

Statistiques et informatique

appliquées aux sciences sociales

Analyse factorielle (suite et fin)

Mardi 25/10/2023 15h30-17h Censier D2

Licence de sciences sociales 3^e année
Université Paris 1 Panthéon Sorbonne

Plan de la séance

- Retour sur l'enquête Jobmob1 (2007)
- Un exemple d'AFC : expériences passées de la mobilité et situations d'emploi
- Tableaux de contingences
- Graphique factoriel
- Sorties de l'AFC
- Commentaire général

Ligne %	Statut d'occupation et temps de travail (owts)																	Total
Detail des expériences de mobilités (expmob)	CDI Public + irr	CDI Public pl tps	CDI Public tps part	CDI Privé + irr	CDI Privé pl tps	CDI Priv tps part	Indépendant	Autr + irr	Autr pl tps	Autr tps part	Autr act marg	etud	chôm	Foyer + cg parent	handicap	retraite	Sit non préc h travail	
	Tj qtdns	4,4%	13,8%	4,6%	11,1%	21,0%	7,5%	6,4%	4,3%	5,8%	2,5%	1,7%	1,1%	4,6%	6,6%	2,1%	1,3%	
Nuitées	6,7%	10,7%	4,2%	19,4%	18,8%	3,5%	10,7%	5,5%	4,1%	1,7%	1,6%	1,8%	3,3%	5,7%	2,6%	1,2%	1,6%	100 %
Les 2	4,5%	13,9%	4,6%	19,0%	20,1%	3,6%	11,6%	7,2%	7,6%	1,2%	1,2%	1,9%	3,1%	3,0%	1,1%	1,5%	1,1%	100 %
Dmng	3,9%	15,4%	4,7%	17,3%	16,7%	6,1%	11,1%	3,3%	6,5%	2,4%	1,4%	1,9%	1,4%	4,7%	1,1%	1,0%	2,1%	100 %
Dmng+Tj qtdns	4,8%	8,6%	2,6%	19,5%	16,9%	2,2%	7,8%	2,8%	8,2%	1,4%	1,6%	2,6%	1,9%	12,6%	3,2%	1,0%	4,2%	100 %
Dmng+Nuitées	10,1%	7,5%	4,6%	21,1%	15,3%	9,9%	11,5%	6,0%	5,9%	2,2%	1,1%	1,8%	4,1%	5,2%	1,1%	1,1%	1,6%	100 %
Les 3	7,7%	8,5%	2,7%	21,1%	17,0%	3,6%	8,0%	6,3%	7,3%	2,3%	2,4%	2,0%	2,3%	4,4%	1,6%	1,1%	1,7%	100 %
Refus	3,7%	15,5%	5,2%	11,6%	17,5%	8,0%	12,7%	1,6%	6,4%	2,0%	1,4%	1,2%	4,3%	4,4%	6,6%	1,2%	2,7%	100 %
Pas d'opportunité	3,7%	12,1%	5,0%	8,3%	18,9%	6,7%	10,2%	3,7%	4,4%	1,5%	1,3%	2,7%	5,0%	11,4%	1,9%	1,2%	1,9%	100 %
Total	4,6%	12,3%	4,3%	12,4%	18,8%	5,9%	9,9%	4,2%	5,3%	1,7%	1,3%	2,1%	4,2%	8,3%	1,8%	1,0%	1,8%	100 %

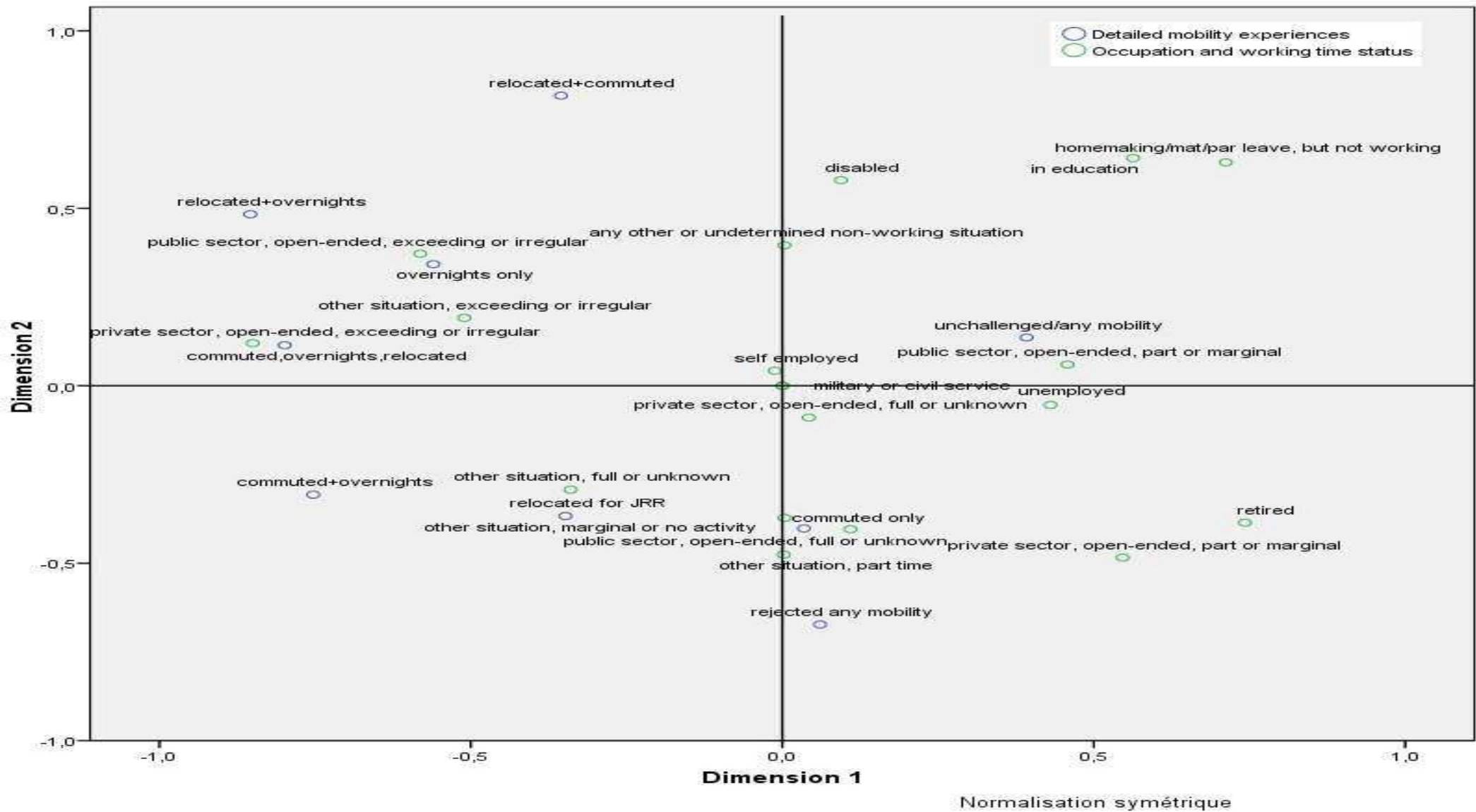
Occupation and working time status (owts)	Effectif	%
public sector, open-ended, exceeding or irregular	249	4,6%
public sector, open-ended, full or unknown	662	12,3%
public sector, open-ended, part or marginal	235	4,3%
private sector, open-ended, exceeding or irregular	671	12,4%
private sector, open-ended, full or unknown	1015	18,8%
private sector, open-ended, part or marginal	319	5,9%
self employed	535	9,9%
other situation, exceeding or irregular	229	4,2%
other situation, full or unknown	287	5,3%
other situation, part time	92	1,7%
other situation, marginal or no activity	72	1,3%
in education	112	2,1%
unemployed	227	4,2%
homemaking/mat/par leave, but not working	449	8,3%
disabled	95	1,8%
retired	53	1,0%
any other or undetermined non-working situation	98	1,8%
Ensemble	5400	100%

← Tris à plat →

Detailed mobility experiences (MobExp)	Effectif	%
commuted only	741	13,7%
overnights only	457	8,5%
commuted+overnights	398	7,4%
relocated for JRR	201	3,7%
relocated+commuted	118	2,2%
relocated+overnights	201	3,7%
commuted,overnights,relocated	306	5,7%
rejected any mobility	370	6,9%
unchallenged/any mobility	2609	48,3%
Total	5400	100,0%

Mesures de symétrie	Valeur
Phi	,27
V de Cramer	,10
Effectif	5400

Coordonnées des lignes et des colonnes



Dimension	Singular Value	Inertia	Proportion Explained	Cumulative Proportion
1	,21290	,04533	,615	,615
2	,10774	,01161	,158	,773
3	,07253	,00526	,071	,844
4	,06595	,00435	,059	,903
5	,05690	,00324	,044	,947
6	,04808	,00231	,031	,978
7	,03285	,00108	,015	,993
8	,02286	,00052	,007	1,000
Total		,07370	1,000	1,000

Axes 1+2
= plus des 3/4 de l'inertie

Phi=0,271477... ; 1/8=,125

Row Scores:

Contribution of row points to the inertia of each dimension:

Contribution of dimensions to the inertia of each row point:

mobexp	Marginal Profile	Dim	
		1	2
1 commuted only	,137	,035	-,402
2 overnights only	,084	-,560	,342
3 commut+overnights	,073	-,753	-,307
4 relocated for JRR	,036	-,348	-,367
5 relocated+commut.	,022	-,355	,817
6 relocated+overn.	,036	-,854	,483
7 commut,over,reloc	,056	-,799	,114
8 rejected any mob	,068	,061	-,673
9 unchallenged	,485	,392	,136

Rappel Code	Dim	
	1	2
1	,001	,206
2	,125	,092
3	,196	,064
4	,021	,045
5	,013	,136
6	,125	,079
7	,169	,007
8	,001	,287
9	,350	,083
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1,000		1,000

Remarque : 1/9=,111...

Rappel Code	Dim		Total	
	1	2		
1	,007	,467	,474	
2	,668	,126	,795	
3	,722	,061	,783	
4	,292	,164	,456	
5	,141	,377	,517	
6	,683	,111	,794	
7	,797	,008	,806	
8	,010	,605	,615	
9	,931	,057	,988	
Moyennes		,615	,158	,773

Remarque : 1/8=,125 ; moy =,25

Column Scores:

owts	Marginal Profile	Dim	
		1	2
0 pub oe ex ir ,046		-,581	,372
1 pub oe full ,123		,109	-,404
2 pub oe part ,043		,458	,060
3 pri oe ex ir ,124		-,850	,120
4 pri oe full ,188		,043	-,090
5 pri oe part ,059		,546	-,484
6 self employ ,099		-,012	,042
7 other exc ir ,042		-,511	,191
8 other full ,053		-,340	-,293
9 other part ,017		,002	-,476
10 oth marg nul ,013		,004	-,372
11 in education ,021		,563	,642
12 unemployed ,043		,431	-,054
13 homemaking ,084		,712	,630
14 military ,000		,000	,000
15 disabled ,018		,094	,579
16 retired ,010		,743	-,386
19 any other ,018		,004	,396

Contribution of column points to the inertia of each dimension:

owts	Dim	
	1	2
0	,072	,059
1	,007	,187
2	,043	,001
3	,420	,017
4	,002	,014
5	,083	,129
6	,000	,002
7	,052	,014
8	,029	,042
9	,000	,036
10	,000	,017
11	,031	,079
12	,037	,001
13	,199	,307
14	,000	,000
15	,001	,055
16	,025	,013
19	,000	,026

	1,000	1,000

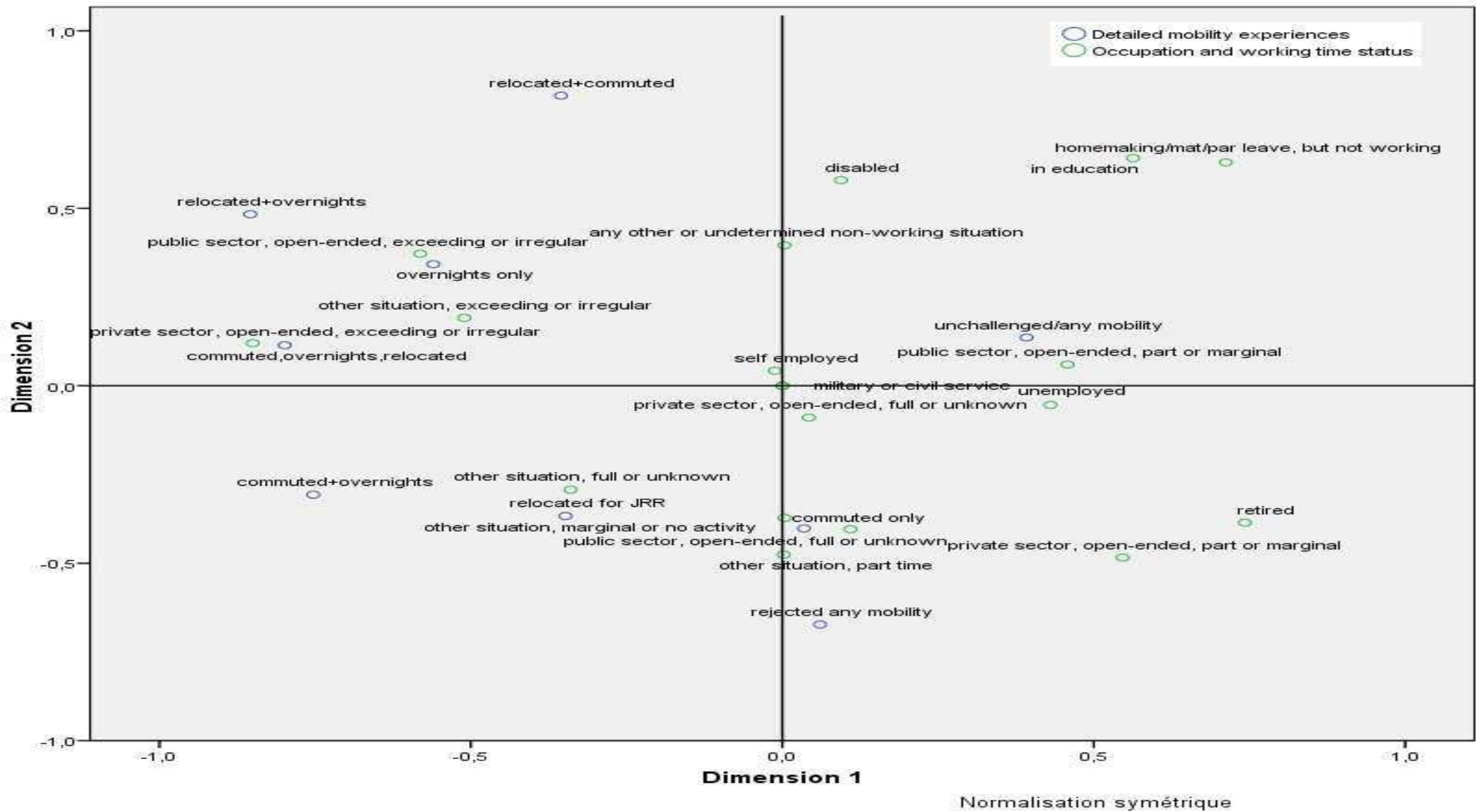
Contribution of dimensions to the inertia of each column point:

owts	Dim		Total
	1	2	
0	,616	,128	,744
1	,105	,726	,830
2	,548	,005	,553
3	,976	,010	,986
4	,081	,182	,264
5	,687	,273	,960
6	,001	,006	,007
7	,550	,039	,589
8	,464	,174	,638
9	,000	,262	,262
10	,000	,178	,178
11	,503	,331	,834
12	,648	,005	,653
13	,695	,275	,970
14	,000	,000	,000
15	,020	,377	,396
16	,588	,080	,668
19	,000	,254	,254
Moyennes			,615
			,158
			,773

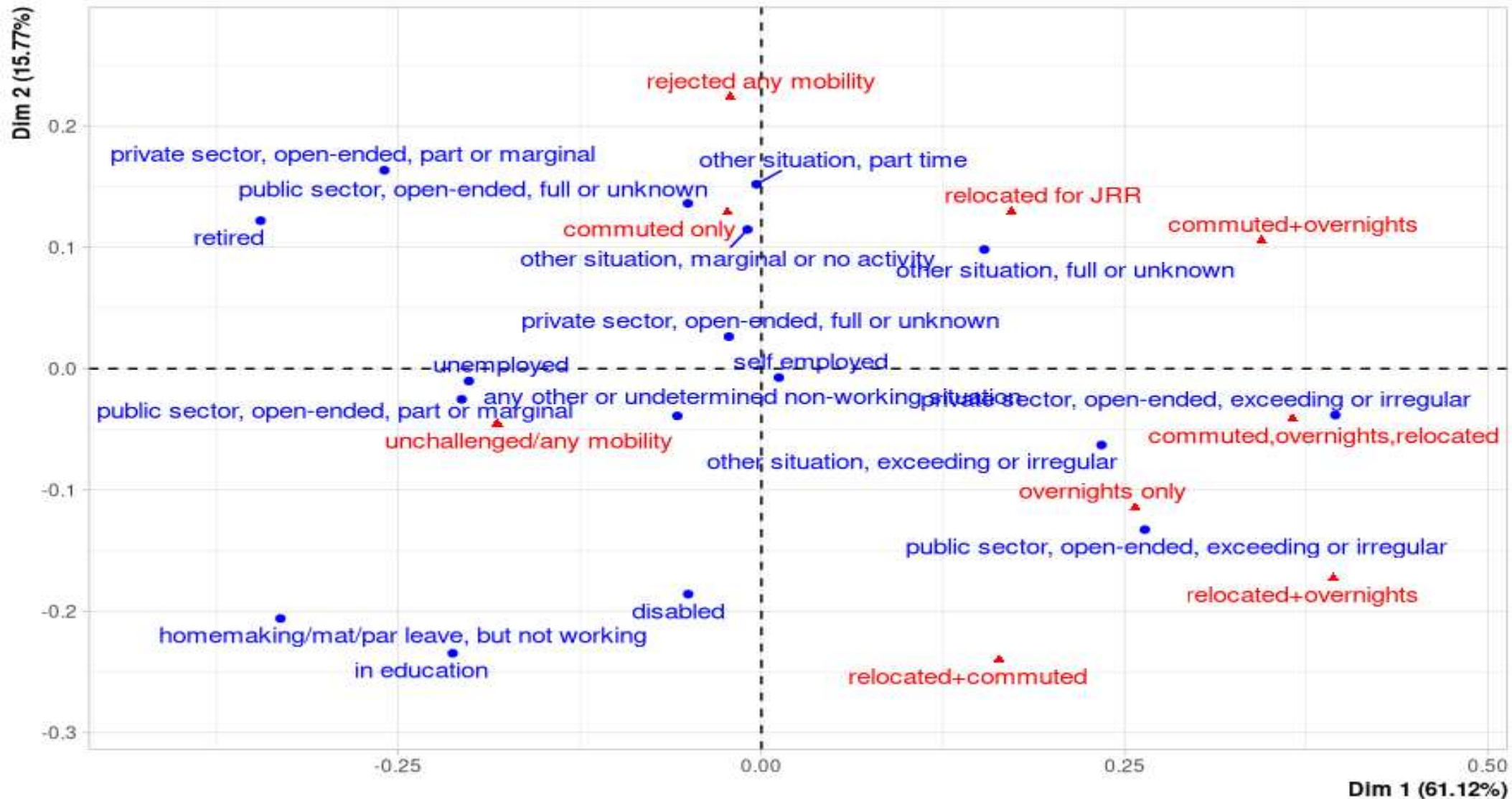
1/17=0,0588

1/8=,125 ; 1/4 =,25

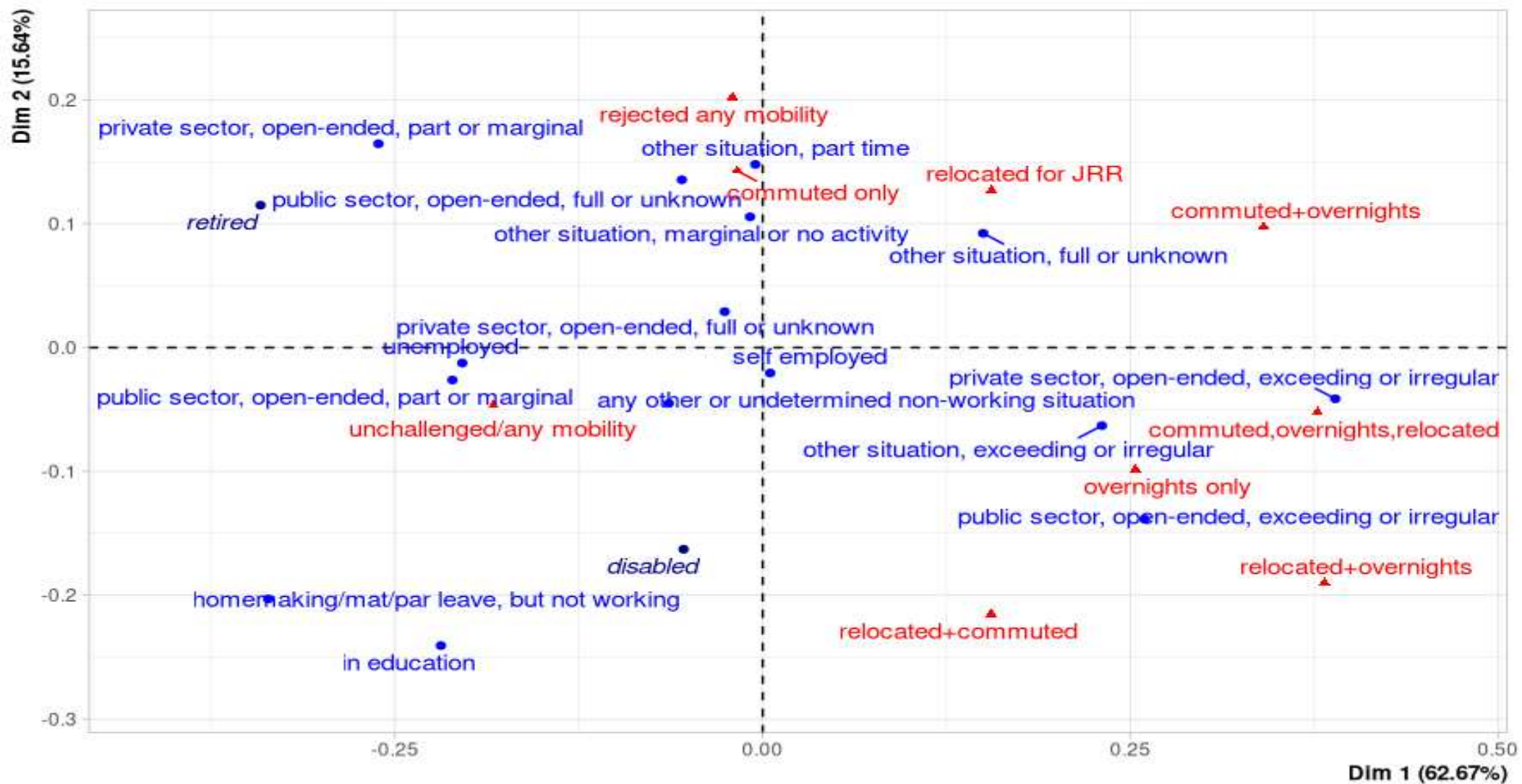
Coordonnées des lignes et des colonnes



CA factor map



CA factor map



Quelques conseils d'interprétation pour les ACM et les autres méthodes

- Difficulté dans le choix du nombre d'axes
- Même interprétation géométrique
- Variables et modalités supplémentaires