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ABSTRACT

Purpose

This paper investigates the effect of Walmart presence on professional service firms within the finance and insurance sector. This paper also discusses the finance and insurance industry's place within the Walmart ripple effect—changed retail sector leads to changed professional support services resulting in altered levels of social capital within the community.

Design/Methodology

The study uses county-level data from the state of Nebraska to examine the relationship between cumulative Walmart exposure and the number of firms, number of employees, and payroll levels within the finance and insurance (F&I) sector. These same variables are also investigated within two specific F&I industries—insurance and banking.

Findings

The study documents a negative association between cumulative Walmart presence and the number of employees in the finance and insurance industry and a positive relationship between Walmart exposure and F&I payroll levels. The insurance industry results are consistent with the F&I sector result relating to payroll, but show a significant positive relationship between cumulative Walmart exposure and number of insurance agencies. Empirical results from the commercial banking industry are consistent with both the F&I sector and insurance industries with a positive relationship between Walmart presence over time and payroll levels.

Originality/value

This study contributes to the Walmart effect literature by considering the impact of Walmart presence beyond the retail sector. The paper investigates the effect of Walmart on the finance and insurance profession, a sector that 1) competes directly with Walmart Supercenters for money services, 2) provides support services for retail businesses impacted by Walmart services, and 3) potentially suffers from centralized benefits provided to employees by Walmart headquarters rather than local insurers. The paper concludes that the mixed impact on professional firms results in social capital that could be both strengthened and challenged by Walmart presence.

Keywords: Walmart, social capital, finance, insurance, banking

INTRODUCTION

Walmart is the world's largest retailer, posting sales of $387.6 billion in 2018 (National Retail Federation, 2019). Worldwide, the firm employs over 2.2 million associates and operates 11,438 retail units. The company employs 1.5 million associates and operates 4,749 stores in the United States (Walmart, 2019). The entrance of a Walmart store can lead to controversy and divisiveness among community members. Proponents of the store cite low prices, wide selection of goods, and increased retail activity for the community. Critics fear the loss of hometown businesses, lower wages, and redistribution of retail sales. These issues and others have led to great interest in the firm and its impact on communities.

The 2018 Reputation Quotient poll, conducted by Harris, reported that Walmart ranked 69th out of the 100 most visible companies. The reputation quotient is designed to measure how companies are perceived. The poll measures six dimensions: corporate social responsibility, emotional appeal, financial performance, products and services, vision and leadership, and workplace environment (Harris Insights and Analytics, 2018).

The "Walmart effect" has been the subject of numerous academic studies. Reallocation of retail sales and possible store closings are visible signs of the entrance of a big-box retailer. Evidence suggests that existing retailers are adversely affected by the arrival of a Walmart store. Much has been written about the effect of Walmart on local retailers, but relatively few studies address the impact of Walmart on professional service firms. Bonanno and Goetz (2012) write that Walmart's most significant effect may be the impact on support services provided to main street retailers. They suggest that as the number of local retailers shrinks following Walmart entrance, so the demand for professional services also declines. Possible affected professions include legal, accounting, financial services, advertising, and publishing. Financial service firms may be especially at risk since many Walmart supercenters provide financial services on site to their customers.

Although the potential impact on professional service firms is apparent, the impact on communities as a whole is not as obvious. Due to decreased demand for professional services, the social capital of a community may be adversely affected by the reduction and/or loss of professional service providers. Ostrom (1994) describes social capital as the institutions and mechanisms that enable residents to relate and interact with one another to solve problems for the common good. Finance professionals provide civic leadership, contribute to social networks, and participate in community events and organizations that are the backbone of a community. The "Walmart effect" may actually be a ripple effect that begins with its impact on retail establishments, extends to professional service firms, and then influences the level of social capital within the community.

To better understand Walmart's impact on professional firms and ultimately the fabric of communities, this paper focuses on the finance and insurance (F&I) sector. These firms are of particular interest since banks compete with Walmart supercenter money services, and insurance companies are likely impacted by Walmart employee insurance benefits. In addition to the industry as a whole, banks and insurance agencies are considered as institutions that not only provide financial services to the retail sector, but also contribute to the social capital of communities.

This research estimates linear models using county level data from Nebraska to investigate the relationship between Walmart exposure and the number of financial institutions, the number of finance agency employees, and the level of financial services payroll. The analysis includes measures of Walmart density that consider how long the superstore has been in existence and the number of stores per ten thousand residents. This study finds that although the number of F&I employees decrease with cumulative Walmart exposure, the payrolls of F&I firms actually increase. Insurance agencies and commercial banks also show a positive relationship between cumulative Walmart exposure and payroll. In addition, Walmart presence over time is positively related to the number of insurance agencies.

The remainder of the paper is separated into four sections: literature review, research methodology and data, results, and summary and conclusions.

LITERATURE REVIEW

Positive effects of Walmart entry stated by Morillo, McNally, and Block (2015) include making wealth more accessible to the poorest people in the U.S, taking advantage of the global trade market, and improving the efficiency of its trade partners. Conversely, Freeman (2003) states that Walmart presence destroys communities by wiping out stores, slashing the tax base, and turning downtown areas into ghost-towns. Pope and Pope (2015) use local housing prices as an aggregate measure of the positive and negative effects of Walmart opening. They find that the entry of a new Walmart store increased local housing prices, indicating more positive than negative effects relating to Walmart entry. Similarly, both positive and negative effects can be found in the literature relating to the economic impacts of Walmart exposure. Hicks (2007) states that Walmart investigations focus heavily on the role the retailer plays in local employment dynamics, especially wages, job turnover, and job creation and destruction in the retail sector.

Effect on the Retail Industry

Walmart's impact on city economic conditions was first studied by Kenneth Stone (1988). Based on data from the state of Iowa, his first study showed that local firms selling items substantially different from Walmart's product line experienced an increase in sales when Walmart entered the community. Further, his work showed that existing businesses selling products similar to Walmart lost sales. Ten years later, Stone (1997) compared sales in mid-sized Iowa towns with and without a Walmart for the ten-year period following Walmart entry. He found that Walmart towns fared better than non-Walmart towns for each of the six merchandise categories studied as well as for total sales. He noted, however, that towns under five thousand population bear the brunt of discount mass merchandisers losing $2.46 billion in sales from 1983-1996. Subsequent research on Walmart's effect on the retail industry is mixed, reporting both negative and positive impact on traditional main street establishments as well as employee numbers and employee earnings.

Number of Retail Establishments

Several studies follow Stone (1997), by investigating Walmart impact at the county-level within a specific state. Hicks and Wilburn (2001) find a small increase in the number of firms in the retail trade sector following Walmart entry in West Virginia counties. Using data from Iowa, Hicks (2009) report no significant relationship between Walmart and the number of small businesses.

Similarly, Barnes, Connell, Hermenegildo, and Mattson (1996) find very few store closings in host counties in the northeastern United States one year after the arrival of Walmart. Hicks, Keil and Spector (2012) investigated the impact of Walmart on retail establishments in Indiana. Hicks and colleagues report that Walmart's effect is primarily on big-box stores and not on mom-and-pop establishments.

Several studies follow Stone (1988) by investigating Walmart impact at the community level. Haltiwanger, Jarmin, and Krizan (2010) found that the arrival of big-box stores has a significant negative impact on employment growth and survival of smaller, same-industry stores in the Washington, D.C. area. Merriman et al (2012) report that the probability of existing firms going out of business when Walmart entered Chicago neighborhoods was significantly higher for businesses relatively close to the Walmart store.   They found that the probability decreased as distance from the Walmart store increased. Parachuri, Baum, and Potere (2009) investigate the Walmart effect for both competitor and non-competitor establishments in the retail and service sectors in communities in Florida.   They find that Walmart entry suppresses entry rates for new establishments but does not increase exit rates within zip codes. In addition, they did find that in adjacent zip code areas, Walmart entry results in exit rates increasing more than entry rates.

Other studies have expanded the data set used to investigate the Walmart effect on the number of retail establishments.   Using nationwide county-level data, Basker (2005) found that an average of four small competitors closed within five years of the establishment of a Walmart store.   Similarly, Jia (2008) estimated that Walmart stores were related to at least half of small discount retail closures over the period of 1988 through 1997.   Using nationwide state-level data, Sobel and Dean (2008), however, find that Walmart has not had an impact on the overall size and profitability of the small business sector in the United States.   Ficano (2013) examines the business churn created by Walmart entry at the county level across the United States. Ficano finds that within fifteen months of a new Walmart store entry, between four and fourteen existing retail establishments close while at most three new retail establishments open.

Number of Employees and Employee earnings

Walmart is the largest private employer in the United States and the largest private employer in twenty-two states, employing about 1.5 million Americans (Sauter and Suneson 2019).   Bonanno and Lopez (2012) report that Walmart has the potential to exert considerable market power over its workers in limited areas, particularly in non-metro areas in southern and central states. Neumark, Zhang, and Ciccarella (2008) state that two commonly-heard criticisms are that Walmart eliminates more retail jobs than it creates for a community, and that it results in lower wages, especially in retail.

The results of place specific studies, however, do not always support these denunciations. Barnes et al. (1996) report that per capital income actually increased at the county level in the Northeast for each of the three years following entry of a new Walmart.   Hicks and Wilburn (2001) report that the number of retail jobs in West Virginia counties increased after Walmart entry with the wage levels remaining constant. Similarly, Hicks (2007) reports a net increase in retail workers, no significant change in wages for existing retail employees, and a small increase in new hire wages subsequent to Walmart entry in Pennsylvania counties.   Hicks (2007) states that Walmart impact on wages and net employment changes is so sufficiently small that criticisms of

Walmart based on wages and net employment changes are ill-founded. Hicks (2008) finds that while there may be employment losses in retail, aggregate employment in Maryland counties is unaffected by Walmart presence. Hicks also finds that Walmart exposure in rural counties results in wage increases that are statistically significant. Conversely, Hicks finds that wage impacts are statistically insignificant in urban counties.

Other studies using nationwide county-level data also report mixed results. Basker (2005) finds that county-level retail employment grows in the year of Walmart entry but then declines by half the increase in five years as other retail establishments contract or close. In contrast, Neumark et al. (2008) find that Walmart store openings reduce county-level retail employment with each Walmart worker replacing approximately 1.4 retail workers. Neumark and colleagues also find that Walmart openings are associated with a 1.5 percent decline in county-level retail earnings. Peralta (2019) finds that the presence of big-box retailers, Walmart and Target, has a positive effect on employment but a negative effect on wages. Peralta also states that the wage effect is both larger and more protracted compared to the impact on employment.

Effect on Social Capital

Goetz and Rupasingha (2006) comment that the benefits of lower prices and greater shopping convenience promised by Walmart come with the cost of not only business churn, but also reduced social capital. Rupasingha, Goetz, and Freshwater (2000) describe social capital as the institutions, relationships, attitudes, values, and beliefs that govern interactions and contribute to social and economic development. Goetz and Rupasingha (2006) state the social capital stocks matter for economic growth and poverty reduction.

A priori, the impact of Walmart on social capital is unclear. Ficano (2013) states that Walmart has the potential to directly affect local economies, both directly and indirectly, through diminished social capital. Goetz and Rupasingha (2006) comment that social capital may decline as downtown venues dry up and opportunities for dialogue and interaction among local citizens are reduced. Carden, Courtemanche, and Meiners (2009) also suggest that a loss of downtown shopping may reduce interconnectedness. They also state, however, that Walmart's lower prices may leave consumers with more resources to devote to consumption of both social capital and material goods.

Based on county-level data, Goetz and Rupasingha (2006) documented a lower level of social capital in communities with a Walmart presence. Their results were found for cities with a new store and for towns with a long-term Walmart presence. Carden, Courtemanche, and Meiners (2009) also investigated the effect of Walmart openings and the long-term impact on social capital using an aggregated measure and both county and individual level data. They found that while some measures of social capital were positively associated with Walmart, other measures were negatively associated, and most measures exhibited insignificant relationships. Finally, Ficano (2013) found that Walmart's presence did not appear to significantly squelch birth of new establishments through social capital or other channels.

Effect on Professional Service Firms

Goetz and Rupasingha (2006) suggest that social capital decreases when Walmart comes to town because of a decline in the local leadership class. Goetz and Swaminathan (2006) state that the elimination of local leaders as a key group of entrepreneurs may be the single most important and far-reaching impact of Walmart.   Goetz and Rupasingha (2006) explain that the decline in the local leadership class derives from both displaced storeowners and from professional service providers who have lost the displaced storeowners as their clients.   Bonanno and Goetz (2012) also state that an important impact from Walmart entrance into a community is its impact on the support services provided to downtown retailers.   Further, local support services are superfluous to Walmart itself with support services provided out of the Bentonville headquarters or outsourced overseas (Bonanno and Goetz 2012).

While Hicks (2009) stated a need for research on the impact of Walmart on professional firms, this line of inquiry is relatively sparse. Hicks et al. (2012) find that locally owned subsidiary business establishments, including professional firms, are not hurt by Walmart entrance. Hall and Swinney (2016) extend the "Walmart effect" literature to professional firms in a study of Walmart's effect on the accounting profession. They report a positive relationship between Walmart exposure and the number of CPA firm employees and payroll size. Mixed results were reported with regard to Walmart's impact on the number of CPA firms.

The academic literature reports mixed results for both the beginning— impact on retail establishments— and the end— impact on social capital—of the Walmart ripple effect. This study extends the literature relating to the intermediary effect of impact on professional support services, focusing on the F&I industry. The finance and insurance profession has not been previously studied in the Walmart literature; it is uniquely appropriate for study due to the nature of the financial services offered. The F&I industry may be subject to greater risk than other support services since the firms have the potential to lose revenues from former customers who now acquire their financial services at Walmart supercenters, as well as the potential to lose revenues from a shrinking downtown retail base.

RESEARCH METHODOLOGY AND DATA

This study estimates several linear models with a finance and insurance industry indicator as the dependent variable using county-level data from the state of Nebraska. The models include one of two measures of county-level Walmart density. The models also include control variables used by Sobel and Dean (2008) in their study of Walmart's impact on self-employment and small establishments.   We used these control variables because the size and attributes of F&I firms in Nebraska closely resemble self-employed proprietorships. Table 1 provides information on the variables and data sources.

Table 1

Data Description and Sources

Variable name	Description	Mean
Dependent variables		
F&I establishments[a]	Number of finance and insurance establishments per 10,000 population	23.33
F&I employees[a]	Number of finance and insurance employees per 10,000 population	151.84
F&I payroll[a]	Finance and insurance payroll per 10,000 population	5,854.43
Insurance agencies[a]	Number of insurance agencies per 10,000 population	10.54
Insurance agency employees[a]	Number of insurance agency employees per 10,000 population	31.20
Insurance agency payroll[a]	Insurance agency payroll per 10,000 population	1,107.69
Banks[a]	Number of banks per 10,000 population	9.24
Bank employees[a]	Number of bank employees per 10,000 population	85.64
Bank payroll[a]	Bank payroll per 10,000 population	3,310.10
Independent variables		
Walmart density[b]	Number of supercenters per 10,000 population	.09
Aggregated Walmart density	The Walmart Supercenter density ratio for each year summed since the entrance of the first Supercenter.	.77
Control variables		
Median age[c] (AGE)	Median age of population (in years)	43.2
Percent metropolitan population[c] (METRO)	Metro population as a percent of county	25.9
Percent in poverty[c] (POV)	Percent of population for whom poverty status is determined	13.1
Median family income[c] (MFI)	Median income	53,856
Percent nonwhite[c] (NW)	Percent of total population	6.3
Percent with college education[c] (COLL)	Percent of population with a bachelor's degree or higher	18.9

Percent male[c] (MALE)	Percent of population that is male	50.4
Land area[c] (AREA)	Land area per 1,000 square miles	829.58
Unemployment rate[d] (EMPLOY)	Number of unemployed workers divided by the total civilian labor force, seasonally adjusted	3.6

[a]U.S. Department of Commerce, Census Bureau, *County Business Patterns*, Washington, DC, 2003-2014.

[b]MapZone.io

[c]U.S. Department of Commerce, Census Bureau, *Census 2000 & Census 2010*, Washington, DC.

[d]U.S. Department of Labor, Bureau of Labor Statistics, *Local Area Unemployment Statistics*, Washington, DC, 2003-2014

The state of Nebraska was selected for several reasons. First, the distribution of Walmart stores across the state of Nebraska provides adequate separation among counties, where over half of the counties do not have a Walmart presence, some counties have one Walmart store, and others have several. Second, our study time period includes the Great Recession. To mitigate the adverse economic conditions during 2007-2009, we selected Nebraska due to the state's relative strength during this period. Over the period of 2000-2014, Nebraska's real-dollar gross domestic product (GDP) increased 37.2%, compared to a 24% increase in the national GDP (Nebraska Department of Economic Development 2015).   Next, Nebraska consistently posts one of the lowest unemployment rates in the nation. The state's unemployment rate is below the national average for our study period. Further, the state's unemployment rate only increased to a high of 4.6% in 2009, compared to a national level of 9.3% (U.S. Department of Labor 2018). Finally, its demographics are similar to the state of Iowa, enhancing the study's comparability with prior research studies based on data from Iowa, including Kenneth Stone's (1988) seminal work. Both Nebraska and Iowa are predominantly rural with strong agricultural sectors, have small populations, and have similar gross domestic products and low unemployment rates.

Regression models are first estimated for the overall finance and insurance industry (NAICS Code 52). This study investigates the Walmart effect on the number of F&I firms, the number of F&I employees, and F&I industry payroll. Since we might expect different segments of the F&I industry to be affected differently by Walmart density, regression models are also estimated to investigate the effects on the two segments of the F&I industry that had the greatest number of establishments in our data, i.e., insurance agencies and brokerages including life, property, health, and auto (NAICS Code 524210) and commercial banking establishments (NAICS Code 522110). Data from the *County Business Patterns* of the U.S. Census Bureau is the source for the number of firms, number of employees, and firm payroll. We used county population data from the 2000 Census for the study period of 2003-2009, and we used data from the 2010 Census for the years 2010-2014 (US Census Bureau 2000; US Census Bureau 2010).

Following Carden et al. (2009) and Hall and Swinney (2016), exposure to Walmart is estimated with density measures. Two density variables are considered separately. There are three types of Walmart stores, i.e., Walmart Discount Stores, Walmart Supercenters, and Walmart

Neighborhood Markets. We focus on Walmart Supercenters because they are the largest stores offering the most services and are likely to have the greatest effect on the local F&I industry. Walmart Density is calculated as the number of Walmart Supercenters per ten thousand county residents and Aggregated Walmart Density as the sum of Walmart Density since the first Superstore opening in the county. The aggregated measure acknowledges that Walmart's impact may change over time as reported in Hicks et al. (2012).

We secured data for each store from mapzone.io.[2] We drew unemployment data from the U.S. Department of Labor, and we gathered data for all other control variables from the 2010 Census.

RESULTS

This research studies the Walmart effect on the F&I industry with nine dependent variables. We grouped the dependent variables into three categories: F&I industry variables, insurance agency variables, and bank industry variables. Separate models are estimated for each dependent variable where the independent variable of interest is one of the Walmart density (WD) measures. The sample size differs among regression models because some information used in our dependent variables is not consistently reported in the smaller rural counties. A degree of collinearity was found to exist among the control variables; however, there was not an issue of collinearity between the Walmart exposure variable and the control variables.

We use a fixed-effects regression model with separate dummy variables for each county. We also use a first order autoregressive variable to deal with temporal correlation. The general form of the model is

$$FIM = \beta_0 + \beta_1 WD + \beta_2 AGE + \beta_3 METRO + \beta_4 POV + \beta_5 MFI + \beta_6 NW + \beta_7 COLL + \beta_8 MALE + \beta_9 AREA + \beta_{10} EMPLOY + \beta_{11} AR(1)\omega,$$

where FIM is the finance industry measure. All variables are as defined in Table 1.

A high level of uncertainty exists in the literature with regard to possible endogeneity issues in studies of Walmart impact. Hicks et al. (2012) writes that, despite the substantial discussion and analysis of this issue, there is no consensus. Therefore, following Hicks et al. (2009) and Hicks et al. (2012), this study omits endogeneity corrections for the entrance of Walmart stores.

The regression results relating to the impact of Walmart density measures on the number of F&I establishments, the number of F&I employees, and F&I payroll are outlined in Table 2. Walmart Density is not significant in any of the models. Aggregated Walmart Density is significantly and negatively related to the number of F&I employees. In a population of ten thousand, we would expect three fewer F&I employees if there is a Walmart present. Aggregated Walmart Density is significantly and positively related to F&I payroll. In a population of ten thousand, we might expect F&I payroll to increase $122 for each year that a Walmart Supercenter is present. This study finds that Aggregated Walmart Density is significant where the Walmart

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[2] Since dates of Walmart store openings may no longer be available on that website, authors are willing to share the data gathered.

Density is insignificant; this may be an indication that the effect of Walmart's presence in a community occurs over time.

Table 2

Number of Finance and Insurance Establishments and Employees by Walmart Presence Measures

	Number of Finance and Insurance Establishments (n=810)		Number of Finance and Insurance Employees (n=428)		Finance and Insurance Payroll (n=494)	
	Coefficient (Probability)		*Coefficient (Probability)*		*Coefficient (Probability)*	
Constant	1272.566 (.110)	1248.324 (.125)	-3,253.293 (.121)	-3,253.704 (.081)	-105,403.403 (.099)	-105,557.480 (.096)
Walmart Density	0.688 (.591)		-2.827 (.768)		16.574 (.967)	
Aggregated Walmart Density		0.012 (.932)		-2.342 **(.058)**		122.468 **(.008)**
Median age	-10.180 (.113)	-9,985 (.128)	14.439 (.112)	14.953 (.099)	593.250 (.001)	606.643 (.001)
Percent metropolitan population	0.054 (.079)	.054 (.079)	-0.263 (.506)	-0.300 (.446)	-2.161 (.818)	-2.107 (.821)
Percent in poverty	0.641 (.620)	0.640 (.620)	5.509 (.614)	5.557 (.609)	222.338 (.568)	229.519 (.553)
Median family income	-0.003 (.007)	-.003 (.009)	.009 (.010)	0.010 (.003)	0.338 (.003)	0.343 (.003)
Percent non-white	-21.787 (.113)	-21.370 (.128)	4.340 (.197)	4.441 (.184)	200.591 (.001)	204.315 (.001)
Percent with college education	0.815 (.098)	0.832 (.097)	-8.576 (.125)	-10.644 (.056)	-315.724 (.024)	-320.453 (.021)
Percent male	-13.921	-13.638	39.554	45.677	1,332.555	1,322.203

	(.138)	(.155)	(.140)	(.088)	(.213)	(.213)
Land area	0.194	0.190	0.060	0.073	1.432	1.424
	(.118)	(.133)	(.058)	(.020)	(.431)	(.431)
Unemployment rate	-0.455	-0.480	6.305	7.580	172.418	109.852
	(.349)	(.321)	(.052)	(.018)	(.139)	(.345)
AR(1)	0.408	0.409	0.554	0.539	0.723	0.712
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Model	*Adj. R^2* *F/(Prob.)* *Durbin-Watson*	*Adj. R^2* *F/(Prob.)* *Durbin-Watson*	*Adj. R^2* *F/(Prob.)* *Durbin-Watson*	*Adj. R^2* *F/(Prob.)* *Durbin-Watson*	*Adj. R^2* *F/(Prob.)* *Durbin-Watson*	*Adj. R^2* *F/(Prob.)* *Durbin-Watson*
	0.874 59.624 (.000) *2.207*	.874 59.598 (.000) *2.207*	.964 157.435 (.000) 2.126	.964 158.866 (.000) 2.108	.981 381.442 (.000) 2.236	.981 386.405 (.000) 2.229

To gain further clarity regarding Walmart's impact, the dependent variable is refined to include only insurance agencies. Table 3 reports the regression results for testing the measures of Walmart density on the number of insurance agencies, the number of insurance agency employees, and the insurance agency payrolls. Compared with the results using the F&I industry as a whole, the results are similar with regard to Walmart's effect over time. Walmart Density is not significant in any of the models. Aggregated Walmart Density is a significant predictor of both the number of insurance agencies and insurance agency payroll. We documented positive relationships for both variables.

Table 3

Number of Insurance Agencies and Insurance Agency Employees by Walmart Presence Measures

	Number of Insurance Agencies (n=808)	Number of Insurance Agency Employees (n=193)	Insurance Agency Payroll (n=472)
	Coefficient (Probability)	*Coefficient (Probability)*	*Coefficient (Probability)*

Constant	885.155 (.000)	892.675 (.000)	-226.514 (0.340)	-290.031 (0.380)	-28,067.006 (0.085)	-15,702.902 (0.309)
Walmart Density	.584 (.459)		-3.429 (0.398)		70.279 (0.507)	
Aggregated Walmart Density		0.163 **(.070)**		0.056 (0.901)		35.062 **(0.010)**
Median age	-3.167 (.000)	-3.195 (.000)	-0.586 (.629)	-0.031 (.987)	97.343 (0.116)	64.498 (0.297)
Percent metropolitan population	0.034 (.085)	0.034 (.083)	-0.477 (0.006)	-0.475 (0.013)	2.883 (0.202)	2.881 (0.199)
Percent in poverty	-0.005 (.996)	-0.010 (.991)	193.456 (0.354)	231.762 (0.365)	40.782 (0.673)	43.348 (0.652)
Median family income	-0.003 (.000)	-0.003 (.000)	-0.001 (.089)	-.001 (.275)	0.031 (0.460)	0.009 (0.840)
Percent non-white	-1.249 (.000)	-1.260 (.000)	0.462 (.625)	0.701 (.634)	25.235 (0.260)	13.659 (0.542)
Percent with college education	3.509 (.000)	3.541 (.000)	2.422 (0.000)	2.605 (.000)	-37.205 (0.449)	-9.605 (0.846)
Percent male	-12.623 (.000)	-12.730 (.000)	6.061 (.029)	6.493 (.059)	460.419 (0.057)	278.985 (0.253)
Land area	-0.012 (.000)	-0.012 (.000)	-0.013 (.157)	-.015 (.185)	0.376 (0.257)	0.188 (0.572)
Unemployment rate	0.187 (.429)	0.079 (.740)	0.056 (0.961)	0.317 (0.781)	55.162 (0.068)	36.482 (0.223)
AR(1)	0.364 (.000)	0.358 (.000)	0.291 (.000)	0.307 (.000)	0.580 (.000)	0.563 (.000)
Model	Adj. R²	Adj. R²	Adj. R²	Adj. R²	Adj. R²	Adj. R²

	F/(Prob.) Durbin-Watson	F/(Prob.) Durbin-Watson	F/(Prob.) Durbin-Watson	F/(Prob.) Durbin-Watson	F/(Prob.) Durbin-Watson	F/(Prob.) Durbin-Watson
	.864	.864	.940	0.940	0.946	0.947
	53.660	53.921	55.821	55.523	115.596	117.487
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
	2.237	2.239	2.327	2.355	1.822	1.798

Next, this study investigates the relationship of Walmart density to banking, a second segment of the F&I industry. Table 4 reports the regression results. Similar to prior results, the Aggregated Walmart Density is a significant predictor and the Walmart Density variable is not. The years a Walmart Supercenter has been in the community has a positive, significant relationship to commercial bank payroll. The presence of a Walmart Supercenter does not predict the number of commercial banks, the number of banking employees, or the size of bank payrolls.

Table 4

Number of Banks and Bank Employees by Walmart Presence Measures

	Number of Banks (n=808)		Number of Bank Employees (n=347)		Bank Payroll (n=478)	
	Coefficient (Probability)		Coefficient (Probability)		Coefficient (Probability)	
Constant	946.468 (0.012)	888.579 (0.020)	-10,921.596 (0.000)	-11.174 (0.000)	-163,593.691 (0.133)	-99,685.220 (0.364)
Walmart Density	0.244 (.671)		8.806 (0.123)		174.155 (0.476)	
Aggregated Walmart Density		0.049 (.456)		0.478 (0.517)		93.137 **(0.003)**
Median age	-7.482 (0.014)	-87.012 (0.023)	58.062 (0.000)	59.064 (0.000)	1,275.486 (.506)	188.155 (.922)

Percent metropolitan population	-0.009 (0.524)	-0.009 (0.541)	11.526 (0.000)	11.805 (0.000)	-5.351 (.300)	-4.840 (.344)
Percent in poverty	0.457 (0.454)	0.457 (0.454)	3.793 (0.444)	3.7873 (0.447)	232.685 (.285)	237.225 (.271)
Median family income	-0.001 (0.011)	-0.001 (0.018)	0.008 (0.000)	0.008 (0.000)	0.115 (.883)	0.560 (.479)
Percent non-white	-17.101 (0.009)	-16.102 (0.015)	-20.117 (0.001)	-20.894 (0.001)	-1,106.229 (.686)	498.548 (.856)
Percent with college education	-0.642 (0.006)	-0.608 (0.010)	-22.794 (0.000)	-23.220 (0.000)	982.370 (.804)	-1,283.378 (.747)
Percent male	-11.121 (0.012)	-10.442 (0.021)	171.864 (0.000)	176.177 (0.000)	1,503.343 (.081)	1,737.880 (.041)
Land area	0.150 (0.011)	0.141 (0.019)	-0.481 (0.000)	-0.490 (0.000)	16.872 (.598)	-2.104 (.948)
Unemployment rate	-0.323 (0.159)	-0.330 (0.148)	5.641 (0.026)	4.005 (0.113)	-16.872 (.598)	-34.661 (.734)
AR(1)	0.596 (.000)	0.594 (.000)	.511 (.000)	0.515 (.000)	0.745 (.000)	0.726 (.000)
Model	$Adj. R^2$ F/(Prob.) Durbin-Watson	$Adj. R^2$ F/(Prob.) Durbin-Watson	$Adj. R^2$ F/(Prob.) Durbin-Watson	$Adj. R^2$ F/(Prob.) Durbin-Watson	$Adj. R^2$ F/(Prob.) Durbin-Watson	$Adj. R^2$ F/(Prob.) Durbin-Watson
	0.952 168.565 (.000) 2.099	0.952 168.652 (.000) 2.095	0.923 60.511 (.000) 2.404	0.923 60.056 (.000) 2.417	0.921 73.390 (.000) 2.208	0.923 75.041 (.000) 2.214

SUMMARY AND CONCLUSIONS

Our investigation of Walmart's impact on firms in the F&I profession revealed several significant relationships. First, the results show that the presence of Walmart impacts the payroll levels in the insurance industry, the banking industry, and the F&I industry as a whole. Specifically, the results show a positive relationship between payroll levels and the Aggregated Walmart Supercenter Density variable. The existence of a supercenter over time tends to increase the payroll of firms in these professions. Prior research (Hicks 2007, Hicks 2008, Neumark et al 2008, Peralta 2019) is mixed with regard to the effect of Walmart presence on wages. This study extends that line of inquiry with results from finance and insurance professions.

The regression results show a negative relationship between Walmart presence over time and the number of F&I employees. The data generally indicates that in response to Walmart's presence, the number of employees is decreasing in number while payroll levels are rising. The F&I results extend the results of Haltiwanger et al. (2010) who found that Walmart exposure had a significant negative impact on employment growth in smaller, same-industry stores. Our study finds a significant, negative relationship between cumulative Walmart presence and the number of employees in the F&I sector.

Finally, regression results reported in Table 3 show a positive Walmart effect on the quantity of insurance agencies. Overall, the insurance industry shows positive effects on both number of agencies and payroll levels. The findings from the insurance industry study are consistent with Sobel and Dean (2008) and Parachuri et al. (2009) who found that Walmart presence does not cause the failure of existing locally-owned firms. Even though full time Walmart employees have access to health and life insurance through the Walmart corporation, the presence of a Walmart Supercenter over time did not diminish either the number of insurance agencies or payroll levels. Indeed, the insurance agencies in this study were positively impacted by the presence of Walmart over time.

The Walmart ripple effect suggests that the impact of Walmart's presence on the professional support community could also impact social capital. This study indirectly indicates a mixed effect on the community institutions, networks, and trust that comprise social capital. On the one hand, social capital is increased as Walmart presence contributes positively to the number of insurance firms and to payroll levels in the F&I sector, insurance industry, and the commercial banking industry. On the other hand, Walmart's negative impact on F&I employment may cause professionals to relocate, leading to reduced social capital as the community loses trusted professionals who were part of a viable business network and contributed to their local leadership class.

At the time of this writing, Walmart executives announced an increased strategic emphasis on the supercenter model. This represents a departure from the previous structure of equal emphasis across stores, ecommerce, and other businesses. Walmart's current CEO Doug McMillon outlined the new strategy as growth through the supercenter (Nassauer 2019). A shift in focus to the supercenter model underscores the relevance of our study. This research adds to the literature through a study of professional firms that provide services similar to those available at supercenters. Walmart's recent strategy shift also includes a company movement toward health clinics on site within the supercenter. Therefore, with the recent announcement, our research may

have future extensions to health professions and additional social capital implications. As noted in the literature, the net effect of Walmart is complex and remains an area for ongoing research.

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