(i)   Parallel Session 8A: Price Comparisons
(ii)   Spatial Price Differences in China – Implications for Poverty
(iii) Assistant Professor, PhD at NHH, ingvild.almas@nhh.no
(vi)   Text of the abstract in the following

Summary

Since reforms were initiated in 1978, the economic development of China
has been tremendous. The World Bank reports that the poverty reduction
has been significant in this period (The World Bank 2009). The poverty
measures are however subject to debate and uncertainty (Chen and
Ravallion 2008; The World Bank 2009). Correcting for the cost of living
is essential to poverty measurement, making prices a central part of the
poverty reduction discussion (Gong & Meng, 2008). Considering the
geography and large population of China, regional price levels are likely
to differ. It has been suggested in the literature that urban prices are
systematically higher than those in rural areas (Brandt and Holz 2006).
Alwyn Young (2000) documents that provincial protectionism evolved
throughout the reform process, which contributed to increasing price
level differences. It is thus reasonable to expect that failing to adjust
for regional price levels has a significant impact on poverty estimates.
More specifically, as we expect prices to be relatively lower in rural
areas, this has the potential to lead to an overestimation of rural
poverty relative to urban poverty. However, identifying price levels that
allow for comparisons across provinces, i.e. Spatial Price Indexes (SPI)
is challenging methodologically as well as empirically, as a lack of
sufficient data is often an issue.

In this thesis we make a first attempt to identify Chinese SPIs by
applying a simple, but empirically robust, economic theory – namely
Engel's law – on Chinese household data. Incomes are then adjusted using
the new price estimates given by the SPI, providing new estimates of real
income. National poverty lines using the 1 dollar a day definition are
constructed, and poverty estimates based on nominal and real income are
then compared in order to investigate the effect of adjusting for spatial
price level differences.

We estimate Engel curves for food based on Chinese household data on
consumption expenditures. The resulting price level estimates are used to
derive the SPIs. This method is similar to that of Hamilton (2001).
Hamilton uses Engel's law to estimate bias in the consumer price index.
Hamilton suggests that the Engel curve approach could be extended and
used in the estimation of movements in the cost of living. By
acknowledging the analogy between the SPI and the CPI we are able to deal
with the problems related to the construction of the SPI directly- by
applying the method proposed by Hamilton to estimate spatial price levels
for Chinese provinces.

This allows us to investigate whether provinces have different price
levels, and furthermore whether the price levels differ according to

whether a household is located in the urban or rural part of the provinces. Engel's law provides the theoretical background, and the method is based on the same principles as Hamilton's method. Consequently, the idea is that if two identical households located in different provinces have the same budget share for food but different nominal income; this reveals a price level difference. Adjusting incomes using these price level estimates, we get new estimates of real income, which allows us to investigate how adjusting for spatial price level differences affect poverty estimates.

To findings for relative prices are now presented. First, we find that there are large differences between rural and urban price levels in both 1995 and 2002. Second, the SPI estimates show less national price dispersion in 2002 compared to 1995. Subsequently, adjusting incomes for spatial price differences has a large effect on poverty estimates, from which six poverty findings appear. First, national poverty rates are significantly lower when adjusting for spatial price differences. Second, nominal incomes on the one hand indicate that there was a reduction in poverty from 1995 to 2002 – real incomes, on the other hand, indicate the opposite. Third, the urban poverty incidence is higher when correcting for local price levels. Fourth, nominal incomes indicate that urban poverty is increasing in the period from 1995 to 2002, while urban poverty is reduced in this period according to real income measures. Fifth, adjusting for different price levels greatly reduces rural poverty incidence, nevertheless poverty is still a rural issue. Sixth, the urban/ rural poverty gap is reduced throughout 1995-2002 in nominal terms, but this pattern is not evident when examining poverty estimates based on real incomes.

The chosen approach in this thesis has two clear advantages. For one, even in cases where regional price data actually exists, the construction of a SPI is a time-consuming and a complex procedure (see Brandt and Holz (2006) for a thorough explanation). The Engel curve approach however, is much more straightforward and less tedious approach. Second and perhaps the most important argument, the strength of the Engel curve approach is that the cost of living is inferred directly from consumer behaviour (Hamilton 2001). Moreover, the strength of this analysis is the inclusion of a large number of rural as well as urban households covering several provinces in all of China's regions. When considering poverty rates, inclusion of rural areas is of utmost importance. This allows for the investigation of the relative price levels of the less advanced economic regions compared to urban areas.

The statistical software used in this thesis is Intercooled Stata 9.0. The household data are provided by the Inter-university Consortium for Political and Social Research (ICPSR), and the results are derived from data from the two following studies:

ICPSR Study 3012
Title: Chinese Household Income Project, 1995
Principal Investigator(s): Riskin, Carl, Zhao Renwei, and Li Shi

ICPSR Study 21741
Title: Chinese Household Income Project, 2002

Principal Investigator(s): Shi, Li