The Employability Theorem

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Abstract

In this document, the Potential Employability Theorem is demonstrated from a set of fairly tautological axioms, which are presupposed in quantitative career choice and career development methods.

Keywords: Employability theorem; Career choice; Career development; Vocational choice; Occupational Information Network; O*NET.

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Axiom 2 (Skill Composition Axiom)**.** Skills are composable to accomplish complex tasks.

Axiom 3 (Occupational Reducibility Axiom)**.** Occupations can be reduced to their tasks.

Axiom 4 (Occupational Complexity Axiom)**.** All of an occupation's tasks can be thought of as one indivisible task, which mobilizes their entire skill set. We call this "holistic task" an occupation's *operation.*

Lemma 1 (Occupational Composition Lemma)**.** Skill sets are composable to accomplish occupations' operations.

Proof. □

2.2. Labor Market Conditions and Employer Behavior

2.2.1. Intuition

2.2.2. Propositions

Axiom 5 (Rationality Axiom)**.** Employers are rational and will only pay for employees to work on tasks they can accomplish. Additionally, employers will outsource parts of an occupation's operation if their employees cannot accomplish the entire operation.

Axiom 6 (Hireability Axiom)**.** Any rational employer hires employees by evaluating a hireability statistic, which quantifies potential employees' skill set similarity with an occupation, their educational attainment, and years of experience.

Lemma 2 (Occupational Essence Lemma)**.** All of an occupation's job posts are essentially the same.

Proof. □

Axiom 7 (Labor Market Completeness Axiom)**.** There is sufficient talent in the labor market to outsource difficult tasks.

2.3. The Issue of Time Allocation

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Axiom 8 (Task Duration Axiom)**.** More difficult tasks and operations require more time to complete than easier tasks and operations.

3. Demonstration

Potential Employability Theorem. The potential employability of a person in a particular occupation is the percentage of that occupation's operation total time duration that their skill set allows them to accomplish.

Proof. □

Corollary 1 (Aggregate Employability Corollary)**.** A person's employability in a certain subset of the labor market is calculated by their average employability on that subset of the labor market, weighted by each occupation's employment levels.

Proof. □

Corollary 2 (Occupational Competitiveness Corollary)**.**

Proof. □

Corollary 3 (Aggregate Competitiveness Corollary)**.**

Proof. □

4. Discussion

5. Conclusion

Appendix