

Demand for redistribution in the wake of the economic crisis

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Abstract

Empirical evidence from the European Social Survey suggests that while average demand for redistribution in Europe has increased following the Great Recession, the change is highly heterogeneous across income levels. Indeed, higher income groups appear to have experienced a more pronounced change in distributional preferences than lower income groups. This holds true after controlling for a range of socioeconomic characteristics. The effect is shown to be strongest for the self-employed, older workers and those living in countries most affected by the crisis. A proposed explanation is based on the social insurance motive: The crisis' severity may have led higher income groups to develop a new awareness of material risks, against which redistribution can provide a form of insurance.

Keywords: redistribution, inequality, social insurance, economic crisis

JEL Classification Codes: D31, D63

1. Introduction

The Great Recession provides a fertile ground for research into the demand for redistribution (OECD, 2011). In fact, following the sudden onset of the economic crisis, most people experienced the largest adverse macroeconomic shock of their generation (Grosjean, Ricka and Senik (2011)). The experience appears to have left its mark on preferences for redistribution, as average demand for public redistribution as measured by the European Social Survey (2002 – 2010) has increased significantly over the course of the economic crisis. This paper provides empirical evidence suggesting that the change in distributional preferences is characterized by

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significant heterogeneity across income groups, with demand for redistribution rising most among high-income individuals.

The social insurance motive, identified in the economic literature as a driver of public demand for redistribution (e.g. Varian, 1980; Meltzer & Richard, 1981), can provide a theoretical explanation of the differential change in distributional preferences. The idea behind the social insurance concept is that although an individual may have an income such that she currently pays more in taxes than she receives through transfers, she may still be in favor of the redistribution mechanism because it provides her with insurance for the case that at some point she may have a lower income and be a net receiver (Sinn, 1995).

The economic crisis has raised concerns of material well-being in large parts of society; for some, the awareness of economic risk exposure was more of a novelty than for others. Higher income groups, in particular, may have become aware of an exposure to material risks that the less fortunate have already been accustomed to. If the perceived exposure to material risks increased particularly among higher income groups, the social insurance motive suggests that these groups would be most susceptible to demand more redistribution.

This paper's focus lies on an examination of empirical evidence from the European Social Survey suggesting that distributional preferences have evolved heterogeneously across income groups in the wake of the economic crisis. To this end, it also analyzes the empirical pattern observed for different socioeconomic subgroups.

2. Methods

The aim of this study is to investigate how public demand for redistribution has evolved across different income groups in the wake of the economic crisis. We use a probit model with a dichotomized dependent variable to analyze the empirical evidence provided by waves 3 - 5 of the European Social Survey. The probit model with a dichotomized dependent variable is preferred over an ordered probit model as the proportional odds assumption is not validated by the data.

Originally consisting of five different values, the dependent variable is recoded into an indicator variable taking on the value one whenever the respondent agrees or agrees strongly with the statement: "Government should reduce differences in income levels". After the dichotomization, we can run a standard probit model. The model posits that the dichotomized dependent variable relies on the latent variable D_{it}^* as follows:

$$D_{it} = \begin{cases} 0 & \text{if } -\infty < D_{it}^* \leq \alpha \\ 1 & \text{otherwise} \end{cases} \quad (1)$$

The corresponding latent index model, which yields the estimated score value, is defined as:

$$D_{it}^* = b_1 X_{it} + b_2 \gamma_t + b_3 \delta_j + b_4 INC_{it} + b_5 SE_{it} + u_{jt} \quad (2)$$

where D_{it}^* denotes the demand for redistribution of individual i at time t as measured by the ESS; X_{it}^* is a vector of socio-demographic controls including age, age squared, gender, marital status, education, employment status, number of household members, indicators for children in the household and citizenship, and variables with information on religious implication and the urbanization of the area the respondent is living in; γ_t and δ_j are indicators for year and countries, respectively; INC_{it} denotes the corresponding income decile of individual i at time t ;

SE is an indicator variable for self-employment; and finally, u_{it} is the error term. The model uses standard errors that are clustered on the country level (Moulton, 1990).

The binary response model offers the possibility to calculate the predicted probabilities that an individual will be in favor of redistribution at various values of an explanatory variable. The following analysis will exploit this feature by predicting probabilities for redistribution approval over different income levels. The point estimates for the predicted probabilities of approval can be complemented by taking into account the coefficients' standard error and providing confidence intervals around the point estimate. Performing such estimations separately for distinct waves enables us to draw comparisons between patterns that can be observed on pre- and post-crisis data, respectively.

It turns out to be insightful to also consider the evolution for specific population subgroups. First, we will look more closely at the countries hit hardest by the economic crisis. Under the burden of banking and sovereign debt problems, Greece, Spain, Ireland and Portugal have been urged to implement austerity measures and conditions for access to financial markets have deteriorated. Second, we can distinguish between salaried and self-employed individuals. We would expect the effects related to the social insurance motive to be more pronounced for the self-employed. For a given level of risk aversion, the self-employed arguably tend to be more exposed to macroeconomic risks than salaried persons. Third, a subgroup analysis can be based on age profile. Here we would like to know whether effects are more pronounced for the elder, for whom the consequences of becoming unemployed are usually more severe.

3. Data

The empirical analysis essentially relies on data from rounds 3, 4 and 5 (2006-2010) of the European Social Survey (ESS), a biannual randomized cross-section sample. The ESS covers the standard socio-demographic characteristics that will be used as control variables for regression analysis. In addition, it contains variables that reflect an individual's material well-being, in particular self-reported income and perceived income.

One item asks for the level of agreement with the following statement: "Government should reduce differences in income levels". Answers can be given on a 5-level Likert scale, ranging from "Agree strongly" to "Disagree strongly", where the option for intermediate neutral response exists. Used as dependent variable for the econometric analysis, the variable is recoded such that agreement with the statement is reflected by a higher numerical value. All estimations in this study use design weights and, where appropriate, population weights.

There are a certain number of remarks to be made with respect to the dependent variable. First, this study aims to assess the evolution of the individual demand for redistribution, where it is implicitly assumed that such redistribution passes through a system of taxes and transfers. The corresponding ESS variable, however, is not just as explicit about the way inequalities are supposed to be reduced. Admittedly, most people will tend to think of material transfers in the first place, but it is worth noting that this is not necessarily the case. Throughout the following sections, the variable is interpreted in the sense of a preference for redistribution.

Another caveat concerns the framing of the question. The way the question is conceived does not specify whether the respondent is in favor of government reducing income differences in some general sense, or whether she is in favor of *more* government intervention than is currently the case. In other words, it contains no qualification on the reference point. A comparison of the response values across countries using the 5th wave of the ESS shows that citizens of the

Scandinavian countries manifest the lowest levels of support for redistribution, and vice versa for the most inegalitarian countries, suggesting that respondents understand the question as asking whether government should *further* reduce differences in income levels. For the regression analysis this implies that it is crucial to control for country fixed effects.

Income levels will be given either by deciles of *net household income* or by the four different values that the *perceived income* variable takes on. The definition of the *net household income* variable has changed with the introduction of a new format in the 4th ESS wave. The first three rounds of the ESS had twelve universal and predefined intervals for household net earnings, while later rounds have ten country-specific income intervals that correspond to the deciles of the national income distribution. Whenever an empirical estimation uses the total household net income variable, results are compared between waves 4 and 5. This approach still allows to compare data collected before and two years into the crisis, respectively.

Perceived income is a variable whose definition has remained unchanged over the five ESS waves. It asks how the respondent is feeling about her household's income nowadays, with the answer options ranging from (1) "Living comfortably on present income" to (4) "Very difficult on present income". For an easier interpretation of estimation results, the variable has been recoded such that material wellbeing increases with numerical values. Several socio-demographic variables have been recoded so that they can be used as binary variables. Table 1 gives an overview of the variables for the 5th ESS wave.

Table 1. Summary of socio-demographic variables

Variable	Observ.	Mean	Std. Dev.	Min	Max
age	219523	47.54474	18.5421	15	123
age squared	219523	2604.311	1848.677	225	15129
female	220625	0.5395445	0.4984349	0	1
married	220625	0.3077756	0.4615742	0	1
civil union	220625	0.0092102	0.095527	0	1
separated	220625	0.0603422	0.2381203	0	1
widowed	220625	0.0634108	0.2437009	0	1
income	157636	5.714589	2.669843	1	10
perceived income	214487	2.094728	0.8947985	1	4
education	219802	2.586596	2.251952	0	7
unemployed	220625	0.0417541	0.2000272	0	1
selfemployed	220625	0.1007683	0.3010223	0	1
# household-members	220388	2.766684	1.452922	1	16
# children	132202	0.495817	0.4999844	0	1
religiousness	218642	4.71897	2.971929	0	10
national	220625	0.9622663	0.1905519	0	1
domicile	219885	2.881675	1.226276	1	5

Source: 5th ESS wave. Marital status is given by four binary variables: married, civil union, separated and widowed; education is harmonized across countries according to the ISCED framework, ranging from (1) less than lower secondary education to (5) completed tertiary education. Note that nearly 30% of observations could not be attributed to a specific ISCED level. The variable "domicile" describes, in decreasing order, the urbanization of the area the individual lives in.

4. Results

First, the probit regression model based on equation (2) is applied to pooled cross section data, encompassing all five ESS waves. Table 2 provides coefficients for income level, employment category and ESS wave indicator variables. Other socioeconomic control variables (not reported) are included in the regression and their coefficients are in line with values usually found in the literature. Regressions (1) and (2) differ only in the income variable included as regressor. Remarkably, the positive coefficient for the ESS wave of 2010 is highly significant in both regression specifications.

Table 2. Probit regression on pooled cross section data

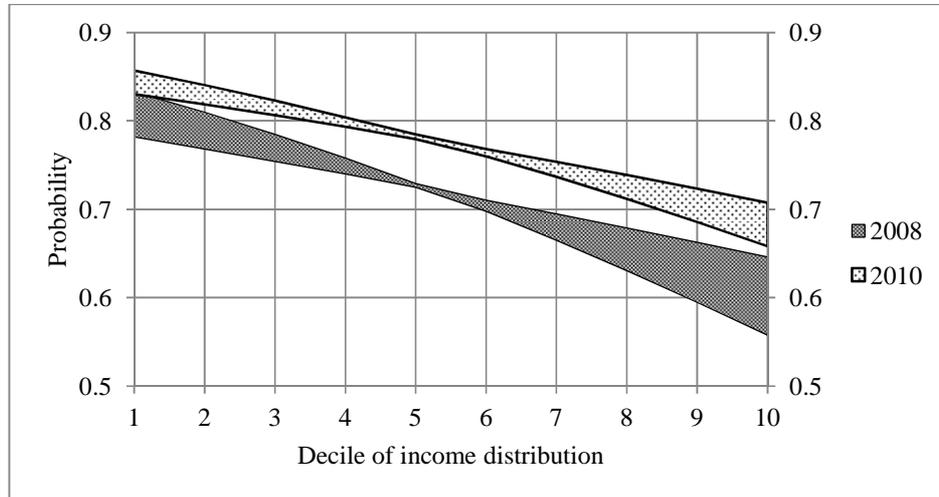
Variables	(1) Demand for redistribution	(2) Demand for redistribution
income	-0.0220*** (0.00331)	
perceived income		-0.0681*** (0.00538)
self-employed	-0.0676*** (0.00940)	-0.0673*** (0.00849)
wave 2004	0.00192 (0.0144)	-0.0142 (0.0176)
wave 2006	0.0198 (0.0136)	0.0216* (0.0130)
wave 2008	-0.00632 (0.0173)	0.00221 (0.0257)
wave 2010	0.0555*** (0.0190)	0.0676*** (0.0197)
Observations	92,812	125,953

Source: Probit regression using pooled ESS cross-section; dichotomized demand for redistribution is the dependent variable. Marginal effects (dF/dx) are reported instead of coefficients. For binary variables this corresponds to a discrete 0-1 change. The indicator of wave 2002 is omitted and serves as reference. Robust standard errors are in parentheses. The regression includes country dummies. *** p<0.01, ** p<0.05, * p<0.1.

Clearly, some change to the demand for redistribution has occurred in the 5th ESS wave that cannot be fully accounted for by the various socio-demographic variables that are commonly thought of as the main determinants of distributional preferences. Also, the economic significance of the wave 2010 dummy is noteworthy: *ceteris paribus*, for an individual surveyed for the 5th ESS wave, the increase in the demand for redistribution is similar in absolute terms to the decrease associated with self-employment. These results are robust to the inclusion of the ordinal perceived income variable in form of indicator variables.

The estimated regression model makes predictions for the probability that an individual will be in favor of redistribution, given a certain number of socio-demographic characteristics. In particular, the approach enables us to obtain predictions for the probability to be in favor of redistribution over the different values of the income variable. This allows us to compare estimated support for redistribution across income groups and, using different cross-sections, across ESS waves.

Figure 1. Conditional demand for redistribution: 2008 and 2010

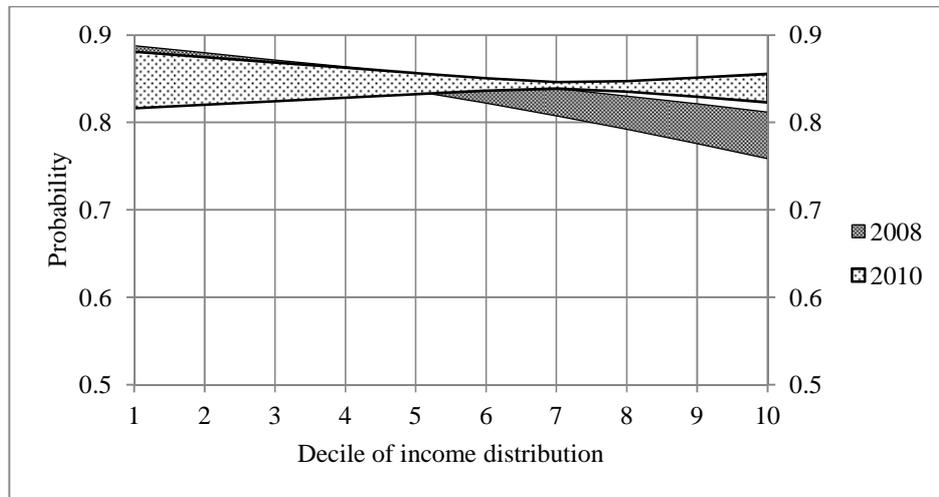


Confidence intervals of the predicted probability for an individual to favor redistribution conditional on the income decile; predictions are based on probit regressions using ESS waves 4 and 5.

Figure 1 reveals an interesting pattern: demand for redistribution has increased over-proportionally for people in the middle and higher income deciles. This observation lends support to the hypothesis that the economic crisis has caused heterogeneous changes in the preferences for redistribution. Middle and high income groups may indeed have experienced a heightened awareness of material risks following the economic crisis and become, according to the social insurance motive, more favorable towards redistribution.

It is interesting to look more specifically at how this pattern differs across specific subgroups, such as the countries hit hardest by the crisis. These are defined here to include Spain, Portugal, Ireland and Greece (note that there are insufficient data for Italy), countries which have suffered from a faltering banking sector, sovereign debt problems, or both. Not only is the predicted probability for redistribution generally higher for this group of countries, but also the income gradient has become essentially flat for the 5th wave. Although the gradient was already smaller in size than for the total of ESS countries in the 4th wave, it was still significantly negative.

Figure 2. Group of countries hit hardest by the crisis

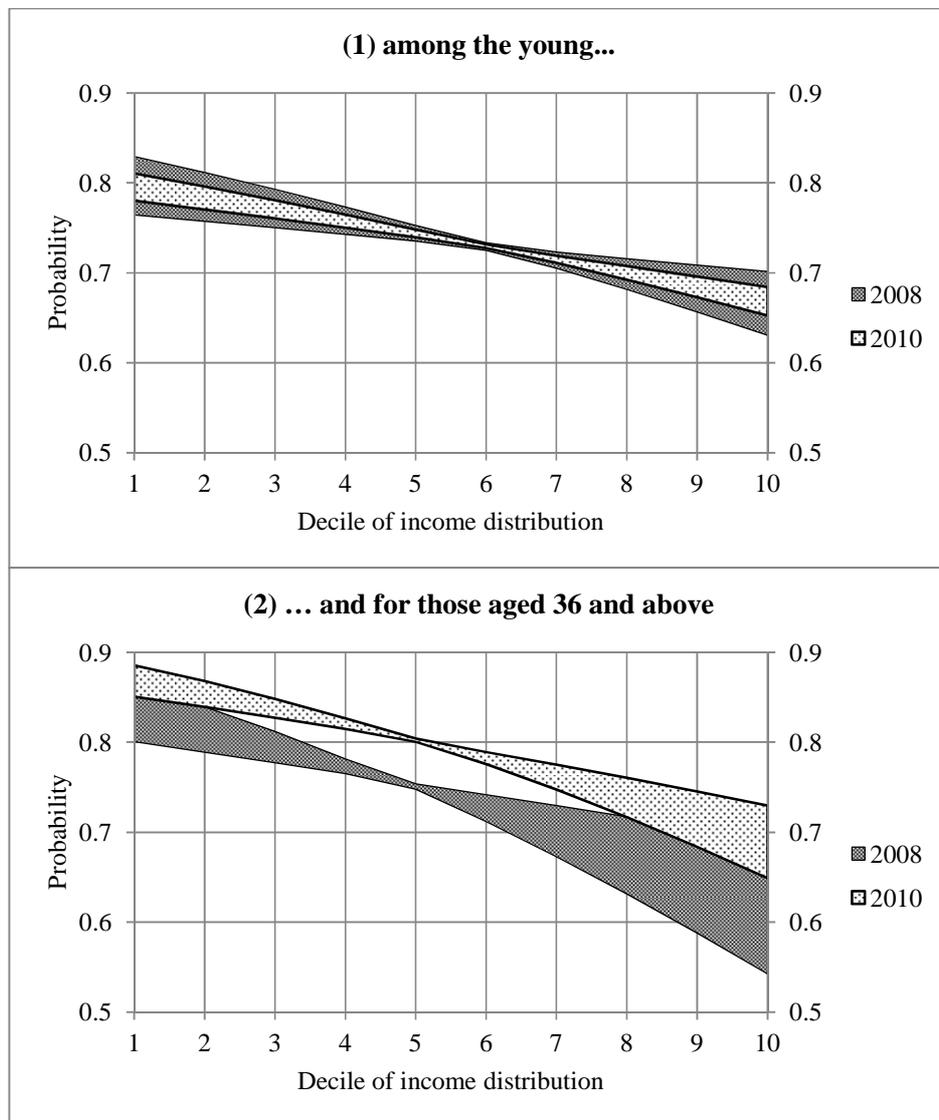


Confidence intervals of the predicted probability for an individual to favor redistribution conditional on the income decile; predictions are based on probit regressions using ESS waves 4 and 5 for the subgroup of countries including Spain, Portugal, Ireland and Greece.

For the social insurance motive to be a viable explanation of the observed patterns, middle and higher income groups must have both developed heightened risk perceptions and reacted by supporting more distribution as a form of insurance for the perceived risks. Following this reasoning, we would expect the effect to be particularly pronounced for individuals who are actually exposed to economic risks. This is the case, for instance, for workers of higher age and for the self-employed.

Looking at age groups first, we observe that little has changed in the distributional preferences of those aged 35 and less, while the ESS population older than 35 generally expresses more support for redistribution than before the beginning of the crisis. The pattern may seem puzzling at first, with unprecedented levels of youth unemployment consistently making the headlines. Yet, material insecurity has traditionally been more of an issue for the young, while the *change* in risk perceptions triggered by the economic crisis may well have been more important for older population groups, particularly so because for them consequences from unemployment tend to be worse.

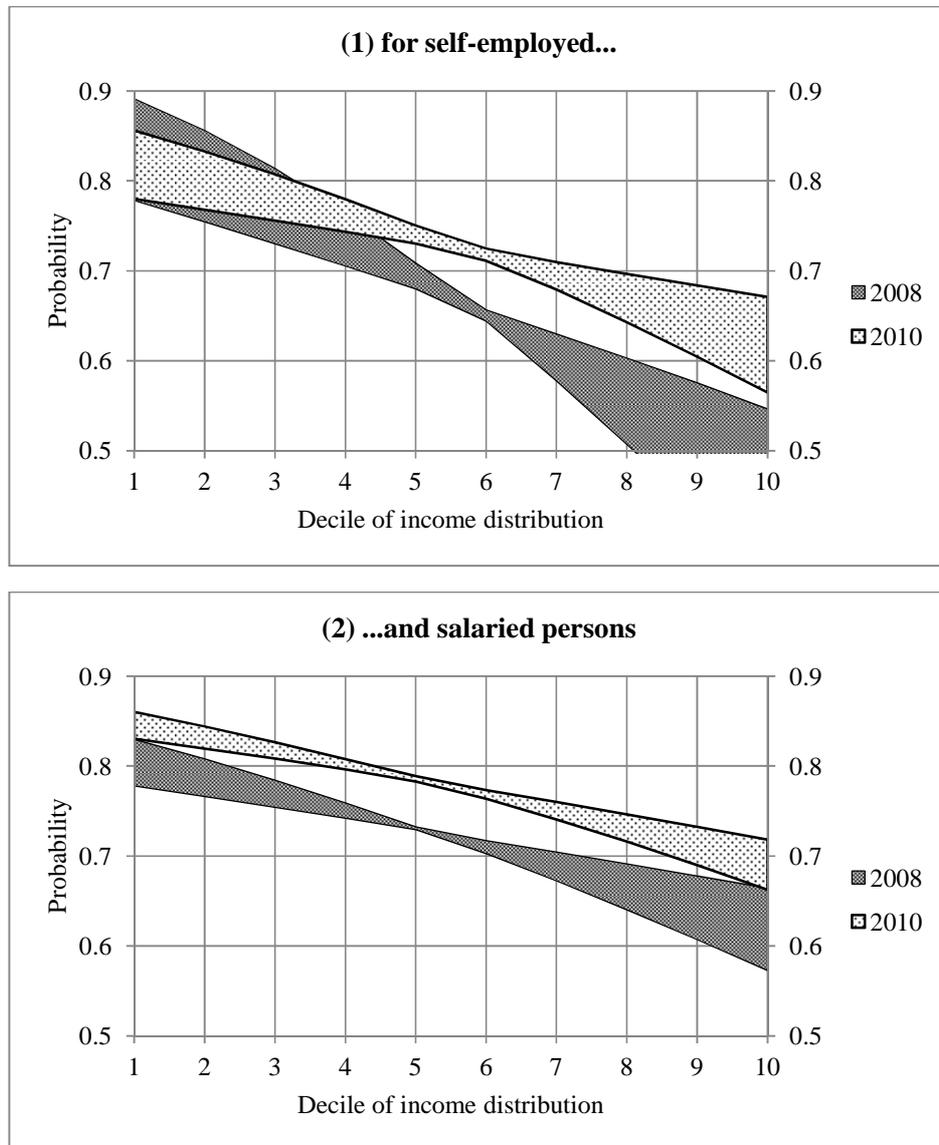
Figure 3. Conditional demand for redistribution



Comparing predicted probabilities of support for redistribution across income groups for those aged 35 and less (Panel (1)) and those older than 35 (Panel (2)) using probit estimation on ESS waves 4 and 5.

Turning to the subgroup of self-employed persons, who tend to be actually most subject to economic risks, we observe the typical heterogeneity in redistribution demand across income deciles. No such differential change is observed for salaried persons.

Figure 4. Predicted support for redistribution across income deciles



Predicted demand for redistribution using waves 4 and 5 of the ESS. Panel (1) shows 95% confidence intervals of predicted support for redistribution across income deciles for self-employed, panel (2) the change for salaried persons.

5. Concluding remarks

The focus of this study has been on the heterogeneous evolution of support for redistribution in survey data collected in the aftermath of the economic crisis. The findings provide support for the hypothesis that higher income groups experienced a more pronounced change in distributional preferences than lower income groups. However, the results presented in this paper cannot provide conclusive evidence on their own for the claim that a differential change in risk perceptions and the social insurance motive are indeed the core mechanism behind the observed evolution. This would require further research, including an assessment of changes in perceptions of material risks and of the social insurance motive's capacity to translate risk perceptions into a higher demand for redistribution.

The economic context makes it very likely that a change in risk perceptions has occurred, which can explain higher support for redistribution through the social security motive. Alternatively, one might argue that the confrontation with economic hardship in the media and the social environment leads to a higher willingness to redistribute wealth – although this mechanism may possess some explanatory power, why would the observed changes be so obvious for the self-employed, yet barely visible for the salaried persons? Increased perceptions of economic risks remain, at least by elimination of competing theories, the most stringent and consistent explanation.

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