Emptiness existence: A free-strategic view

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Abstract. We formulate a theorem to always keep within mind on the emptiness existence followed by its matematicall proof, that takes as a base a single axiom named hipoteticity i.e. an element exists iff it has a structure.

Keywords. Emptiness; Existence; Coalitions; Game Theory.

JEL. C70,C71,C72,C79.

1. Existence

$$\text{A}xiom\ 1[\boldsymbol{Hipoteticity}]{:}\exists i \leftrightarrow \mathcal{S}(i)$$

An element exists if and only if it has structure.

Theorem 2: $\exists \emptyset$

The emptiness exists.

Proof 4:

We generate an arbitrary set $N = \emptyset$ without loss of generality assume that its elements follow thenext pattern

$$N \ = \ \{1,2,3,\dots,j,j+1,\dots\}$$

note that $|N| \leq \infty = n$, where $|N|$ denotes the number of elements of N as well known as the cardinality ofsuch set.

Can we write the power set of N

$$2^N \ = \ \big\{\{1\},\{2\},\dots,\{1;2\},\dots,\{1;2;3\},\dots,\emptyset\big\}$$

with $|2^N| = 2^n$, and we can write the power set of 2^N

$$2^{2^N} \ = \ \Big\{\{\{3\},\{4\}\},\{\{4\},\emptyset\},\emptyset,\dots,\{\{1;2\};\{1;2;3\};/O\},\dots\Big\}$$

like this succesivelyuntil here deducing the inner structure of the emptiness given by such respective pattern, because of contentions following the $\emptyset \in 2N$;the $\emptyset,S1$ with $S1 \in 2N \backslash \emptyset$ ⬚ ⬚$\emptyset \in 22N$;the $\emptyset,S2$ with $S2 \in 22N \backslash \emptyset$, $\emptyset \in 222N$;…

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In general the non-random and thus non-random set that is V_{i-1} that contains the emptinessequal to

$$V_{i-1} = \emptyset \cup \{\emptyset, S_i\}_{S_i \in T_i \setminus \emptyset}$$

were $T_i = \begin{cases} 2^N & i = 1 \\ 2^{T_i - 1} & i > 1 \\ & otherwise \end{cases}$ $S(\emptyset) = \{\ldots, V_i, V_{i+1}, \ldots\}$ and $\exists \emptyset \blacksquare$ [1]

Notes

[1] The emptiness exists is the result whose proof and parallel paths, that could be composed by jumps among them are to always keep within mind.

Acknowledgements

References

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