

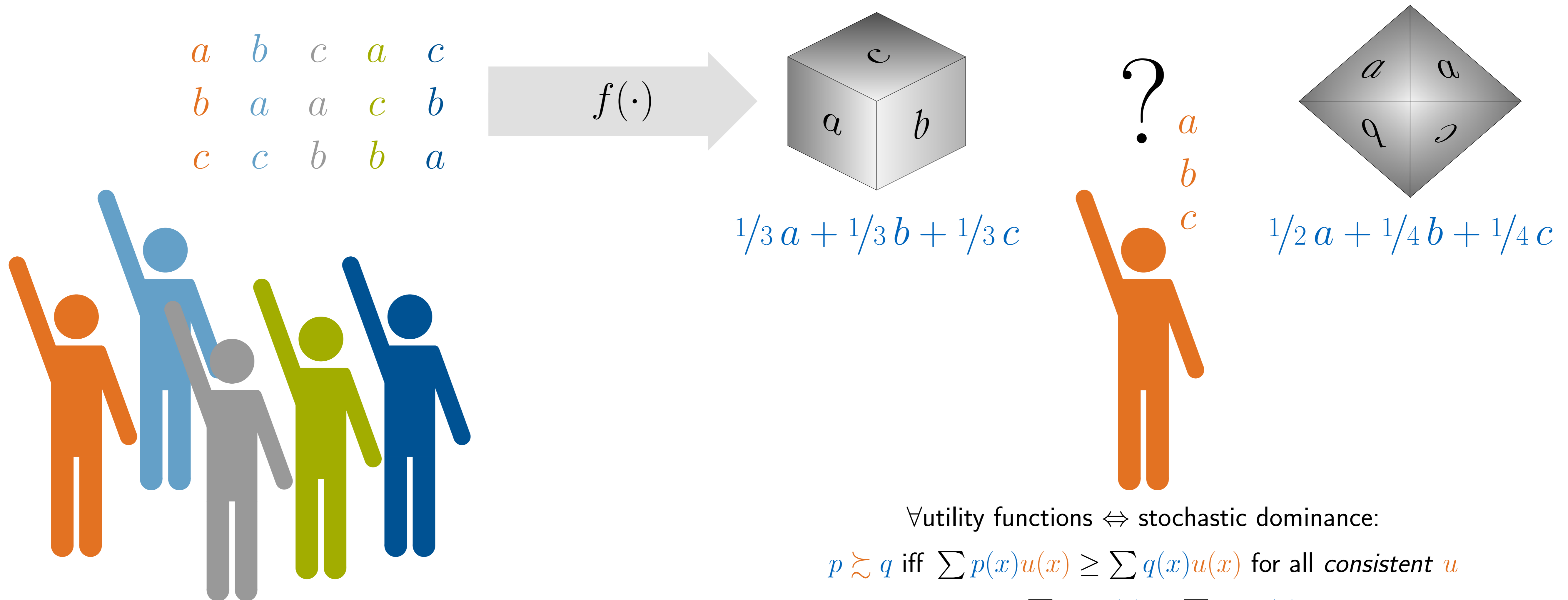
# Proving the Incompatibility of Efficiency and Strategyproofness via SMT Solving

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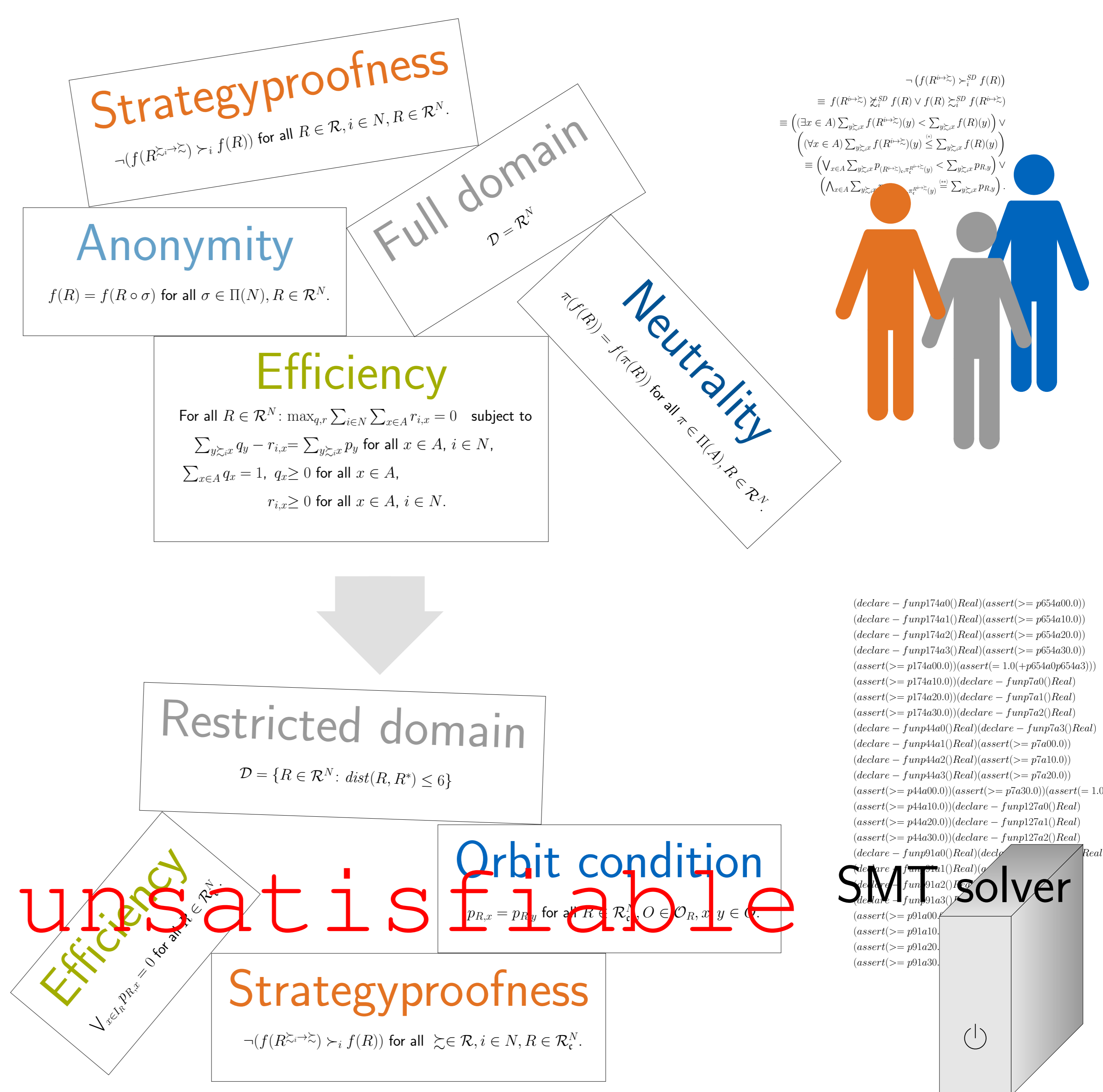


Efficiency

	1	2	3	4	
1/2	a, c	b, d	a, d	b, c	1/2
1/4	b	a	b	a	1/2
1/4	d	c	c	d	0
	$\gamma_i$				
	$1/2a + 1/2b$				
	$1/4a + 1/4b + 1/4c + 1/4d \rightarrow$ inefficient!				

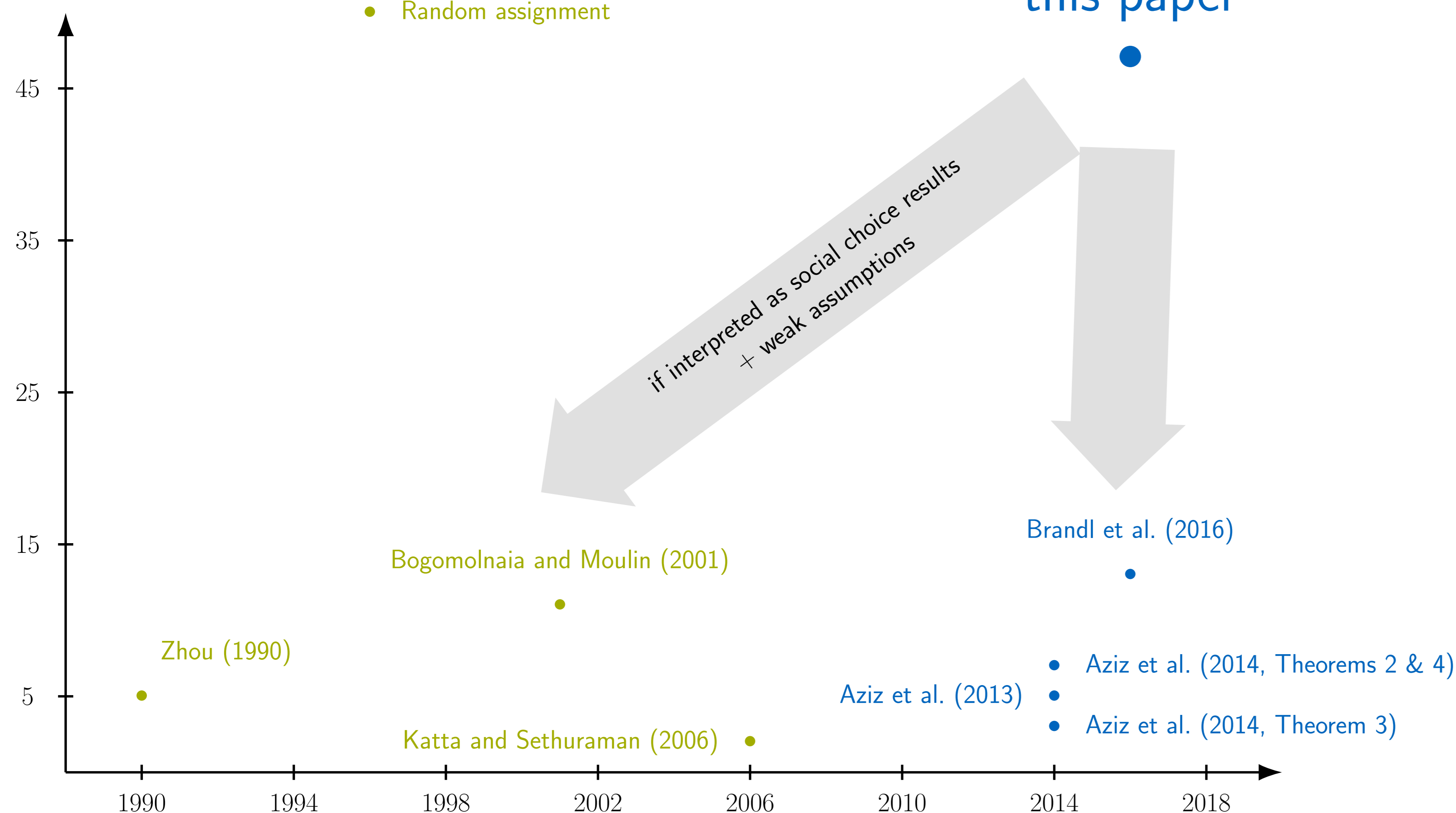
Strategyproofness

	1	2
a	a	c
b	b	d
d	c	a
c	d	b
a	$\gamma_1$	$1/2a + 1/2c \rightarrow$ manipulable!



#canonical profiles

- Social Choice
- Random assignment



## References

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