



# ROLE OF CO-OPERATIVES IN FACILITATING THE SUSTAINABLE DEVELOPMENT GOALS: AN EXPERIENCE FROM NOVA SCOTIA, CANADA

Yichen Shen (Presenter)  
Dr. Peter Tyedmers  
Dr. Michelle Adams  
Dr. Louis Beaubien

# BACKGROUND

- **SDGs from global to local levels**
  - Global indicators and reporting frameworks
  - Relevant local policies and strategies (FSDS)
  - How to address in a private organization?
- **Co-operatives in advancing sustainability and the SDGs**
  - Individual case studies
  - Methodologies and frameworks
  - How we know from a local perspective?



# CHARACTERISTICS OF CO-OPS IN CANADA

## ▪ Definition

“a legally incorporated corporation that is owned by an association of persons seeking to satisfy common needs”  
(Government of Canada, 2018)

## ▪ Member-owned & -governed

consumer/producer/worker/multi-stakeholder-based

## ▪ Value-based and principle-driven

## ▪ Legislation

non-financial/financial



democracy  
social  
responsibility  
caring for others  
honesty  
self responsibility  
equality  
openness  
self help  
equity  
solidarity

Co-op Values & Principles

# CO-OPERATIVES IN NOVA SCOTIA

- History of community embeddedness
- Antigonish Movement: the British Canadian Co-operative Society, 1861
- Current engagement
- Provincial Legislation (for non-financial co-ops)
- Nova Scotia Co-operative Act (c. 98, RSNS 1989)
- Membership structure
- Consumer/Producer (incl. worker)



Source: Nova Scotia Co-operative Council, 2016

- Total population N = 279 (Registry of Joint Stock Companies - Government of Nova Scotia, 2016)
- Sampled population n = 179

# RESEARCH OBJECTIVES & QUESTIONS

- ❑ To what extent do mission statements of Nova Scotia-based co-operatives align with the SDGs in a local context?
- ❑ Are there any differences in the extent to which SDGs are supported between different co-operative sectors?

How to interpret SDGs at a local level?

# INTERPRET SDGS AT A LOCAL LEVEL

- Federal Government Sustainable Development Strategies (Canada)
- SDGs (Global)
- Related government regulations and reports

Textual Content Analysis

**Localized SDG  
Framework**  
(including localized SDGs,  
coding categories, and  
inner-textual linkages)

# SDGS AT A LOCAL LEVEL


**1**  
no poverty  
1.4  
1.5



**4**  
quality education  
4.2  
4.3  
4.4  
4.5  
4.7  
4.a



**7**  
affordable & clean energy  
7.1  
7.a



**10**  
reduced inequalities  
10.2



**13**  
climate action  
13.3



**16**  
peace, justice & strong institutions  
16.6  
16.7




**2**  
zero hunger  
2.1  
2.3  
2.4  
2.5



**5**  
gender equality  
5.1  
5.3  
5.5




**8**  
decent work & economic growth  
8.5  
8.10



**11**  
sustainable cities & communities  
11.1  
11.2  
11.4  
11.6  
11.7  
11.a



**14**  
life below water  
14.1  
14.2  
14.3  
14.b



**17**  
partnerships for the goals  
17.17




**3**  
good health & well-being  
3.4  
3.5  
3.8  
3.9



**6**  
clean water & sanitation  
6.1  
6.2  
6.3  
6.4  
6.5  
6.6  
6.b




**9**  
industry, innovation & infrastructure  
9.1  
9.3  
9.4  
9.5  
9.c



**12**  
responsible consumption & production  
12.2  
12.4  
12.5  
12.6  
12.8  
12.b



**15**  
life on land  
15.2  
15.4  
15.8  
15.a  
15.b





# CONDENSED CODING CATEGORIES

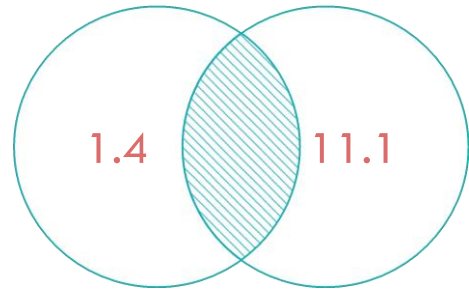
---

## Coding categories (including SDGs, sub-targets and specific codes)

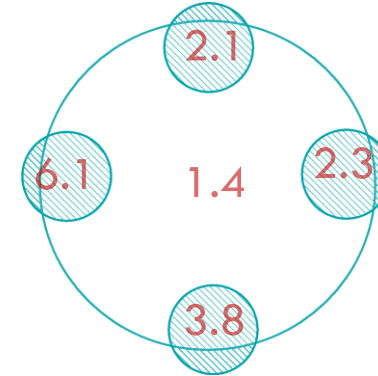
<b>SDG 1: No Poverty</b>	1.4	1.4.1 Inclusive access to basic services	<ul style="list-style-type: none"> <li>• affordable and quality education;</li> <li>• affordable food;</li> <li>• affordable health-care services;</li> <li>• clean water and sanitation;</li> <li>• affordable and accessible housing services;</li> <li>• natural resources and energy;</li> <li>• public transit</li> </ul>
		1.4.2 Inclusive access to economic resources	<ul style="list-style-type: none"> <li>• accessible technology;</li> <li>• affordable financial services and investment;</li> <li>• ownership and control over land &amp; properties</li> </ul>
		1.4.3 Other accessible and affordable services and resources	<ul style="list-style-type: none"> <li>• affordable publications;</li> <li>• accessible and affordable artworks and art-related facilities;</li> <li>• affordable funeral services</li> </ul>
	1.5	1.5 Resilience of the poor and the vulnerable to climate change, and other economic, social and environmental shocks	



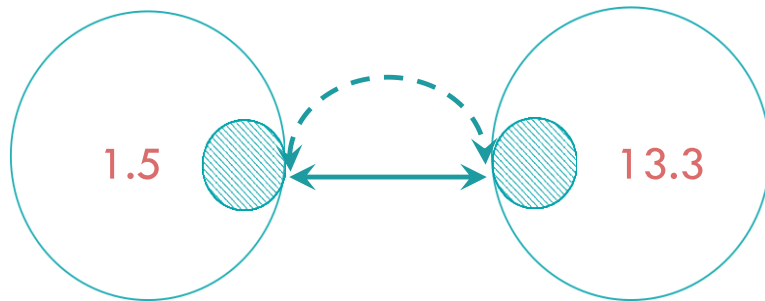
# TEXTUAL LINKAGES AMONG LOCALIZED SDGS AND TARGETS



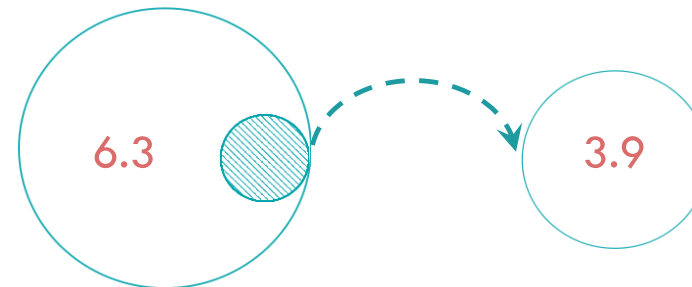
Type 1. Mutually supporting (n=5)



Type 2. Relying and supporting (n=34)



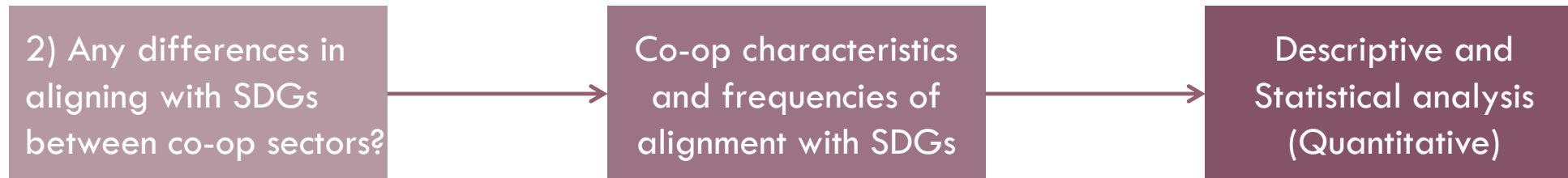
Type 3. Bidirectional enabling (n=27)



Type 4. Unidirectional enabling (n=40)

Coding categories (including SDGs, sub-targets and specific codes)			Interlinked goals & targets	
SDG 1: No Poverty	1.4	1.4.1 Inclusive access to basic services	<ul style="list-style-type: none"> <li>• affordable and quality education;</li> <li>• affordable food;</li> <li>• affordable health-care services;</li> <li>• clean water and sanitation;</li> <li>• affordable and accessible housing services;</li> <li>• natural resources and energy;</li> <li>• public transit</li> </ul>	2.1 (food); 2.3 (economic resources); 3.8 (health-care); 4.3 & 4.5 (education); 5.5 & 10.2 (equal access) 6.1 & 6.2 (clean water and sanitation); 7.1 (energy); 8.10 (financial services); 9.1 (affordable infrastructure); 11.1 (basic services); 11.2 (transportation);
		1.4.2 Inclusive access to economic resources	<ul style="list-style-type: none"> <li>• accessible technology;</li> <li>• affordable financial services and investment;</li> <li>• ownership and control over land &amp; properties</li> </ul>	
		1.4.3 Other accessible and affordable services and resources	<ul style="list-style-type: none"> <li>• affordable publications;</li> <li>• accessible and affordable artworks and art-related facilities;</li> <li>• affordable funeral services</li> </ul>	
	1.5	1.5 Resilience of the poor and the vulnerable to climate change, and other economic, social and environmental shocks	2.4 (resilient food production); 9.1 (resilient infrastructure); 10.2 (inclusion of the poor and vulnerable); 13.3 (climate change);	

# ANALYTICAL PROCESS

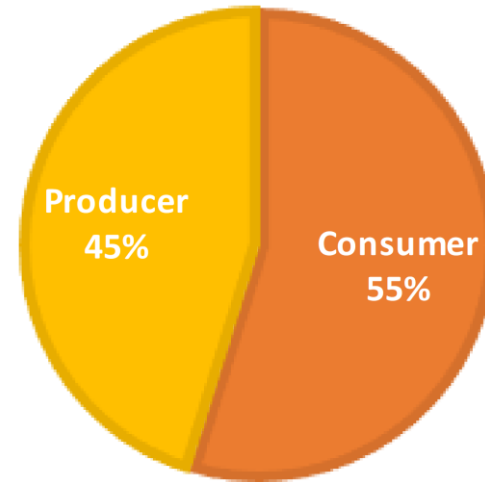
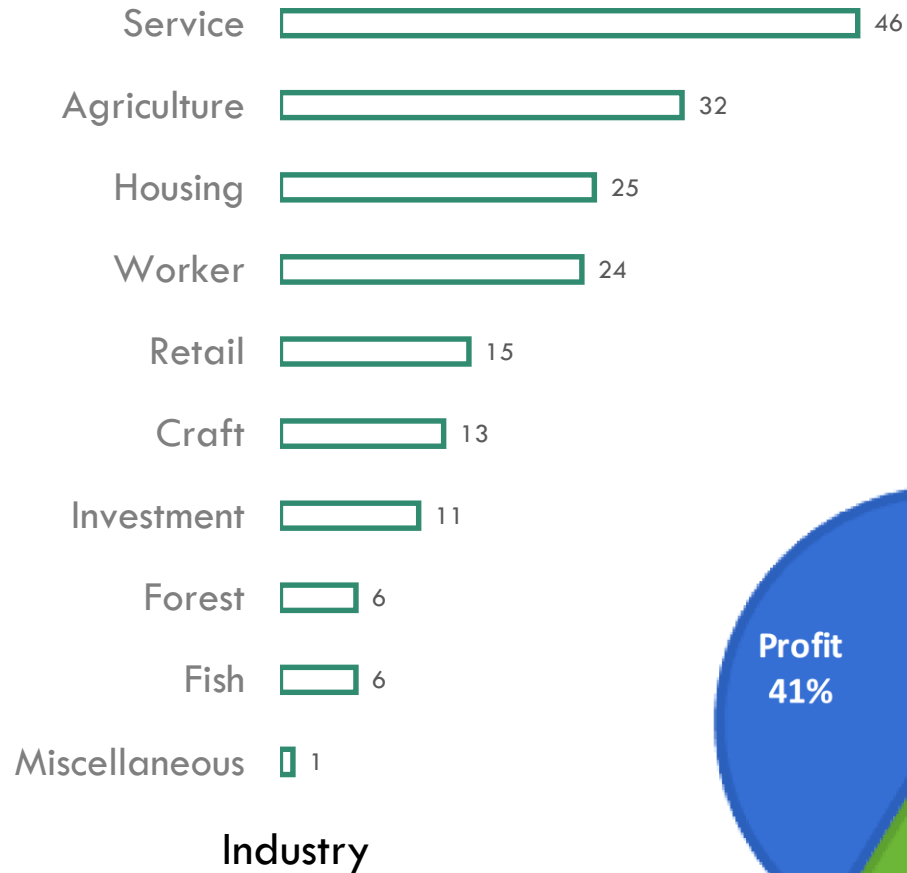


# KEY FINDINGS

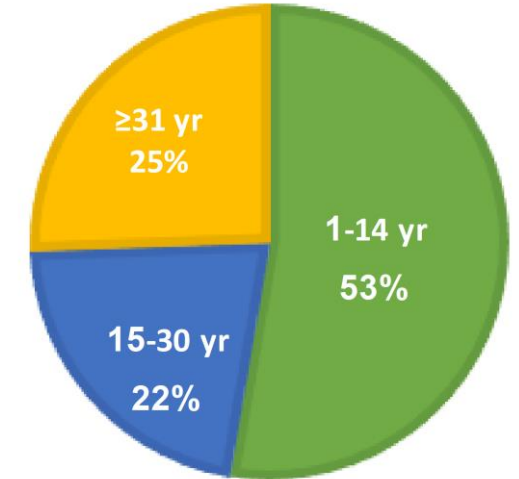
# 1 MISSION STATEMENT OF CO-OPERATIVES THAT ALIGN WITH SDGS



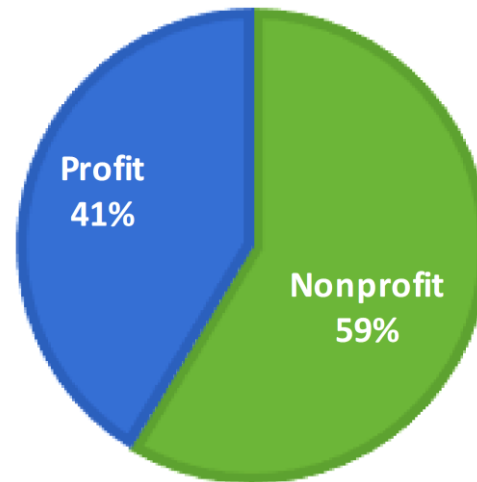
# 2 CHARACTERISTICS OF ASSESSED CO-OPS



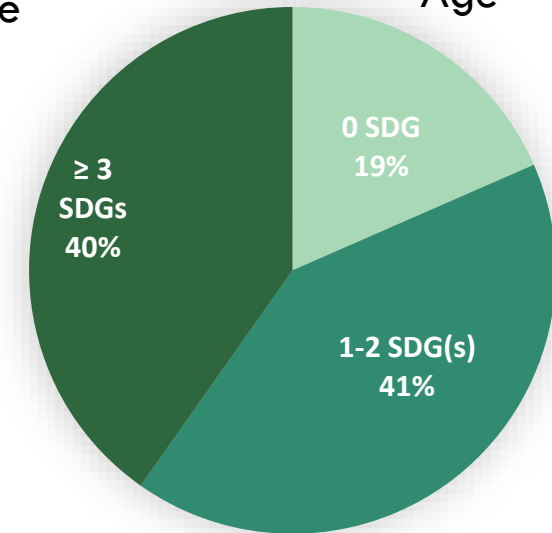
Membership Structure



Age

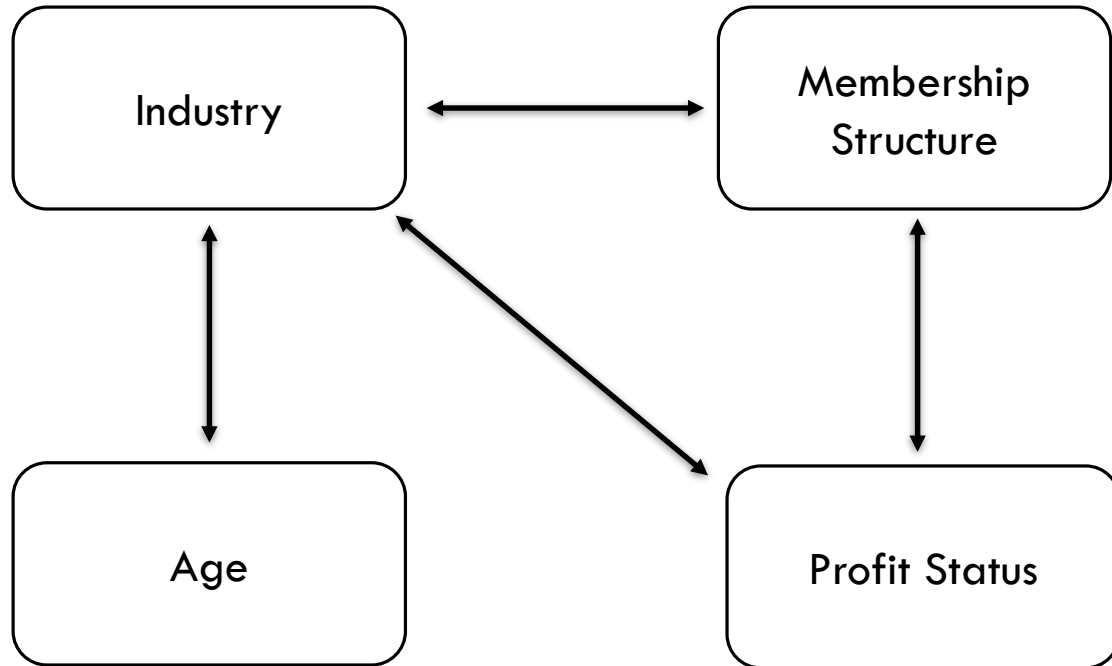


Profit Status



Level of Aligned SDGs

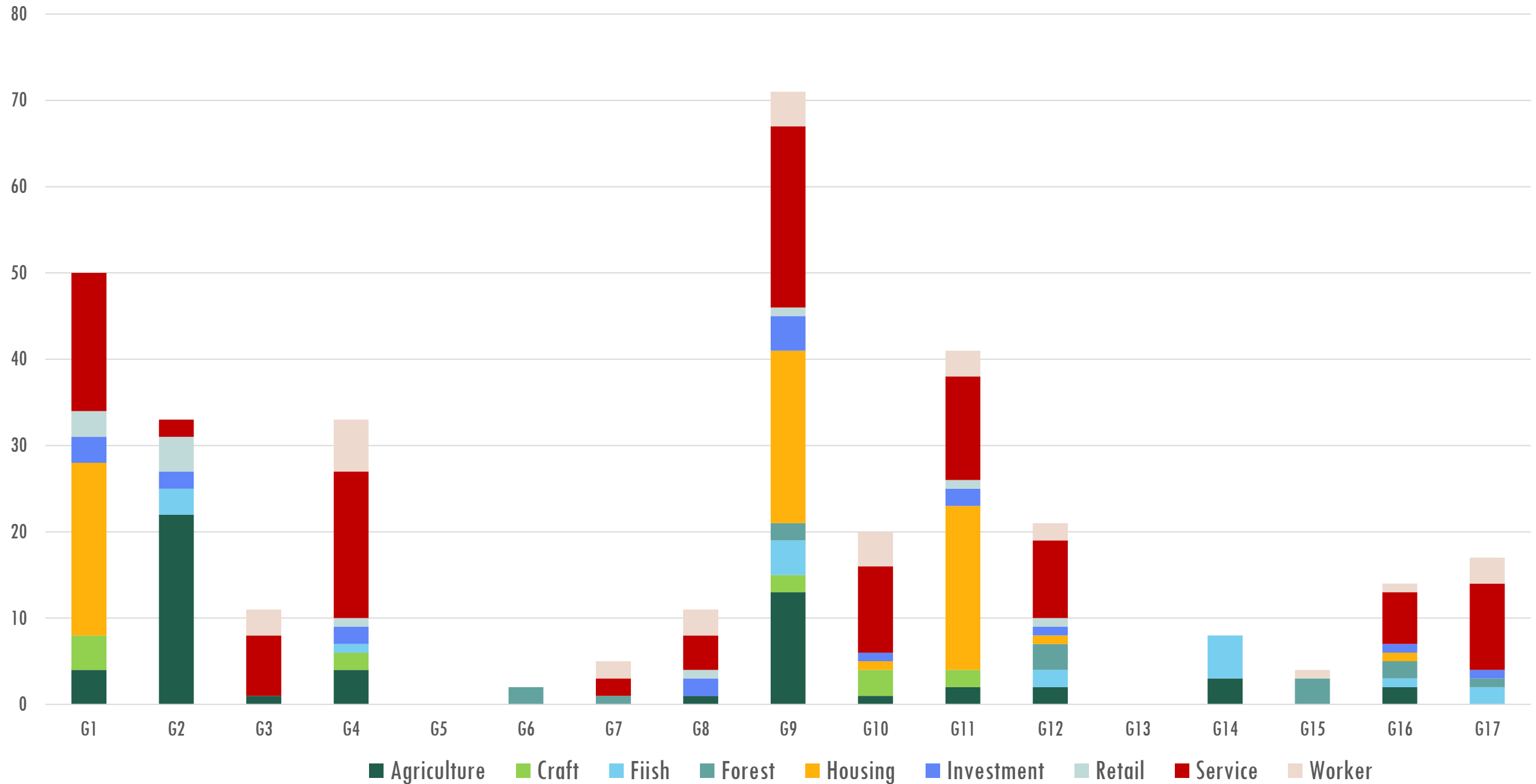
# 3 ASSOCIATION AMONG CO-OPERATIVE SECTORS



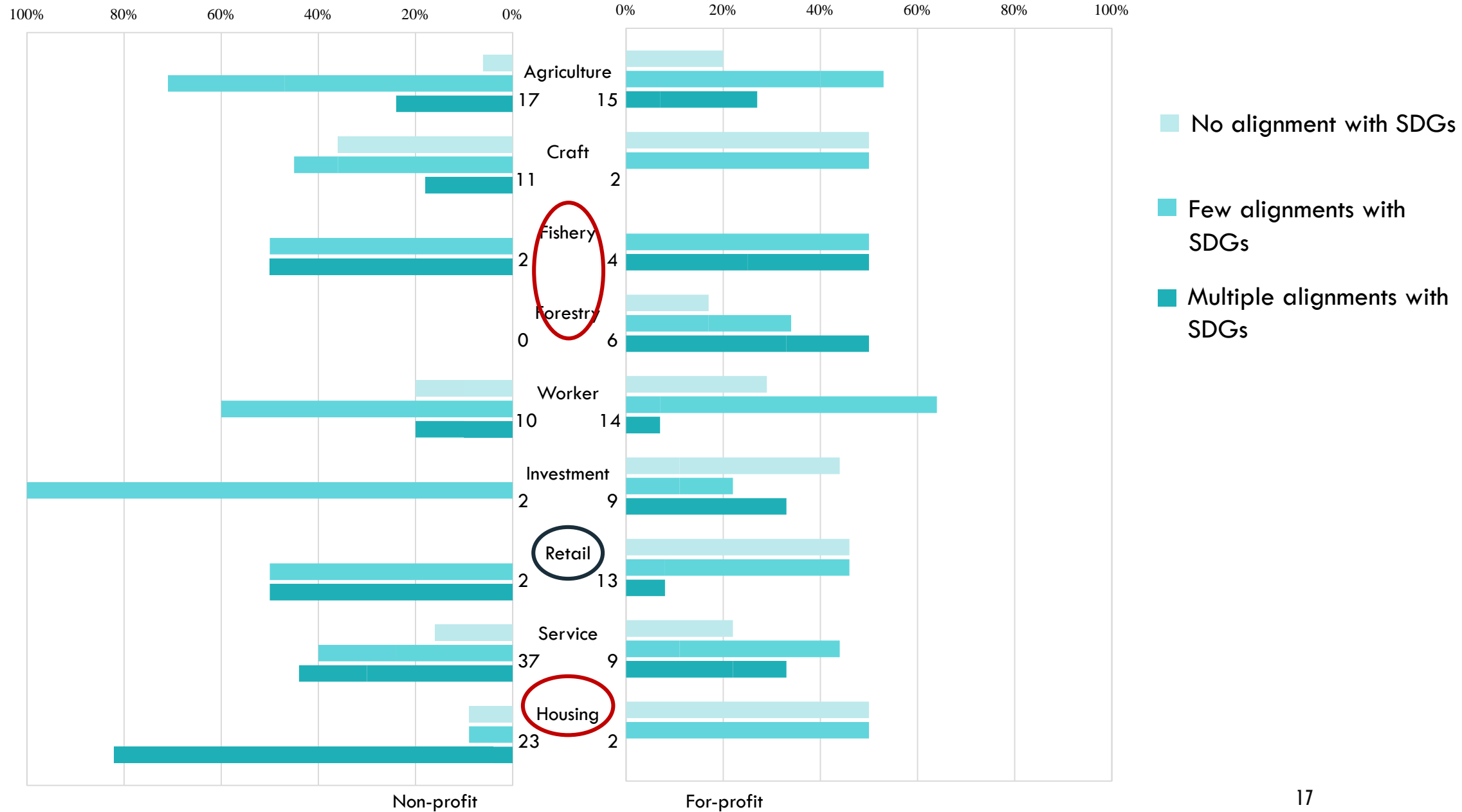
- Distribution of each pair of co-op characteristics is examined through chi-square tests.
- Most of the results are significant (at 0.05 level) except the association between age and profit status.
- Industry is associated with all other characteristics.



Frequencies of co-ops in each industry that aligned with the SDGs by each goal



# 4 DIFFERENCES OF SDG ALIGNMENT BETWEEN CO-OPERATIVE SECTORS



# CONCLUSIONS

- Most sampled co-ops do have purposes that align with the SDGs, although the alignment is highly variable across different co-op sectors; most environmental-oriented SDGs (esp. Goal 13) lack of concern by sampled co-ops.
- Global SDGs can be interpreted for practical use at a local scale; particularly, developing and further combining local policies is necessary to be referred to in the process of localization.
- It is essential to understand the textual logic behind SDGs especially when conducting qualitative analysis; multiple types of textual linkages have been identified amongst SDGs and targets.

# RECOMMENDATION

- To enrich and generalize the results at a larger level, more co-operatives at other local scales in Canada and also other countries and regions need to be analyzed and compared.
- To elucidate the potential contribution that co-ops can make to achieving the SDGs, approaches to assessing co-op performance need to be developed at the practical level.
- This study only identified positive relationships among SDGs and targets, although the negative interactions among SDGs need to be further discussed in detail.

# FURTHER RESEARCH

- Coherent frameworks and feasible decision-making process for local stakeholders in contributing to the SDGs.
- Integrated approaches to managing, assessing and reporting SDG performance for local organizations, especially co-operatives.
- More empirical insights for co-ops and other organizations in advancing and implementing the SDGs, especially in a collective, comparable and balanced manner.

# ACKNOWLEDGEMENTS

Committee members: Dr. Peter Tyedmers;

Dr. Michelle Adams;

Dr. Louis Beaubien

*Thanks to the Nova Scotia Graduate Scholarship program by the Government of Nova Scotia, the Faculty of Graduate Studies, the School of Resource and Environmental Studies (SRES), and also the Ian MacPherson Legacy Fund by Co-operatives and Mutuals Canada for funding and other financial supports to pursue my study and research at Dalhousie University.*



# REFERENCES

Government of Canada (2018). Information Guide on Co-operatives. Retrieved from [https://www.ic.gc.ca/eic/site/106.nsf/eng/h\\_00073.html#what](https://www.ic.gc.ca/eic/site/106.nsf/eng/h_00073.html#what)

Nova Scotia Co-operative Council. (2016). *Annual report*. Retrieved from <http://www.novascotia.coop/download/a-historical-perspective-1949-2014/>

UNGA (United Nations General Assembly) (2015, September 18). *Transforming Our World: The 2030 Agenda for sustainable development*. Retrieved from [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)

Canadian Council for International Co-operation. (2018). *Progressing National SDG Implementation*. Retrieved from <https://ccic.ca/third-edition-of-progressing-national-sdgs-implementation/>

ICA. (2016). *Sustainability Reporting for Co-operatives: A Guidebook*. Retrieved from [https://ica.coop/sites/default/files/media\\_items/ICA%20Sustainability%20Reporting%20Guidebook.pdf](https://ica.coop/sites/default/files/media_items/ICA%20Sustainability%20Reporting%20Guidebook.pdf)

Government of Canada. (2016). *Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2016-2019*. Retrieved from <http://www.fsds-sfdd.ca/index.html#/en/intro/>



**THANKS FOR LISTENING**

Characteristic			Degree of SDG alignment							Chi-square test	
			No alignments (n=33)		Few alignments (n=74)		Multiple alignments (n=72)		Total		Test Value
n <sup>1</sup>	% <sup>1</sup>	n <sup>1</sup>	% <sup>1</sup>	n <sup>1</sup>	% <sup>1</sup>	n <sup>1</sup>	% <sup>1</sup>	n <sup>1</sup>	% <sup>1</sup>		
Profit Status & Membership Structure	Non-profit & Consumer	6	<b>9.2</b>	21	32.3	38	<b>58.5</b>	65	100	20.82**	0.24**
	For-profit & Consumer	12	<b>36.4</b>	13	39.4	8	<b>24.2</b>	33	100		
	Non-profit & Producer	8	20	21	52.5	11	<b>27.5</b>	40	100		
	For-profit & Producer	7	17.1	19	46.3	15	36.6	41	100		
Age	Age ≤10 yrs.	13	16.3	32	40.0	35	43.8	80	100	0.885	0.07
	Age >10 yrs.	20	20.2	42	42.4	37	37.4	99	100	(p > 0.05)	
Industry	Agriculture	4	12.5	18	<b>56.3</b>	10	31.3	32	100	47.79***	0.37***
	Craft	5	38.5	5	38.5	3	23.1	13	100		
	Fishery	0	0.0	1	16.7	5	<b>83.3</b>	6	100		
	Forestry	1	16.7	0	0.0	5	<b>83.3</b>	6	100		
	Housing	3	12.0	3	<b>12</b>	19	<b>76</b>	25	100		
	Investment	4	36.4	4	36.4	3	27.3	11	100		
	Retail	5	33.3	8	53.3	2	<b>13.3</b>	13	100		
	Service	6	13	18	39.1	22	47.8	46	100		
	Worker	5	20.8	16	<b>66.7</b>	3	<b>12.5</b>	24	100		
	Miscellaneous	0	0.0	1	100	0	0.0	1	100		