Call to Arms: Inventing a "capital-flow-based emission control mechanism" Project

---Vo Viet Anh, Japan---
vovietanh@gmail.com

Introduction

'**Capital-flow-based emission control mechanism**' is my on-going individual research. In the research, I manage to introduce a new approach to *emission control*, or *mitigation*, by looking into the capital flow in and out of different populations on the grounds that there are populations emitting more than others. My view is similar to that of Thomas L. Friedman about "bad lenders" and "bad borrowers" in The Lexus and The Olive Tree (2000), which is "the two biggest threats of today's global financial system—[financial crises] trigged by "bad lenders" and [political crises] trigged by "bad borrowers." Likewise, among the biggest threats to today's global environmental system are crises trigged by "**bad spenders**," who make the most emission out of their *expense*, and "**bad producers**," who make the most emission out of their *income*. While most emission regulations are trying to deal with the "bad producers," my idea is to tackle the "bad spenders" by accelerating the process of channeling capital out of their account, e.g. by using a high amount of **non-emitting premium**. There are three steps—first, break down countries into accountable provinces, group them into *relatively self-contained regions*, further break down into economic populations, and gauge their emission budget to identify the bad spenders—second, synthesize each region's data on companies' employment structure, clients, and supplier network to identify which businesses make happen capital flow to and from bad lenders' account—third, draft proposals for businesses to adjust target customer and *corporate governance* (organizational level) and for governments to change business policy and investment focus (strategic level) accordingly to make the system less susceptible to bad spending. In this paper, I am going to reproduce the research idea, then foresee how its results can serve as a basis for decision-making in businesses to comply with this passive approach of emission control. If this concept is recognized worldwide, and a new mechanism is ratified where certain businesses are adjusted or promoted to maximize the outflow and minimize the inflow of bad spenders, a whole new range of projects and businesses can be recognized as indirectly contributing to mitigation, especially in developing countries that need to buy the patience needed for technology transfer. Please contemplate the ideas in this paper with an open mind and reply to my call.

Why a capital-flow-based emission control mechanism?

Most current solutions for climate issues are on the 'hard' side—inventing and investing in *clean technologies* (energy alternatives, energy efficient appliances, green building, recycling, carbon sequestration, etc.). That is of course the right thing to do, but not already everything we can do. Let us take a soft approach.

There is a truth that, whenever a transaction takes place, i.e. when someone pays or exchanges for something, *an emission must occur somewhere, at some point of time*. I put it this way:

Moving electron bears electricity. Likewise, moving capital bears emission.

Since the aggregation of all transactions is *capital flow*, an act can be performed on it in order to control emission. To easily observe capital flow, world population can be divided into three common economic strata—the *lower* (who earns $1 or less per day), the booming-and-high-consuming *middle* (especially in developing countries), and the *upper class* (who earns $100 or more per day), who account for **20, 60,** and **20** percent of global population, and contribute **2, 24,** and **74** percent to global income, respectively (Han Rosling, 2006—global expense data should be used instead but are not published yet). It is observed that most transactions of a rich person are to/from another rich person; the same applies to a middle-income, or a poor person. For example, when the CEO of Park Hyatt (PH) buys a bag from Louis Vuitton (LV) for $2000 and the CEO of LV checks in

a PH hotel for $4000, a capital flow of $2000 happens from LV's stakeholders to PH's stakeholders. In that, compared to less significant inflow of employees in term of salary (30% or $600 for 100 people i.e. $6 per person) and shareholders in term of dividend and suppliers in term of cost (60% or $1200 for 1000 people i.e. $1.2 per person), the major flow happens between the two CEOs' accounts (10% or $200 for PH's CEO), hence a capital flow exclusively between these two rich people.

As a result, capital flow within the three economic groups take shape of three **Big Loops** (figure 1), which each has a different amount of emission (in ton) per person—**e1**, **e2**, and **e3** for the lower, middle, and upper class, respectively ($e1 \leq e2 \leq e3$). Sparse flows between the Big Loops are mostly *upward*, explaining why the rich usually get richer and the poor poorer. At this point, most people have arrived at and focused on only one equation for average emission per person **e=20(%)e1+60(%)e2+20(%)e3**. The three Kyoto mechanisms are so far the most cooperative effort to channel capital along with technology to developing countries where most people are from lower class with low amount of emission per person (**e1**), thus somehow conforms to the idea of emission control in this paper. However, there are more indicators that must be taken into account.

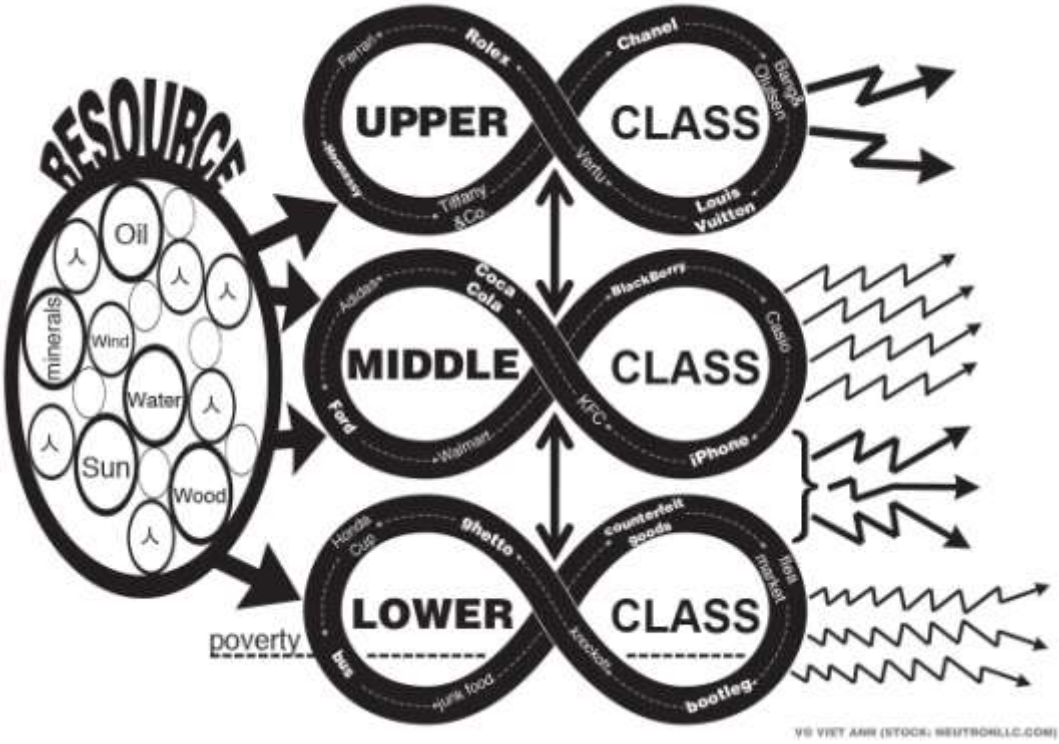

Figure 1. Illustration of capital flow; flows within the upper, middle and lower class takes up shape of three Big Loops; the arrows' width indicates emission amount; it is observed that the population somewhere between the middle and lower class emits slightly more than adjacent populations.

What are 'Pre-Waste' and 'Waste'?

Waste is often referred to as physical waste from household, industrial, and hospital. However, in this paper, my focus is on the *capital waste* (with 'waste' in 'wasteful') or "**pre-waste**." In the *price breakdown* (figure 2) of any product (or service), pre-waste is the difference between the *basic product value* (total cost of resources used throughout the value chain) and the *used value* (the amount used up by user). Users are supposed to use up to the basic product value but most people leave behind pre-waste so used value is always lower than basic product value. Normally, pre-waste comes in two forms—***overconsumption*** when one purchases more units than needed; and ***wastefulness*** when one underuse the value of purchased units, which eventually leads to more waste due to more purchases of the same or different products for the same purpose.

In an example to distinguish pre-waste and waste, even if I am not wasteful and eat everything inside a noodle cup (pre-waste=0), I still leave behind waste in form of trash. On the other hand, even if I purchase fruits with the least packaging to minimize waste (waste=0) but end up consuming too much to digest, pre-waste still piles up in my stomach. In most cases, more pre-waste is usually translated into more waste. How much pre-waste or waste one produces depends on one's income, standard of living, or more accurately, *perceived standard of living*. On second thought, pre-waste and waste may have same causes (lifestyle) and same social solutions (e.g. *anti-overconsumption policies*). While waste is calculated in *ton* and has widely accepted waste reduction techniques/programs, pre-waste (in *dollar*) is next to impossible to retrieve accurately or controlled precisely because of human's diverse lifestyles and business practices—e.g. in the case of *Wal-mart* merchandise, real costs are all *externalized* to other parties to achieve ultra cheap prices. One truth is that the availability of capital resources usually affects the production of pre-waste rather than waste. That is why I chose pre-waste as the other indicator besides emission in this research. For the rest of the paper, pre-waste will be referred to simply as waste.

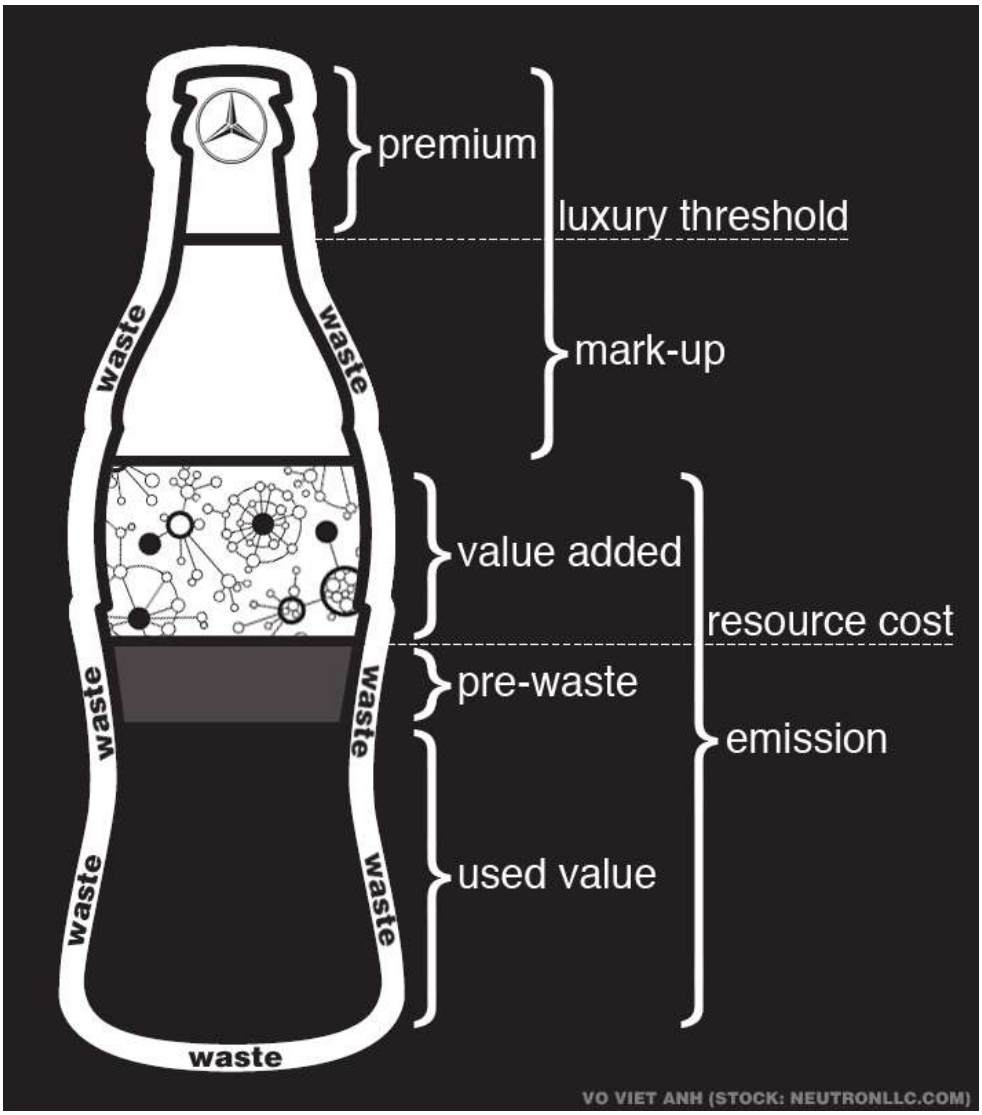

Figure 2. Price breakdown of any product (or service); all values are in dollar; assume that total resource cost dictates the product's emission amount in dollar; value added refers to cost for other activities inherent to the product (or service) that also produce emission—can be understood as per-unit Selling, General, and Administrative expense (SGA), e.g. advertising, transportation, and warranty; a service can be a sum of many products or zero (resource cost=0); with or without pre-waste, a product (or service) always gives away (physical) waste.

Who are responsible?

It is a fact that the richer a person is, the more *emission and waste* (E&W) he produces. The rich have always been blamed for lavish spending and high E&W production, and are unspokenly demanded to make giveaway. However, it does not mean flattening the asset of the rich to the rest of the world is even a solution to be considered. At some point, the rich act like a **capital reservoir** that *keeps money from "moving"—going out to the market and causing emission*. If people had all the money they ever wanted, world transaction would peak and global resources would drain out overnight. Another scenario is that world prices would peak and businesses would paralyze since the right to accumulate assets was robbed. Though this does not justify the rich's spending or keeping money because they have produced too much E&W already, it suggests that there exist a maximum for capital to be "shared" by the rich to the rest of the world to minimize world E&W. The question is how to carry it out in *autonomy*.

In fact, a rich person produces *much less emission for every dollar spent* than a person of middle or lower class. As presented in the *price breakdown* (figure 2), it is because the rich usually pay a large amount of *premium* (higher mark-up which does not account for emission) for various perceived values (e.g. status, newest model, collection) in most transactions that produce emission (Note: transactions of *derivatives* may produce emission while transactions of stocks do not). As a result, there is a large amount of **non-emitting capital flow** among the rich (the upper class's Big Loop), resulting in less emission per dollar spent. For each population, to estimate the degree of E&W in accordance with the volume of capital flow, I use two *ratios* of the emission per person (**e**) to capital expense per person (**c**), and of waste per person (**w**) to **c**. The trend of the two ratios is different from that of **e** and **w** (figure 3). For example, a bread sold to a poor person at $**5** may give away $**4**-equivalent of emission (**e**/**c**=80%) and no leftover (**w**/**c**=0%), while a bread sold to a rich person at $**20** may give away only $**10**-equivalent of emission (**e**/**c**=50%) even though he throws it away half-bitten (**w**/**c**=25%). Therefore, if I give one million USD to a rich person (**e**/**c**=50%), it may end up turning into $500,000-equivalent of emission, while if I give the same amount to the poor person (**e**/**c**=80%), he will mostly likely produce higher amount of emission. This strengthens the argument that the rich are responsible for both creating and solving all the world's problems.

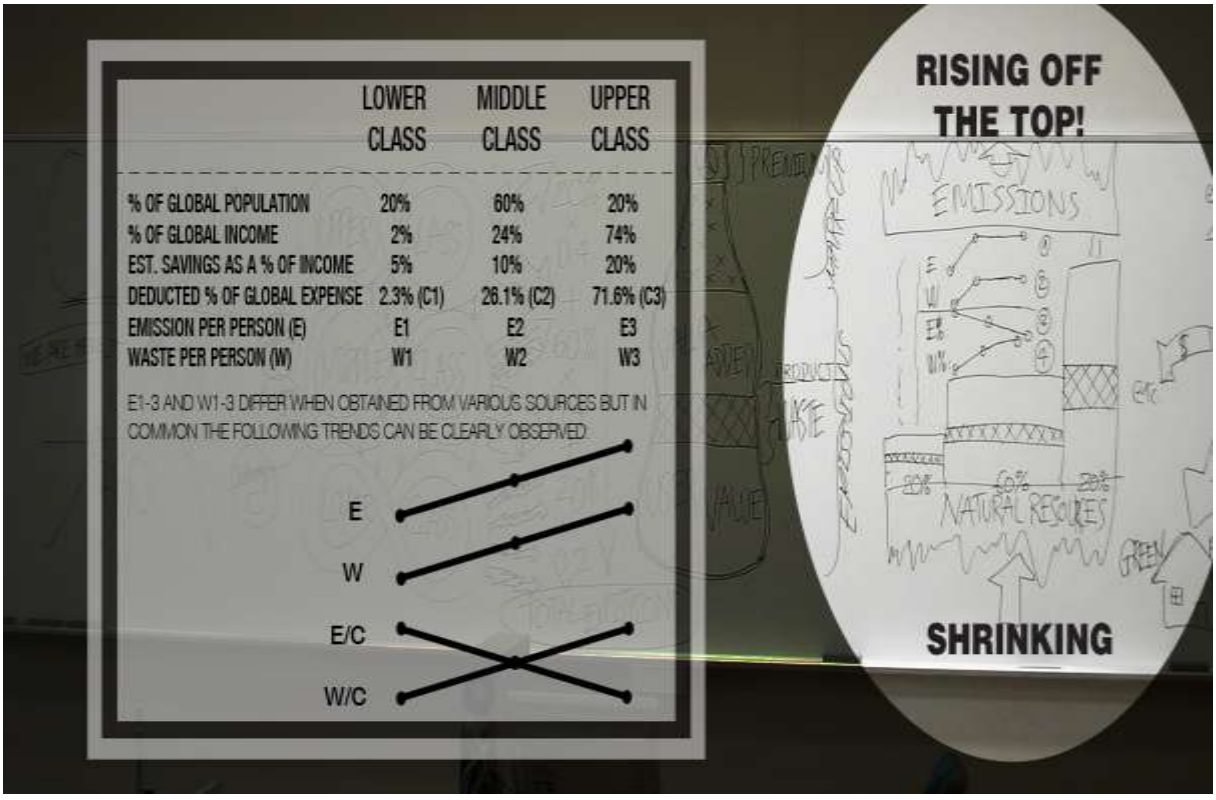

Figure 3. Trends of the four indicators—e, w, [e/c], and [w/c]—when income rises.

By far, we have four equations for e, w, [e/c], and [w/c] (figure 4)
20e1+60e2+20e3=**e** in dollar equivalent
20w1+60w2+20w3=**w** in dollar
20e1/c1+60e2/c2+20e3/c3=**[e/c]** in unit
20w1/c1+60w2/c2+20w3/c3=**[w/c]** in unit

Note: c can be regarded as total capital expense but it does not play any role here. [e/c] and [w/c] are notations for emission (and waste) per dollar spent per person, and not equal to e/c and w/c, respectively. 20, 60, and 20 are in percentage.

I believe, to achieve global mitigation, we have to keep these four indicators at the lowest level. In the scope of this research, **e1-3**, **w1-3**, and **c1-3** are actually *constants* that we have to retrieve. What the world is doing now with clean technologies, consumption/production policies, and preservation/education programs are meant to improve these constants in positive direction. Our objective is to affect the income distribution among populations that is currently **20, 60, and 20 percent**, which become three *variables* in these equations. With more funding and manpower, the three economic populations (lower, middle, and upper class) will be further broken down, resulting in a large number of variables and the complexity of finding a solution. We can solve the simultaneous equations and determine the directions of capital flow that should be emphasized to achieve favourable values of the four indicators, and then identify the *capital-carrying businesses* and draft proposals to improve their capability to create the desired capital flow.

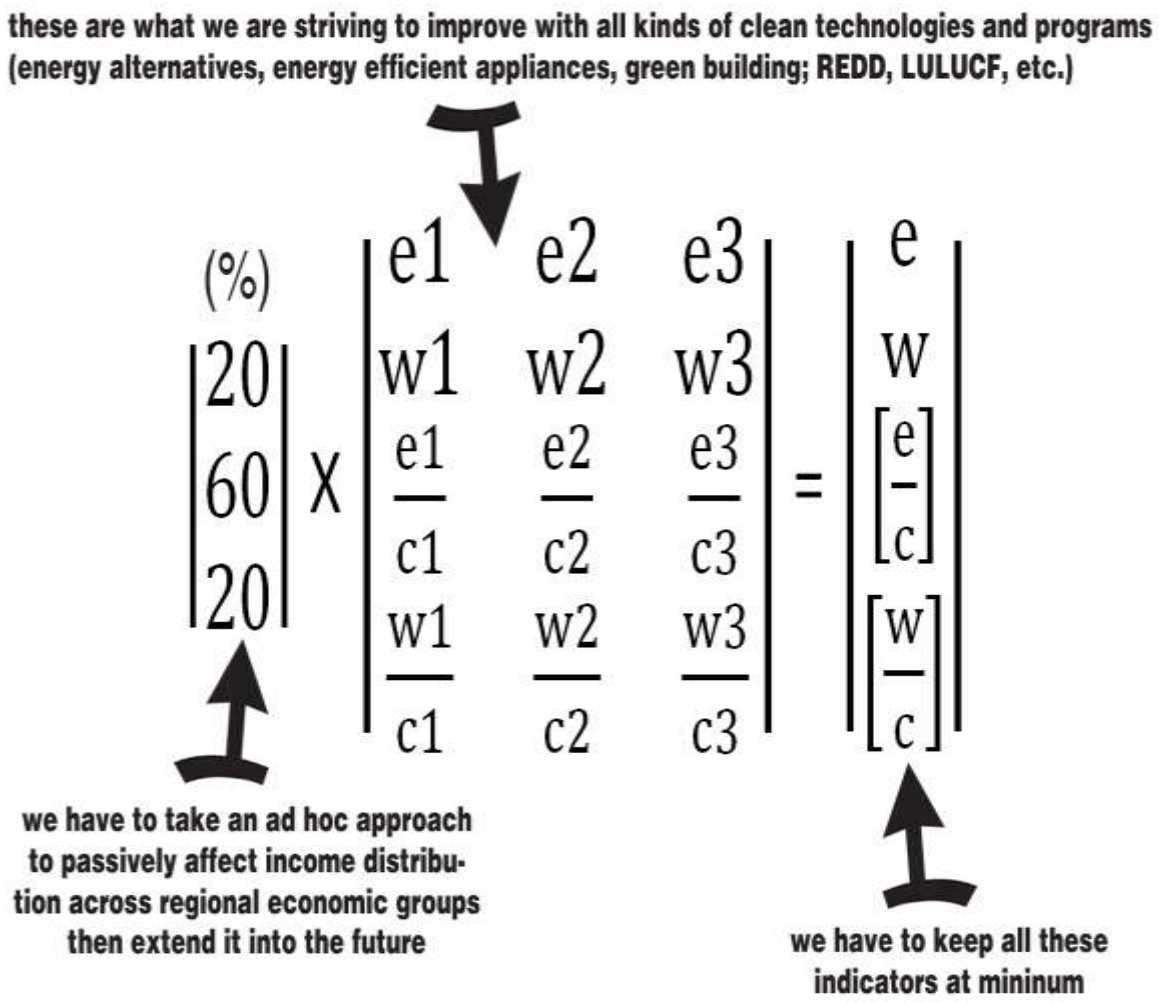

Figure 4. The four equations in matrix form. In the scope of this research, the left factor is variable and the right factor constant.

How does the mechanism work?

At strategic level, we not only discourage polluting industries and invest in so-called green industries, but also discourage industries that go against our emphasized directions (**set A**) and invest in industries that transfer capital in our emphasized directions (**set B**) by drafting policies to encourage certain corporate governance practices and business strategies (figure 5). This mechanism has three merits: moderate the critics against polluters who if adjusted properly can be part of **set B** (this serves as an ***incentive*** for corporations); reveal potential culprits of global emission and overconsumption in **set A**; and direct more capital to underinvested or new industries of **set B** that are potential agents of mitigation. At organizational level, changes in corporate governance practice can lead to favorable capital flow among *stakeholders*, who belong to various economic classes.

This mechanism can also be realized in small and middle business projects. For example, in a separate project idea, I designed a mixed business model for an education centre that uses *skimming pricing strategy*, in that richer students are offered pre-ordered hardcover version books so that other students can buy a little later but at cheaper price. In addition, it uses a *differentiated pricing strategy* that charges non-students more than students. This is a little effort to test the effectiveness of certain methods to facilitate capital transfer from non-students to students, and from students with more money to students with less value.

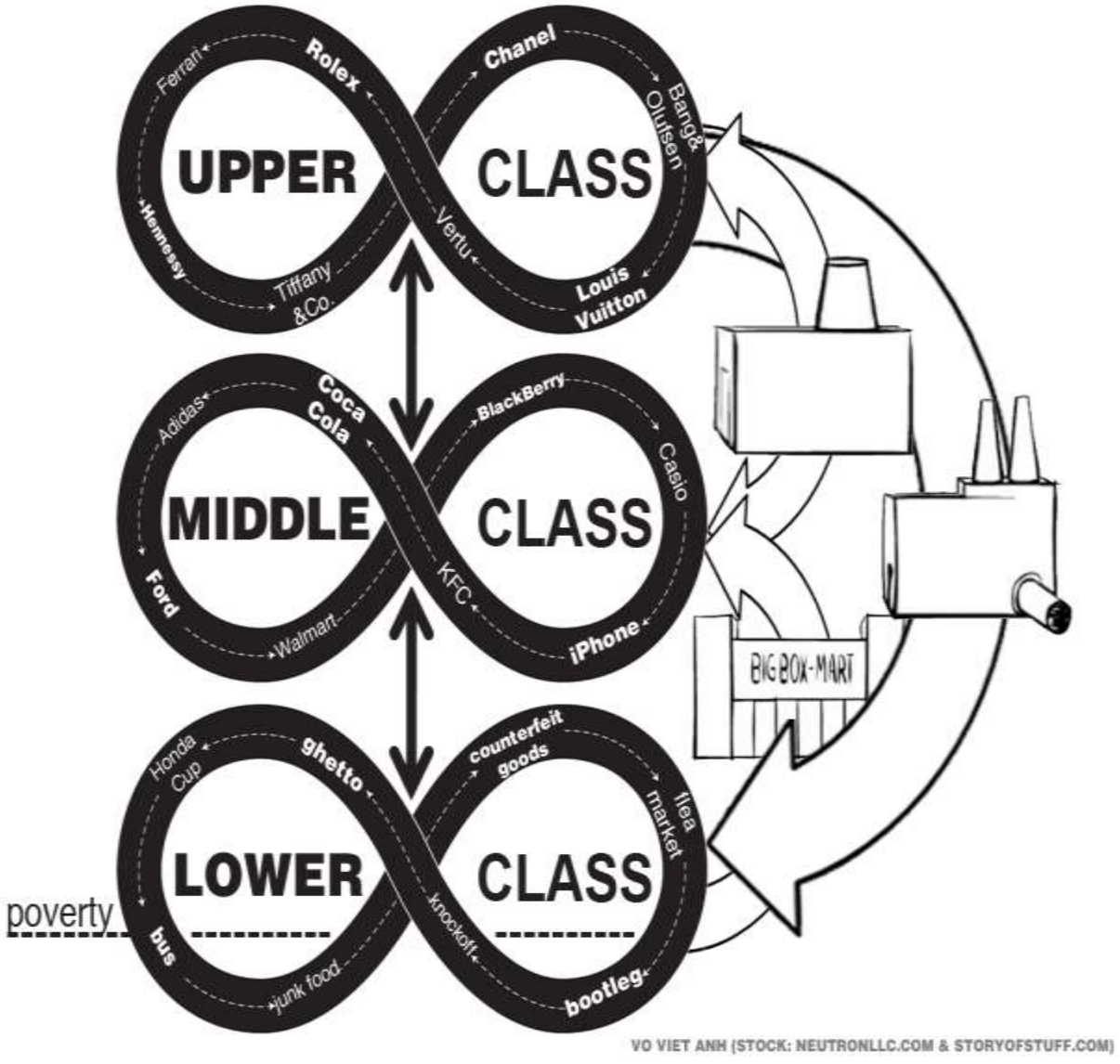

Figure 5. Businesses will be regarded as the vehicle to carry out capital transfer in autonomy.

What will be done next?

The true results of the research can only be achieved if we can further break down world population into relatively self-contained regions, then into three or more economic groups, depending on the complexity of specific populations. This requires a lot more data synthesis and analysis to create a capital flow map across all populations in relation with businesses. Currently I have gathered most population data from Prof. Han Rosling's Gapminder and am still trying to gain access to more databases about businesses. It may take up to six months for the research, development of proposals and assessment tools. Several versions of proposals will be produced for governments, large corporations, small and medium enterprises, entrepreneurs, training and education programs. We will take on early adopters to do experiments and simulations for around three months to foresee how emission amount would respond to changes in business and funding focus. Complying parties will be followed up with more tools and details as the research progresses. My goal is to make this mechanism recognized worldwide and added to international treaties in five years. For this labor-intensive project, I want to ask for cooperation with as many people as possible before starting to raise fund for the research and would really appreciate any help offer or constructive feedback to my contact below.

Contact and Credit

(Mr.) Vo Viet ANH

(+81)80 – 6437 – 4747 (Japan)

VOVIETANH@gmail.com

http://twitter.com/mastertek

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