

Contents

1. Introduction	1
1.1. School choice	1
1.2. Random assignment	4
1.3. Preferences over lotteries	5
1.4. Related literature	5
1.5. Thesis organization	6
2. The model	7
2.1. Notation	7
2.2. Setup	8
2.3. Extensions	9
2.3.1. Properties on extensions	9
2.3.2. A toolkit of extensions	11
2.4. Random matchings	14
2.4.1. Stability	15
2.4.2. Efficiency	19
2.5. Algorithms, mechanisms and random mechanisms	20
2.5.1. Properties on mechanisms	21
2.5.2. A toolkit of matching algorithms	23
2.5.3. Randomizing mechanisms: the tie-breaking approach	26
3. Results	27
3.1. Extensions	27
3.2. An alternative proof of the school choice Birkhoff-Von Neumann theorem . .	28
3.3. On the necessity of a new stability concept	29
3.4. Stability	32
3.4.1. Conciliation between different concepts of stability	32
3.4.2. On the existence of e-stable random matching	35
3.5. Efficiency	38
3.5.1. Relation of efficiency concepts	38
3.5.2. Existence of e-efficient random matchings	40
3.6. Random mechanisms	41
3.6.1. Random mechanisms as lotteries of mechanisms	41
3.6.2. Relation of strategy-proof concepts	42
3.6.3. Evaluating random mechanisms	43

4. Concluding remarks	47
Bibliography	55