

Comments
on
Jan de Vries's 'The industrious Revolution in East and West'

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The term 'industrious revolution' sounds familiar to Japanese ears, because about three decades ago Akira Hayami started using the term when describing changes in the proportion of cattle and manpower in agriculture that took place during the Tokugawa period. Hayami and many others thought that the term would go a long way towards a better understanding the historical processes of economic development. Professor de Vries's thoughtful, comparative exposition of this issue, therefore, is very welcome.

Before going over the arguments in the de Vries paper, however, it should be realised that Akira Hayami chose the term 'industrious revolution' in order to separate Tokugawa Japan's experience from that of the west. He did not see the tendency towards 'industriousness' as a general, universal process associated with economic development. He wanted to show that compared with the western case, in which agrarian progress in the seventeenth and eighteenth centuries was achieved to a large extent by the increased input of capital, the Japanese pattern was rather unique in that more and more labour was used in the course of pre-modern economic growth. This is the stance that Jan de Vries does not take. He regards an 'industrious revolution' as a precedent leading to modern economic growth in *both* Asian and European cases. In other words, he sees the tendency towards 'industriousness' as a universal process in the course of economic development. I agree with him on this point.

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There are, of course, differences in pattern between East and West in relation to the industrious revolution. In both cases, industriousness was achieved by households. It was changes in household behaviour that were the key to understand the nature of economic development. However, it is argued, the western household interacted more with market conditions than with demographic or institutional factors. Markets figured prominently in the substitution of purchased consumer goods (or *X* goods) for home-made household goods (or *Z* goods), which was associated with a simultaneous increase in the proportion of market-oriented production. In the East,

on the other hand, household members became industrious as their market contact increased. But it did not necessarily mean that their production behaviour shifted entirely to market orientation. Careful planning and labour absorption that characterised the industrious household in peasant society are 'to a large extent *substitutes* for market transactions' (p.7). All this implies that the proliferation of commodities, both final and intermediate goods, was limited while regional specialisation was less marked in, for example, Tokugawa Japan than in eighteenth-century Europe.

This is an interesting hypothesis. It is worth dwelling on, although my sense is that there were undoubtedly differences, but it was one of degree not of kind.

Firstly, I should like to admit that his hypothesis is very attractive to me, because in the early 1980s when the late Franklin Mendels organised a conference on proto-industrialisation, I gave a paper arguing that regional specialisation, a geographical manifestation of the increased division of labour in the Tokugawa economy was less marked than in European proto-industrial economies, while the division of labour took place as a gender division of work within the household ('Population and the peasant family economy in proto-industrial Japan', *Journal of Family History*, vol.8, 1983). Indeed, it is rare to find farm households in Tokugawa proto-industrial districts that gave up rice cultivation in favour of market-oriented cottage industry. Marriage ages did not respond to increased employment opportunities, so that population density tended to remain relatively sparse in those industrial districts than in rice producing regions. In other words, what I put forward in my own article seems to fit nicely with de Vries's argument in his paper.

Secondly, however, this does not imply that regional specialisation, one manifestation of market expansion, was insignificant in the Tokugawa economy. Unfortunately little is known about the consumption side of the equation. What can be said at this stage is that there was a slow increase in living standards, while it is difficult to call it a 'consumer revolution'; and that given the nature of the Tokugawa household economy, the gap between its full income and money income (i.e. $Z - X$) must have remained substantial even at the end of the Tokugawa period. On the production side, however, there is more evidence. In the case of silk textiles, for example, reeling districts emerged in various places as geographically separated from weaving centres. In cotton, ginned cotton was produced and sold to upland districts that specialised in weaving. Undoubtedly, markets for intermediate inputs emerged during the Tokugawa period. It is true that most active in those processes were merchants

operating on a putting out basis. However, it is unlikely that households involved in the processes were simply passive agents facing market penetration. Nor is it likely that they did not interact with some kind of increased market orientation at the level of household behaviour in those cases. In short, the evidence on proto-industrial production suggests that it is difficult to claim that they 'reflect market *contact*, but [were] not primarily market *oriented*' (p.7).

A third point to remember is that when generalising the pattern into the East Asian one, we have to come to terms with the Chinese peasant. The Chinese peasant was very much market-oriented, as stressed by many. Undoubtedly there must have been vast regional variations in terms of market contacts. However, traditionally institutional barriers to market transactions were very low in China, so low that it is likely that their behaviour had already incorporated some kind of market orientation well before the nineteenth century. I am no expert in Chinese history. But this China issue, I think, will remain problematic in any kind of comparative market-featuring argument.

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Finally, let me broaden what Professor de Vries argued in his paper, by using the term 'Smithian growth' which I borrowed from Ken Pomeranz. This is to extend my comments on the general theme of this workshop, 'labour-intensive industrialisation'.

The Smithian world is subject to constant returns to scale. So, there can be growth as long as both land and labour increase in an interacting manner. However, it is also the world in which diminishing returns will set in as soon as land becomes limited. There can be two major sources from which growth can be achieved. One is market growth. Regional specialisation in agriculture, flexible allocation of labour, and the proliferation of local industrial districts—these are the key elements of market growth. But since this is what de Vries described at length in the paper (p.11), there is no need to elaborate on the proposition.

There is another source of growth, however. That is an increase in skill intensity, and this brings Ester Boserup back into the picture. Jan de Vries began the discussion with the Boserup thesis. He pointed out, rightly, that Boserup brought 'technology' into the classical Malthusian equation, but made no mention of 'markets' (p.5). However, I think that we may dwell on the technology question a little longer. Her thesis is that population pressure led to agricultural intensification, which took the form of changing pattern of land use, from forest fallow to shorter fallow, from single to

multiple cropping. This process, it is claimed, resulted in both higher total output and higher output per man-hour (E. Boserup, *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure*, London, 1965). Undoubtedly Tokugawa Japan saw the final stage of this process, with its consequence being longer hours of work by both male and female workers (O. Saito, 'Gender, workload and agricultural progress: Japan's historical experience in perspective', in R. Leboutte, ed., *Proto-industrialization. Recent Research and New Perspectives in Memory of Franklin Mendels*, Geneva, 1996). It is obvious that total output increased with a better utilisation of seasonally unemployed human and animal resources. What is not quite clear in her account, however, is why the switch from single to multiple cropping resulted in higher *labour* productivity. We have to assume that cultivators' skills are enhanced—skills in relation to, for example, the choice of crop mix, seed selection and fertiliser. I would say, therefore, that Boserup brought 'technology' into the equation, but made no mention of 'skills'.

What we are discussing now is the role of labour intensity in global industrialisation. In economics, technology is measured in terms of the combination of capital and labour. However, we will be able to bring a sense of realism by looking at skills into this capital-labour dichotomy. Akira Hayami fiddled with that dichotomy. Kaoru Sugihara, the organiser of this workshop also assumes this when he says that 'labour-intensive industrialisation was more important for the global diffusion of industrialisation than capital-intensive industrialisation' (although he does pay attention to the quality of labour). However, we should realise that there are two totally different scenarios for increasing labour intensity. One scenario is the case in which productive activity becomes more skill intensive, whereas the other is nothing but an increase in the input of cheap labour. Indeed, Jan de Vries hinted this by saying that 'industriousness was a 'training ground for a more disciplined labor force', but stopped short of introducing a more explicit concept of 'skill intensity' (p.4).

The usefulness of this new concept, I believe, is that with this, we can argue that the west European type of industrialisation was *skill-intensive as well as capital-intensive*. In fact, it allows us to think of other types of industrialisation such as Soviet industrialisation being the capital-intensive and skill-saving type, and many LDC's being the cheap labour-intensive type. Japanese proto-industrialisation, on the other hand, may be characterised *not just by labour intensity, but also by skill intensity*. For the early twentieth century, it is often argued, Japanese industrialisation became capital-intensive while the whole industrial structure became dualistic with the lower layer being labour-intensive small-scale industries and their wages low. But by asking

if those small-scale industries were really cheap labour-using, and to what extent skill intensive they actually were, we will probably be able to question the stereotyped image of the dual structure of the interwar period.

In terms of labour-leisure trade-off, increased industriousness means a reduction of leisure time. However, reduced leisure time may not necessarily mean an increase in drudgery. Increased work time could be used for improving skills by on-the-job training. On-the-job training or learning by doing should be counted in work time, but cannot be regarded as an example of drudgery because it enhances the worker's skill. In the European case the term skill is associated with *urban* craft guilds in medieval and early modern times, with which many identify some continuity on the shopfloor in modern industry. In contrast, my guess is that in Japan we have to seek such attitude towards skill in the *rural* farm household. As Tom Smith said long time ago, labour-intensive agricultural methods developed in Tokugawa Japan tended to 'strengthen its handicraft character' (*The Agrarian Origins of Modern Japan*, Stanford, 1959, p.105). I believe that we have to understand the ways in which the longer hours of work and this handicraft character of farming got linked in order to understand the nature of Japanese 'industrious revolution'.