
Exchange Transactions and Socioeconomic Determinants of Solidarity: The Case of Post-Solidarity Poland

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Abstract:

Purpose: The objective of this paper is to present socioeconomic factors which determine the engagement in exchange transactions, mainly in solidarity with the community and in helping others.

Design/Methodology/Approach: The analyses presented in this paper come from a representative study 'Social Diagnosis' conducted in Poland. The specific models for each question were estimated using the logistic regression model.

Findings: The research confirmed that individual personal characteristics do affect decisions that people make in everyday life. Each of the variables discussed in the paper affects solidarity. Similar to other studies, this study also shows that income, education, religion and a high number of friends increases solidarity, support to others. Unlike in many previous studies, it is indicated that men are more likely to engage in helping others. Undoubtedly, this is due to the specific socioeconomic conditions occurring in the post-socialist economy of a developing country.

Practical Implications: In order to increase cooperation in different societies, people should be encouraged by the state to display appropriate behaviours, and factors influencing these behaviours should be supported. Due to the socioeconomic development of the country, the levels of income or education of individual residents can be influenced in the long run. However, increasing solidarity can also be influenced indirectly, for instance, by initiating actions that support social integration or social and professional activity of people.

Originality/Value: It is a first article about solidarity based on the research conducted among more than 22,000 respondents. The results obtained in the article are slightly different from those presented in other studies. However, they appear to be characteristic of former socialist countries, because people in these countries, after 45 post-war years, need to change themselves in order to be more cooperative.

Keywords: Post-socialist economy, solidarity, society, income, gender, cooperation.

JEL Classifications: A14, D31, D51, D64.

Paper type: Research article.

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1. Introduction

Every person living in a community makes exchange transactions with it on a daily basis (Cropanzano and Mitchell, 2005). Walczak (2015) argued that, according to the Social Exchange Theory, humans exchange material, social, or personal rewards. Some of them are probably exchanged obligatorily and individuals involved in the exchange are obliged to do so because of the existing law (e.g., taxes), culture (e.g., taking care of parents as in Confucianism), or religion (e.g., Christian charity, or sadaqah in Islam).

However, some are exchanged voluntarily, and the person independently decides about initiating integration with another person or persons (Mauss, 1950; 2002). Some of these transactions are based on helping others (including unpaid work done for the benefit of the community). Commitment to work done for the benefit of one's community can be referred to as 'community solidarity'. For the first time the term 'community solidarity' was used by Fessler (1952). In the scope of factors affecting 'community solidarity', it was also introduced by Buttel *et al.* (1979). 'Community solidarity' combines both the element of 'sacrifice' (reward given to an anonymous person) with the element of 'gift' (reward given to a specific person being a member of the community). Sacrifice implies a lack of reciprocity but in community correlates with gift (Komter, 2005).

The result is that often in spite of redirecting help towards theoretically an anonymous individual but still from within the community, it has a positive impact on future social relationships (Elder-Vass, 2015). Douglas (2002) said that 'there should not be any free gifts'. However, no gift in one's own community ought to be received in such a manner. Indeed, it prevents any further claims from the recipient, but cooperation and trust in the group affirms and strengthens future social solidarity in the community (Lawler and Thye, 1999; Sztompka, 1996; Capistrano and Weaver, 2018).

Bayertz (1999) pointed out that belonging to a particular community constitutes personal identity. However, Sahi (2013) stressed that decisions in every community primarily result from specific socioeconomic characteristics of individuals. Commitment to the community in such a case as well as consenting to donate your time or material resources stem from a sense of solidarity with the community (Baldacchino *et al.*, 2018). Therefore, solidarity must be understood as a matter of altruistic, one-sided transactions, of helping those incapable of helping themselves (and who, at the extreme, may never be able to give back and help others) (Leitner and Lessenich, 2003). The solidarity is visible in social motives of individuals who donate money for funding the projects in charity crowdfunding platforms (Bagheri *et al.*, 2019). As a matter of fact, solidarity can be measured in different ways. Selten and Ockenfels (1998) and Büchner *et al.* (2007) measured it by means of a decision concerning the approval for the transfer of part of one's reward to other co-players.

In turn, Bolle *et al.* (2012) and Bagheri *et al.* (2019) pointed to the existence and role of social motives in the decision-making process related to solidarity.

Kakes and Winter (2008) emphasise that solidarity decreases with age. According to research done by Reisenwitz and Iyer (2009), differences in behaviour of people at different ages can be noted. The older generation who are accustomed to hard work, that is to achieving results individually, are less prone to solidarity (Hui-Chun and Miller, 2005). Yet different results were presented by Twenge (2010) who indicates no relationship between specific generations and altruistic behaviour (or willingness to engage in voluntary work). However, his research was not conducted in a former socialist country where views of persons aged over 45 have been shaped by 'the culture of distrust'. This culture affects the weakening of the bond of an individual with the community (Sztompka, 1996).

Webber and Giuffre (2019) and Coimbra *et al.* (2013) indicate that gender affects interpersonal relationships, including solidarity. Females show willingness to help others to a greater extent than males do (Selten and Ockenfels, 1998). Paskov and Dewilde (2012) emphasise a positive effect of income and education on solidarity. Kasarda and Janowitz (1974) presented a greater involvement of high status individuals, these are mostly high-earners and well educated persons, in the community. As pointed out by Reitsma (2007) and Sablosky (2014) the frequency of participation in religious services creates an atmosphere of generosity or solidarity behaviour, thus it has a strong positive impact on helping others.

Members of small communities identify themselves with the community and it affects their increased solidarity (Greider *et al.*, 1991). However, in urban areas people are remote from each other, which discourages them from solidarity (Taines, 2012). Coleman (2009) even proposes to replace the term of solidarity in urban areas with 'social solitude'. For this reason, in large cities local government increasingly initiates programmes intended to encourage residents to show solidarity among the citizens (Komter, 2005). Local activity generates solidarity effervescence, that is group-focused solidarity (Blum, 2007).

People that take out insurance are generally more rational. Such people are characterised by aversion to risk and definitely make more conscious decisions about their future. They are inclined to show solidarity with others to a greater extent (Kakes and Winter, 2008). But in the other side, solidarity is conditioned on the availability of insurance. People are less willing to support a person in need who could have insured against her loss (Lenel and Steiner, 2020). Komter and Vollebergh (2002) pointed out that solidarity toward friends is primarily accompanied by feelings of love. According to Zhang and Ortmann (2016) the order effects on giving decisions could also be due to a social norm, participants usually ask for (or expect) return when they are nice to others. This indirectly denotes that people who have a lot of friends are more willing to engage in providing each other with help.

2. Research Objective, Methodology and Data

The objective of this paper is to present socioeconomic factors which determine the engagement in exchange transactions, mainly solidarity with the community and helping others. Similar to Arts and Gelissen (2001) and Reitsma (2007), this paper sought to verify the hypothesis that there are specified factors that affect solidarity. The following hypothesis were verified:

Hypothesis 1: Solidarity behaviour depends on personal characteristics.

This study investigates three aspects that affect community solidarity (Büttel, Martinson and Wilkening, 1979). The first one concerns commitment to the local community and is defined as 'local solidarity' (Egonsson, 1999), the second, referring to Murphy's 'Cooperative Principles of Beneficence' (Murphy, 1993), indicates activities run in social organisations and is called 'organisation solidarity'. The third aspect, relating to unpaid support given to individuals or groups, is defined as 'volunteering solidarity' (Butcher, 2010). Each of the aspects is referred to by means of one question (the dependent variables):

- (1) 'Local solidarity' – the referring question: Have you been involved in any actions for the benefit of your local community during the last two years? – answers: yes/no.
- (2) 'Organisation solidarity' – the referring question: Are you a member of any organisations, associations, parties, committees, councils, religious groups, or clubs? – answers: yes/no.
- (3) 'Volunteering solidarity' – the referring question: Did you perform any voluntary work or services to people outside your family or a social organisation last year? – answers: yes/no.

The analyses presented in this paper come from a representative study 'Social Diagnosis' conducted in Poland. The study covered 22,208 individuals. The specific models for each question were estimated using the logistic regression model (Cramer, 2003). The above three dependent variables took the following form: 1 if a person participate in community solidarity and 0 otherwise.

A regression model was run with majority independent variables and the following results were obtained in Tables 2–3 (The Tables present Exp(B), and a symbol of the significance of the dependent variable). Cox-Snell's R-Square and Nagelkerke's R-Square coefficients are generally low, but the high value of the Hosmer-Lemeshow test and the fact that the variables were statistically significant allowing the recognition that the models can be the basis for inference. The calculation was performed using the IBM SPSS Statistics 24.0 software.

In the case of two independent variables (income, participation in a religious service), due to such a possibility they were expressed on a continuous scale. The

other variables are different, as shown in Table 1. Due to the low value of the income variable (the Polish zloty - PLN), which originally ranged from PLN 100 to PLN 30,000, the responses obtained were divided by 1,000. This results from the need to determine the impact of this variable on solidarity, and in the case of a unit equal to one PLN, the effect of changes by one unit is too small. Therefore, the interpretation will apply to changes of the new unit, which is 1,000 PLN.

With regard to the age of the respondents, they were divided according to the following generations (Freestone and Mitchell, 2004):

- (1) 'Matures' (born before 1945),
- (2) 'Baby Boomers' (1946–1964),
- (3) 'Generation X' (1965–1976),
- (4) 'Generation Y' (1977–1993),
- (5) 'Generation Z' (1994-2020).

Table 1. *Descriptive statistics for the independent variables*

Variable	Variable description	Nature of the variables	N	%
Income	What personal monthly net income (in PLN) have you been receiving during the last three months?	continuous variable	16,741	-
Church	On average, how often in a month do you take part in a church service or other religious meetings?	continuous variable	22,125	-
Gender	Gender	0 – women	12,410	55.9
		1 – men	9,798	44.1
Insurance	Do you have any insurance?	0 – no	9,188	41.8
		1 – yes	12,787	58.2
Age	Age	1– 'Generation Z' (1994-)	1,584	7.1
		2– 'Generation Y' (1977–1993)	5,129	23.1
		3– 'Generation X' (1965–1976)	4,116	18.6
		4– 'Baby Boomers' (1946–1964)	8,040	36.2
		5– 'Matures' (born before 1945)	3,317	15.0
Residence	Place of residence	1 – Rural areas	10,976	49.4
		2 – Towns < 20k	2,646	11.9
		3 – Towns 20-100k	3,946	17.8
		4 – Cities 100-200k	1,401	6.3
		5 – Cities 200-500k	1,714	7.7
		6 – Cities > 500k	1,520	6.8
Friends	How many persons you consider to be your friends?	1– 0-2	5,629	25.5
		2– 3-5	8,092	36.6
		3– 6-8	3,105	14.0
		4– >8	5,288	23.9

Education	Education level			
		1– Primary and below	3,776	17.0
		2– Lower secondary and basic vocational	7,154	32.3
		3– Secondary	6,613	29.8
		4– University/ post-secondary	4,628	20.9

Source: Own study.

Cronbach's alpha coefficient was calculated for the questions presented in the paper and its value amounted to 0.623 (Cronbach, 1951). This result is not the highest one, although a result above 0.6 can already be considered to be appropriate, and shows the internal consistency and the reliability of the scales. Particularly, the size and the fact that the group is less homogeneous contribute to the reduction of the coefficient (Streiner, 2003).

3. Research Results

The first item to be determined were the dependencies relative to 'local solidarity'. Income significantly affects this type of solidarity. The rich are more willing to work for the local community. This is due to their greater financial capacity and, probably, due to better relationships with their subjectively perceived community.

As was shown by other studies, elderly people are less prone to demonstrate 'local solidarity'. The likelihood of undertaking action by a particular person for the benefit of the local community decreases with age. Perhaps this is due to the personal traits of the elderly and physical activity that decreases with age (Sallis, 2000), which affects the real possibilities of undertaking action for the community. According to Pratto *et al.* (1994) and Taylor-Gooby (2001), social and political ideologies affect the behaviour of individuals in the area of intergroup relations. Therefore, a likely reason of the weaker activity of the elderly in Poland may be the fact that they were brought up under the period of socialism. Detailed analysis of the results can indicate that for the oldest ('Matures') receiving a monthly income of 1,000 PLN the chances of behaving in accordance with 'local solidarity' are 64.4% lower, when compared to the youngest ('Generation Z') earning the same income (Table 3).

However, when it comes to wealthy older people, they are more likely to help others, e.g., with the income level at 4,000 PLN the increase is 68.0% on those representing 'Generation Z'. An even greater impact of the income factor on the behaviour of individuals representing these two generations was noted in the case of organisational solidarity, which is the activity consisting in undertaking action for the benefit of other people who are often anonymous ones. People representing the 'Matures' generation and receiving income at the level of 1,000 PLN are about 39.5% less prone to such activity, compared with 'Generation Z'. However, people from the 'Matures' generation earning 4,000 PLN are 2.8 times more likely to perform work for organisations and associations.

Unlike it is indicated in many other studies, in Poland men are more concerned about solidarity. An important factor affecting the reported differences might be the history of gender roles from one country to the other (Hraba *et al.*, 1996). In Poland, however, a social exclusion of women can still be observed (Regulska and Grabowska, 2008), and as proved by Silver (1994), it significantly affects solidarity.

Similar to other countries, Polish citizens living in larger communities are less inclined to act for other people's benefit. This is due to their lack of identification with the other members of the community. This is particularly common in cities where many people live in multi-story, post-communist blocks of apartments, where people often do not even know their neighbour living next door to them. Therefore, building a community in such an environment is very challenging, or even impossible. A particular significance of the size of place of residence can be noted in the case of 'local solidarity'. When it comes to acting for the benefit of the local community, urban residents are far less likely to help others, if compared with village residents. For people living in cities with 200 to 500 thousand residents, the chances of keeping in line with 'local solidarity' are lower by almost 50%, compared to those living in rural areas (Table 2).

In Poland, which is a highly religious country (Borowik, 2010), it was important to determine the relationship between religion and solidarity. Catholicism (which is the dominant religion in Poland) similar to other religions, teaches about helping other people in need. Religiousness understood as practising (and not only as faith in God) has a significant impact on the willingness to help and actually helping others. People who frequently participate in holy masses are more willing to help others, and this impact is reported as significant and large. The increase in the participation in a Mass by one Mass per month more results in a several percent increase ('local' and 'volunteering solidarity') or a dozen percent increase ('organisational solidarity') in the chances of helping others (Table 2). To conclude, it can be stated that the behaviour of believers is consistent with the teachings of the church. This study also indicated a relationship between the fact of having insurance and solidarity. More cautious persons that are characterised by risk aversion and the use of insurance more frequently exhibit helping behaviour. Perhaps this is due to the personal qualities possessed by these people.

In the case of 'organisational solidarity' – both in the model without interactions and in the model that takes them into account – the variable 'residence' was not found to be significant. Yamagishi and Mifune (2009) emphasise that men more often than women prefer people from within their own group (the so-called 'group identity') and in relation to an out-group person are spiteful. This affects the bond of an individual with the community. For this reason, in the case of 'organisational solidarity' the gender impact is less significant than in the cases of the 'local solidarity' and 'volunteering solidarity' (Table 2). With regard to 'local solidarity' and 'volunteering solidarity', help is directed to specific individuals, often from within their own group. Men want to become members of organisations ('organisational

solidarity') more frequently than women (by 17.2%). They perform activities for the local community as a whole ('local solidarity') more frequently (by 30.8%). Also, men more often (by as much as 55.0%) perform some unpaid work or provide free services ('volunteering solidarity').

In the case of the model allowing for the interactions (Table 3), gender affects 'volunteering solidarity' equally strong, and, for instance, the chances of providing help by men earning 1,000 PLN is 70.2% higher than by women with a similar level of earnings. In turn, the chances of performing work for others with the income level of 2,000 PLN are greater for men than for women (by 52.5%). A much smaller difference can be noted at a higher income, e.g., at the level of 4,000 PLN (the average monthly salary in Poland) men are more willing to help but only by 22.4%. This indicates that the level of earnings positively influences the willingness to help others as well as also reducing gender differences. Women that earn less are likely to be mainly focused on running their households, because they are usually responsible for purchasing food and other basic household items. To sum up, men are generally more likely to engage in helping others than women. Especially, they are more eager to get involved in helping people whom they know and who belong to their groups. However, high-earning women help as readily as men.

As already indicated, 'volunteering solidarity' requires more financial or personal engagement (or both at the same time), if compared with other types of solidarity. Therefore, in Poland it is more popular among men who are professionally and socially active and among wealthy individuals. However, due to the existence of a weaker direct relationship with the local community, if compared with 'local solidarity', the factors relating to the place of residence play a less significant role. In the case of 'volunteering solidarity', living in a small town (20-100k) reduces the chances of providing unpaid help to others by 21.4%. With regard to 'local solidarity,' residing in a small town also lowers the chances of helping the local community, but by as much as 40.4% (Table 2).

People who have many friends are more willing to engage in helping others. This dependence occurs in the 'local', 'organisational' and 'volunteering' types of solidarity (Table 2). Analysing the results of the model that takes into account the interactions (Table 3), in the case of 'volunteering solidarity' it should be emphasised that a rise in income increases the chance of providing help to others when the number of friends grows. For those with 6-8 friends, the chances of providing voluntary help with 1,000 PLN income is higher by 18.8%, compared to those that do not have friends. With earnings at the level of 4,000 PLN income, however, these chances increase by as much as 67.9%. As already indicated in the work, this shows that the income factor is an important variable that strongly affects the desire to help others.

Table 2. Estimates of logistic regression model after dropping out insignificant variables for ‘Local’, ‘Organisational’, and ‘Volunteering solidarity’ – without interaction effects

Specification		‘Local solidarity’	‘Organisational solidarity’	‘Volunteering solidarity’
Income		1.057***	1.087***	1.082***
Church		1.079***	1.131***	1.075***
Gender		1.308***	1.172**	1.550***
Insurance		1.717***	1.692***	1.427***
Age	‘Generation Z’ (base)	***	***	***
	‘Generation Y’	0.604**	0.451***	0.659***
	‘Generation X’	0.911	0.723	0.882
	‘Baby Boomers’	0.846	0.819	0.733***
	‘Matures’	0.425***	0.708	0.260***
Residence	Rural areas (base)	***	-	**
	Towns < 20k	0.683***	-	0.936
	Towns 20-100k	0.596***	-	0.786***
	Cities 100-200k	0.682***	-	0.831*
	Cities 200-500k	0.504***	-	0.904
	Cities > 500k	0.628***	-	0.886
Friends	0-2 (base)	***	***	***
	3-5	1.280***	1.304***	1.296***
	6-8	1.383***	1.414***	1.344***
	>8	2.282***	2.010***	1.723***
Education	Primary and below (base)	***	***	***
	Lower secondary and basic vocational	1.336***	1.261*	1.282***
	Secondary	2.245***	2.298***	1.882***
	University/post-secondary	3.952***	4.339***	3.096***
Constant		0.046***	0.027***	0.115***
Cox–Snell's R-squared		0.077	0.080	0.097
Nagelkerke's R-squared		0.133	0.147	0.141
Hosmer- Lemeshow (p-value)		0.157	0.535	0.167
Log likelihood		12,736.331	11,505.374	17,265.940
N		16,315	16,407	16,386

^a *Note:* *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Source: Own study based on Social Diagnosis 2015.

Table 3. Estimates of logistic regression model after dropping out insignificant variables for ‘Local’, ‘Organisational’ and ‘Volunteering solidarity’ – with interaction effects

Specification	‘Local solidarity’	‘Organisational solidarity’	‘Volunteering solidarity’
Income	0.727	0.695	1.144**
Church	1.080***	1.132***	1.075***

Gender		1.511***	1.163**	1.911***
Insurance		1.710***	1.685***	1.417***
Age	'Generation Z' (base)	***	***	***
	'Generation Y'	0.463**	0.330**	0.658**
	'Generation X'	0.649	0.489*	0.870
	'Baby Boomers'	0.525*	0.507*	0.729*
	'Matures'	0.213***	0.363**	0.257***
Residence	Rural areas (base)	***	-	***
	Towns < 20k	0.681***	-	0.980
	Towns 20-100k	0.596***	-	0.721**
	Cities 100-200k	0.676***	-	0.565***
	Cities 200-500k	0.504***	-	1.155
Friends	Cities > 500k	0.625***	-	0.942
	0-2 (base)	***	***	***
	3-5	1.036	1.042	1.232*
	6-8	1.098	1.050	1.059
	>8	2.151***	1.9988***	1.727***
Education	Primary and below (base)	***	***	***
	Lower secondary and basic vocational	1.291**	1.2256*	1.278***
	Secondary	2.176***	2.242***	1.878***
	University/post-secondary	3.741***	4.179***	3.022***
Income* Gender	Income*Gender	0.929*	-	0.895***
Income* Age	Income*'Generation Z'	**	*	-
	Income*'Generation Y'	1.361	1.408	-
	Income*'Generation X'	1.403	1.450	-
	Income*'Baby Boomers'	1.495	1.511	-
	Income*'Matures'	1.678*	1.669*	-
Income* Residence	Income*Rural areas	-	-	**
	Income*Towns < 20k	-	-	0.975
	Income*Towns 20-100k	-	-	1.041
	Income*Cities 100-200k	-	-	1.176**
	Income*Cities 200-500k	-	-	0.901*
	Income*Cities > 500k	-	-	0.974
Income* Friends	Income*0-2	*	**	*
	Income*3-5	1.105*	1.109*	1.024
	Income*6-8	1.114*	1.145*	1.122*
	Income*>8	1.030	1.007	1.001
Constant		0.074***	0.049***	0.107***
Cox-Snell's R-squared		0.078	0.081	0.099
Nagelkerke's R-squared		0.136	0.149	0.145
Hosmer- Lemeshow (p-value)		0.130	0.405	0.144
Log likelihood		12,707.490	11,481.446	17,223.541
N		16,315	16,407	16,386

^a Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Source: Own study based on Social Diagnosis 2015.

4. Conclusion

The results obtained in the article are slightly different from those presented in other studies, but, of course, solidarity behaviour depends on personal characteristics, which confirms our hypothesis. However, they appear to be characteristic of former socialist countries. During 45 post-war years, citizens of Poland were living in a country that was closed to the world. In addition, the first years of the transformation were difficult for economic reasons – this was the so-called 'wild capitalism' of the early 1990s.

Therefore, they need to change themselves in order to become more solidarity. In Poland, wealthy, young, and educated people declare their willingness to help others more frequently. These are educated and insured individuals who look into the future rationally, and, therefore, are more willing to engage in work for others. People born in the days immediately after the second world war are less prone to exhibit such behaviours. This is mostly due to their life experiences since they usually had to achieve everything on their own. Young people, however, who grew up under better conditions than their parents and grandparents, are more willing to help others. The poor, often facing serious financial problems, do not want to engage in work for the benefit of others. Similarly, the expenditures on services in Poland are positively related to the financial situation of the household, the education level of household members, and the age of the household head (Styczyńska, 2015). This may indicate that solidarity, that is the desire to help others, can be equated with purchasing. What is meant here is the purchase of a quasi-service resulting from the internal need of identifying with the community.

Due to the actual creation of the community by individual residents, people from smaller towns, where interpersonal relations are stronger, and people know each other, are definitely more willing to help each other. For a similar reason, the number of friends and the sense of connectedness with community factors affect solidarity positively.

In Poland the groups that are most likely to show solidarity include men, educated people, persons participating in religious services, well-off individuals, people showing risk aversion, residents of small towns, and those having a large number of friends. Solidarity behaviour does not result from belonging to a community, from the applicable law, or from the dominant religion. It internally varies in the community – these are individual characteristics of persons that decide about helping others – about community solidarity.

In order to increase cooperation in different societies, people should be encouraged to display appropriate behaviours, and, first of all, factors influencing these behaviours should be supported. Due to the socioeconomic development of the country, the levels of income or education of individual residents can be influenced in the long run. However, increasing solidarity can also be influenced indirectly, for

instance, by initiating actions that support social integration or social and professional activity of women. Integration between people is one of the elements of enhancing solidarity. The sense of belonging to a community increases the desire to help others in this community. We tend to help persons from within the community rather than those from outside. These boundaries, however, are often blurred, or not necessarily reasonable.

According to the Harvard Study of Adult Development covering the period of more than 75 years, people strongly tied to family, friends, or the entire community are happier, healthier, and live longer (Vaillant, 2002). Individuals who exhibit solidarity can certainly be included into this group. This demonstrates their commitment to this community. By helping others, we help ourselves as well.

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