Relationship between Direct Selling and Unemployment: Worldwide Evidence

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Abstracts: An analysis of the relationship between the percentage of direct sellers (DSP) and the unemployment rate in WFDSA member countries has been carried out by applying a panel data model for the period from 2015 to 2019. The results reveal that this connection exhibits a positive and statistically significant correlation, standing out especially in the Americas and Asia Pacific regions. In the context of developing economies, this study has identified a more pronounced relationship, evidencing that a 1% increase in the unemployment rate translates into a significant 0.38 increase in the percentage of direct sellers. In contrast, in developed countries, this increase is more modest, at 0.07. This finding highlights the sensitivity of the direct selling industry to economic and labor dynamics, showing a more robust response in emerging economic environments.The significant contribution of this research to the literature lies in being a study that examines both temporal and cross-sectional variability in the relationship between the percentage of direct sellers and the unemployment rate. By addressing this research gap, it has provided a more comprehensive and enriching perspective on the dynamics of these variables over time and across geographic regions. In addition, the study underscores the crucial relevance of the direct selling industry in the global economy. By becoming a significant alternative for unemployed individuals, this form of commerce emerges as an important catalyst for income generation in times of job uncertainty. This finding highlights the ability of direct selling to not only provide economic opportunities for individuals seeking employment, but also to adapt and thrive in changing economic environments, presenting itself as a valuable and dynamic option in the contemporary employment landscape.

Key words: Multilevel, Employment, WFDSA, Direct Salespeople, Marketing.

1. INTRODUCTION

Direct selling involves the marketing of products and services directly to consumers in a face-to-face manner, away from permanent retail locations (WFDSA, 2021a). Duffy (2005) and Peterson and Wotruba (1996) define direct selling as the process of selling a consumer product or service from one person to another, in an environment that is not a fixed retail location. These definitions are widely accepted in the industry and the literature.

The World Federation of Direct Selling Association (WFDSA) is a non-governmental, voluntary organization that globally represents the direct selling industry as a federation of national Direct Selling Associations (WFDSA, 2021a). It comprises companies from 59 countries representing more than 90% of the world's GNP (Ragland, Widmier, & Brouthers, 2015). (The member countries are the ones being studied in this research). For 2014, sales worldwide reached to USD$182 billion and it is estimated that 100 million sellers around the world were part of this industry (WFDSA, 2021b). These figures showed increasing trends over the previous years with only one decline for 2014.

There are two types of structures in direct selling: multilevel structure and single-level structure. In the former, direct sellers (DS) recruit, train, and supervise other DS; and they are compensated for their own and their network's sales. In the latter, the income of the DS is based on just their own sales (Brodie, Stanworth, & Wotruba, 2002), and the direct selling organization (DSO) is responsible for recruiting and training. Direct selling as a marketing channel presents several advantages for different stakeholders. For one, it allows sellers to use their available time to increase their income. Compared to other traditional channels, direct selling offers organizations an alternative to grow and to reduce costs and risks associated with direct employment, especially in the distribution, selling, and advertising operations. Finally, consumers receive personalized advice, and this is suitable for low-mobility customers such as the handicapped and the elderly, as they will not have to go anywhere, (Alturas & Santos, 2009; Brodie et al., 2002; Duffy, 2005; Lin & Hassay, 2009; Ragland, Brouthers, & Widmier, 2015).

DS are called by the DSOs as their sales force, but, legally, they are self-employed individuals with an income that is based on commissions from their own sales and those of their network (Masi de Casanova, 2011; Stanworth, Brodie, Wotruba, & Purdy, 2004). DSOs with more time in the market and with a higher level of recognition of their products offer a higher income for DS (Makni, 2014). There are two kinds of sellers who enter the direct selling market: those who enter by choice, under the ideology of entrepreneurship and seeking personal fulfillment, autonomy, and freedom, among others; and those who are forced by external factors, such as economic needs often caused by unemployment or any other kind of income instability (Dawson & Henley, 2012; Stanworth et al., 2004). The latter group, specifically the unemployed, is the population object of study, as well as the number of DS in each country.

Often, sellers and customers are or will become friends, since combining friendship and business in the same relationship can be beneficial (Alturas & Santos, 2009). Arguably, when people lose their jobs, they initially seek employment in the same field or in another to generate income. Subsequently, they find direct selling as an alternative because it offers a low-risk entrepreneurial opportunity. The cost for an individual to start being a seller is very low because there is little or no required inventory or other cash commitments involved (WFDSA, 2021a). The aforementioned, plus the network of friends, acquaintances, and relatives represent an authentic opportunity for an individual to generate income.

Over a 5-year period, we have developed a data panel model to determine the existing relationship between the DS percentage (DSP) and the unemployment rate of each member country of the WFSDA. We propose three estimations that indicate the existence of a positive and statistically significant relationship between the number of direct sellers and the rate of unemployment for some results. The aforementioned and the literature on the field show that people use the direct selling market as an alternative to generate income when they are unemployed.

2. MATERIAL AND METHODS

2.1. Theory and Hypotheses

This research aims to contribute to the understanding of the dynamics of a market that has maintained a continuous growth rate over the last several years, becoming an alternative for organizations, sellers, and consumers that can benefit from it. There are two clearly defined notions for which an individual is considered an entrepreneur: pull factors, which are autonomy, challenge, market opportunity, and innovation; and push factors, which are lack of opportunities, redundancy, job dissatisfaction and family (Dawson & Henley, 2012). These notions apply to direct selling because it is considered a type of entrepreneurship (Ragland, Brouthers, et al., 2015). We would like to explore push factors, in which an individual, especially one who is unemployed, resorts to the direct selling market as a result of lack of opportunities.

To our knowledge, the relationship between unemployment and direct selling has not yet been explored in a direct way using macroeconomic data. However, some studies show that direct selling becomes an alternative when an individual faces unemployment. In their study, Stanworth et al.(2004) report that 31% of their interviewees started a direct selling business because they were prompted by push factors and they intended to work in that market until they found better labor opportunities. Lin and Hassay (2009) argue that people from the ethnic minority groups venture into the direct selling market as a result of them being excluded from the job market. Masi de Casanova (2011) reports that in a context of lack of opportunities, joining a DSO is often an option for women in Ecuador; however, as compared to having a formal job, obtaining a reasonable income level is quite difficult. Makni (2014) finds that the income of a person working in the direct selling market depends directly on the amount of time he or she commits to this activity. Makni (2014) also concludes that, in conditions of high unemployment, direct selling emerges as a tool for generating employment and income in Bulgaria, a country located in the region reporting the highest unemployment rate (Table 1).

Friendship does not mean that a friend must do things for the other. However, it has been shown that friends can be valuable partners because they are more loyal and committed (Grayson, 2007). We think that this statement can be extended to the group of people with which an individual is related such as relatives and neighbors. In that way, direct sellers have a target audience to which they can sell different products of one or more DSOs and obtain an income for that activity. The aforementioned is supported by Raglan, Brouthers, et al. (2015) who state that relationships among individuals and their social networks help create attractive market opportunities in collectivist societies.

Based on the literature review where we found that the direct selling market is an entrepreneurial opportunity given its low risk factor and the small investment required, on the evidence that some individuals venture into this market forced by push factors, and on the fact that they can benefit from their social networks as a potential market of consumption of goods offered by DSOs, we propose the following hypotheses:

H1: Unemployment rate has a positive relationship with the DSP.

H1a: Unemployment rate has a positive relationship with the DSP by region.

H1b: Unemployment rate has a positive relationship with the DSP by country.

The studies carried out on the international market selection (see: (Ragland, Brouthers, et al., 2015; Ragland, Widmier, et al., 2015)) identify the attractiveness of each economy in introducing the direct selling industry using formal and informal institutions of each economy. The interest of carrying out the analysis by region and by member countries of the WDSFA is the reason the first hypothesis is split. Additionally, this is supported by the differences between formal and informal institutions of a country or region, which favor the development of direct selling.

H2: The relationship between unemployment rate and DSP is the same for developed and developing countries.

Direct selling finds a favorable environment for development in markets with greater inequalities: greater female income inequality, less financial freedom and less access to the Internet (Ragland, Widmier, et al., 2015). Differences in each one of these characteristics are evident between developed and developing economies (Thirlwall, 2006), which indicates that we should study the relationship between unemployment and DSP by distinguishing the types of economies. This can be confirmed in the descriptive statistics (Table 1) which show significant differences in all the variables, with the exception of industry sales differences between developed and developing countries.

2.2. Database

The data collected for this study fall under public domain. The variables to be analyzed are unemployment rate, as the independent variable, and DSP, as the dependent variable. Additionally, our model includes a group of control variables to purify the effect of the analyzed variables. Since only a few studies on direct selling in relation to macroeconomic variables are found in literature, it was not possible to carry out a review of the recommended variables for the direct selling industry. The reported papers that used macroeconomic variables as independent variables are those of Ragland, Brouthers et al. (2015) and Ragland, Widmier, et al. (2015). We used some of the variables mentioned there and other variables that we considered to be appropriate for the suggested hypotheses. The database covers the 58 WFDSA countries for 2015-2019, allowing us to perform a linear and cross-sectional analysis of the data as recommended by Alturas and Santos (2009) and Arellano and Bond (1991).

Direct sellers percentage (DSP)

We propose this ratio as the quotient between the number of DS per country of the WFDSA (WFDSA, 2021b) and the working-age population of the International Labour Organization (International Labour Organization, 2021).

In that way, we will be able to obtain the DSP of the working-age population. This is defined by the following equation:

$$DSP = \frac{Direct\ sellers\ by\ country}{Working\ age\ population} x100$$

The reference value in calculating the ratio is the “working-age population that comprises all persons above a specified minimum age threshold for which an inquiry on economic activity is made. The working-age population is commonly defined as persons aged 15 years and older” (International Labour Organization, 2021). Most of the DS are among this population, including those that are economically inactive such as housewives, students, and others who do not fit into the unemployed definition but are part of direct selling.

Index of economic freedom (IEF)

“Economically free society, individuals are free to work, produce, consume, and invest in any way they please, the measure of economic freedom based on 10 quantitative and qualitative factors, grouped into four broad categories, or pillars, of economic freedom: Rule of law, limited government, regulatory efficiency and open markets” (The Heritage Foundation, 2015). This index is considered to be relevant enough to be added to our model as an instrumental variable, since it is a statistically significant variable in explaining a country’s attractiveness in the direct selling market (Ragland, Brouthers, et al., 2015).

In addition to the aforementioned variables, we also used the level of sales per country (WFDSA, 2021b), unemployment rate (International Monetary Fund, 2021), population (World Bank, 2021), gross domestic product per capita (GDPPC) (OECD, 2021) and the ranking according to the type of economy (developed or developing) (UN, 2012) each country of the WFDSA is at.

Table 1 shows that Asia Pacific is the most populated region with the highest DSP and the second highest in terms of income after America. The region with the highest unemployment rate is Eastern Europe. The one with the highest GDPPC is Western Europe, where all countries are developed. It is important to point out that for the United Nations, Bulgaria is a developed economy with a GDPPC of less than USD$10,000, while Singapore is considered a developing economy with a GDPPC of more than USD$50,000.

Table 1. Descriptive statistics by region and type of economy. The period considered was from 2015 to 2019.

	Variables	DSP	Population	Unemploy-ment rate	GDPPC	Working age population	IEF	Direct Sellers	Sales
Region									
America	Mean	4.1	72	7.0%	$ 16,475	53	62.32	2.4	$ 5.18
	Median	3.3	32	7.1%	$ 11,204	20	67.2	0.8	$ 1.80
	Maximum	9.8	319	12.1%	$ 54,678	248	80.6	19.1	$ 36.36
	Minimum	1.2	3	3.6%	$ 1,979	3	36.1	0.1	$ 65
	Std, Dev,	2.0	92	1.8%	$ 15,957	72	13.58	4.6	$ 8.82
	Observations	12	12	12	12	12	12	12	12
Asia Pacific	Mean	9.2	156	4.6%	$ 23,840	112	69.82	3.8	$ 3.80
	Median	5.3	50	4.4%	$ 21,572	42	69.9	3.2	$ 1.19
	Maximum	37.0	1295	10.8%	$ 67,473	903	90.1	15.6	$ 23.85
	Minimum	0.4	4	0.7%	$ 1,224	3	50.8	0.1	$0. 14
	Std, Dev,	8.6	329	2.3%	$ 21,013	227	12.31	3.9	$ 6.18
	Observations	13	13	13	13	13	13	13	13
Easter Europe	Mean	4.3	26	10.7%	$ 13,551	14	64.13	0.7	$ 0.53
	Median	2.2	9	10.3%	$ 13,767	7	65	0.2	$ 0.18
	Maximum	32.7	144	19.1%	$ 25,022	57	75.9	5.5	$ 3.62

	Minimum	0.2	1	5.5%	$ 2,974	1	45.96	0.0	$ 17
	Std, Dev,	6.8	39	3.4%	$ 5,061	16	7.29	1.2	$ 0.89
	Observations	14	14	14	14	14	14	14	14
Western Europe	Mean	1.1	24	9.4%	$ 51,736	20	70.59	0.2	$ 1.19
	Median	0.9	11	7.9%	$ 46,623	9	71.8	0.1	$ 0.26
	Maximum	2.9	82	27.3%	$ 116,753	70	82.5	0.7	$ 9.34
	Minimum	0.1	1	2.8%	$ 20,175	0	55.4	0.0	$ 0.13
	Std, Dev,	0.8	26	5.9%	$ 23,468	22	6.39	0.2	$ 1.96
	Observations	17	17	17	17	17	17	17	17
Developing	Mean	7.4	109	6.7%	$ 13,201	75	62.16	2.6	$ 2.46
	Median	3.9	46	6.3%	$ 10,124	32	63.3	1.2	$ 1.05
	Maximum	37.0	1295	25.2%	$ 56,113	903	90.1	15.6	$ 17.78
	Minimum	0.1	3	0.7%	$ 1,224	3	36.1	0.0	$0.51
	Std, Dev,	8.2	244	4.4%	$ 12,574	169	12.46	3.3	$ 3.59
	Observations	25	25	25	25	25	25	25	25
Developed	Mean	1.9	31	9.6%	$ 39,025	25	70.6	0.8	$ 2.38
	Median	1.7	10	8.2%	$ 38,945	8	71.35	0.1	$ 0.23
	Maximum	7.8	319	27.3%	$ 116,753	248	83.1	19.1	$ 36.36
	Minimum	0.1	1	2.8%	$ 6,335	0	55.4	0.0	$ 0.13
	Std, Dev,	1.5	58	5.0%	$ 24,478	45	6.51	2.9	$ 6.45
	Observations	33	33	33	33	33	33	33	33
Note: Population, working age population and direct sellers in millions, Sales in USD billions.									

3. RESULTS AND DISCUSSIONS

3.1. Proposed Model

H1a: Unemployment rate has a positive relationship with the DSP by region.

We suggest a data panel model because this methodology is most appropriate in studying over-time and cross-sectional variability of data. The first estimated econometric model suggests that for each region *(k)*, the *DSP* of a given country (j) in a year (t), *DSP_(k,jt)* depends on a constant μ; on the unemployment rate *U*; on control variables such as GDPPC, sales, and population; on dummy variables such as the type of economy λ (1 if it is developed and 0 if it is developing); on a fixed effect for each region *α* that captures non-observable heterogeneity; and on a fixed effect per year *δ_t* that captures tendencies. The relationship of interest for our first model is:

$$DSP_{k,it} = \mu^{k} + \alpha_{k,i} + \delta_{t} + \beta_{k,t}U + \Omega_{k,it}U * d + \lambda(X'_{k,it}) + \varepsilon_{k,it}$$

We carried out a studentized residual test of the relationship between unemployment rate and DSP at a significance level of 5%. We excluded Taiwan, Thailand, Malaysia, and Singapore, because upon observing the data for these countries, we found that their DSPs are higher than 13% and their unemployment rates are lower than 5%. It is not our interest to study the causes of this phenomenon but the possibility of studying what is happening in these economies is open.

In the first model, the estimator of fixed effects controls for observable and non-observable heterogeneity at country level of each region. In order not to lose these characteristics, we carried out the estimation by using the hypothesis of random effects. Through a maximum likelihood test, we were able to prove that fixed effects are valid. We also carried out the Hausman specification test, confirming the fixed effect model for most of the regions. The statistics χ^2 that we observed for the Asia Pacific region is 18.63; for America, 11.29; and for Eastern Europe, 37.07; which rejects random effects for these regions. The same test indicates that, for Western Europe, the null

hypothesis is failed to be rejected and its estimation is made through random effects.

We have also found that the unemployment rate for developed countries has a significant effect on the America and Asia Pacific regions. Table 1 shows that for each 1% increase in the unemployment rate, the DSP increases by 0.26 for Asia Pacific and 0.30 for America on average. The differences in the constant term between regressions of the regions can be interpreted as differences in non-measured aspects by the estimated model. These differences are caused by factors that cannot be associated with any of the independent variables used in the model. It is also worth mentioning that these constants are positive and statistically significant for Asia Pacific, America, and Eastern Europe, which suggests that these regions behave differently in the context of direct selling.

Table 2. Data panel model by region.

Dependent variable DPS				
	Asia Pacific⁺	**America⁺**	**Eastern Europe⁺**	**Western Europe⁺⁺**
C	31.46*	6.71*	3.194*	-5.85
	(10.64)	(1.70)	(0.945)	(4.872)
U	-125.68**	-14.86**	**-3.77**	-
	(48.83)	(5.482)	(4.436)	-
d*U	**146.28****	**45.08***	**-10.00**	**0.253**
	(52.83)	(3.908)	(6.26)	(1.799)
Sales	-5.90E-5	2.46E-5	5.24E-5	2.06E-5
	(6.47E-5)	(4.30E-5)	(410.E-5)	(1.0E-5)
GDPPC	4.4E-4*	8.76E-6	8.1E-4	-9.74E-5*
	(9.29E-5)	6.19E-5	(4.5E-4)	(4.63E-5)
Population	-0.129*	-0.0324*	-0.019*	0.342*
	(0.056)	(0.032)	(0.0603)	(0.0333)
Population squared	2.18E-5	1.2E-4*	2.37E-5*	-0.0018
	(2.04E-5)	(1.11E-4)	(3.2E-4)	(0.0025)
R-squared	0.4794	0.5696	0.4783	0.692
Observations	40	60	70	85
Specification test for random effects				
Hausman specification test	18.63	11.29	37.07	2.41
	0.004	0.07	0.00	0.79
Fixed effects test				
Cross-section	54.86*	111.21*	92.32*	118.85*
Period	26.59*	43.26*	13.35*	8.14*
Cross-Section/Period	66.1*	120.13*	99.21*	122.35*
Notes: * , **, and *** respectively indicates significance levels at 1%, 5%, and 10. Standard errors in parenthesis. ⁺ Fixed effects; ⁺⁺ Random effects				

H1b: Unemployment rate has a positive relationship with the DSP by country.

Our second estimation suggests a regression model with fixed effects to see the impact of the unemployment rates for each member country of the WFDSA.

$$DSP_{i,t} = \alpha_{i,t} + \delta_t + \sum^{k} \beta_{i,t}(P_{i,t} * U_{i,t}) + \lambda(X'_{i,t}) + \varepsilon_{i,t}$$

It is important to take into account that in this group of variables, coefficients are estimated by country. Table 3 shows the results of the estimations; each column shows the estimated coefficients for the countries. We find positive signs and statistically significant relationship in Brazil, Canada, Chile, Mexico, Peru, and the United States for America as a region; likewise, in Korea and New Zealand for Asia Pacific (Japan and Vietnam have a positive non-statistically significant relationship); in Croatia for Eastern European region, and in Austria and the United Kingdom for Western Europe.

Table 3. Data panel model by country.

Dependent variable DPS							
Americas		Asia Pacific		Eastern Europe		Western Europe	
Constant	-0.965*	Constant	94.36*	Constant	100.95**	Constant	1.85*
	(2.50)		(30.35)		(56.14)		(3.21)
Argentina	-82.56	Australia	-215.13	Bulgaria	-75.62	Austria	306.14*
	(49.13)		(146.6)		(30.62)		(64.40)
Bolivia	-9.22	Filipinas	-460.8	Croatia	15.54*	Belgium	-6.84
	(6.22)		(461.7)		(4.34)		(8.05)
Brazil	134.2**	Hong Kong	-249.07	Czech Republic	-94.83	Denmark	-11.06
	(55.13)		(148.4)		(98.66)		(14.54)
Canada	515.15**	Indonesia	-253.5**	Estonia	-58.70*	Finland	9.71
	(244.4)		(105.6)		(14.59)		(26.82)
Chile	109.9**	Japan	129.86	Hungary	-21.55	France	0.33
	(50.15)		(140.6)		(20.75)		(10.34)
Colombia	-62.02**	Korea	871.18**	Latvia	--39.34*	Germany	9.16
	(22.02)		(449.9)		(13.18)		(13.64)
Ecuador	-136.14	New Zealand	336.4*	Lithuania	-79.82**	Greece	-0.80
	(283.75)		(63.50)		(18.02)		(2.25)
Mexico	505.4**	Vietnam	29.75	Poland	35.87	Ireland	7.10
	(98.93)		(81.6)		(34.10)		(6.84)
Peru	12.79***			Romania	-52.46	Italy	-1.13
	(7.71)				(43.61)		(5.86)
United States	95.71*			Russia	34.84	Luxembourg	-9.50
	(15.21)				(455.54)		(17.76)
Uruguay	-77.25			Slovakia	257.05	Netherlands	-3.06
	(77.49)				(223.52)		(5.43)
Venezuela	-179.4**			Slovenia	-2.47	Norway	57.99
	(77.21)				(34.34)		(94.89)
				Turkey	254.11	Portugal	12.02
					(334.40)		(9.50)
				Ukraine	54.27	United Kingdom	16.37*
					(275.66)		(3.66)
						Spain	-5.98**
							(3.71)
						Sweden	59.65
							(103.43)
						Switzerland	64.22
							(113.32)
Sales	5E-05		0.002		4.2E-3		-3.3E-06
	(4E-5)		(0.016)		(0.0014)		4.50E-05
USD(t-1)	1.5E-3*				0.0059**		
	(2.8E-5)				(0.0033)		
GDPPC	0.596		-4E-4*		-4E-04		3.7E-5***
	(0.407)		(3E-4)		(3.E-4)		(1.85E-05)
Population			-1.4E-6*		-8.3E-6		2.2E-5
			(4.6E-7)		(5.18E-6)		(9.3E-8)
Population squared			2.1E15*		5.7.E-14		
			(7.2E-16)		(3.56E-14)		
Squared sales			-3.5E-8				
			(4.E-8)				
GDPPC squared			4.2E-9*				
			(2.3E-9)				
R-squared	0.887		0.899		0.981		0.745
Log likelihood	-27.98		-39.19		-47.43		-10.66
Breusch-Pagan LM	83.06[0.076]		43.2[0.032]		124.1[0.012]		169[0.045]
Pesaran LM	0.440[0.659]		0.97[0.330]		1.41[0.156]		0.73[0.46]
Note: * , **, and *** respectively indicates significance levels at 1%, 5%, and 10. Standard errors in parenthesis							

The differences in the constant term in the regressions of the regions that are caused by factors that cannot be associated with any of the independent variables used in the estimated model are positive and statistically significant in Asia Pacific and Europe. Moreover, the results of the Breusch-Pagan tests fail to reject the null hypothesis of no autocorrelation at conventional significance levels for the countries of America as a region. This hypothesis is rejected for the other regions. Nevertheless, in the Pesaran tests fail to reject the null hypothesis of no autocorrelation at conventional levels of no autocorrelation for all regions.

H2: The relationship between unemployment rate and the DSP is the same for developed and developing countries.

Our third estimation quantifies the relationship between the unemployment rate and the DSP, given the type of economy. By using dynamic panel data, we carried out two regressions, one for developed countries and another for developing countries. This dynamic is introduced by incorporating lags and/or differences and is based on the fact that increases in the unemployment rate in (t) would only have an effect on the DSP some periods after (t+i) or the DSP could depend on its own dynamism 〖(ϕ〗_1). For this reason, we suggest to estimate a model using the estimator under the generalized method of moments (GMM) developed by Arellano and Bond (1991). The model has predetermined variables and the index of economic freedom as instrumental variables. The relation of interest for the third model is the following:

$$\mathbf{DSP}_{it} = \boldsymbol{\phi}_1 \mathbf{DSP}_{it-1} + \boldsymbol{\alpha}_0 + \boldsymbol{\beta}_i \boldsymbol{U}_{t-i} + \boldsymbol{\lambda}(\boldsymbol{X}'_{it}) + \boldsymbol{\varepsilon}_{it}$$

The results of the model allow us to observe with 95% confidence that in developing countries, there is a higher positive relation between DSP and the unemployment rates. The estimations suggest that for each 1% increase in the unemployment rate of developed countries, an impact of 0.07 in the DSP is generated during the same period on average, while for developing economies, this impact is at 0.4 on average. The GDPPC was found to be positive and statistically significant in developing countries. The dynamism of DSP in the last three years is positive and significant in developing countries; it was higher in 2013 with a coefficient of 2.61, followed by 2012 with a coefficient of 1.01. In 2014, this coefficient dropped to 0.653. In developed countries, only the year 2013 with a coefficient of 0.43 is significant. This is coherent with Figure 1. With the tests of Arellano and Bond (1991), the second-order hypothesis of no serial autocorrelation in the errors was proven. The Sargan test was used to confirm the validity and relevance of the used instruments, which were found to be appropriate at a level of significance of 5%. Table 2 shows the results.

Table 4. Data panel model by country.

Dependent variable DPS		
	Developing	**Developed**
DSP (t-1)	-0.033	-0.041**
	(0.030)	(0.016)
U	**38.51****	**7.20***
	(22.82)	(2.88)
Sales	-11.0E-3	1.45E-03**
	(6.7E-3)	(8.45E-5)
GDPPC	3.16E-3*	-5.68E-6
	(1.18E-3)	(1.54E-5)
Population	-3.04E-6*	-6.86E-8***
	(9.7E-7)	(3.68E-8)
Population squared	6.38E-15**	
	(2.17E-15)	-
2017	1.013*	-0.123*

	(0.224)	(0.046)
2018	2.614*	0.433*
	(0.299)	(0.133)
2019	0.653**	0.026
	(0.271)	(0.023)
Sargan test of over-identification (P-value)	0.549	0.396
AR(1) test (P-value)	0.81	0.40
AR(2) test (P-value)	0.26	0.87

Note: * , **, and *** respectively indicates significance levels at 1%, 5%, and 10. Standard errors in parenthesis. Instruments: U(t-1). Sales(t-1). IEF Population (t-1). GDPPC(t-1). and Sales$(t-1)^2$

3.2. Discussion

This study represents a novelty in the literature on direct selling since it identifies the relationship between the unemployment rate and the DSP for the 58 member countries of the WFDSA by using macroeconomic variables. We proposed two hypotheses to study this relationship.

We have found that there is a positive and statistically significant relationship in the DSP for the developed countries of the Asia Pacific and America regions. When we performed the estimation by country, we have found that it is significant for Brazil, Canada, Chile, Mexico, Peru, the United States, New Zealand, South Korea, Austria, and the United Kingdom. The number of significant countries turned out to be fewer than expected. However, it is worth mentioning that Korea, the United States, Brazil, Mexico, and the United Kingdom are among the countries that reported greater sales in each region.

In our third estimation, wherein we studied the relationship between the unemployment rate and the DSP per type of economy, we came across our perhaps most important finding, which indicates that this relationship is positive and statistically significant for developed and developing countries. The coefficients found allow us to state that the relationship is 5 times greater for developing countries, i.e. individuals resort 5 times more to direct selling as an alternative to generate income when they are unemployed. This result can be compared with the Ragland, Widmier, et al. (2015) article which states that countries with greater inequality and less access to the Internet —which are features of developing countries—, are more favorable for direct selling.

Although it has not been the object of study of this research, the relationship we studied, the Masi de Casanova (2011), Makni (2014), Altura and Santos (2009), Stanworth et al. (2004), and Lin and Hassay (2009) articles, and what we found in this study allow us to state that direct selling emerges as an alternative when individuals face unemployment.

CONCLUSIONS

The relevance that this market is gaining is captured in this paper. Ethical issues such as the treatment of DS and consumers became the spotlight. Although there are existent studies on these issues and the WFDSA has an ethical code which mentions the behaviors that stakeholders must take into account, it is still advisable to create a document of principles on the direct selling market elaborated with contributions from companies, sellers, and consumers from all around the world seeking to protect the most vulnerable groups especially in developing countries. Last but not least, the validation of the instrument used in the study by experts in the field ensured the accuracy, relevance and usefulness of the information collected, which supports the validity of the results obtained.

REFERENCES

[1]. Alturas, B., & Santos, M. C. (2009). Direct Selling: Consumer Profile, Clusters and Satisfaction. In European Retail Research (Vol. 23, pp. 47–68). Springer. http://doi.org/10.1007/978-3-8349-4237-1

[2]. Arellano, M., & Bond, S. (1991). Some test of specification for panel data: Monte carlo evidence and an application to employment equations. Review of Economic studies1, (58), 277–297.

[3]. Brodie, S., Stanworth, J., & Wotruba, T. R. (2002). Comparisons of salespeople in multilevel vs. single level direct selling organizations. Journal of Personal Selling and Sales Management, 22(2), 67–75. Retrieved from http://www.dsef.org/press/pdfs/Comparisons_of_Salespeople_in_Multilevel_vs._Single....pdf

[4]. Dawson, C., & Henley, A. (2012). "Push" versus "pull" entrepreneurship: an ambiguous distinction? International Journal of Entrepreneurial Behaviour & Research, 18(6), 698–720.

[5]. Duffy, D. L. (2005). Direct selling as the next channel. Journal of Consumer Marketing, 22(1), 43–45. http://doi.org/10.1108/07363760510576545

[6]. Grayson, K. (2007). Friendship Versus Business in Marketing Relationships. Journal of Marketing, 71(4), 121–139. http://doi.org/10.1509/jmkg.71.4.121

[7]. International Labour Organization. (2021). International Labour Organization. Retrieved January 11, 2015, from http://www.ilo.org/global/statistics-and-databases/lang--en/index.htm

[8]. International Monetary Fund. (2021). International Monetary Fund. Retrieved September 15, 2021, from https://www.imf.org/en/data

[9]. Lin, X., & Hassay, D. (2009, August). Minority participation in direct selling: necessity versus opportunity driven microentrepreneurship. Small and Medium Sized Enterprise Entrepreneur, 38–41.

[10]. Makni, V. (2014). Potential of earnings in network marketing and some factors influencing commissions rates: Evidence from Bulgaria. Regional Science Inquiry, 6(2), 23–31. http://doi.org/10.1007/s13398-014-0173-7.2

[11]. Masi de Casanova, E. (2011). Multiplying Themselves: Women Cosmetics Sellers in Ecuador. Feminist Economics, 17(2), 1–29. http://doi.org/10.1080/13545701.2011.568419

[12]. OECD. (2021). OECD. Retrieved October 1, 2021, from https://data.oecd.org/

[13]. Peterson, R. A., & Wotruba, T. R. (1996). What is Direct Selling? -- Definition, Perspectives, and Research Agenda. Journal of Personal Selling & Sales Management.

[14]. Ragland, C., Brouthers, L., & Widmier, S. (2015). Institutional theory and international market selection for direct selling. Marketing Intelligence & Planning, 33(4), 538–555. http://doi.org/10.1108/MIP-02-2014-0033

[15]. Ragland, C., Widmier, S., & Brouthers, L. (2015). A factor endowment approach to international market selection. Journal of Strategic Marketing, 4488(November), 1–15. **http://doi.org/10.1080/0965254X.2014.1001860**

[16]. Stanworth, J., Brodie, S., Wotruba, T., & Purdy, D. (2004). Outsourcing salesforces via self-employment: the case of direct selling in the UK. Journal of Small Business and Enterprise Development, 11(1), 50–59. http://doi.org/10.1108/14626000410519092

[17]. The Heritage Foundation. (2015). Heritage. Retrieved August 1, 2015, from http://www.heritage.org/index/about

[18]. Thirlwall, A. (2006). Growth and development. Basingstoke: Palgrave Macmillan.

[19]. UN. (2012). World Economics Situation and Prospects 2012 (Vol. 13). New York, New York, USA. Retrieved from http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2012wesp.pdf

[20]. WFDSA. (2021a). WFDSA. Retrieved July 1, 2021, from **www.wfdsa.org**

[21]. WFDSA. (2021b). WFDSA. Retrieved October 1, 2021, from https://wfdsa.org/global-statistics/

[22]. World Bank. (2021). World Bank. Retrieved August 1, 2021

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