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The Measurement of Net Worth in New Zealand

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Abstract

In 2001 Statistics New Zealand conducted its first ever national survey designed to measure household wealth in New Zealand. Called the Household Savings Survey, it collected net worth of individuals and couples in private dwellings along with a range of socio demographic variables. The survey was successful and research using the data has informed a number of topical issues.

However one-off snapshots do not provide all of the answers. While the survey gave us a good picture of the components of net worth and how it is distributed across the population, questions such as how net worth changes over time and what are the factors that influence this change are also important. To attempt to answer these questions, a module of questions designed to measure net worth, very similar in concept to the Household Savings Survey questions, has been added to each alternate wave of Statistic New Zealand's longitudinal income survey (SoFIE) commencing in 2003.

The paper will compare and contrast the results from these two sources with existing aggregate data from the central bank used in the National Accounts. There are slight differences between the collection methods of the two surveys, for example SoFIE has a larger sample size but will be subject to attrition over time. The paper will examine how these differences, and differences between the micro and macro estimates, affect the interpretability and utility of the data and will discuss what this means for future measurement of wealth in New Zealand.

Introduction

Prior to 2000 very little data on the wealth of New Zealanders was available. New Zealand's central bank, the Reserve Bank of New Zealand, regularly produces estimates of household assets and liabilities at the aggregate level, based on data from financial institutions (Reserve Bank (2006)). However household net worth is likely to be understated in these figures (Claus and Scobie (2001)). More importantly however, this aggregate data does not tell us anything about the distribution of wealth in New Zealand, the characteristics of the wealthy and less well off or who is at risk from high debt levels or low long term savings.

The issue of retirement savings is important for New Zealand. Savings as measured by flows are low and levels of personal and consumer debt appear to be rising. As in many other countries, issues of an ageing population and how this will impact on the economy and societal wellbeing are becoming increasingly important. The impact of the Government student loans scheme, disparities in income and wealth position between different groups of the population (in particular the indigenous Mäori population), high levels of indebtedness, and a tendency for New Zealanders to rely on home ownership as a major savings vehicle are all important social issues that are of interest to policy makers. Lack of data on the distribution of wealth impedes policy making in these areas.

In response to this, and to provide information for a review of retirement income policy, Statistics New Zealand, with funding provided by the Retirement Commissioner, developed and conducted a survey designed to measure the level and distribution of household wealth in New Zealand.

This survey, called the Household Savings Survey, was felt to be very successful. It provided very useful information for the analysis of wealth and to inform the issue of retirement savings in New Zealand. Issues such as the role of workplace superannuation schemes, the impact of the student loan scheme, and the adequacy of retirement provision have all been explored using the survey data. (Scobie, Gibson, Le (2005) and Ramsay (2005))

However this survey provided only snapshot information. Being a one off it was unable to show how the distribution or level of wealth was changing over time. It told us nothing about the dynamics of wealth accumulation or how this is impacted by significant life events or uncertain income streams.

As a consequence it was agreed that a module on assets and liabilities would be added to every second wave of Statistics New Zealand's new longitudinal survey of income dynamics (the Survey of Family, Income and Employment or SoFIE). This panel survey provides regular cross-sectional snapshots of net worth. In addition, as it is longitudinal, it will also enable analyse of individual patterns of wealth accumulation, which can be analysed in conjunction with changes in income, employment status and family structure.

This paper compares the results of this first occurrence of SoFIE with the HSS data collected in 2001 and both of these with existing aggregate level data. The aim of this paper is to answer the questions:

- How good is the data collected from sample surveys? Does it meet user needs?
- Is the SoFIE data good enough to meet ongoing need for data in this area?
- What should be the future strategy for provision of data on net worth? In this strategy what methodological improvements could be explored?

The Data Sources

The Household Savings Survey (HSS)

The survey of just over 5000 households (5,374 interviews) living in permanent private dwellings was conducted between August and November 2001. Interviews were conducted in person, using an electronic questionnaire. One respondent per household was selected and if this person was part of a couple, the couple was interviewed as one economic unit. Information on all assets and debts, as well as demographic information was collected. The measurement of net worth (the difference between total assets and total debts) relied on the respondent being able to supply their best estimate of the current market value of the asset, taking into account factors such as valuation documents, purchase price, condition and the current market conditions.

For results of the survey see Statistics New Zealand (2002).

Survey of Family, Income and Employment (SoFIE)

SoFIE is a longitudinal panel survey designed to measure income, employment and family dynamics. The panel was selected in 2002. Interviews of all individuals aged 15 or over in 11,500 households in permanent private dwellings were conducted over a twelve month period between October 2002 and September 2003. This gave a sample size of just over 22,000 adults in wave 1 of the survey, a response rate of 77%. Interviews are conducted face-to-face by Statistics New Zealand interviewers and ask a comprehensive range of data about the respondents lives over the previous twelve month period. Income and employment data is collected in "spells" defined by the start and end dates of these activities. Respondents were revisited 12 months later (between October 2003 and September 2004). In this wave they were also asked a short module of questions about their assets and liabilities. This module has been repeated in the 2005/2006 year (wave 4) and will follow in subsequent alternate waves. If the household composition has changed in that time any new members of the respondent's household are also interviewed. Just over 20,000 respondents were included in the cross-sectional sample in wave 2.

Results from the first two waves are available. (Statistics New Zealand (2005)).

As SoFIE is a longitudinal survey whose primary objective is to measure changes in income and employment over time it is important to keep as many of the original sample members as possible. One means of doing this is to restrict the interview length so that the respondent load is not too great and minimising the perceived intrusiveness of the questions. This placed some restrictions on the level of detail able to be collected on assets and liabilities in SoFIE when compared to the HSS. However it was intended to keep the two sources as compatible as possible to facilitate comparisons over time.

The main differences are:

- The population definition, this is all adults aged 15 and over in SoFIE, compared to all adults aged 18 and over in HSS.
- In SoFIE all individuals in the household were interviewed about their share of assets and liabilities. In HSS one economic unit was selected per household, where these were defined as unattached individuals or couples. The combined assets and liabilities of the couples were recorded.
- HSS collected more detail on trusts, superannuation schemes and property, business and farm assets than SoFIE.
- HSS included Mäori assets held communally but net worth calculations were done excluding these amounts. SoFIE excluded Mäori assets.
- SoFIE included the value of consumer durables and household goods. HSS excluded most consumer durables except leisure and sporting equipment worth more than $1000.
- Minor differences exist in the way many variables were asked, including $ limits placed on values.

Administrative Sources

New Zealand's central bank, the Reserve Bank of New Zealand produces annual estimates of household assets and liabilities as at the end of December. This data is sourced from financial institutions, at the aggregate level. (See Reserve Bank (2006))

Aggregate figures will include:

- People overseas either permanently or long term with assets and liabilities in New Zealand (particularly Australia where there is free interchange between the countries)
- People living in non-private dwellings such as rest homes, hospitals and student accommodation (halls of residence).

The aggregate figures exclude the value of household investment in businesses not priced through the stock exchange and net farm wealth. Both of these are likely to be quite significant sources of household wealth in New Zealand. (Thorp and Ung (2001))

The Results

Estimates from the three sources are given in Table One. Note these are all in current dollars and for SoFIE are estimates as published (that is they have not been adjusted for methodological differences between the two sources).

Table One: Comparisons between Household Savings Survey, SoFIE and available aggregate level data by asset and liability type.

	Household Savings Survey (2001)			SoFIE (2003/04)		Aggregate data 2001	2004
Asset Type	Individuals	Couples	Total Value		Total Value	Total Value	Total Value
	Number of People		$ million	Number of people	$ million	$ billion	$ billion
Mäori assets[1]	25800	24100	8790				
Trusts	**13300**	**50500**	**28709**	**75836**	**20549**		
Farms	15800	56100	38257				
Businesses	41300	168600	38574				
Commercial property	6600	20600	7343				
Total business[2] investments			**84174**	**467990**	**100212**		
House living in	305500	546700	159205		203813		
Time share	2300	10900	137	24518	185		
Holiday home	7200	34500	4361		9452		
Rental property	32400	79800	18887		28716		
Overseas property	7800	15100	4194		3885		
Other property	28700	40300	9863		16909		
Total Property			**196647**	**1578194**	**262960**	**247**	**429**
Superannuation	**108800**	**272700**	**24737**	**331092**	**11962**	**22**	**20**
Life insurance	**70100**	**188400**	**8797**	**447095**	**13920**	**9**	**9**
Credit cards (positive balances)	**24200**	**26900**	**95**	**33579**	**55**		
Bank deposits	**828700**	**793100**	**26000**	**2538353**	**28541**	**49**	**65**
Shares	113900	253500	13986		15795	16	19
Managed funds	59200	105600	11864		12255	26	25
Other financial assets	31000	54700	5792				
Total financial investments[3]			**31642**	**716735**	**28050**		
Total Financial Assets[4]			**91271**		**82650**	**130**	**150**
Motor vehicles	**586100**	**795900**	**16871**	**2399761**	**19081**		

[1] Maori assets held communally were not collected in SoFIE.
[2] The value of business investments (farms, commercial property and business assets) were collected as a single value in SoFIE
[3] Sum of shares, managed funds and other financial assets.
[4] Sum of superannuation, life insurance, credit cards, bank deposits and financial investments.

Money owed to respondent	74000	74200	3835		1392		
Cash	25200	35900	191		104		
Collectibles	146400	305200	6857		2194		
Other assets	307200	473300	6685	410263			
Leisure and sporting equipment[5]					6178		
Total other assets[6]			**17568**		**9868**		
Household items[7]				**2928419**	**77648**		
Total assets without Maori assets and HHLD items[8]			**435240**		**495320**		
Total Assets[9]	**930900**	**855900**	**444032**	**2927946**	**556300**	**377**	**579**

Liability Type	Individuals	Couples	Total Value	Number of People	Total Value	Total Value	Total Value
	Number of People		$ million		$ million	$ billion	$ billion
Mortgages	**158,100**	**361,000**	**54526**	**913833**	**72337**	**71**	**104**
Bank liabilities (including accounts in overdraft)	**199,900**	**231,800**	**6707**	**551105**	**10591**	**5**	**6**
Credit card (money owing)	**313,900**	**503,000**	**1926**	**1185916**	**2342**	**3**	**5**
Student loans	191,400	89,500	3511		3900	4	6
Hire purchase debt	139,400	182,500	741		1078		
Other debt	59,300	52,600	852	779985	1548	1	2
Total other debt[10]			**5104**		**6525**		
Total debt[11]	**930,900**	**855,900**	**68263**	**2927946**	**91770**	**84**	**123**
Net worth[12]					**463856**		
Net worth without household items[13]			**366977**		**403550**	**293**	**457**

[5] In the HSS, leisure and sporting equipment was collected with other assets
[6] Sum of money owed to respondent, cash, collectibles, leisure and sporting equipment and other assets not included elsewhere
[7] Household items were not collected in the HSS.
[8] These figures cover the same range of asset types and are comparable.
[9] Total assets as collected in the surveys
[10] Sum of student loan debt, hire purchase debt and other debt.
[11] Sum of mortgages, bank liabilities, credit card debt, and other debt
[12] Total assets as collected minus total debt
[13] Total assets excluding household items in SoFIE

Given the differences in concepts and coverage between the surveys and the aggregate administrative sources, they compare reasonably well which gives us confidence in the robustness of the survey findings. In addition, the survey data provides some results that are not available in the aggregate data, giving us a first look at this data, for example the level of assets held as antiques and collectibles. However this also means we have no way of validating these particular estimates.

The main areas of difference between the aggregate data and the survey data are discussed below.

Trusts.

Setting up family trusts for the protection of assets such as property (houses and farms) and financial investments is increasing in popularity in New Zealand. The complexity of many of these arrangements makes collection of accurate data on their value difficult. Both surveys aimed to collect information from the settlor of the trust, with very little information being available on beneficiaries. This means that overall the value of assets held in trusts as future assets for individuals have not been included in the survey data. Net worth values will therefore be understated, perhaps significantly.

The values given in the tables for trust assets are the debt still owed to the settlor by the trust. Therefore, the assets in trusts that have been entirely forgiven, or where the settlors no longer reside in NZ or have died will not be included.

As SoFIE asked much less detail on trusts than was possible in the HSS, the SoFIE figure appears to be understated in comparison to HSS.

Property

The aggregate data is sourced from Quotable Value Ltd, an independent company that conducts valuations for rating purposes for local authorities in New Zealand. Respondents to the surveys were asked to supply the registered valuation provided by this company if this was available. Some of these registered valuations can be up to 3 years old, and in areas where the property market is increasing can be very out of date. Consequently for SoFIE where the data is collected continuously over a year, the survey data will be adjusted by a regional property index to make this data more current. This adjustment increases the value of property assets overall by 30% but has not been done for this paper.

The Quotable Value Ltd figures will include property owned by businesses, overseas residents and residents of non-private dwellings which are excluded from the surveys. Conversely, it excludes unfinished dwellings and vacant land which will be included in the survey data.

Business wealth.

Neither survey is a particularly good estimator of household ownership of business assets (including farms). In SoFIE the values of any business, farm or commercial property owned by the respondent were collected as a single combined value, rather than individual amounts. Much less detail was asked of the respondents in order to estimate the current value.

Many farms and commercial rental properties will be held in trust and so may not have been included in the survey figures.

Superannuation.

The HSS appears to overestimate the value of superannuation when compared to the aggregate administrative data. This may be due to classification differences, particularly with respect to bank accounts and unit trusts used for superannuation purposes. Both surveys do not include schemes where owners are currently receiving income. In HSS more detail was asked about the length of the time in the scheme and the level and frequency of contributions that could not be asked in SOFIE. In HSS this information was used by the Government Actuary to value some schemes such as defined benefit schemes. Thus the HSS is likely to be a more accurate indicator of the level and value of superannuation schemes.

The SoFIE figure is particularly low, both in terms of the number of people reporting ownership of superannuation schemes and in the estimated value of these schemes. An investigation into whether this is a result of respondent error is currently being conducted.

Bank deposits

The surveys show significantly lower values for bank deposits than the RBNZ figures. This is likely to be due to:

- No high income oversample
- Non-coverage of people in non-private dwellings particularly elderly in rest homes
- No children in the survey figures
- Survey figures exclude non-residents or people overseas for large parts of the year. (RBNZ data does exclude those non-residents registered for non-resident withholding tax.)

Mortgages

The survey estimates are both about 70% of the aggregate value for this liability type. Mortgages held by trusts and the lack of a high income oversample are likely to be the main reasons for the difference between the survey data and the aggregate data.
A small amount of the difference is offset by overestimates in the Other Bank Liabilities category indicating possible problems with treatment of loans taken for purposes other than housing.

Distribution of Net Worth.

As noted earlier the surveys provide us with the first information we have on the distribution of net worth across the population and how this is changing over time.

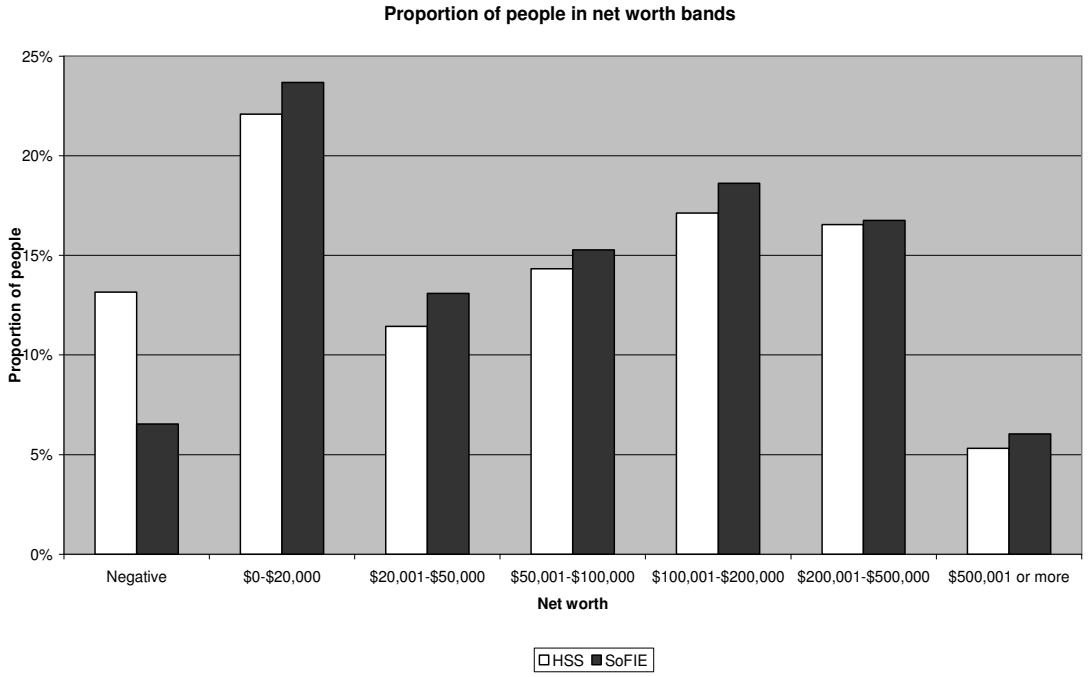
The following table and graphs show the distribution of net worth from both survey sources. The release of the HSS data was the first time data had been produced that showed the distribution of net worth across households in New Zealand. Therefore there are no comparative sources that can be used for validation.

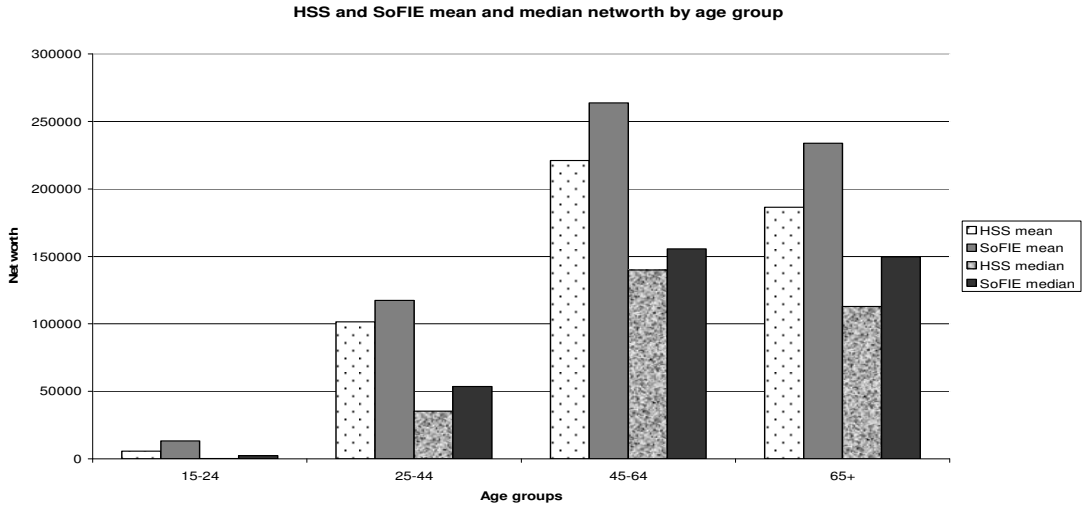
It should be noted that differences in the methodology used in the two surveys means that the two sources are not directly comparable. Further work, due to be completed later this year, will adjust for these methodological differences, in order to get a time series for net worth. The results presented here have not been adjusted for these methodological differences. However HSS economic units have been converted to individuals by splitting jointly owned assets and liabilities in a couple evenly between couple members.

The values given are in current dollars. The difference in the CPI (all groups) over this period was between 4.3% (December quarter 2003) and 6.2% (September quarter 2004)

Table 2. Distribution of Net Worth.

Net worth	HSS	SoFIE
	$	$
Mean	138,900	159,644
Median	60,000	69,800





Overall the two surveys give reasonably comparable results, given the differences in methodology. SoFIE, due to its larger sample size may have picked up a few more respondents in the high income, high wealth end of the distribution so it has larger extremes.

SoFIE has a smaller proportion of people with negative net worth (6%) than HSS (14%). This difference is likely to be due to the inclusion of household goods in SoFIE. In HSS many young people in particular, were found to have small negative net worth due to the inclusion of hire purchase debt on items such as stereo equipment or computers without the corresponding asset being included.

Attrition in SoFIE.

One effect that has not yet shown up in the difference between SoFIE and HSS is the effect of attrition over time on the SoFIE results. Over time, sample members will drop out of SoFIE through death, emigration or our inability to maintain contact with them. This loss is not adjusted for through the use of a "births" sample. Differential attrition occurs in groups such as young people, people with low income, renters and Mäori and this will affect the comparability of the distributions between the surveys over time. (Hayes (2006))

Of those original sample members who responded in the first interview, 89% also responded in wave two. Some of this loss is partially offset by the inclusion in the cross-sectional estimates of new respondents now living with the original sample members.

Conclusion

In the introduction to this paper I posed some questions that I aimed to answer.

- How good is the data collected from sample surveys? Does it meet user needs?
- Is the SoFIE data good enough to meet ongoing need for data in this area?
- What should be the future strategy for provision of data on net worth? In this strategy what methodological improvements could be explored?

How good is the data collected from sample surveys? Does it meet user needs?

Given the differences in concepts and coverage, the survey data compares reasonably well with the aggregate sources. The areas where the surveys are deficient are expected. In some cases the survey data gives information that is not available in the aggregate sources.

The lack of a high income oversample is a major factor in the differences between the aggregate sources and the survey data. High income is likely to equate to high wealth, and in both surveys this end of the distribution is likely to be underestimated. However the lack of a high income oversample is not a major barrier to extensive use

of the data as the majority of user interest is in the lower end of the distribution, for example in those that do not have sufficient resources to prepare well for retirement, or who have high levels of indebtness.

The amount of assets held in private trusts in New Zealand is also an important factor that will affect both the level and distribution of net worth calculated from survey data. It is also more likely that trust settlors will be those at the high income end of the distribution. While there are significant issues with collecting this information via survey instruments, this issue needs to be explored further.

Another area the current surveys don't cover is those people in non-private dwellings, such as older people in rest homes and students in halls of residence. There is interest in the wealth situation of these two groups of people, the first concerning their continuing ability to provide for their own care and wellbeing and for the second group issues such as their future prospects and debt levels due to student loans. These are two groups that could be considered for inclusion in future surveys if suitable frames can be developed. Direct surveying of residents of rest homes may pose some collection challenges!!

A third area of interest to policy makers is the issue of savings behaviour (flow), attitudes and barriers to saving. This issue is not well covered by the current sources. While the longitudinal data in SoFIE will give a measure for individuals of the change in net worth (stock) between data collection points along with changes in income flows, employment and family characteristics, it does not include any subjective data or expenditure data. While expenditure data is collected along with income in Statistics New Zealand's household budget survey (the Household Economic Survey or HES), this is not designed to measure annual expenditure at the individual household level. While users have used the difference between annual income and annual expenditure at a household level as a measure of savings the data is not well suited to this purpose. Ideally a better measure of the capacity of household to save would be available.

Policy interest is also in the wealth of families and households where resources are shared. The ability to calculate and analyse household and family wealth in SoFIE because all members of the household were interviewed has improved the range of information available for users.

Is the SoFIE data good enough to meet ongoing needs for data in this area?

Overall SoFIE compares well to HSS, when the methodological differences are taken into account.

The major issue is the limitation on the amount of detail that can be collected in a module that is added to a more general survey. This has been particularly significant for complex asset types such as businesses, farms, trusts and financial investments such as superannuation.

Over time attrition bias may affect the utility of the cross-sectional estimates of net worth from SoFIE.

While SoFIE is suitable for interim monitoring and the longitudinal data will be of interest, there is still a need for a periodic dedicated survey that will provide a benchmark measure of wealth in New Zealand and will allow detailed analysis.

What should be the future strategy for provision of data on net worth? In this strategy what methodological improvements could be explored?

The previous sections suggest some answers to these questions.

The future strategy could include some of the following components:

- Periodic (every 5 years?) "stocktake" surveys of the level and distribution of net worth in New Zealand. These would be similar to the HSS.
- Continued monitoring of the dynamics of wealth accumulation through a longitudinal survey such as SoFIE.
- Establishment of a vehicle to measure savings behaviour, attitudes and barriers. This could become part of the "stocktake" survey or another option to explore could be the Australian Bureau of Statistics strategy of including asset and liability data in the household budget survey on a periodic basis.
- Inclusion in the "stocktake" survey of groups currently excluded from the surveys such as elderly in rest homes and students in halls of residence.
- Investigation of better ways to include estimates for the value of assets held in trust for the future use of individuals including exploring whether administrative data is available.
- Continue to collect data for households, families and economic units.

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