

## Is There Herding Bias in Tax Amnesty? The Indonesian Case

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### Abstract

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Besides the effects of tax amnesty on tax compliance and tax revenue, taxpayers' behavior in participating in tax amnesty is also an interesting research avenue. A likely phenomenon in the Indonesian tax amnesty program is herding bias. Accordingly, this research aims to identify herding behavior in tax amnesty. Using a survey method, we involve 291 taxpayer respondents in our study. Our findings suggest that most of the taxpayers do not show herding behavior, mainly because there is certainty about the tax amnesty program. Further investigation reveals that herding behavior is associated with tax form filling, tax amnesty calculation, and taxpayers' age in participating tax amnesty.

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**Keywords:** tax amnesty, herding bias

### 1. Introduction

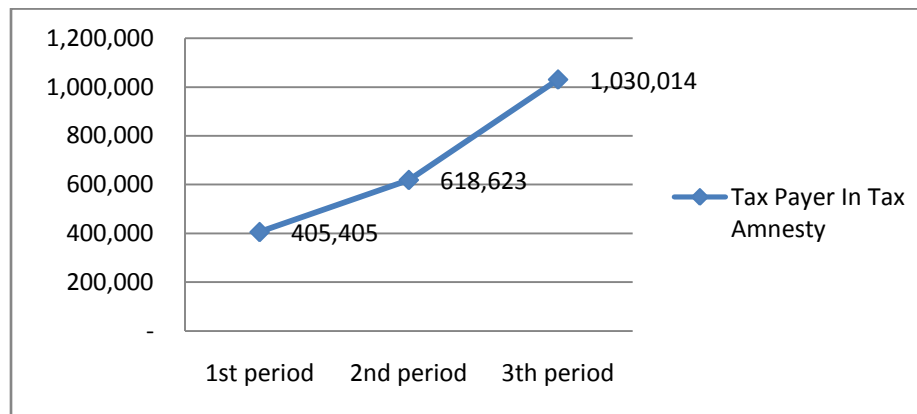
Indonesia's low tax ratio indicates low tax compliance as a taxation problem (Darussalam 2016). In 2015, Indonesia's tax ratio was only 10.7%, much lower than other ASEAN countries' that ranged from 13.6% to 16.6% (The World Bank 2015). In order to increase its tax ratio, the Indonesian government has introduced the tax amnesty program that aims to improve the tax compliance (Rechberger et al., 2010). It is expected that tax amnesty will increase tax revenue in the short term and will improve tax compliance in the long term (Alm, et al. 2007). Feld (2007) suggests that tax amnesty offers taxpayers an opportunity to return to normal and honest tax behavior.

Previous studies have investigated the implementation of tax amnesty in various countries. For example, Alm, et al. (2007); Lopez-Laborda & Rodrigo (2003); Suyanto, et al. (2016); Bagiada dan Darmayasa (2016); Ngadiman dan Huslin (2015) have investigated the relationship between tax amnesty and tax ratio and tax revenue. In a similar vein, Gerger (2012); Padiaditaki (2015) Baer & Borgne (2008) and Saracoglu & Caskurlu, (2011) test the effect of tax amnesty on tax compliance. Besides analyzing the impact of tax amnesty on tax compliance, it is also interesting to investigate taxpayers' behavior in tax amnesty program.

The Indonesian experience shows that taxpayers tend to participate in tax amnesty program at the end of the implementation period (Figure 1). A likely explanation of this phenomenon is that taxpayers choose to learn other taxpayers' response to this program and then they decide to participate or not to participate the tax amnesty program based on what they have learnt. This behavior is commonly termed as herding behavior. Herding is the tendency of individuals to copy the behavior of other larger groups, but not all individuals act the same behavior (Trueman 1994).

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**Figure1. Participation in Indonesian Tax Amnesty**

Luong and Ha (2011) and Nofsinger and Sias (1999) define herding as ones' tendency to follow others' behavior. Herding exists because individuals ignore their personal beliefs and follow others' without further consideration (Devenow dan Welch, 1996). Tristantyo (2014) proposes that herding develops when there is a personal doubt that causes ones to base their behavior on other people's behavior. Similarly, Jurkatis, Kremer, and Nautz (2012) suggest that uncertain public information source causes herding behavior. Therefore, herding can be considered to be irrational crowd or decisions based on euphoria and panic (Kremer 2011).

Herding behavior is closely associated with the Indonesian collectivist culture. Hofstede (1980) identifies five characteristic models to assess country-level culture. By taking 40 countries as his sample, Hofstede finds that the Indonesian culture tends to exhibit a collectivism characteristic. The tendency of Indonesians to follow the behavior of their colleagues or other people blindly confirms Hofstede's notion of the Indonesian collectivist culture. It then can be argued that this collectivist culture also affects the Indonesian taxpayers, especially in their participation in the tax amnesty program.

Previous studies on herding bias mostly focus on stock investment (Scharfstein and Stein 1990; Sias and Choi 2008; Bikhchdanani 1992; Liu 2015) and personal finance (Benerjee 1992; Trueman 1994; Oghojafor 2007; George et al., 2012) but tend to overlook taxpayers' herding bias. Consequently, we aim to identify herding behavior in tax amnesty using the Indonesian setting.

## 2. Research Method

This research uses 291 taxpayers in the Central Java Province who participate in the tax amnesty program as the respondents. Besides participating in the tax amnesty program, ones must not be tax consultants who represent their clients in participating the tax amnesty program. We distribute our questionnaire that asks questions about the respondent's identity and identifies whether our taxpayer respondents exhibit herding bias in participating the tax amnesty program.

Chang, Cheng, and Khorana (1999) propose four dimensions to indicate herding bias; namely 1) process the same information, 2) tend to follow others' behavior, 3) ignore one's personal belief. In a similar vein, Guitierrez and Kelly (2009) identify that herding develops when someone tends to follow others' behavior. Further, Bickhandani and Sharma (2001) identify two biases to assess herding bias; namely 1) tend to follow others' behavior and 2) neglect one's personal beliefs and follow others' belief without further thoughts. By combining various indicators above, this research uses the following six indicators to identify herding in the tax amnesty participation: 1) taxpayers tend to head to the same direction; 2) taxpayers follow other taxpayers, 3) taxpayers ignore their personal beliefs and follow others' beliefs without further thoughts; 4) taxpayers show little trust that causes their decisions to resemble other taxpayers'; 5) taxpayers tend to follow other taxpayers whom they consider to be correct; and 6) taxpayers perform their obligations that they do not understand and take risks that they do not necessarily need.

### 3. Data Analysis and Discussion

The highest percentage of our respondents (291 taxpayers) is between 31 and 40 years old (35.23%) and those who are between 21 and 30 years old are the minority (16.06%).

Most of our respondents are male (83.42%) and entrepreneurs (72.03%). Based on the taxpayer criteria, 55.44% of our respondents are *UMKM* (*Usaha Mikro, Kecil, dan Menengah* – Micro, Small, and Medium Enterprises) individual taxpayers, non-*UMKM* individual taxpayers (34.20%), *UMKM* corporate taxpayers (6.73%), and non-*UMKM* corporate taxpayers (3.63%), respectively.

**Tabel 1. Respondent's Characteristic**

Description	Number	Percentage
Age		
21-30 years	54	18.73%
31-40 years	103	35.23%
41-50 years	75	25.89%
>50 years	59	20.15%
Sex		
Male	243	83.42%
Female	48	16.58%
Occupation		
Entrepreneur	212	72.03%
Government Employees	28	9.48%
Privat Employees	42	14.56%
Professional	9	3.93%
Taxpayer Criteria		
UMKM Individual Taxpayer	161	55.44%
Non UMKM Individual Taxpayer	100	34.20%
UMKM Corporate Taxpayer	20	6.73%
Non UMKM Corporate Taxpayer	10	3.63%

The following table displays the descriptive statistics of our herding behavior indicators based on the statements in the questionnaire:

**Table 2. Description of Herding Behavior**

No	Statements	Min	Max	Avg	Std. Dev
1.	I use my right to participate in the tax amnesty program because of the influence of other taxpayers.	1.00	5.00	2.60	0.92
2.	I participate in the tax amnesty program because many taxpayers participate in the tax amnesty program.	1.00	5.00	2.81	1.01
3.	I immediately decide to participate in the tax amnesty program because there are many taxpayers participate in this program.	1.00	5.00	2.74	1.03
4.	I participate in the tax amnesty program in order to claim my right or only because of the influence of other taxpayers.	1.00	5.00	2.4851	0.9446
5.	I participate in the tax amnesty program because this program is the current trend.	1.00	4.00	2.3465	0.8768
6.	I follow other taxpayers' behavior in participating the tax amnesty program.	1.00	4.00	2.5050	0.9341
7.	My relationship with other taxpayers greatly affects my intention to participate in the tax amnesty program.	1.00	5.00	3.0495	1.0038

Our data suggest that 45.36% of taxpayers exhibit herding bias while 54.64% of them do not experience herding bias in participating in the tax amnesty program. Based on the taxpayer characteristics, herding behavior tends to occur when respondents fill in the tax forms and calculate tax amnesty with the assistance of tax officers and tax consultants. Based on the respondents' age, our findings indicate that taxpayers of 41-50 years old are most likely to exhibit herding behavior, followed by those above 50 years old.

**Tabel 2. Identification of Herding Behavior**

Variable	Criteria	F	%	
Herding Behavior	Herding	>3-5	132	45.36%
	No Herding	1-3	159	54.64%

**Tabel 3. Herding Behavior Based On Respondent's Characteristic**

Panel A. Fill and Calculate Tax Amnesty						
	Fiskus		TaxPayer		Consultant	
	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding
Number	9	9	27	146	96	4
%	3.09	3.09	9.28	50.17	32.98	1.39
Mean	3.49	2.312	3.381	1.857	2.657	1.286
Standar Deviation	0.37456	0.38311	0.21822	1.26706	1.50374	1.07539

Panel B Sex				
	Female		Male	
	Herding	Non Herding	Herding	Non Herding
Number	4	44	128	115
%	1.38	15.12	43.98	39.52
Mean	3.455	2.262	3.510	2.341
Standar Deviation	0.37804	0.4333	0.24546	0.63897

Panel C. Age								
	21-30		31-40		41-50		>50 Years	
	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding
Number	6	48	20	83	65	10	41	18
%	2.06	16.49	6.87	28.52	22.33	3.43	14.09	6.21
Mean	3.400	2.298	3.393	2.277	3.429	2.231	3.584	2.224
Standar Deviation	0.21189	0.62044	0.21258	0.39912	0.46657	0.55369	0.37501	0.55998

Panel E Taxpayer Criteria								
	UMKM Individual Taxpayer		Non-UMKM Individual Taxpayer		UMKM Corporate Taxpayer		Non-UMKM Corporate Taxpayer	
	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding
Number	92	69	36	64	3	17	1	9
%	31.61	23.71	12.37	21.99	1.03	5.84	0.34	3.11
Mean	3.437	2.359	3.500	2.275	3.714	2.182	3.333	1.857
Standard Deviation	0.39276	0.4395	0.32519	0.51906	0.20203	0.77484	0.32991	1.3054

Table 4. Crosstab of Herding Behavior

Characteristics	Average	Std Deviation	Binary	Std Deviation	Significance
Filling in tax amnesty form	2.0104	.26983	2.00	.38195	0.0040*
Calculating tax amnesty	1.9896	.39515	2.00	.38195	0.0210*
Age	2.5130	.97419	2.00	.38195	0.0810**
Sex	1.1658	.37287	2.00	.38195	0.4890
Occupation	1.7358	1.29406	2.00	.38195	0.7390
Taxpayers' characteristics	1.5855	.77338	2.00	.38195	0.3400

Note: \*, \*\* denote significance at 5% and 10% level, respectively

Panel D. Occupation								
	Entrepreneur	Government Employees		Private Employees			Professional	
	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding	Herding	Non Herding
Number	119	93	1	27	11	31	1	8
%	40.89	31.95	0.34	9.27	3.78	10.65	0.34	2.78
Mean	3.486	2.262	3.456	2.238	3.408	2.385	3.429	2.388
Standard Deviation	0.3955	0.4395	0.3345	0.3595	0.2248	0.4316	0.2145	0.2570

Meanwhile, male taxpayers are more likely (52.67% of male respondents) experience herding behavior than female taxpayers (43.2% of female respondents) are. Further, entrepreneurs are more likely (48.9%) to exhibit herding bias with employees of local and national state-owned enterprises (*BUMN* and *BUMD*) are the least likely to experience herding behavior. Lastly, individual taxpayers dominate those who show herding bias and non-UMKM corporate taxpayers are the least likely to experience herding bias. Table 3 shows Herding Behavior Based On Respondent's Characteristic

In order to analyze the effect of taxpayers' characteristics on herding behavior, Table 4 statistically shows the effect of the taxpayers' characteristics on herding behavior. Table 4 suggests that there is no association between herding behavior and taxpayers' characteristics (sex, occupation, and taxpayer criteria) to participate in the tax amnesty of tax amnesty and taxpayers' age. Filling in the tax amnesty forms is associated with herding behavior because of its significance value of 0.00 (lower than  $\alpha=5\%$ ). Further, tax amnesty calculation is closely associated with herding behavior due to its significance value of 0.02 (lower than  $\alpha=5\%$ ). Lastly, the significance value of 0.08 (lower than  $\alpha=5\%$ ) suggests that age is associated with herding behavior.

## Discussion

Our research shows that 45.36% of our taxpayer respondents experience herding bias while the rest (54.64%) do not exhibit herding behavior.

This herding behavior has a positive effect on the tax amnesty program in Indonesia that increases tax revenue. More specifically, herding behavior likely causes taxpayers to follow other taxpayers in participating tax amnesty. Although most of our taxpayer respondents do not exhibit herding bias, they show a high level of intention to participate in the tax amnesty program. However, herding behavior might also negatively affect the tax amnesty program when taxpayers only blindly follow other taxpayers in participating in this program without having sufficient knowledge about the benefits of the tax amnesty program.

Herding occurs when taxpayers participate in the tax amnesty. Taxpayers try to find complete information about tax amnesty by searching them from their taxpayer fellows, internet, television, printed media, tax consultants, or tax officers. Interactions with other taxpayers enable taxpayers to exchange information about tax amnesty, from either those who have already participated or those who will participate.

It is then likely that taxpayers will exhibit herding behavior when tax officers or their tax consultants assist them in filling in the tax amnesty forms or calculating tax amnesty. This is in line with Shiller (1995) who finds that herding behavior likely develops from inter-individual conversations and social interaction within groups. These lead taxpayers to observe and process same information without knowing the underlying information. Individual behavior that follows other individuals' behavior without knowing what underlies other individuals' actions triggers herding behavior (Bikhchandani et al., 1992). Although tax amnesty itself is not new, some taxpayers may perceive tax amnesty as a new tax policy, especially when the number of potential taxpayers continues to increase each year (Nugroho 2012). This confirms that herding behavior is closely associated with filling in the forms, calculating tax amnesty, and taxpayer age in participating tax amnesty. We explain that because taxpayers lack sufficient knowledge about tax amnesty, they rely on other taxpayers in understanding tax amnesty. Furthermore, as social creatures, we continuously communicate and exchange information with others in making decisions. Information exchange between individuals and other individuals improves their knowledge that in certain conditions will affect decision-making process because of individuals' incomplete information (Setiyono et al. 2013). This is in line with Shiller (1995) who suggests that herding behavior develops from the inter-individual conversation and social interaction within groups. This likely leads taxpayers to observe and to process similar information without knowing the underlying information. Individual behavior that follows other individuals' behavior without knowing what underlies other individuals' actions triggers herding behavior (Bikhchandani et al., 1992).

Most taxpayers do not show herding bias because there has been widely available information about tax amnesty and legal certainty of tax amnesty. The active involvement of President Jokowi to ensure taxpayers to participate in tax amnesty confirms the widely available information. This is in line with Alchian (1950) who suggests that herding is a commonly used heuristic in decision making, especially when individuals have to encounter uncertainty and incomplete information in making decisions. When ones have limited information, they tend to follow others' actions in making decisions that eventually will cause them to neglect their personal beliefs and follow the majority decisions (Bikhchandani dan Sharma, 2001). The Directorate General of Taxation has provided transparent, clear, and complete information that enable taxpayers to participate in the tax amnesty program with sufficient information as the basis of their decision. A significant increase of the number of the tax amnesty participants in the closing period of the tax amnesty program does not imply that taxpayers copy or wait for other taxpayers' behavior, but taxpayers demand clarity from other taxpayers in order to make rational decisions. Additionally, it is commonly known that Indonesian tend to wait until end of periods to complete their obligations.

#### **4. Conclusion**

Our results suggest that most of the taxpayers do not exhibit herding behavior. Herding behavior is closely related to with filling in the forms, calculating tax amnesty, and taxpayer age in participating tax amnesty. Taxpayers do not experience herding bias because of certainty about the tax amnesty program. Accordingly, the tax authority can implement various efforts to reduce herding behavior of taxpayers. For example, higher transparency in tax information is essential in improving taxpayers' self-confidence in making decisions without having to follow other taxpayers or other people. In addition, tax officers and tax consultants can optimize their assistance to help taxpayers understand tax issues, especially the tax amnesty program, more clearly.

Moreover, it is better to distribute information about the use of tax revenue more widely in order to make taxpayers consider their tax payments not to be useless. Lastly, stricter sanctions on taxpayers who do not participate in the 2016-2107 tax amnesty program is important in encouraging taxpayers to participate in the tax amnesty program.

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