Current Situation of Macro Economic Imbalances in the U.S. & UK — Including Comparison with the Situation from Japan's Economic Bubble through Post Bubble Period — [1]

December 2009

OUTLINE

- Survey of previous studies:
  - Almost all share the point that expansion of various macro economic imbalances became a cause of financial crisis.
  - Many view the U.S. and UK imbalances as still unresolved, while some judge that certain adjustment progress can be seen.
- Confirmation of various data:
  - Looking at a flow basis, rapid improvement in the U.S. current account, and in household saving rates in both the U.S. & UK. Business investment maintains the moderate pace from before.
  - Most asset prices also returned to their status before their rapid climb, and are currently in a rebound.
  - The UK current account and housing prices and U.S. & UK fiscal balances are in extremely bad situations. U.S. commercial real estate prices continue to fall.
  - Moreover, both countries' households hold large debts, especially housing loans. Also, non-financial corporations in the UK still hold excessive debt.
- In sum, expansion of imbalances in Japan's economic bubble period was seen focused in the corporate sector, whereas in pre-crisis U.S. it was focused in households, and in the UK in both households and corporations. In terms of scale compared to Japan, the U.S. is somewhat smaller, UK is somewhat larger. Current adjustments are only "ⱴ" (inverted-check mark) forms for both countries, suggesting limited economic recoveries.

Degree of imbalance expansion in USA & UK, & form of adjustment to present

			Expansion of imbalance 1H=1st Half, 2H=2nd Half	Magnitude	Current status Japan: Post bubble	Adjustment form
Flow basis indices	Current account	USA	Deficit grew fast since early 2002	5	Deficit peaked in 2005Q4, then shrunk to 1999Q1 level	V
		UK	Deficit grew fast since 2005 2H	4	Deficit peaked in 2006Q4 then shrunk quickly, regrew in 2009Q2	W
		Japan (bubble to post-bubble)	Maintained surplus, but its % of GDP fell	0	Surplus grew in 1990s, its % of GDP also rose	—
	Household saving rate	USA	Fell even more since mid 1998, lowest in 2008Q1 at 1.2%	4	Bottom in 2008Q1, then quick rise to 1998 2H level	V
		UK	Steady decreases again since 2001, temporarily negative	5	Bottom in 2008Q1, then quick rise to 2000 2H level	V
		Japan (bubble to post-bubble)	Fell through the 1980s, from 18% in 1980 to 13.5% in 1990	3	Rose temporarily in 1991, but tended to fall since then	W
	Private business investment	USA	Increased with economic growth, slightly higher % of GDP	0	5 consecutive quarterly declines till 2009Q3	—
		UK	Grew with economic growth, % of GDP generally flat	0	4 consecutive quarterly declines till 2009Q2	—
		Japan (bubble to post-bubble)	Grew fast in late 1980s, also rose fast as % of GDP	3	Reversed into decline, down in 1996Q1 to 1985 1H level as % of GDP	U
	General government fiscal balance	USA	Constant deficits, improved from 2004 to 2006	0	Worse after financial crisis, worst since WWII	L
		UK	While in deficit, slightly improved 2004-05, improved 2006	0	Worse after financial crisis, worst since WWII	L
		Japan (bubble to post-bubble)	Improved through 1980s, surpluses in 1988-92	0	Worse & turned to deficits in 1990s, improved 2004-07	ᒐ
Asset price related indices	Housing prices	USA	Rose quickly till spring 2006, big gap with GDP	2	Fast drop since mid 2006, closed gap with GDP in early 2009	V
		UK	Rose quickly till autumn 2007, big gap with GDP	3	Fast drop since end 2007, still gap with GDP today	ⱴ
		Japan (bubble to post-bubble)	Rose quickly in late 1980s, big gap with GDP	3	Fast drop since 1991, closed gap with GDP in early 1997	U
	Commercial real estate prices	USA	Rose quickly till autumn 2007, big gap with GDP	2	Fast drop started late 2007, closed gap with GDP in 2009Q2	V
		UK	Rose quickly till mid 2007, some gap with GDP	1	Fast drop started 2007 2H, closed gap with GDP soon after	V
		Japan (bubble to post-bubble)	Rose quickly in late 1980s, big gap with GDP	3	Fast drop since 1991, closed gap with GDP in early 1996	U
	Stock prices	USA	Repeated historic highs in 2006-07	3	Fast drop from autumn 2007 to this spring (to April 1997 level)	V
		UK	Fast rise from spring 2003 to mid 2007	2	Fast drop from 2007 2H to this spring (to March 2003 level)	V
		Japan (bubble to post-bubble)	Rose fast through late 1980s, historic high at end 1989	3	Fast drop from early 1990 to Aug.1992 (to Mar.1986 level)	V
Private non-financial sector debt side indices	Debt of households & non-financial corporations	USA	Somewhat faster expansion since around 2005	2	Expansion slowed since 2008Q1, but slight rise as % of GDP	L
		UK	Fast expansion since around 1998, also rose fast as % of GDP	3	Slowly shrunk since 2008Q2, but slight rise as % of GDP	L
		Japan (bubble to post-bubble)	Fast expansion in late 1980s, also rose fast as % of GDP	3	Slow increase till FY95, in FY04 was under FY84 level as % of GDP	U
	Household debt	USA	Fast expansion since late 1990s, also rose fast as % of GDP	4	Shrunk 3 consecutive quarters since 2008Q4, flat as % of GDP	ᒐ
		UK	Fast expansion since 2000, also rose fast as % of GDP	5	Shrunk in 2009 Q1 & Q2, but rose as % of GDP	L
		Japan (bubble to post-bubble)	Expansion in late 1980s, also rose fast as % of GDP	3	Slowed since 1990, to level at end of 1980s as % of GDP	U
	Non-financial corporate debt	USA	Increased with economic growth, flat as % of GDP	0	Expansion slowed since 2008Q1, but slight rise as % of GDP	L
		UK	Fast expansion since around 1998, also rose fast as % of GDP	2	Shrunk 2 quarters in 2009 1H, also slight fall as % of GDP	ᒐ
		Japan (bubble to post-bubble)	Fast expansion in late 1980s, also rose fast as % of GDP	3	Shrunk since FY92, in FY2000 under FY84 level as % of GDP	U
Overall Evaluation *Average of 9 items, excluding double-counting (Debt of households & non-financial corps.). Imbalance magnitude was recalculated with Japan as 3.		USA	Expanded imbalance focused on households, also large rise in asset prices	2.9	Adjustment progress in almost all aspects of flows & asset prices, debt side imbalances remain	ⱴ(3.4)
		UK	Fast imbalance expansion in both households & corps., also large rise in asset prices	3.1	Adjustment progress in many aspects of flows & asset prices, debt side imbalances remain	ⱴ(2.6)
		Japan (bubble to post-bubble)	Expanded imbalances focused on corporations, also large rise in asset prices	3	Recovered to previous levels by slow adjustment, but adjustments still continue in several aspects	U(3.5)

Note 1: Refer to next page regarding "Imbalance magnitude" and "Adjustment form".
Note 2: In the "Expansion of imbalance" column boxes for the USA and UK, the pink backgrounds indicate imbalance expanded, green indicates imbalance did not expand.
Note 3: In the "Current status" column for the USA and UK, the light pink backgrounds are adjustment forms "L" and "W". Yellow are "ᒐ" and "ⱴ". Blue are "V", "U" and "—".

---

[1] This paper was written by Yasuhiro Ishimaru (Email: yasuhiro.ishimaru@fsa.go.jp) of the Financial Services Agency, Planning and Coordination Bureau, Policy and Legal Division, Financial Market Analysis Office. The contents and opinions in this paper are personal views of the author, and do not express the official views of the FSA or the Financial Research and Training Center.

This paper is comprised of three chapters: "I. Various Views on Macroeconomic Imbalances", "II. Current State of Macroeconomic Imbalances as Seen from Data", and "III. Conclusion". Also, the following analyses cover the entire economy or narrow their focus to the private non-financial sector (of the U.S. and UK where imbalances were especially prominent). Thus the paper only briefly touches on the financial sector's imbalances in its final section, but as is well known, this sector's trends had broad and large impacts both before and after the current financial crisis.

I. Various Views on Macroeconomic Imbalances

Expansion of various imbalances is one cause of the current financial crisis

- The *Annual Report on the Japanese Economy and Public Finance 2009* published on July 24 performs a detailed analysis of the current financial crisis. This report leads to the conclusions that "Expansion of global imbalances are in the background of the crisis, as limits on the U.S. growth model of expanded consumption via debt became clear", "The existence of the U.S. current account deficits with surpluses in other major regions including Japan was in the background of the flow of international funds to the U.S. which preceded the current financial crisis", and "Such global imbalances also reflected the financial surpluses or deficits in household, corporate and government sectors in each country". (Fig.1)

Degree of Imbalance Expansion, Evaluation of Adjustment

●Degree of imbalance expansion = "Imbalance magnitude"

The writer himself assigned points (relative evaluation assigning differences between U.S. and UK where possible) in the range from 0 to 5 (0 if imbalance expansion is not seen, appearance of the levels in the U.S. and UK with Japan as 0), with Japan in the late 1980s economic bubble period rated a 3.

●"Adjustment form"

The writer himself evaluated and classified adjustments towards resolving imbalances, based on current conditions:

V: Very fast progress, early return to previous level (in under 5 years)…5 points

U: Slow progress, takes time to return to previous level (5 or more years)…4 points

√ (inverted-check mark form): Progress, but not yet returned to previous level…3 points

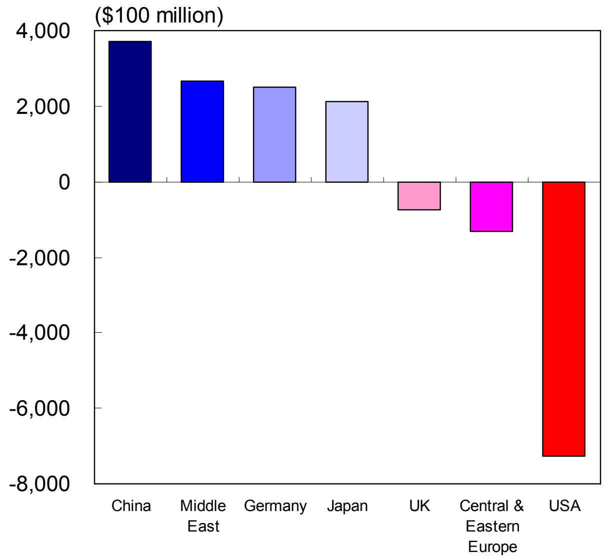
J (inverted-J form): Slow progress, not yet returned to previous level…2 points

W: After temporary progress, imbalance expands again…1 point

L: No progress, or new imbalance now arising …0 points

Depending on the index, the graph shape has excess rising and falling in a Λ (Greek lambda), n, ︿ (Inverse of inverted-check mark), r, M, or Γ (Greek gamma), with the same significance and rank.

(Fig.1) Each country's current account (2007)

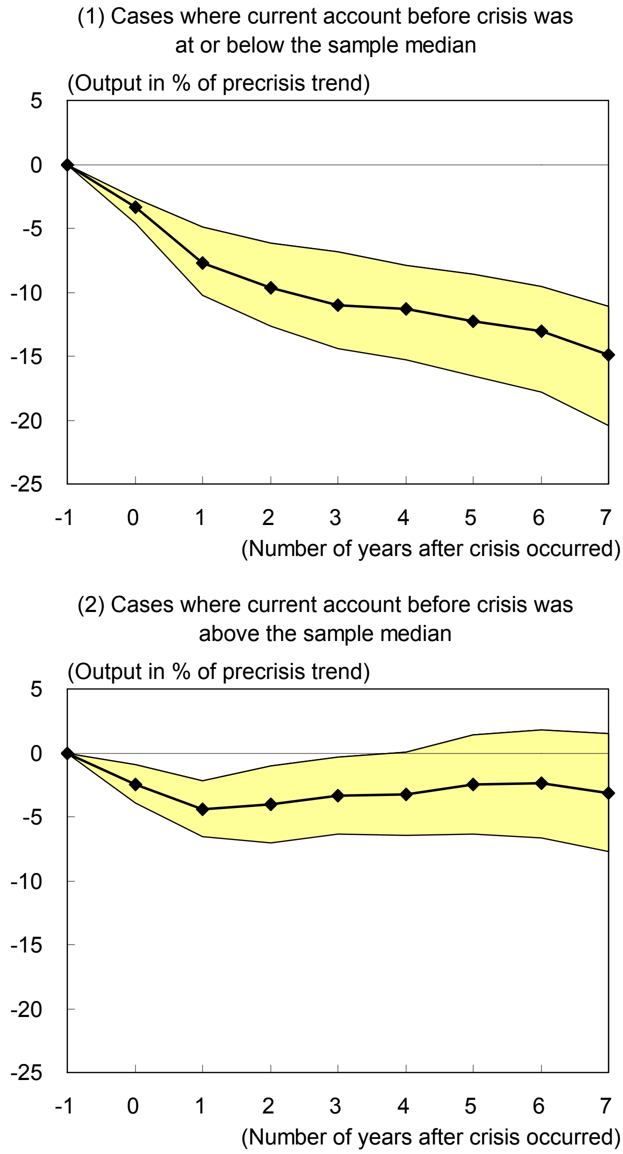


Source: IMF

- Carmen M. Reinhart and Kenneth S. Rogoff compared and investigated past financial crises in their paper published in early February last year: *Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison*. They point out that "Specifically, the run-up in U.S. equity and housing prices (which, for countries experiencing large capital inflows, stands out as the best leading indicator in the financial crisis literature) closely tracks the average of the earlier crises.", and "While each financial crisis no doubt is distinct, they also share striking similarities, in the run-up of asset prices, in debt accumulation, in growth patterns, and in current account deficits". Incidentally, the same is also pointed out in a new book by the two authors: *This Time Is Different: Eight Centuries of Financial Folly*.

- Also, the IMF's *World Economic Outlook* published in late September shows that based on comparative analysis of financial crises which occurred in the world over the past 40 years, "By limiting the room for policy maneuver, the buildup of macroeconomic imbalances may also imply higher mediumterm output losses after a crisis. In particular,…economies with larger current account deficits, rising inflation, and a deteriorating fiscal balance before a crisis experienced significantly larger output losses". (Fig.2)

(Fig.2) Output Evolution versus Precrisis Imbalances



Note: The line with dots shows the median values for sample financial crises which occurred in the world over the past 40 years, grouped into (1) and (2).
The shaded area is the 90% confidence interval.

Source: IMF *World Economic Outlook* (2009/9/22)

Many view such imbalances as still unresolved, and that their correction is still an issue

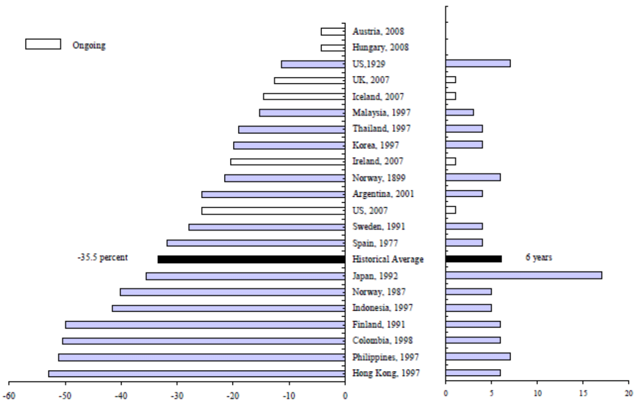
- The Bank of Japan releases its *Financial Markets Report* each 6 months. Its latest August issue showed an understanding that "Economic agents have yet to shrink their balance sheets, which grew excessively during the global credit boom that continued until 2007", and raised as one example "real estate buyers such as households in the United States and the United Kingdom" ("Households in the United States and the United Kingdom are likely to continue curtailing their spending until their degree of leverage returns to an appropriate level").
- Even in the U.S., the epicenter of the current financial crisis, Professor Nouriel Roubini of NYU, asserts that "…true deleveraging has not begun yet because the losses of financial institutions have been socialised and put on government balance sheets" (Financial Times, August 24). The relevant agencies are also making such statements, e.g. Treasury Secretary Geithner "Everyone is going to have to come to terms with the fact that we are going to save more in the United States." (Reuters, Oct. 7), and Fed Chairman Bernanke "For both Asia and the United States, perhaps the greatest medium-term challenge is to achieve more balanced growth and, in the process, to further reduce global imbalances." (Oct. 19 speech at Federal Reserve Bank of San Francisco's

Conference).

- For a sense at a concrete level, Carmen M. Reinhart and Kenneth S. Rogoff raise the example of real housing prices in their paper *The Aftermath of Financial Crises* (published December 19 last year), stating that post crisis "…real housing price declines average 35 percent stretched out over six years,…", and that all countries now experiencing banking crises are below this average (In order of proximity to average historical total % decline, U.S., Ireland, Iceland, UK, Hungary, Austria), showing that adjustment is very much still in progress. (This data is also incorporated unchanged in *This Time Is Different: Eight Centuries of Financial Folly*, a new book by both authors). (Fig. 3)

(Fig.3) Real house prices after banking crises

Peak-to-trough price declines (%) Duration of downturn (years)



Note: White bars are ongoing cases.
Source: Carmen M. Reinhart & Kenneth S. Rogoff, *The Aftermath of Financial Crises*

On the other hand, some judge that certain progress can be seen in correcting imbalances

- Raising one example, there was the G20 Summit held in Pittsburgh on September 24-25. Incorporated in the Leaders' Statement were "Many countries have already taken important steps to expand domestic demand, bolstering global activity and reducing imbalances." and "In some countries, the rise in private saving now underway will, in time, need to be augmented by a rise in public saving".
- The Bank of England Monetary Policy Committee Meeting minutes from August 5-6 clearly showed discussion that "…there were factors that could support household

spending. There had already been a significant downward adjustment in the level of consumption". Although the September 9-10 meeting expressed the judgment that "…the persistence of global imbalances remained downside risks to the sustainability of the recovery".

- In sum, it is conjectured that currently sectors where correction of imbalances is proceeding are mixed with aspects without progress. Below, we check the current state in the U.S. and UK of macroeconomic imbalances from various data (all are the latest data as of Nov.13).

II. Current State of Macroeconomic Imbalances as Seen from Data

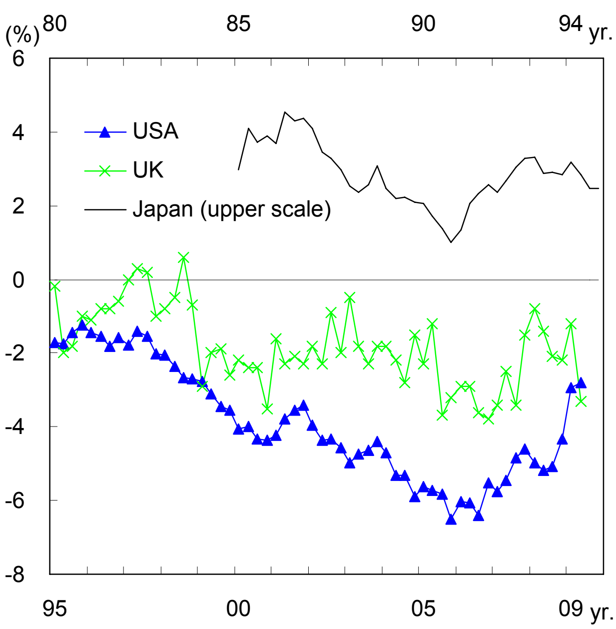
Current account deficit: Quickly shrinks in U.S., re-expansion in UK

- The U.S. current account deficit expanded quickly since its exit from the 2001 recession, then reversed after its peak in 2005 Q4 (6.5% of nominal GDP). It was 2.8% in 2009 Q2, having shrunk for 4 consecutive quarters. This is the same level as in early 1999, similar to the historical average (2.7% since 1980). (Fig.4)

Imbalance magnitude: 5, Adjustment form: V

- The UK current account deficit swelled from the 2005 2nd half to the end of 2006, then shrunk significantly since early 2007. However, it was 3.3% of GDP in 2009 Q2, expanding quickly from 1.2% in Q1, bouncing back to the level it had around

(Fig.4) Current account (% of nominal GDP)



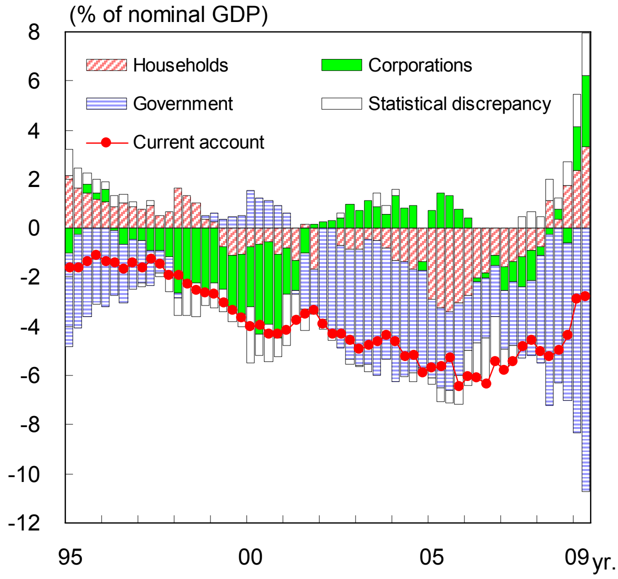
Sources: U.S. Dept. of Commerce, UK ONS, Japan MOF & Cabinet Office

2007 (its recent peak was 3.8% in 2006 Q4). Its level is over double the historical average (1.5% since 1980). Also comparing to the U.S., it was higher than the U.S. for the first time in 10 years since 1999 Q1.

Imbalance magnitude: 4, Adjustment form: W

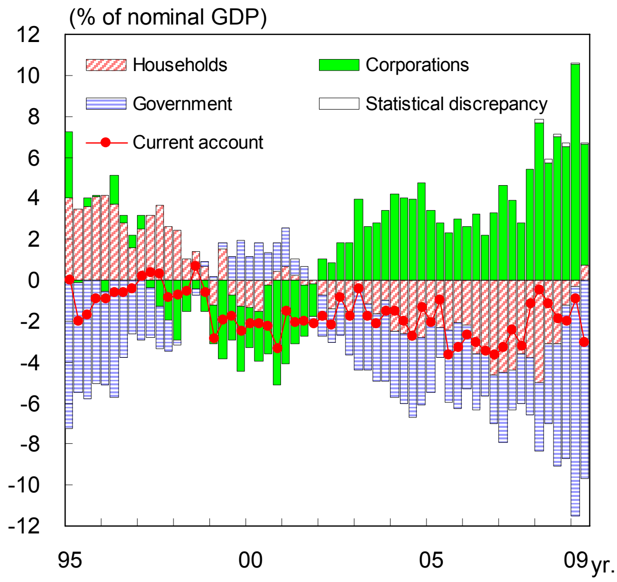
- Incidentally, according to *Current Account Adjustment in Industrialized Countries*, a Discussion Paper put together in December 2000 by a Federal Reserve economist, for the current account 'adjustments' (25 episodes meeting the condition where after the current account deficit exceeded 2% of nominal GDP, the average deficits was reduced by at least 2% of GDP over 3 years) which occurred in 1980-97, their initial median value was 4.9% of GDP, and their average value was 6.3% of GDP. Also in the cases of the U.S. and UK mentioned above, those were roughly the rebound points in the end.
- Looking at the savings-investment (IS) balance, the shrinking U.S. current account deficit was in a background of increased surplus funds and savings in the household sector (including nonprofit institutions) and corporate sector, which surpassed expansion in the government funding shortages and fiscal deficits. (Fig.5)
- Similarly looking at the background of the Q2 re-expansion of the current account deficit in the UK, a large factor is the sudden fall in corporate funding surpluses and savings levels which had been rising for about the past 2 years. In contrast, the household sector (including nonprofit

(Fig.5) U.S. Savings-Investment balance by sector



Note: Gross basis. Households include nonprofit institutions.
Sources: FRB, U.S. Dept. of Commerce

(Fig.6) UK Savings-Investment balance by sector



Note: Net basis. Households include nonprofit institutions.
Source: UK Office for National Statistics

institutions) maintains an improving trend in savings levels (in Q2, turned to a fund surplus and excess savings for the first time in 8 years). On the other hand, the UK continues to run high fiscal deficits like the U.S. (Fig.6)

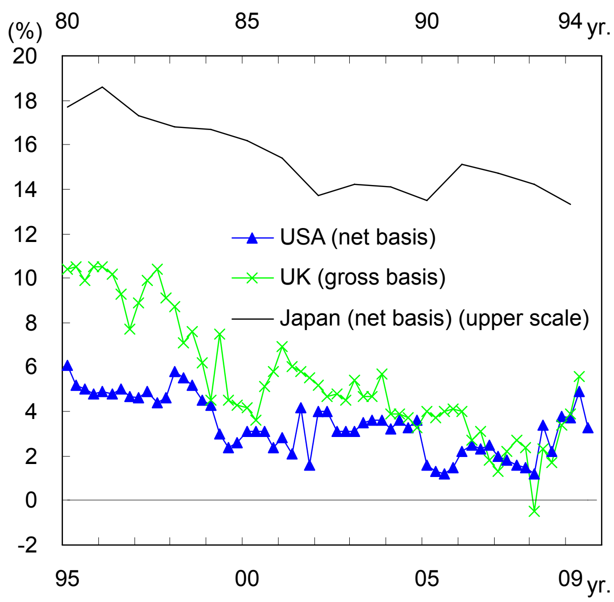
- In Japan in the late 1980s, while maintaining a current account surplus, its share of nominal GDP steadily fell. On this point, Japan's situation differs from the U.S. and Europe which reached financial crises after the year 2000 amidst growing external imbalances. On the other hand, after Japan's economic bubble collapsed, in addition to rapidly shrinking funding shortages in the corporate sector (in contrast, the household sector's funding surplus shrunk slowly), its current account surplus expanded again. (Fig.4 above)

Imbalance magnitude: 0, Adjustment form: —

Household saving rates rose quickly, improving in both U.S. and UK

- The U.S. household saving rate (net basis, including nonprofit institutions) originally tended to be low, but it swung even lower since mid 1998. The recent bottom of 1.2% was in 2008 Q1, 1.9% below the rate in 2000 Q1, 4.9% below 1995 Q1. On the other hand this quickly reversed thereafter, rising in a background of tax cuts for individuals which were largely directed towards savings, as individual consumption was suppressed. The Q2 rate was 4.9%, same as in 1998 2nd half, above the average

(Fig.7) Household saving rate



Note: U.S. and UK include nonprofit institutions
Sources: U.S. Dept. of Commerce, UK ONS, Japan Cabinet Office

level since 1985 (4.8%). It was somewhat lower in the recent Q3, but even so its 3.3% was similar to the average since 1995 (3.4%). Even on a monthly basis, September recorded the first rise after 4 months (5.9% →4.2% →4.0% →2.8% →3.3%). (Fig.7) (Fig.8)

Imbalance magnitude: 4, Adjustment form: V

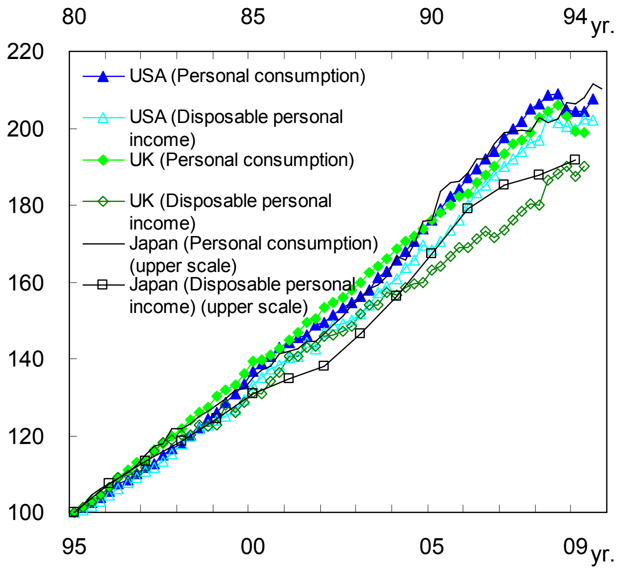
❖ Here, "household savings" differs from the previous section's "funds surplus and savings in the household sector", here not considering consumption of fixed capital (owner-occupied housing etc.) nor residential investment. Subtracting housing investment from consumption of fixed capital generally results in a negative figure (e.g. the U.S. Q2 figure was an annualized $281.1 billion - $345.9 billion), thus "household savings" tends to be greater than "funds surplus and savings in the household sector". Also, "household saving rate" is calculated with disposable income as the denominator, thus its absolute value is larger than figures vs. nominal GDP.

- The UK's household saving rate (gross basis, including nonprofit institutions) fell to a negative 0.5% in 2008 Q1 (4.7% below 2000 Q1, 10.9% below 1995 Q1). Its decrease was much faster than in the U.S., but then it rose in 4 of the next 5 quarters. Its level has returned to 5.6%, above the year 2000 2nd half (5.5%) and above the average since 1995 (also 5.5%). This is similar to the U.S. pattern of suppressed consumption having an effect.

Imbalance magnitude: 5, Adjustment form: V

- In Japan in the late 1980s, expanded consumption led to a fast drop in the household saving rate (1980: 17.7% →1985: 16.2% →1990: 13.5%, net basis). It temporarily rebounded to 15.1% in 1991,

(Fig.8) Nominal personal consump. & dispos. income



Note: U.S. & UK include nonprofit institutions, 1995Q1 as 100.
For Japan, 1980Q1 as 100.
Sources: U.S. Dept. of Commerce, UK ONS, Japan Cabinet Office

but thereafter stagnant incomes and aging demographics have brought a declining trend until now (3.3% in 2007).

Imbalance magnitude: 3, Adjustment form: W

Private business investment didn't go out of order in both U.S. and UK

- U.S. real business investment fell fast since the Lehman shock (down an annualized 2.5% in 2009 Q3 compared Q2, decreasing for 5 consecutive quarters from previous quarter), but excessive growth was not seen before that. As a percent of GDP, it rose 2.1% from its bottom in 2003 Q1 (9.9%) to its peak in 2008 Q2 (12.0%) (In the IT bubble, it even rose 3.2% from 1995 Q1 (8.7%) to 2000 Q3 (11.9%)). Thus the 9.8% in the recent Q3 is below its 10.6% average since the late 1990s. (Figure 9)

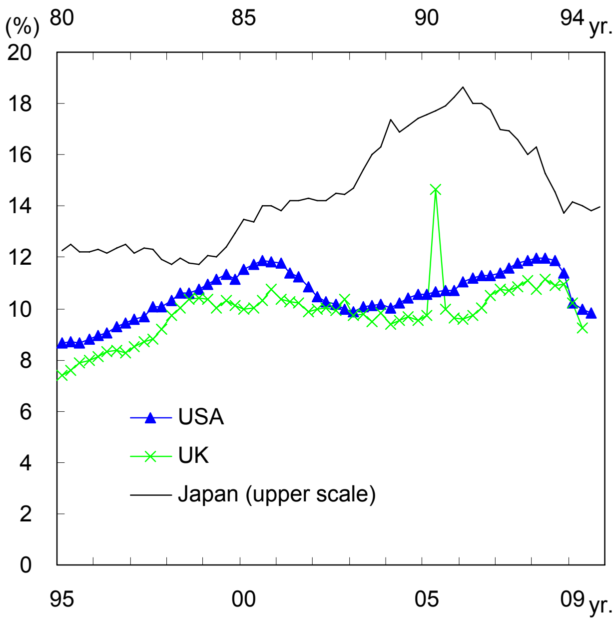
Imbalance magnitude: 0, Adjustment form: —

- UK real business investment fluctuated even less dramatically than the U.S. Actually, it was stable since 2000 at generally within 10% of GDP (it temporarily jumped up in 2005 Q2, but the causes of that are unclear). It decreased for 4 consecutive quarters since the 2008 second half (2009 Q2 was down an annualized 34.9% from Q1), and it also fell to 9.2% as a percent of GDP (which is the lowest level since 1997 Q4, below the 9.8% average since the late 1990s).

Imbalance magnitude: 0, Adjustment form: —

- This contrasts with Japan in the late 1980s,

(Fig.9) Real private business investment (% of GDP)



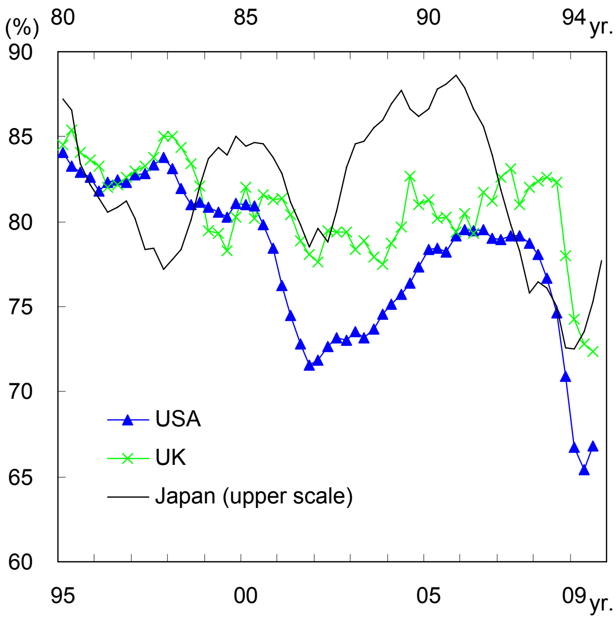
Sources: U.S. Dept. of Commerce, UK ONS, Japan Cabinet Office

when business investment boomed. Of course, its share of GDP also jumped (rising to an 18.6% peak in 1991 Q1, 5.7% above its share in 1984 Q4). However, it continually declined thereafter, never recovering that peak level.

Imbalance magnitude: 3, Adjustment form: U

➢ Capacity utilization in manufacturing industries rose slowly in the U.S. since early 2002 after the recession, and also tended to rise even more slowly in the UK. This also indicates that production facilities expansion did not exceed actual abilities. On the other hand, capacity utilization recently fell quickly until presently in both the U.S. and UK, but this appears to be only a short term phenomena of production adjustments to match depressed final demand. Also in Japan which saw rising capacity utilization in the late 1980s, it continually fell quickly after the economic bubble collapsed, and investors seem to be more careful about overcapacity, a point one must keep in mind which may change evaluations depending on future economic trends. (Fig.10)

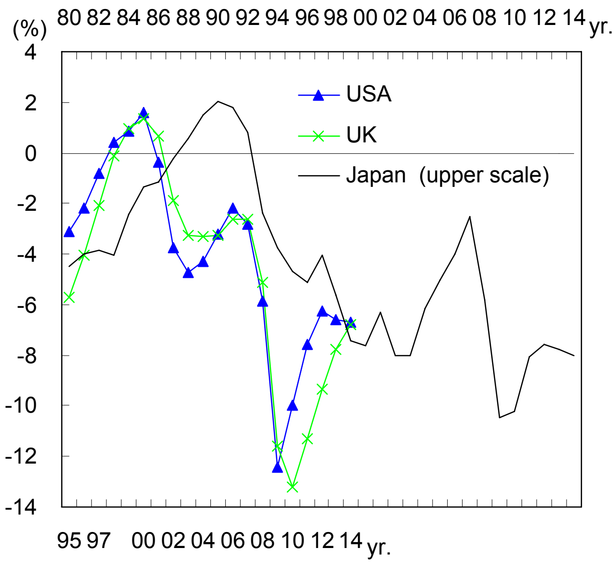
(Fig.10) Manufacturing capacity utilization



Sources: FRB, Eurostat, Japan METI

Much worse fiscal balances, with weak outlook for improvements even far in the future

(Fig.11) General government fiscal balance (% of nominal GDP)



Note: 2009 onwards (2008 onwards for Japan) is from IMF forecast as of October. Source: IMF

➢ U.S. fiscal balances on a general government basis (national and state/local governments, Social Security Trust Fund) improved from 2004 to 2006, but dramatically worsened after the financial crisis. The 2008 fiscal deficit was 5.9% of nominal GDP, up 3.0% from 2007. It is forecast to be 12.5% in 2009, and 10.0% in 2010 (IMF forecast as of October). (Fig.11)

Imbalance magnitude: 0, Adjustment form: L

➢ UK fiscal balances stopped deteriorating in 2004 to 2005, and temporarily improved in 2006, but worsened again thereafter. Its fiscal deficit as a share of nominal GDP is expected to jump from 5.1% in 2008 to 11.6% in 2009, and 13.2% in 2010 (IMF forecast as of October).

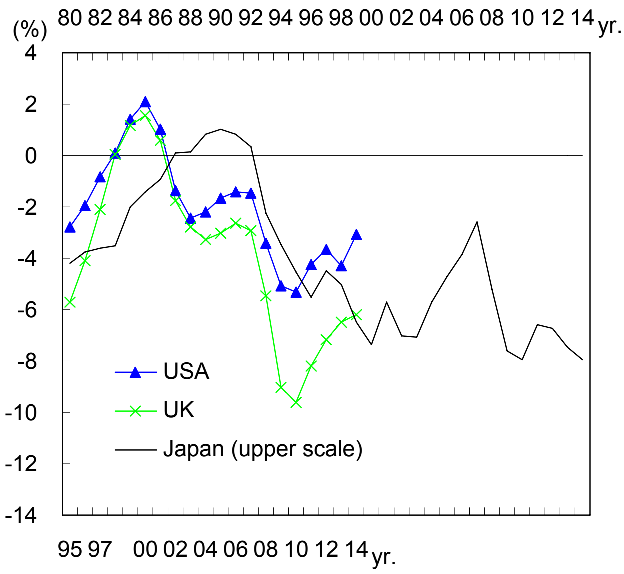
Imbalance magnitude: 0, Adjustment form: L

➢ Japan's fiscal balance continually improved in the late 1980s, recording a fiscal surplus in 1988-92. However, it steadily deteriorated after the economic bubble collapse, recently reaching the worst levels since after WWII (its direction improved from 2004 to 2007, but deteriorated again in 2008).

Imbalance magnitude: 0, Adjustment form: L

➢ Viewed over the medium term, movement towards improved balances is forecast, but even in 2014 both the U.S. and UK deficit levels are expected to exceed the actual 2008 deficit, (forecast by IMF as of October). Moreover, the current balance is not only worse due to the economic cycle (short term lower tax revenues and higher expenditures), but there seems to be an additional large problem of structural aspects (in the IMF forecast, "structural budget balances" will only improve gradually). There are many unclear elements and points of concern as to

(Fig.12) General government fiscal structural balance (% of potential GDP)



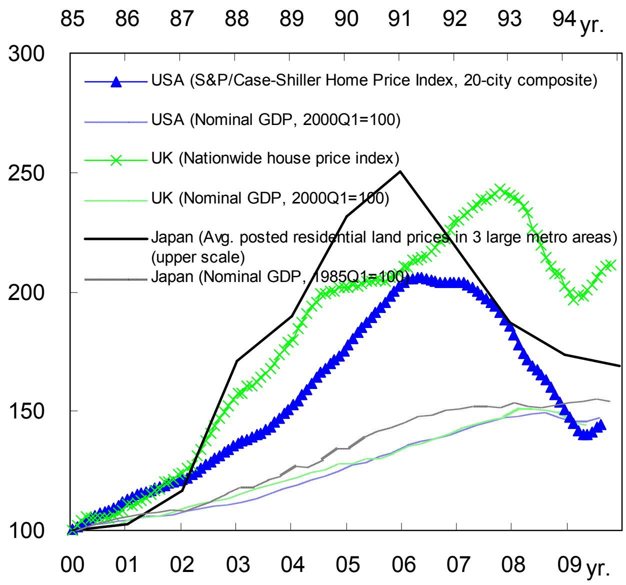
Note: 2009 onwards (2008 onwards for Japan) is from IMF forecast as of October. Source: IMF whether fiscal rebuilding will proceed steadily after economic recovery. (Fig.12)

- Thus while the Bank of Japan recognized in its July *Financial Markets Report* that "The public sector should instead underpin aggregate demand for the time being", there is the added concern that "Global financial markets seem to be aware of the potential risk that expansion of the public-sector balance sheet due to the increasing fiscal deficit will destabilize long-term interest rates".

Housing prices reversed from rapid rises to their current decline, but adjustments may be insufficient, especially in the UK

- U.S. housing prices rose quickly until spring 2006, then suffered large falls, but rose again over the past several months. Looking at the S&P/Case-Shiller Home Price Index (data source is information from local deed recorders and property data vendors) on a 20-city composite basis, the May 2006 peak was over double the level in January 2000. It then fell 32% by this May. On the other hand, it rose for 3 consecutive months in June (up 0.9% from May), July (+1.2%) and August (+1.0%) (It rose 4 consecutive months on seasonally adjusted index. Over a 12 month period, July was down 13.3%, August down 11.4%). Comparing to nominal GDP with 2000 as a starting point, the home price index leapt up (they generally moved together in the late 1990s), but starting this year it showed a relative fall instead (even recently, with the

(Fig.13) Housing prices



Note: U.S. & UK price indices are 100 in Jan.2000, Japan is 100 in early 1985.
Sources: U.S. S&P & Dept. of Commerce, UK Nationwide & ONS,
Japan Ministry of Land, Infrastructure, Transport and Tourism & Cabinet Office

start of the year 2000 as 100, nominal GDP was 147.3 in Q3, while the S&P/Case-Shiller Home Price Index was 144.5 in August). (Fig.13)

Imbalance magnitude: 2, Adjustment form: V

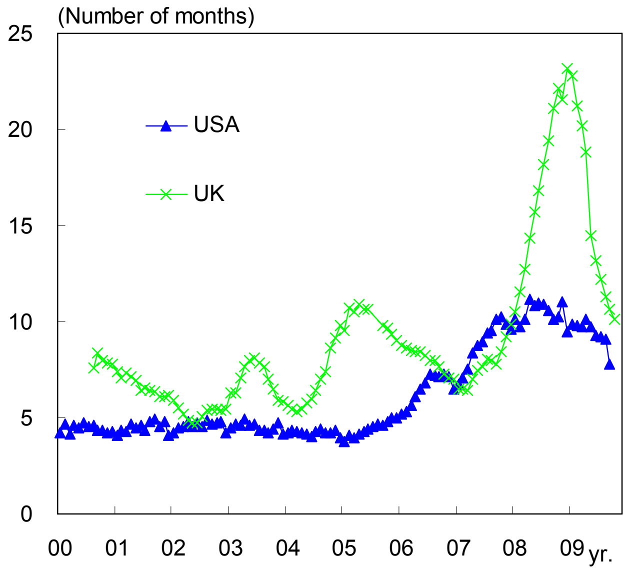
- UK housing prices hit their peak in autumn 2007, about 1.5 years after the U.S., falling until this spring. Thereafter they are in a recovery trend. Nationwide, the UK's largest building society, House Price Index is prepared based on its own lending data. This index rose almost 150% from January 2000 to its high in October 2007. It then fell 19% to its recent low in April this year, thereafter rising for 6 consecutive months from May to October (October is up 0.4% from September, and up 1.9% from 12 months before). However, differing from the U.S., taking the start of the year 2000 as 100, this House Price Index (211.5 in October) is still far above the nominal GDP level (144.3 in Q2).

Imbalance magnitude: 3, Adjustment form: ↘

- Comparing to the average values after past crises as shown in the Reinhart－Rogoff paper of December last year mentioned above: "…declines average 35 percent stretched out over six years,…", housing prices in both the recent U.S. and UK could hit bottom soon. Its evaluation is difficult, but combined with the after-mentioned slow decrease in the inventory ratio, some take the evidence as indicating insufficient adjustment, or the possibility of even more adjustment.

- <u>Focusing on the housing inventory ratio (inventory quantity divided by quantity of sales/month)</u>, the U.S. and UK are now both in declining trends. Recently, the U.S. September ratio had declined for 5 consecutive months to 7.8 months (used 7.8 months, new 7.5 months). The UK October ratio had declined for 10 consecutive months to 10.1 months. However, both are above the levels before their quick rises and also above their historical averages (since the year 2000, the U.S. was 6.1 months, UK was 9.2 months). One can say that downward pressure remains on sales prices. (Fig. 14)

(Fig.14) U.S. & UK Housing Inventory Ratios



Sources: Calculated based on data from the U.S. Dept. of Commerce & National Association of Realtors, and UK Royal Institution of Chartered Surveyors (inventory quantity ÷ quantity sold/month).

- <u>Land prices soared in Japan from the late 1980s</u> to the early 1990s. Average posted residential land prices in 3 large metropolitan areas rose quickly, including a 46.6% rise from early 1987 to early 1988. They continued to rise to early 1991, reaching over 2.5 times their level in early 1985. Thereafter, compared to in 1985, they fell relative to nominal GDP by early 1997, but their decline did not halt there. They continued to decline for 15 consecutive years until early 2006, for a total 60% drop (thereafter, they rose 2.8% in 2007 and 4.3% in 2008, then fell 3.5% in 2009 to almost the same level as in 1985). The *Annual Report on the Japanese Economy and Public Finance 2009* points out that "Considering Japan's experience, one cannot reject the possibility that adjustment of housing prices in the U.S. and Europe will take a long period of time". (Fig.13

above)

Imbalance magnitude: 3, Adjustment form: U

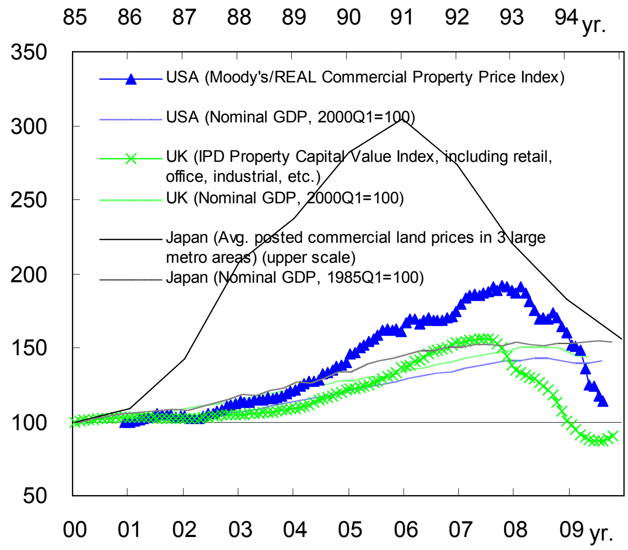
As commercial real estate prices continue falling in the U.S., signs of an end to decline in the UK

➢ U.S. commercial real estate prices generally rose steadily until autumn 2007, then quickly fell continuously until presently. Moody's/REAL Commercial Property Price Index was created using methodology from the Massachusetts Institute of Technology (MIT) Center for Real Estate, based on actual transaction data. Looking at national figures, October 2007 was its peak, at under twice its level in December 2000. On the other hand, it fell 3.0% from this July to August, its 11th consecutive monthly decline, to 41% below its peak. As a result, using the end of the year 2000 as a point for comparison, this price index has fallen relative to nominal GDP since 2009 Q2 (With 2000 Q4 as 100, the nominal GDP level was 141.2 in 2009 Q3. With December 2000 as 100, the Moody's/REAL Commercial Property Price Index was 114.1 in August 2009). (Fig.15)

Imbalance magnitude: 2, Adjustment form: V

➢ UK commercial real estate prices were less volatile than in the U.S., but then rose steadily until mid 2007. They plummeted thereafter faster than in the U.S. The UK research company Investment Property Databank Ltd. (IPD) calculates its IPD Property Capital Value Index (including

(Fig.15) Commercial real estate prices



Note: U.S. price index is 100 in Dec.2000, UK is 100 in Jan.2000, Japan is 100 in early 1985.
Sources: U.S. MIT & Dept. of Commerce, Bloomberg, UK ONS, Japan Ministry of Land, Infrastructure, Transport and Tourism & Cabinet Office

retail, office, industrial, etc.) based on appraised values. This index rose 56% from January 2000 to June 2007, thereafter falling month-on-month for 25 consecutive months until this July (down a cumulative 44% from its peak). This October showed a small 1.9% rise from September, but its level is still low, 10% less than in January 2000. Also, comparing to nominal GDP with early 2000 as the starting point, the gap was small at first, and this index only exceeded nominal GDP for the 8 quarters from 2005 Q4 through 2007 Q3 (The most recent level of the IPD Property Capital Value Index was 90.0 with January 2000 as 100, while Q2 nominal GDP was 144.3 with Q1 as 100).

Imbalance magnitude: 1, Adjustment form: V

- Japan from the late 1980s through the early 1990s saw commercial land prices soar faster than the residential land price increases described above. Average posted commercial land prices in 3 large metropolitan areas recorded a 46.6% jump from early 1987 to early 1988, continuing until they reached a level in early 1991 which was 3 times that in early 1985. They then turned around, falling for 14 consecutive years until early 2005, a cumulative 80% decline. Even in early 2009, they are nearly 30% below the early 1985 level (compared to the start of the previous year, they rose by 1.0% in 2006, 8.9% in 2007, 10.4% in 2008, and fell by 5.4% in 2009). Using 1985 as a comparison point, they fell below nominal GDP in early

1996, 5 years after their peak.

Imbalance magnitude: 3, Adjustment form: U

Stock prices in both the U.S. and UK plummeted following sharp gains, then over the past 8 months they recovered half

- U.S. stock prices (NY Dow) were in a rising trend from autumn 2002, and on October 3, 2006 passed their previous historic high of (11,722.98 on January 14, 2000). From that start, it set 56 historic highs until October 9, 2007 (14,164.53, 94% above October 9, 2002). It plummeted thereafter to this March (its recent bottom was the March 9 close at 54% below its peak, its lowest since April 14, 1997), and then rebounded, rising by over 50% until presently (rising 57.2% from its bottom to its recent high on November 11, closing on November 13 up 56.9%). (Fig.16)

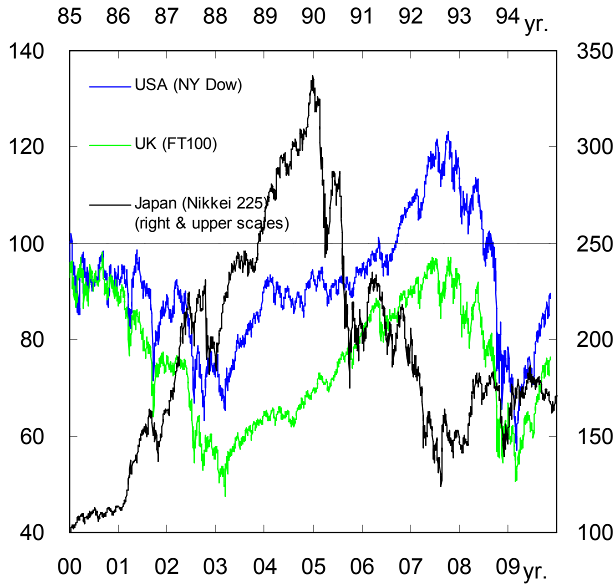
Imbalance magnitude: 3, Adjustment form: V

- UK stock prices (FT100) began their rising trend a little later than the U.S. The FT100 recorded a 105% rise from spring 2003 to June 15, 2007. Even so, it was unable to beat its historic high seen in the end of 1999. It fell thereafter by 48% to this March 3, then (rebounding to its level of March 2003), rising by over 50% until presently (up 50.8% to its recent high on November 13).

Imbalance magnitude: 2, Adjustment form: V

- In Japan in the late 1980s, stock prices rose faster than the rise described above in the

(Fig.16) Stock prices



Note: For U.S. & UK, end 1999 is 100. For Japan, end 1984 is 100.
Source: Bloomberg

U.S. and UK since the year 2000. The Nikkei 225 rose 240% from early 1985 to its historic high of 38,915.87 at the end of 1989. Then in the early 1990s it experienced a drop to August 18, 1992, its lowest level since March 12, 1986. It temporarily rebounded thereafter, but still cannot break out of its slump.

Imbalance magnitude: 3, Adjustment form: V

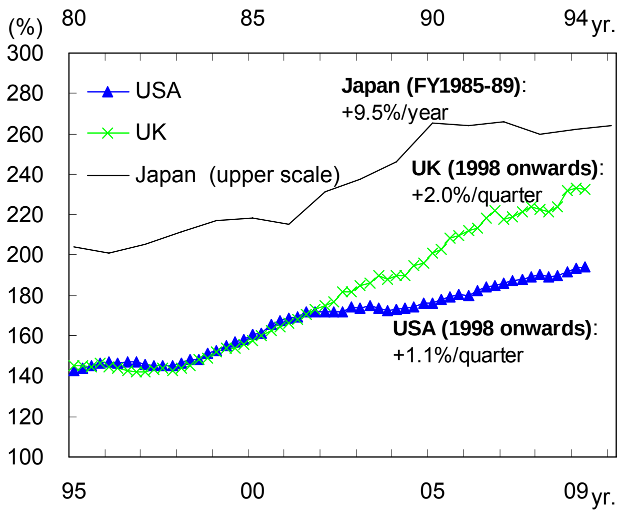
Private non-financial sector debt expanded slowly in the U.S. It soared in the UK, and now its adjustment is also lagging

- U.S. private non-financial sector debt somewhat accelerated its growth from around 2005. Looking at debt balances (loans, CP, corporate bonds, accounts payable, etc.) held by households (including nonprofit institutions) and private non-financial corporations as a percentage of nominal GDP, after successive declines in the 2nd half of 2003, it generally rose continuously until 2009 Q2 (0.6% above Q1, to 193.8%). However, its pace of 1.0% growth per quarter is slow compared to the 1.9% quarterly in 1998-2000 (it averaged 1.1% from 1998 to 2009 Q2). Also, debt balance growth has been even weaker recently (down 0.5% from Q3 to Q4 in 2008, down another 0.2% in 2009 Q1). As a percent of nominal GDP, it continues to rise albeit slowly. (Fig.17)

Imbalance magnitude: 2, Adjustment form: L

- UK private non-financial sector debt began a fast expansion trend around 1998. Its

(Fig.17) Debt balance (% of nominal GDP) of private non-financial sector (households + non-financial corporations)



Note: Debt is loans, CP, corporate bonds, accounts payable, etc. Households include nonprofit institutions.
Sources: U.S. FRB & Dept. of Commerce, UK ONS, Japan BOJ & Cabinet Office

2.0% growth per quarter as a percentage of nominal GDP (1998 to 2009 Q2) was about twice the pace in the U.S. It then fell in 3 of the 6 quarters since the start of 2008 (Down 1.1% from end Q1 to Q2 2009, to 232.2%. Its balance fell in 3 of the 5 quarters since 2008 Q2.), though each decrease was small. As a result, its percentage of nominal GDP did not fall at all during that period.

Imbalance magnitude: 3, Adjustment form: L

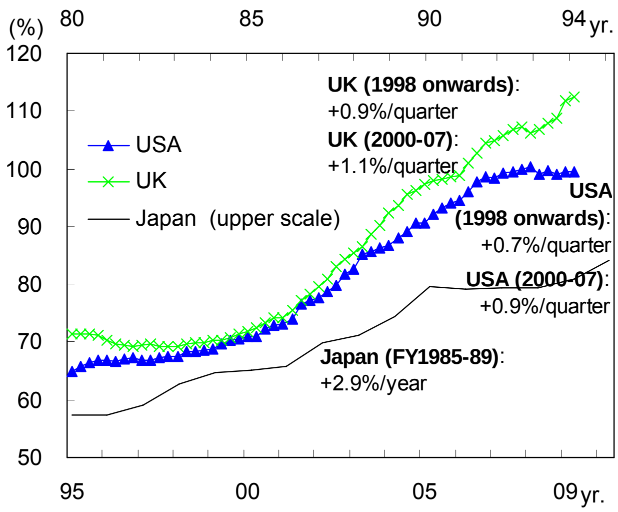
- In Japan in the late 1980s, private non-financial sector debt swelled quickly. It was 218% of nominal GDP at the end of FY1984, leaping to 265% by the end of FY1989 (up 9.5% per FY). It went on to record its peak of 268% at the end of FY1995 (its balance also grew until FY1995), then went into a declining trend (217% in FY2004, below its level at the end of FY1984. Also 216% at the end of FY2008, almost the same level).

Imbalance magnitude: 3, Adjustment form: U

Household sector debt grew quickly in both the U.S. and UK, especially residential mortgages, finally peaking out in the U.S.

- U.S. household sector debt grew steadily in the late 1990s, then even faster after the year 2000, finally coming to a halt recently. Its balance declined slightly for 3 consecutive quarters from 2008 Q4 to 2009 Q2. Also, viewed as a percentage of nominal GDP, it rose 0.9% per quarter (average for 2000 to 2007), but was recently flat. Incidentally, household debt as a

(Fig.18) Debt balance of household sector (% of nominal GDP)



Note: Debt is loans & accounts payable, etc.
Includes nonprofit institutions.
Sources: U.S. FRB & Dept. of Commerce, UK ONS, Japan BOJ & Cabinet Office

percentage of nominal GDP rose 0.7% quarterly on average since 1998, which is about 2/3 the 1.1% pace of the entire non-financial sector described above. (Fig.18)

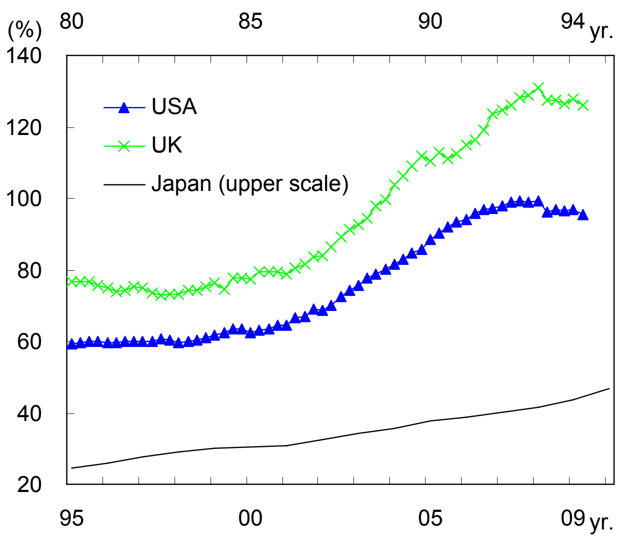
Imbalance magnitude: 4, Adjustment form: L

- UK household sector debt accumulated faster than in the U.S. since the year 2000. The UK's debt balance as a percentage of nominal GDP was 71% at the end of 1999, similar to in the U.S. But it was 112% in 2009 Q2, much higher than the U.S. 99%. Its pace during that period was also a 1.1% increase per quarter, surpassing the U.S. 0.8% (It averaged a 0.9% quarterly increase since 1998, less than half the 2.0% of the entire non-financial sector). Also, the debt balance itself decreased in the first 2 quarters of 2009, but the decrease was small, and it continued rising relative to nominal GDP (which declined quarterly for 4 consecutive quarters).

Imbalance magnitude: 5, Adjustment form: L

- Focusing on residential mortgages, their share of total debt balances saw large growth in the U.S. from 65% at the end of 1999 to 74% in 2009 Q2, while in the UK it rose slowly from 73% to 76% (Japan is low at 48%, but this is affected by its inclusion in debt of sole proprietorships). In both the U.S. and UK, this shows that residential mortgages were a main cause of the rapid debt increase described above. Also, it reached 95% of disposable income in the U.S. and 126% in the UK, thus we can see the heavy burden felt (Japan was 64% at the

(Fig.19) Residential mortgage balance as % of disposable income of households



Note: U.S. & UK include nonprofit institutions.
Sources: U.S. FRB & Dept. of Commerce, UK ONS, Japan BOJ & Cabinet Office

end of FY2007). (Fig.19)

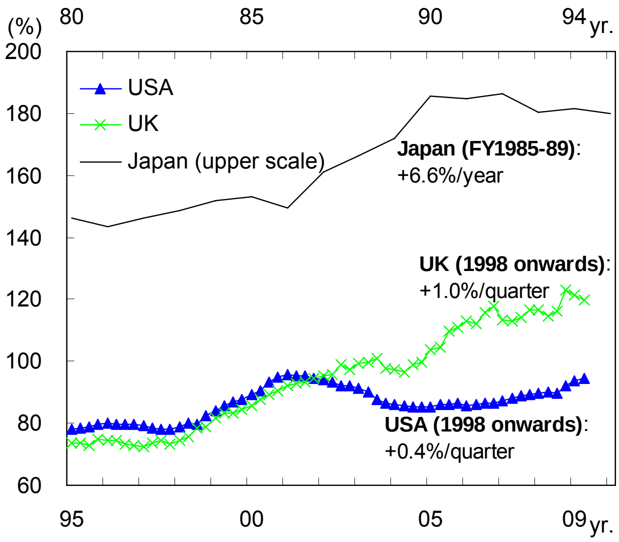
- In Japan in the late 1980s, household sector debt also swelled, but its pace over the 5 years since the end of FY1984 was 2.9% of nominal GDP per fiscal year, slower than both the U.S. and UK. Thereafter, debt balance growth steadily slowed to a continual declining trend from the year 2000 until presently (Its percentage of nominal GDP is currently similar to the level around the end of the 1980s). (Fig.18 above)

Imbalance magnitude: 3, Adjustment form: U

Debt of private non-financial corporations grew in the U.S. along with economic growth. In the UK it grew quickly, followed by a pause

- Debt of U.S. private non-financial corporations grew quickly around the year 2000, but since then it generally grew continually at a pace matching economic growth. Actually, debt balance as a percentage of nominal GDP grew by 1.4% per quarter from 1998 to 2000, then fell 0.6% per quarter from 2001 to 2004, and only rose 0.5% per quarter from 2005 to 2009 Q2. However, it was somewhat higher in the last three quarters, even though growth of the debt balance itself was 0.5% from the end of 2008 Q4 to 2009 Q1 and also in Q2, even lower than before 2008 (it averaged 1.4% per quarter since 2005). Its rise as a percentage of nominal GDP appears to have been greatly affected by the depressed nominal GDP (falling quarterly

(Fig.20) Debt balance of private non-financial corporations (% of nominal GDP)



Note: Debt is loans, CP, corporate bonds, accounts payable, etc.
Sources: U.S. FRB & Dept. of Commerce, UK ONS, Japan BOJ & Cabinet Office

for 3 consecutive quarters since 2008 Q4), which is the ratio's denominator. (Fig.20)

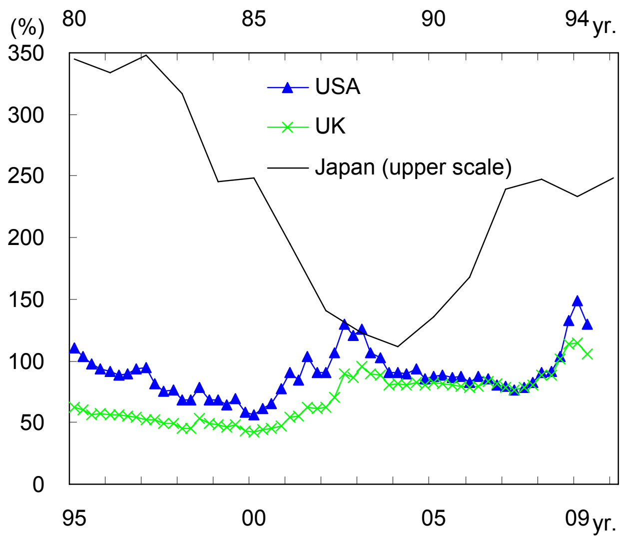
Imbalance magnitude: 0, Adjustment form: L

- Debt of UK private non-financial corporations grew at a pace similar to in the U.S. until the early 2000s, then slightly slowed down, and again accelerated starting in the second half of 2004. Tracing its percentage of nominal GDP, during 1998 to 2000 it rose 1.4% per quarter (same pace as the U.S. described above), then rose 0.6% quarterly from 2001 to 2004, then rose 1.1% (over double the U.S. rate) quarterly from 2005 to 2009 Q2. Thus its overall average since 1998 was 1.0% quarterly, 2.8 times the U.S. rate (0.4%). Also, as described above, debt of the entire non-financial sector grew 2.0% quarterly vs. nominal GDP during this period, thus the portion in non-financial corporations comprised over half of this (more exactly: 51.8%. This contrasts with 34.1% in the U.S.). However, it fell for 2 consecutive quarters vs. nominal GDP in 2009: 1.4% in Q1 and 1.6% in Q2 (the balance also fell both quarters).

Imbalance magnitude: 2, Adjustment form: L

- Looking at a comparison of leverage ratios (ratio of debt to shares & other equity) of private non-financial companies in the U.S. and UK, they rose from 2000 to early 2003, but thereafter dropped to become flat generally in the range of 80% to 100%. However, the denominator calculated here is the market value of shares & other equity, thus one thinks there was also the aspect that soaring stock prices in that period held

(Fig.21) Leverage ratio of private non-financial corporations



Note: Debt (loans, CP, corporate bonds, accounts payable, etc.) ÷ Shares & other equity holdings (market value, flow of funds account basis).
Sources: FRB, UK ONS, BOJ

leverage ratios below their true situation. In contrast, they were in a rising trend since the 2nd half of 2007 when stock prices reversed downwards (In 2009 Q2, the U.S. was 129%, UK 106%. Although this is low overall compared to Japan's level of nearly 200%). Thus if stock prices stay low, there may be even more need to cut debt in order to lower this ratio. (Fig.21)

- In Japan in the late 1980s, debt of private non-financial corporations expanded with a force far surpassing that in the U.S. and UK over roughly the past 10 years. Its percentage of nominal GDP rose by over 10% in FY1986 and FY1989, rising by a total 33% over the 5 years starting in the end of FY1984 (Up 6.6% per fiscal year. In contrast, the entire non-financial sector rose 9.5% per fiscal year as described above). Also, it was in a downward trend since then until presently (reaching the FY1984 yearend level in FY2000. Its balance started its downward trend in FY1992), but compared to the U.S. and UK, one characteristic of Japan is that its level remains high even now (133% at the end of FY2008). (Fig.20 above)

Imbalance magnitude: 3, Adjustment form: U

III. Conclusion

Imbalance correction on a flow basis and adjustment of asset price levels are progressing in many aspects

- Among the flow basis macroeconomic indices for the U.S. and UK, since the year

2000, expanded imbalances appeared most remarkably in the current account and household saving rate. Looking at their current situations, there is rapid improvement in the U.S. current account and in the U.S. and UK household saving rates. Also looking at their levels, the U.S. current account deficit as a percentage of nominal GDP is at the level of early 1999, the U.S. household saving rate temporarily surpassed its average since 1985, and the UK household saving rate recovered to its average level since 1995. One can judge that they are in (returned to) almost normal situations, including business investment which originally grew in line with economic growth and did not show changes typical of economic bubbles.

- Also looking at asset prices in both the U.S. and UK, there were rapid drops in housing prices, commercial real estate prices and stock prices over the past several years, and they are recently showing signs of upward trends or a halt to their declines. Moreover, they have already experienced returns to previous levels or to levels before their rapid rises this decade, thus it seems more likely that their downward adjustments have paused for the time being.
- An exception is the UK current account deficit which grew again quickly in 2009 Q2. Other exceptions are UK housing prices for which a large gap still remains vs. nominal GDP, and U.S. and UK fiscal balances since the financial crisis which have sunk to their worst levels after WWII.

These are thought to require readjustment or continued adjustment, and there is unease holding back economic recovery, including U.S. commercial real estate which continues to fall.

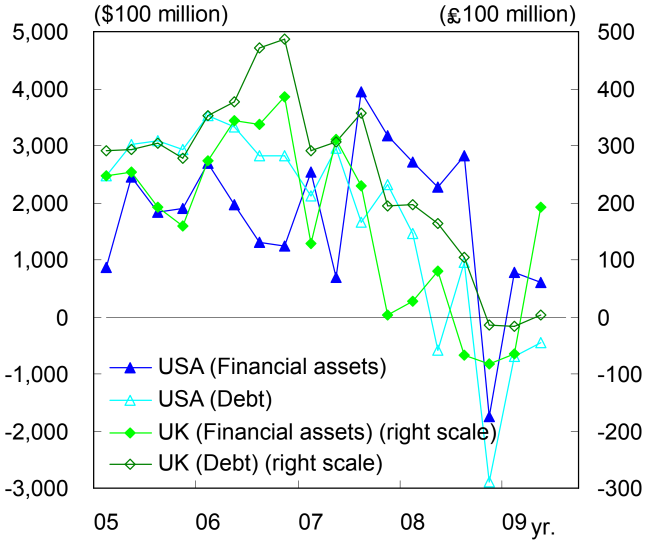
- In addition, for the aspects described above in which we see the adjustment is generally complete, of course in case the economy again accelerates quickly, or even if there is prolonged stagnation of the entire economy, imbalances may become prominent again (lower household savings due to decreased incomes, permanently low capacity utilization and hovering at a high level of housing inventory ratio due to weak domestic demand, etc.), which could create pressure for further adjustments. This point was seen clearly in the case of Japan after its economic bubble collapsed (especially in its trend of asset prices).

Resolution of excess debt in the private non-financial sector has only begun, with different intensity in the U.S. and UK

- Focusing on the debt side of the private non-financial sector in the U.S. and UK, this debt was expanding in both countries long before reaching the current financial crisis. Then after the crisis, it steadily stopped increasing or slightly decreased, while continuing to rise as a percentage of nominal GDP.
- A common aspect in both the U.S. and the UK is that debt built up in the household sector, focused on residential mortgages.

Even today, these balances are seeing limited decreases, and are flat or continuing to grow as a percentage of nominal GDP. As described above, household saving is growing in both the U.S. and UK, and these are also being directed towards purchase of financial assets, with limited portions allocated to repayment of debt (for example in 2009 Q2, the situation arose where both the U.S. and UK saw growing net purchases of financial assets such as mutual funds and stocks, with debt reduction less than the increase in savings). In any case, one can say that this shows the weight of the problem of excess debt held by the household sector and the difficulty of adjustment. (Fig.22)

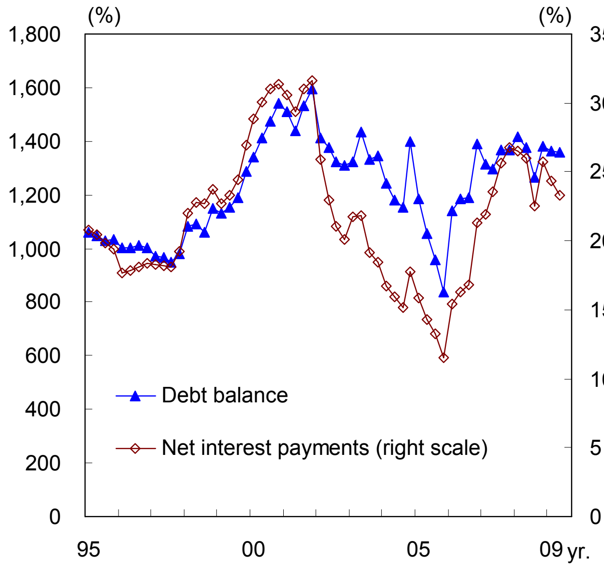
(Fig.22) U.S. & UK net changes in household financial assets & debts



Note: Debt is loans & accounts payable, etc.
Includes nonprofit institutions.
Sources: FRB, UK ONS

- On the other hand, we can see large differences between the U.S. and UK situations of the debt side of private non-financial corporations. In short, while debt grew quickly in the UK before the crisis, the U.S. generally held its debt growth in line with economic growth since leaving the 2001 recession. As a result, when looking at the entire private non-financial sector, the UK's debt swelled at about twice the pace in the U.S. Although one cannot be too optimistic even for the U.S. For example, the debt to cash flow ratio is thought to more closely reflect the actual situation of a company. Looking at this ratio, we see a sharp rise in the relative debt balance. The rise and high level of net interest payments also gives a sense of the financial burden. (Fig.23)

(Fig.23) Ratios of debt balance and Net interest payments to cash flow of U.S. private non-financial corporations

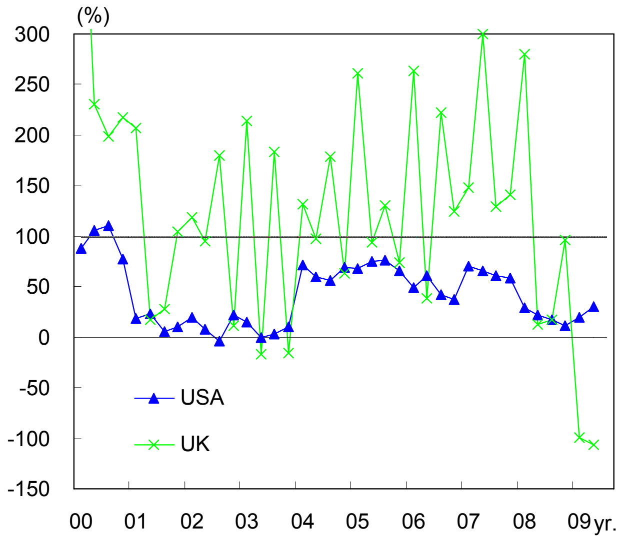


Sources: FRB, U.S. Dept. of Commerce

- Overall, the problem of excess debt does not appear to be as huge as that formed in Japan during its economic bubble period, but it is very likely to become a very heavy weight for the U.S. and UK economies.

- Even for private non-financial corporations, checking the trend of financial flows, although as described above business investment did not grow remarkably in the UK before the current financial crisis, debt grew quickly because of increased purchases of financial assets (stocks - especially overseas stocks, overseas deposits, direct investment abroad, etc.). Actually, the ratio of [(net change in financial assets) ÷ (business investment)] in the UK often exceeded 100% since around 2005 (amount of net change in financial assets > business investment amount). On the other hand, this generally only rose to around 50% in the U.S. (Fig.24)

(Fig.24) Net change in financial assets as a % of business investment of U.S. & UK private non-financial corporations



Note: UK values are not seasonally adjusted.
Sources: FRB, U.S. Dept. of Commerce, UK ONS

Overall, the UK faces greater problems than the U.S., especially in its debts

- This paper discusses the degree of expansion of 9 types of imbalances (excluding double-counting of "debt of households + non-financial corporations"). Taking the average of their magnitudes with Japan as 3, the U.S. is 2.9 and the UK is 3.1. The expansion of U.S. imbalances in this decade was somewhat smaller than in Japan during its economic bubble of the late 1980s. On the other hand, one can say that the UK in recent years reached a point which slightly exceeded that of Japan during its economic bubble.

- Also, briefly stating the characteristics of each country, Japan in the late 1980s saw its economic bubble develop with expansion of imbalances “focused on the corporate sector including commercial real estate markets”, while in this decade U.S. it was “focused on the household sector”. It seems the UK experienced a combined “household sector plus corporate sector” bubble. Soaring asset prices and quick debt growth were aspects shared by all three.

- On the other hand, looking at the situation of imbalance adjustments to the present, an average of the same 9 types of indices gives the U.S. 3.4 points, with a “レ” (inverted-check mark) form (progress, but did not yet return to previous levels). While the UK is also a “レ” form with its 2.6 point average, it is not far off from a “し” (inverted-J) form (progress, but slow and did not yet return to previous levels). This also reflects that adjustment of imbalances is still insufficient, and especially reduction of excess debt is not proceeding as it should. Incidentally, after the bubble collapsed in Japan, adjustment proceeded in a “U” form (Slow progress, taking time to return to previous levels. Average of 3.5 points, thus more exactly in between a “U” and a “レ” form, but for this purpose we round 0.5 up and 0.4 down. Also, it is 4.0 if looking at its median value), with the result that the entire economy followed a hard path. Considering this, the “レ”

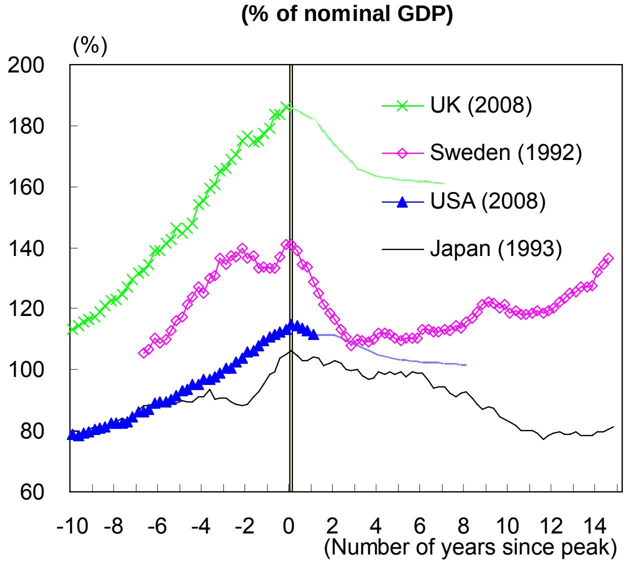
(inverted-check mark) form of adjustment in the U.S. and UK until presently suggests that their future economic recoveries may be limited.

- If one considers the future, it is thought important to first pay attention to trends in the U.S. and UK debt aspects and their public sectors, and to the UK trend of its international balance of payments aspect, then next to the size of remaining pressures for adjustment such as in the U.S. commercial real estate markets and in the U.S. and UK housing markets, then to related risks for the Japanese economy and financial system.

Of course, there are enormous imbalances in the financial sector

- According to *Deciphering the Liquidity and Credit Crunch 2007–2008*, published in early 2009 by Professor Markus K. Brunnermeier of Princeton University, "<u>Two trends in the banking industry contributed significantly to the lending boom and housing frenzy that laid the foundations for the crisis</u>".
- Also, the *Global Financial Stability Report* released by the IMF on April 21 compares past economic crises with the current situation regarding bank lending to the private sector as a percentage of nominal GDP, and points out that "the rise in bank credit in the United Kingdom has been massive", that "...the crises in Japan and Sweden both caused the

(Fig.25) Bank credit to the private sector (% of nominal GDP)



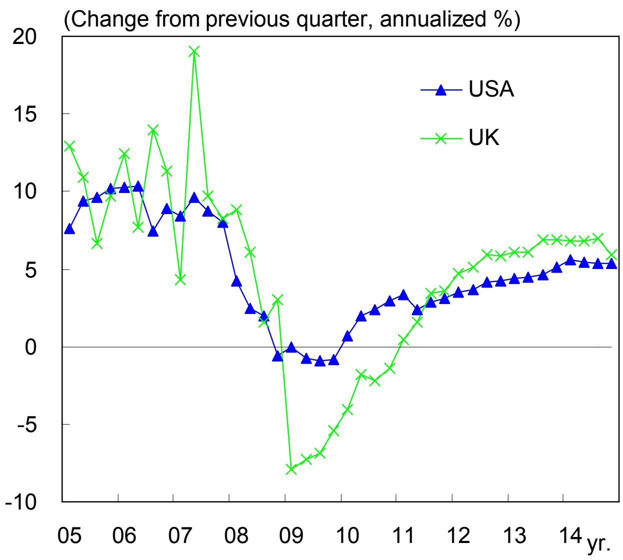
Note: Thin lines for the U.S. & UK are IMF forecasts.
Source: IMF *Global Financial Stability Report* (2009/4/21)

bank-credit-to-GDP ratio to drop by around a quarter from its peak.", and "...Sweden achieved its deleveraging rapidly, and then started to rebuild, while deleveraging in Japan continued over more than a decade. The current trajectories for the United States and Europe appear similar to the Japanese path,...". (Fig. 25)

- Moreover, the latest *Global Financial Stability Report* released by the IMF on September 30 showed that it continues its forecast that "Credit has continued to contract across the major economies as leverage is unwound". Specifically, its outlook is that lending to the private sector will continue to decrease in the U.S. through the end of 2009, and in the UK through the end of 2010, and also only grow slowly for several years thereafter. (Fig.26)

- In sum, the U.S. and UK financial sectors are still in the process of adjusting imbalances, and it appears unlikely that they will give strong backing to various economic activities like before. This point also supports a forecast that their economies will lack vitality for the present time.

(Fig.26) Private Sector Credit Growth



Note: 2009Q2 onwards are IMF forecasts.
Source: IMF *Global Financial Stability Report* (2009/9/30)