



Land Values and the Law of Attraction

Cusack PTE*

Independent Researcher, BSc E, DULE, Canada

*Corresponding author: Cusack PTE, Independent Researcher, BSc E, DULE, 1641 Sandy Point Rd, Saint John, NB, Canada E2K 5E8, Canada, Tel: (506) 214-3313; E-mail: St-michael_fat@hotmail.com

Abstract

In this paper, we examine, using Astrotheology Mathematics, how the law of attraction and repulsion come into balance depending on land values resulting in Empires.

Keywords: GDP equation; Urban land economics; Astrotheology; Cusack hinterland factor

Introduction

In this paper, we consider how urban law attracts or repels investors. We use AT Math to do so. Real Estate makes up 40% of the GDP, thus 40%Y. Every parcel of real estate is unique because, for example, it occupies certain:

- Size
- Shape
- Location
- Topography
- Geology
- Climate, sunlight
- Neighborhood (Economics, Sociology, Open Space)
- Nation / Politics
- Cost of land
- Water access (water/Sewer/ Landfill)
- Legality
- Transportation
- Time (Fashion, Technology, Engineering, History)

$$\begin{aligned}
 C MV &= MOI/CR \\
 dMV &= dNOI/dt \times 1/CR \\
 dMV &= dI/dt \times 1/CR \\
 dM &\propto dI/dt \\
 &= 1/X
 \end{aligned}$$

$cost = dI/dt = f(\text{Geology; Climate; Neighbourhood; Water; Sunlight; Politics; Legality; Transportation})$

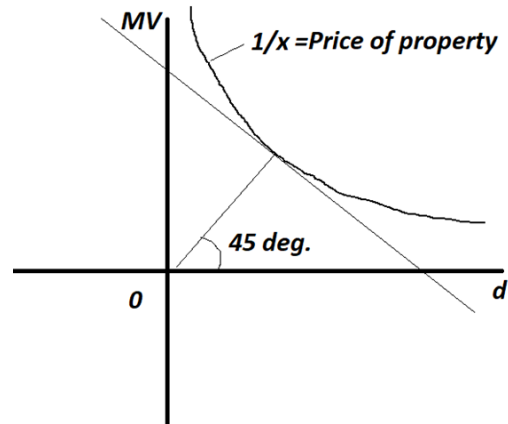


Figure 1: Price of property in an urban setting relative to the center of the city.

$dI/dt = \text{Physical} + \text{Economics} + \text{Politics/Legality} + \text{Transportation}$

$I = Y = C + S + G + NX$ (Savings = Investment)

$$dI/dt = dC + dG + dS/dt + dNX/dt$$

$$I = 40\% = C + G + S + NX$$

$$0.40I = C + G + 15\%I + NX$$

$$0.25I = C + 0 + NX$$

$$0.25I = C + NX$$

$$0.25I = C + NX$$

$$dI/dt = C + S + G + NX$$

$$0.25 = C + 0 + 15\% + 0$$



$$\begin{aligned}
 0.25I &= C \\
 I &= C/4 \\
 C/I &= 4 \\
 Y &= C + I + G + NX \\
 0.25I &= 2.4 + 0 + 14.28\% + 0 \\
 I &= 0.989 \\
 \sim 1 &= dMV/dt \\
 I &= \sqrt{3/[1 + \pi/2]} \\
 I &= 0.4655 \\
 1/I &= 1/0.4655 = 214.8 \\
 1/I &= MV \\
 \int MV/dt &= \int I dt \\
 MV &= t \\
 t &= 1 \\
 1/x &= y \\
 y' &= 1/2x^2 \\
 1/x &= 1/I = 1/0.989 = 10.1\% \\
 FV &= 100(1 + i) \\
 \text{Ln FV} &= 100(1 + 0.101) \\
 \text{Ln FV} &= 100(1.01) \\
 \text{Ln FV} &= 110.1 \\
 e^{\text{Ln FV}} &= e^{110.1} \\
 FV &= 4701 \\
 1/FV &= 213 \\
 FV &= 47.01\% \text{ in 100 years} \\
 dMV &= 1/CR dI/dt \\
 dMV/dt &= 1/CR (1) \\
 CR &= 1/(dM/dt) = 1/1 = 1 \\
 PV &= FV/(1 + i)^N \\
 &= MV \\
 (1)(FV/(1 + i)^N) & \\
 FV &= (1 + i)^N \\
 \text{Let } N &= 100 \text{ year/i @ } i = 8\% \\
 FV &= (1 + 0.08)^{100} \\
 \text{Ln FV} &= 100 \text{ Ln } (1.08) \\
 \text{Ln } (FV = 1.08) & \\
 FV &= 468 = 1/214 \\
 FV &= 47 \text{ in 100 years} \\
 FV &= PV/(1 + i)^N \\
 &= 47.01/(1 + (10.10)^{100}) \\
 PV &= 47.01/1748 = 3718 = 1 + e^1 \\
 MV &= 2688 \\
 PV &= (1 + e^1) = 1/x \\
 3718 &= 1/x \\
 x &= 2.688 \\
 \text{Property Values grow at } &3.718 \text{ x's over 100 years} \\
 3.718 &= e^0 + e^1 = e^E + e^E \\
 1/x &= y \\
 y' &= 1/2x^2 \\
 PV &= (1 + e^1) = 1/x \\
 dPV/dt &= e^1 = 1/(2x^2) \\
 2x^2 e^1 &= 1 \\
 x &= \sqrt{[1/2 + 1/e]} = 0.4288 \\
 1/x &= 1/0.4288 = 23.3\%
 \end{aligned}$$

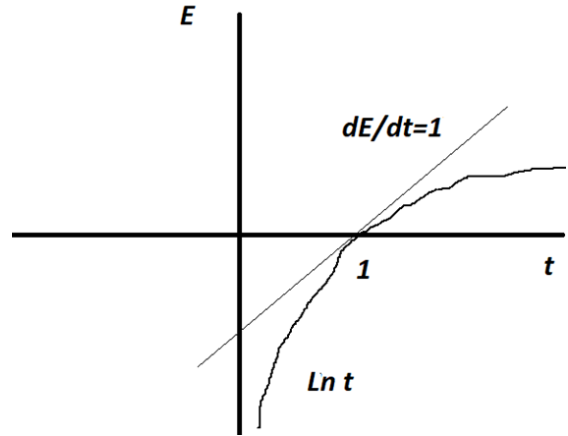


Figure 2: The Ln function and it derivative.

$$\begin{aligned}
 PV/FV &= 23.33/3.718 = 6.2718 \sim 2\pi \\
 &= \text{Cusack Hinterland Factor} \\
 PV/FV &= 2\pi \\
 PV &= (2\pi)FV \\
 FV &= PV \times \frac{1}{0.25} \\
 PV &= 15.92 = \text{Moment} = F \times d \\
 F \times d &= E = Y \\
 FV &= E \\
 FV &= F \times d \times t = \text{Moment (1)} = \text{Moment} \\
 FV &= \text{Moment} = 1 - \sin 1 = 15.92 \\
 1590 &= M[9 + 6.67 + 1/2(4/\pi) \times 1/2] \\
 1590 &= M[15.98] \\
 M &= 1.005 \sim 1 \\
 FV &= E = Mc^2 + Mgh + 1/2Mv^2 \\
 &= M[2.9979^2 + 6.67 + 12/2 (1/\sqrt{2})^2] \\
 &= 1 [1590] \\
 &= \text{Moment} \\
 s &= |E||t| \sin \theta \\
 s &= 1334 = (1590)91 \sin \theta \\
 \sin \theta &= 1334/1590 = 0.8385 \\
 \theta &= 57^\circ \\
 &\sim 1 \text{ rad} \\
 \text{An empire has } &6.3169 \text{ cycles} \\
 \text{Egypt} &4000 \text{ years} \\
 \text{Rome} &2000 \\
 \text{France} &900 \\
 \text{USA} &250 \\
 e^{-t} &= 4000 \\
 \text{Ln Ln } 4000 &= \text{Ln } 8.294 = 6.823 \\
 \text{Ln Ln } 2000 &= \text{Ln } 7.6 = 6.63 \\
 \text{Ln Ln } 900 &= \text{Ln } 6.802 = 6.396 \\
 \text{Ln Ln } 250 &= \text{Ln } 5.52 = 6.315 \\
 \text{Average} &= 6.54 \text{ Cf. } 6.32 \\
 ee^{6.32} &= 1.0018 \sim 1 = E \\
 y &= -y' = 0 \text{ Minimized} \\
 t &= K.E. = 1/2Mv^2 \\
 &= 1/2 \text{ Ln } t (2.9979)^2 \\
 1 &= 1/2 \text{ Ln } t (2.9979)^2 \\
 \text{Ln } t &= 222
 \end{aligned}$$



$$1/222 = 1.249 \sim 1.25 = \text{Emin (Golden Man Parabola)}$$

$$\ln t = M$$

$$\ln E = \ln (1/t)$$

$$= \ln 1 - \ln t$$

$$= 0 - \ln t$$

$$= M$$

$$M \times M = M^2 = 6.315$$

$$M = \sqrt{6.315} = 2.51 = \text{Period T} = 1/t = E$$

$$F_{\text{attraction}} \propto MV$$

$$F_{\text{repulsion}} = 1/FV$$

$$\text{Let } F_{\text{attraction}} = F_{\text{repulsion}}$$

$$MV = 1/FV = 2\pi = \text{Cuack Hinterland Factor}$$

$$F_{\text{attraction}} = F_{\text{repulsion}}$$

$$2.68 = 1/(2x^2)$$

$$x = 432 = 1/231.5 = 1/t$$

$$t = 231 \text{ years (21 September 1789 – 21 September 2020)}$$

Conclusion

We see that Astrothoelogy Math plays a role in Urban Land Economics and the Law of Attraction forming empires.

References

1. Cusack PTE. Physical economics and optimum population density. J Glob Econ. 2017; 5: 1.