	572
Loss on Disposal of Fixed Assets	-	-	-	-	-	-	-	-	-	-
Insurance	-	-	-	-	-	-	-	3,996	-	3,996
Bank Charges	-	-	-	-	-	-	-	480	-	480
Promotion	-	5,000	-	-	-	-	-	-	5,143	10,143
Fulfillment	-	-	-	-	-	-	-	11,404	-	11,404
Postage and Freight	-	384	42	-	1,516	1,377	-	1,554	-	4,873
Accounting/Auditing	-	-	-	-	-	-	-	4,865	-	4,865
Printing and Production	-	2,204	74	-	5,068	6,854	102	-	-	14,302
Services	-	-	-	-	9,073	7,238	-	-	-	16,311
Other Publication Costs	-	-	-	-	69	-	-	-	-	69
Meals/Receptions	-	51,927	8,329	213	-	-	-	-	-	60,469
Travel	-	2,445	310	967	-	-	-	-	-	3,722
Other Meeting Expenses	-	18,459	1,819	553	-	-	-	-	-	20,831
Computer Supplies/Services	-	-	-	-	-	-	-	88	-	88
Website	-	-	-	-	-	-	-	1,281	-	1,281
Office Supplies	-	-	-	-	-	-	-	883	-	883
Student & Member Awards	-	-	-	-	-	-	-	-	4,794	4,794
Fundraising Expense	-	-	-	-	-	-	-	-	2,117	2,117
Duplicating Expense	-	-	-	-	-	-	-	1,150	-	1,150
Telephone & Fax	-	-	-	-	-	-	-	426	-	426
Chapter Expenses	-	-	-	-	-	-	-	-	132	132
Dues	-	-	-	-	-	-	-	-	-	-
Other Committee Expenses	-	-	-	-	-	-	-	-	2,572	2,572
Miscellaneous Office	-	-	-	-	-	-	-	45	-	45
	$ 156,097	$ 80,419	$ 10,574	$ 1,733	$ 15,726	$ 15,469	$ 102	$ 51,659	$ 14,758	$ 346,537

LABOR AND EMPLOYMENT RELATIONS ASSOCIATION
SCHEDULE OF FUNCTIONAL EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2015

		MEETINGS			PUBLICATIONS			SUPPORTING SERVICES		
	General	Annual Conference	ASSA Meeting	Other Meetings	Perspectives	Research Volume	Other Publications	Management & General	Membership Development	Totals
Compensation	$ 96,665	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,922	$ -	$ 114,587
Payroll Taxes & Fringes	38,551	-	-	-	-	-	-	7,113	-	45,664
Contract Labor	31,021	-	-	-	-	-	-	-	-	31,021
Depreciation	-	-	-	-	-	-	-	739	-	739
Loss on Disposal of Fixed Assets	-	-	-	-	-	-	-	-	-	-
Insurance	-	-	-	-	-	-	-	3,843	-	3,843
Bank Charges	-	-	-	-	-	-	-	1,851	-	1,851
Promotion	-	2,906	149	-	-	-	-	-	3,397	6,452
Fulfillment	-	-	-	-	-	-	-	7,664	-	7,664
Postage and Freight	-	300	-	-	2,214	1,263	-	1,418	-	5,195
Accounting/Auditing	-	-	-	-	-	-	-	4,850	-	4,850
Printing and Production	-	2,490	139	-	7,505	7,338	43	-	-	17,515
Services	-	-	-	-	12,221	9,307	-	-	-	21,528
Other Publication Costs	-	-	-	-	1,390	-	323	-	-	1,713
Meals/Receptions	-	66,513	3,464	-	-	-	-	-	-	69,977
Travel	-	4,692	976	-	-	-	-	-	-	5,668
Other Meeting Expenses	-	7,269	410	11	-	-	-	-	-	7,690
Computer Supplies/Services	-	490	-	-	-	-	-	2,861	-	3,351
Website	-	-	-	-	-	-	-	1,900	-	1,900
Office Supplies	-	-	-	-	-	-	-	77	-	77
Student & Member Awards	-	-	-	-	-	-	-	-	3,042	3,042
Fundraising Expense	-	-	-	-	-	-	-	-	-	-
Duplicating Expense	-	-	-	-	-	-	-	315	-	315
Telephone & Fax	-	-	-	-	-	-	-	383	-	383
Chapter Expenses	-	-	-	-	-	-	-	-	-	-
Dues	-	-	-	-	-	-	-	-	-	-
Other Committee Expenses	-	-	-	-	-	-	-	-	273	273
Miscellaneous Office	-	-	-	-	-	-	-	43	-	43
	$ 166,237	$ 84,660	$ 5,138	$ 11	$ 23,330	$ 17,908	$ 366	$ 50,979	$ 6,712	$ 355,341

LERA gratefully acknowledges the continuing support of its Sustaining Sponsors and Organizational Members

SUSTAINING SPONSORS 2017

Ford Motor Company
Kaiser Permanente

ANNUAL MEMBERS 2016–2017

American Federation of Teachers
Berkeley Research Group, Labor and Employment Practice
Boston University, Questrom School of Business
Central Alabama Labor Federation
Consortium for Educational Change
Cornell University, Scheinman Institute on Conflict Resolution
Cornell University, School of Industrial and Labor Relations
Federal Mediation and Conciliation Service
Florida International University, College of Business
International Association of Machinists and Aerospace Workers
Jobs with Justice Education Fund
Massachusetts Institute of Technology, Sloan School of Management
Pennsylvania State University, School of Labor and Employment Relations
Rollins College, Department of Business & Social Entrepreneurship
Rutgers School of Management and Labor Relations
Saint Joseph's University, Erivan K. Haub School of Business
Society for Human Resources Management
Tennessee State Employees Association
The Dannon Company
UAW National CAP
United Steelworkers of America
University of California, Berkeley, Center for Labor Research and Education
University of California, Berkeley, Institute for Research on Labor and Employment
University of California, Los Angeles, Institute for Research of Labor and Employment
University of California, Los Angeles, Anderson School of Management
University of Illinois at Urbana-Champaign, School of Labor and Employment Relations
University of Minnesota, Center for Human Resources and Labor Studies
University of Newcastle
West Virginia University, College of Business and Economics

For more information about Organizational Membership with the LERA, please visit the LERA website:
https://lera.memberclicks.net/organizational-memberships

ALPHABETICAL LIST OF AUTHORS

You are invited to become a member of

THE LABOR AND EMPLOYMENT RELATIONS ASSOCIATION

The Labor and Employment Relations Association (LERA) was founded in 1947 by a group who felt that the growing field of industrial relations required an association in which professionally minded people from different organizations could meet. It was intended to enable all who were professionally interested in industrial relations to become better acquainted and to keep up to date with the practices and ideas at work in the field. To our knowledge there is no other organization that affords the multiparty exchange of ideas we have experienced over the years–a unique and valuable forum. After 70 years, both our academic and practitioners agree with the conviction of the founders that the encouragement, reporting, and critical discussion of research are essential if our professional field is to advance.

Our local and national membership of 5,000 includes representatives of management, unions, government; practitioners in consulting, arbitration, mediation, and law; and scholars and teachers representing many disciplines in colleges and universities in the United States and Canada, as well as abroad. Libraries and institutions interested in the publications of the Association are also invited to become subscribing members and thereby receive the same member publications. Organizational memberships in the Association are also available.

Membership dues cover publications for 12 months and entitle members to the electronic newsletter, membership directory and proceedings of the annual meeting online, and printed copies of the annual research volume, and the magazine, *Perspectives on Work* (volumes also available online). Additional online resources include Chapter Profiles and an IR/HR Degree Program Listing for the United States, Canada, and Australia.

Dues for the 2018 calendar year are listed below. International memberships require an additional $25.00 per year to cover postage costs.

Regular Member..$199.00
Contributing Member $310.00
Emeritus Member (10 years+ membership and no longer employed) $110.00
Student Member (full-time, limited to 4 consecutive years) $30.00
Library Subscriber..$300.00

Tax-deductible financial contributions to the Association to support its educational activities are always welcome. You can make an online contribution at our website, leraweb.org, and choosing "Donate". If you are not already a member, we invite you to join the LERA by sending your membership application and dues payment. You can also join online at the LERA website, leraweb.org by choosing "Membership", or request an invoice. Inquiries regarding membership, meetings, and publications should be addressed to the LERA office.

LABOR AND EMPLOYMENT RELATIONS ASSOCIATION
University of Illinois at Urbana-Champaign
121 LER Building, 504 E. Armory Avenue
Champaign, IL 61820 USA
Phone: 217-333-0072 Fax: 217-265-5130
Email: LERAoffice@illinois.edu Web: leraweb.org

Also in the
Labor and Employment Relations Association Series

The Contradictions of Pension Fund Capitalism
Edited by Kevin Skerrett, Chris Roberts, Johanna Weststar, And Simon Archer ………………... $29.95

The Evolving Health Care Landscape: How Employees, Organizations, and Institutions are Adapting and Innovating
Edited by Ariel C. Avgar and Timothy J. Vogus…………………………………………….... $29.95

Inequality, Uncertainty, and Opportunity: The Varied and Growing Role of Finance in Labor Relations
Edited by Christian E. Weller………………………………………………………………… ...$29.95

The Disunited States of America: Employment Relations Systems in Conflict
Edited by David Jacobs and Peggy Kahn..$29.95

Collective Bargaining Under Duress: Case Studies of Major U.S. Industries
Edited by Howard Stranger, Ann C. Frost, and Paul F. Clark...$29.95

Public Jobs and Political Agendas: The Public Sector in an Era of Economic Stress
Edited by Daniel J. B. Mitchell………………………………………………………………… .$29.95

Employee Ownership and Shared Capitalism: New Direction in Research
Edited by Edward J. Carberry…………………………………………………………...……$29.95

Transforming the U.S. Workforce Development System: Lessons from Research and Practice
Edited by David Finegold, Mary Gatta, Hal Salzman, and Susan J. Schurman………….……..…..$29.95

Human Rights in Labor and Employment Relations: International and Domestic Perspectives
Edited by James A. Gross and Lance Compa $29.95

The Gloves-off Economy: Workplace Standards at the Bottom of America's Labor Market
Edited by Annette Bernhardt, Heather Boushey, Laura Dresser, and Chris Tilly..................................$29.95

Book orders and request for prices and order forms for the above LERA publications should be sent to:

ILR Press, Cornell Univ., P.O. Box 6525, Ithaca, NY 14851
Phone 607-277-2211, Fax 607-277-6292
Web www.cornellpress.cornell.edu
Additional volumes are available through ILR Press.

Information about ordering printed copies of the *Proceedings of the LERA Annual Meeting* can be found online at https://lera.memberclicks.net/publications. Orders for printed copies of *Perspectives on Work* and other LERA publications should be sent to the LERA Office:

LERA, 121 LER Building, 504 E. Armory Ave., MC-504, Champaign, IL 61820
Phone 217-333-0072, Fax 217-265-5130
Email LERAoffice@illinois.edu, Web leraweb.org

ISBN 978-0-913447-15-4