

## Econometric Model for Academic / Career Success

I teach a course on Applied Econometrics called Statistical Modelling for Business Analytics. This is quite a popular course in our department and many of my students have told me that they enjoy it and learn a lot about data analysis and regression methods and the philosophy of econometrics. This year, I suggested the following econometric model for academic or career success (some variables added on the suggestion of my students). I thought I will upload this here for general mulling 😊

For non-econometricians, the  $\beta$ 's in the following equation are the weights of each of the factors in determining success. I also specified models for self-confidence, resilience and reputation which may have simultaneous causality with success.

$$\begin{aligned} \text{Success} = & \beta_0 + \beta_1 * \text{Ability} + \beta_2 * \text{Hard Work} + \beta_3 * \text{SelfConfidence} + \beta_4 * \text{Resilience} + \beta_5 * \text{Emotional intelligence} \\ & + \beta_6 * \text{Conscientiousness} + \beta_7 * \text{Resourcefulness} + \beta_8 * \text{Physical health} + \beta_9 * \text{Mental health} \\ & + \beta_{10} * \text{Time management skills} + \beta_{11} * \text{Networking skills} + \beta_{12} * \text{Parental or Family Support} \\ & + \beta_{13} * \text{Socioeconomic status} + \beta_{14} * \text{Minority Status} + \beta_{15} * \text{Support of mentors and friends} \\ & + \beta_{16} * \text{Reputation (trust, ability)} + \beta_{17} * \text{Macroeconomic conditions} + \beta_{18} * \text{Technology (access to resources)} \\ & + u(\text{random error} - \text{luck}) \end{aligned}$$

**Individual factors** – Ability, hard work, self-confidence, resilience, EI, conscientiousness, resourcefulness, physical and mental health, time-management and networking skills, reputation (some of these, one is born with – and some can be developed)

**Environmental factors** – Parental or family support, socio-economic status, minority status, support of mentors and friends

**Macro-level factors** – Economic conditions for the country, technology of the time

*SelfConfidence<sub>t</sub>*

$$\begin{aligned} &= \gamma_0 + \gamma_1 * \text{Success}_{t-1} + \gamma_2 * \text{Knowledge of Own Ability} + \gamma_3 * \text{Experience of Working Hard}_{t-1} \\ &+ \gamma_4 * \text{Physical health} + \gamma_5 * \text{Mental health} + \gamma_6 * \text{Emotional intelligence} + \gamma_7 * \text{Socioeconomic status} \\ &+ \gamma_8 * \text{Wisdom (not comparing with others, having a sense of proportion)} + \gamma_9 * \text{Parental Support} \\ &+ \gamma_{10} * \text{Appreciation or acceptance from peers} + \gamma_{11} * \text{Challenges faced (going out of comfort zone)}_{t-1} \\ &+ v(\text{random error} - \text{mood}) \end{aligned}$$

$$\begin{aligned} \text{Resilience}_t &= \delta_0 + \delta_1 * \text{Success in Facing Adverse Situations}_{t-1} + \delta_2 * \text{Knowledge of Ability to Face Adversity} \\ &+ \delta_3 * \text{Economic resources} + \delta_4 * \text{Parental or family support} + \delta_5 * \text{Support from friends} \\ &+ \delta_6 * \text{Mental health} + \delta_7 * \text{Faith (optimism)} + \delta_8 * \text{Governmental safety networks} \\ &+ w(\text{random error} - \text{luck}) \end{aligned}$$

*Reputation<sub>t</sub>*

$$\begin{aligned} &= \alpha_0 + \alpha_1 * \text{Success}_{t-1} + \alpha_2 * \text{Demonstrated ethical behavior}_{t-1} + \alpha_3 * \text{Demonstrated leadership}_{t-1} \\ &+ \alpha_5 * \text{Educational Achievements}_{t-1} + \alpha_6 * \text{Career path} + \alpha_7 * \text{Behavior of peers from parent institute} \\ &+ \alpha_8 * \text{Racial stereotypes} + r(\text{random error}) \end{aligned}$$