Lessons of "Fallacy of Composition"

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We live in a world where each individual's conduct can have a great unexpected impact upon others' welfare and happiness, since we are closely interconnected with each other. One example of our close interlinkage is positive and negative externalities. An example of a positive externality is that a farmer's exploiting a rice field would protect the natural environment. An example of a negative externality is that a manufacturing factory's increasing production would increase air or water pollution. In the international context, a country's expansion of its market through economic growth would also drive the growth of its trading partners. By contrast, a protectionist policy of a country would have a negative impact upon its trading partners' economies through the shrinking trade caused by it.

In some cases, a player's conduct in the economy, although consistent with an economic rationale perfectly justified by microeconomic theory, can end up having disastrous results for the overall economy. This is also an example of an individual's conduct resulting in a totally unexpected outcome.

Economists call these situations "fallacy of composition". This is quite well-known economic jargon and often used in referring to situations in which a microeconomic rationale is completely at odds with a macroeconomic rationale.

For example, an individual country has a rationalistic motivation to lower the value of its currency in order to encourage its exports in a time of recession. This is logical in terms of microeconomics. However, if all nations compete in depreciating their currencies, this would end up in a mess, since no country would be successful in encouraging its exports and the competition in the national currency's depreciation would worsen business and make the recession more serious, which is contradictory to a macroeconomic rationale, suggesting the expansion of growth in total global demand.

Applying this fallacy of composition to the current macroeconomic situation, we will have the following consequences.

First, looking at each household's behavior, with the large cumulative government debt today, as uncertainty about the future of the economy grows, each household tends to refrain from spending money for consumption and instead saves more money in preparation for a better future. This is very logical behavior for each household in accordance with a microeconomic rationale. However, in macroeconomic terms, such a decline of personal consumption will end up in worsening the recession.

Second, since the disaster in Japan on 3.11, 2011, Japanese people have refrained from organizing celebratory ceremonies or events to show their sorrow for the victims of the disaster. However, this had a negative impact on the economic recovery through a decline in consumption which would have been realized by those events and ceremonies cancelled or postponed. It was the victims' families who suffered most from such conduct based on goodwill due to a delayed business recovery.

Third, according to some economists, the major developed economies such as the US and EU are now in so-called balance sheet recession in which a firm's expanded debt caused by overborrowing during a preceding bubble economy would discourage private investment and thus drag on the whole economic recovery. In this recession, firms would have an incentive to return their borrowed money to the lenders in order to reduce their debt as much as possible. This is also another rational behavior as a player in the economy in accordance with microeconomic theory. However, if many firms do the same thing, then the outcome would be exactly opposite to what was originally expected, since their efforts to reduce the debt would result in a significant decline in private investment, thus worsening the recession, which would in turn worsen those firms' balance sheets. This is exactly opposite to what was originally expected by those firms initiating debt reduction. *Chart 1* shows us that the balance sheet of business corporations in the Eurozone has been recently changed from deficit to surplus by their returning the borrowed money. This could intensify the recession.

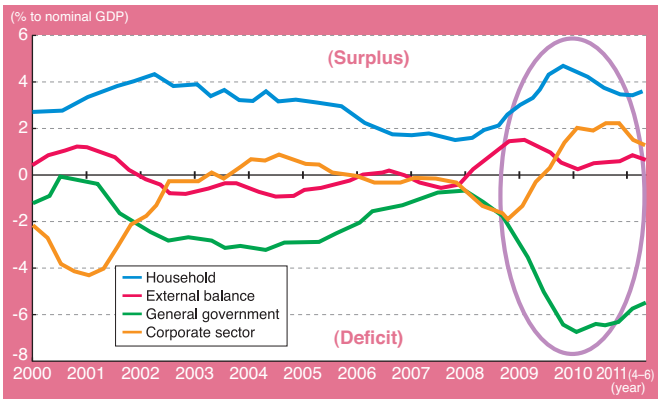
Fourth, a national government facing the risk of growing uncertainty provoked by its enormous cumulative debt would attempt to raise taxes or rationalize its expenditure, expecting that the elimination of such uncertainty could stimulate the economy. However, this policy could shrink the economy instead of expanding it due to a decrease in effective overall demand. Today, many major developed nations such as the US and Japan, as well as the EU, are facing such a dilemma. This is another example of a differentiation between microeconomics and macroeconomics as a rationale.

Fallacy of composition can be applied to other economic incidents over the longer term rather than to short-term macroeconomics. I will give the following two examples.

When the long-term outlook for the economy is grim, people tend to have fewer children, and thus in the end depopulation could occur. It is rational that each individual has an incentive to raise fewer children in wealthier circumstances, fearing that having many children would oppress their household budget and thus oblige them to raise their children in serious poverty. However, this rationale cannot be true of society as a whole. If depopulation happens as in the case of Japan, this will reduce economic growth further in the long run and eventually make the whole nation poor, which would make it difficult for people to raise their children in a good environment. *Table 1* shows us that in general as population growth, in particular productive population growth, declines,

CHART 1

Eurozone falling into recession caused by debt reduction efforts of business firms



Note: Eurozone = 17 countries
Source: Nomura Research Institute

TABLE 1

Population growth rate & economic growth rate

	Economic growth rate	Population growth rate	Change of % of productive population to total (age 15-64)
1970s	3.8	1.1	-0.2
1980s	4.6	0.5	0.3
1990s	1.2	0.3	-0.2
2000s	0.8	0.1	-0.6

Sources: UN, IMF

economic growth declines as well.

Last December, at the COP 17 meeting of the United Nations Framework Convention on Climate Change in Durban, the member countries agreed to establish a new, fair and effective international framework for greenhouse gas emissions in which all major economies will participate by 2015. This is to be considered as good progress compared with the one achieved by the Kyoto Protocol, in which a framework for GHG emissions was imposed upon only developed nations and not on developing ones. This structural weakness in the Kyoto Protocol resulted in encouraging companies in developed nations to relocate their production facilities to developing nations to get the benefits of much less rigorous restrictions upon GHG emissions in those countries than in their own countries. Such a leakage could make the commitment totally useless. In this case as well, however, each firm's decision on the relocation of their production sites is very rational in the light of microeconomic theory, but in the end, if many companies behave similarly, this would have exactly the opposite effect upon GHG emissions, namely that due to such leakage from developed nations to developing ones global GHG emissions could increase more than otherwise.

In order to avoid such a fallacy of composition, what is to be done? I think there should be a national or worldwide consensus on what macroeconomic objective is to be achieved eventually. In the first case, a national consensus that economic growth should be the first priority, and thus fewer children, would lead to a failure to achieve this goal, which could hamper the national welfare. In the second example, I think we should have a global goal for reduction of GHG emissions so that everybody knows that a leakage of GHG emissions from developed countries into developing ones would lead to a failure to achieve such a global goal and that this would be detrimental to both the developed and developing world.

In other words, without the setting of such a common macroscopic goal, it should not be relevant to talk about the issue in the context of this "Fallacy of Composition".

For example, we can point to the increasing weight of non-permanent employees in Japanese corporations as one of the significant changes in Japanese capitalism. Non-permanent employees are not so devoted to their corporations and the employers do not consider them as equal to their permanent employees in terms of salary and fringe benefits, or status and promotion within the firms and how well they can be integrated into the corporate culture or management. The merit of such a new mode of employment is that the employers can save labor costs, since the salaries of non-permanent employees are lower than those of permanent ones, whereas non-permanent employees can have a wider range of alternative employment as they can leave a firm more easily than permanent ones. This is certainly a clear deviation from standard Japanese management which is characterized by the extreme devotion of the employees to the firms and the employers' full and permanent care for their employees. And thus, whereas this system is successful in reducing labor costs for the employers, this different treatment of permanent and non-permanent employees would occasionally end up in making the non-permanent employees feel they are being exploited by their employers and unhappy about their lives.

In order to avoid this, the government has an incentive to abolish such employment customs legally. This would be a legitimate policy and rational as far as employees' benefits are concerned. However, some economists might say it would be another example of the fallacy of composition, since more macroscopically stable employment should be a policy goal, and in this regard the prohibition of non-permanent employees could lead to an increase in unemployment by giving employers an incentive to fire their employees in order to deal with possible rises in labor costs due to the policy preventing them from hiring the cheaper non-permanent employees.

Minimizing unemployment is certainly a relevant policy goal, but in this case we should not forget another important policy goal, which is improvement of working conditions not only for permanent employees but also for non-permanent ones.

Assuming that prohibition of non-permanent employees could lead to this fallacy of composition in the above-mentioned sense, if the government leaves this employment custom as it is, the latter goal cannot be achieved. The solution could be to make the working conditions between permanent and non-permanent employees as equal as possible and to adopt a stimulating policy to increase effective demand and minimize unemployment. JS

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