

Flexibility, Scale, and Value Economics: Mutually Exclusive or Synergistic in City Design?

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Abstract

Villages within cities – *chengzhongcun*, *favelas*, *barong-barongs*, *barrios marginales*, *bidonvilles*, *squatter camps* and *shantytowns* – extralegal zones that are the shores for tides of humanity congesting cities to the bursting point. Contrast this with the sleek architectural splendor of new city design complete with insect-free green spaces and soil-free urban gardens, the engineering sophistication of 95-story buildings in fantastical shapes and filled with all the luxury goods of the world, the quiet, pollution-less hum of electric vehicles and centralized, unseen water and waste systems, punctuated by the intentional idiosyncrasy of tasteful “pop up” shops and temporary spaces.

Which demonstrates more flexibility, scale, and value? Will cross-fertilization of the two produce further dys-synchrony or unleash the power of flexibility, scale, and value economics?

This paper seeks to “discover what something means by looking at it from the opposite side of the bridge.” (de Soto 2000). We examine current trends in the philosophy and design of the complex systems of cities and city infrastructure. We, then, compare these with the world of the *chengzhongcun*, the nano, the deeply sub-system or extra-system. Applying the tools of financial economics to four real world case examples, we present preliminary findings indicating that attention to both scale and flexibility in the design of large complex projects materially affects value. These effects can range from multi-million dollar negative net present values to increases in efficiency of over 300% (60+ percentage points). Using inductive reasoning, we draw several general principles from our findings for a proposed paradigm shift in new city design. We conclude our inquiry with some implications for broader issues of the design and management of complex systems and with suggestions for further research.

Keywords: *chengzhongcun*, new city design, complex urban systems, flexibility, real options, value of complex systems