

This study is motivated by the widely-held view that self-replicating artificial intelligence may approach "some essential singularity . . . beyond which human affairs, as we know them, could not continue" (von Neumann). It first investigates what von Neumann's singularity is like. If both the market and the production process are frictionless, all workers will eventually be pulled into the most labor friendly sector (economic black hole). If, instead, they are subject to a friction created by congestion, it will eventually give rise to a state in which all workers will be unemployed (total job destruction). If the labor market friction exists that hampers unemployed workers from getting back to work, a perpetual income disparity may be created. In certain cases, this disparity may expand indefinitely. This result provides a theoretical justification for universal basic income.