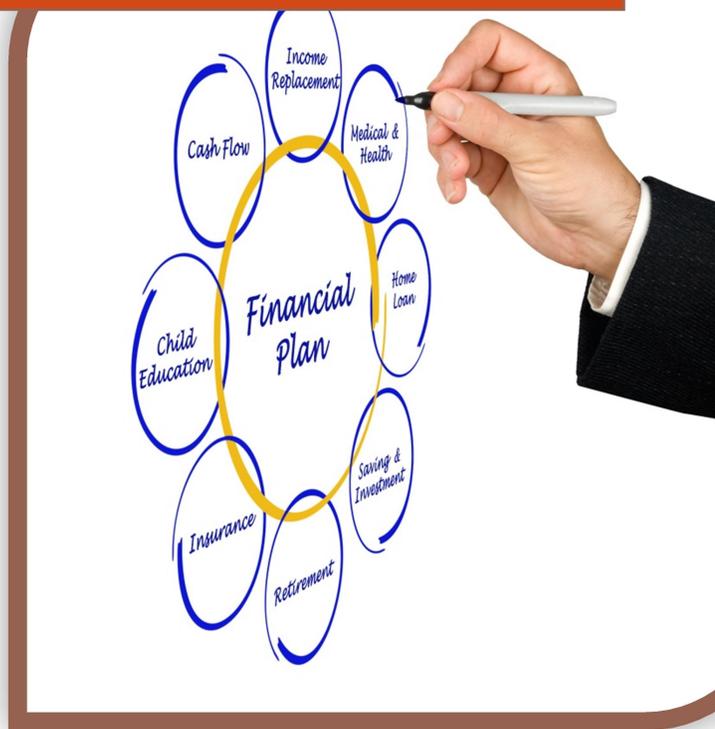


Financial Case Management and the Household Cash Flow Model



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www.OpportunitytoAssets.com

Edmund Khashadourian
Ed@OpportunitytoAssets.com

Executive Summary

To assist low-income individuals and households with making better financial decisions, this paper proposes the implementation of a data-assisted model using a set of financial, environmental, and attitudinal indicators as part of the Equilibrium Model of The Household. Data collection, of course, is not a new idea. But its application to household financials is still a relatively nascent practice. Utilizing household financial ratios is a major step forward for an objective evaluation of financial wellbeing, but in practice, the process is complicated, among other things, because

- i) definitions for some of the common financial terms are subject to different interpretations,
- ii) benchmarks are not clearly defined, and,
- iii) no a priori knowledge exists about how these indicators and ratios relate to household financial well-being.

To address these issues, the paper recommends a systematic approach to collecting and interpreting household micro statistics under a conceptual framework called the Equilibrium Model of the Household. This approach is based on standard financial accounting definitions for households and focuses on both the short and long term financial indicators. In the short term, improving the cash flow position of the household is the primary target of the equilibrium model while in the long term, improving assets and liability indicators become more important. This paper only discusses the cash flow indicators. Six key financial measures along with some examples are presented.



Table of Contents

Executive Summary	1
Introduction.....	3
Data Assisted Financial Coaching	5
Common Financial Indicators and Benchmarks	6
Using Financial Benchmarks to Guide Financial Decision Making for Low Income Households	7
The Equilibrium Model of the Household (EMH)	8
A New Platform to Collect Data and Analyze EMH	16
Summary and Concluding Comments	17
Works Cited	19



Introduction

After a prolonged episode of unemployment, Tim has finally landed a job. He realizes that it is now time to pay off his maxed out credit card debt. Every month, he pays down his card balance by \$400. The payment far exceeds the monthly minimum required amount on his credit card, but by doing so, Tim is hoping to pay off this debt as quickly as possible. Having experienced the cash crunch in the past, Tim clearly understands the importance of maintaining a lifeline in case of another emergency. Out of habit, Tim has never held on to cash nor did he build up savings of any kind to last him for more than a few days in case of a job loss or other emergencies. But after taking a financial education class in a nearby community center and hearing about the importance of saving, Tim now wonders if he should reduce his monthly credit card payments and save the difference in a bank account for a rainy day. But, it is difficult for him to decide how to manage his monthly cash flow in order to make room for saving and at the same time pay down his credit card debt as quickly as possible. The inability to figure out the answer to this question has led him go several months without actually taking any steps toward saving money.



The inability to make a relatively simple decision is an example of what behavioral economists call the status quo bias, which leads to inaction or procrastination in making important decisions. But Tim is not alone. Every day millions of people like Tim have to make similar financial decisions. Stacy, for example, who lives in Louisville, KY, is a single mother of two, ages 9 and 11. In 2010, she went through a divorce and ended up with large amounts of debt she had to pay off. Facing mounting financial distress, she moved-in with her parents on a temporary basis, until she could get back on her feet. In the meantime, and for over a year and a half, Stacy received financial coaching and support at a local nonprofit organization in Louisville. By late 2011, she had already managed to save over \$3,500 in her bank account. She was also paying down her debt at a steady pace. Feeling financially more stable, she consulted her financial coach and told her that after living with her parents for over a year and a half, she felt that she was finally ready to move on. In fact, she had found a place that was renting for \$950 a month and thought it was a reasonable deal.

How should Stacy's financial coach guide her in making this decision? How should Tim manage his cash flow and decide on how much to pay toward his credit card debt when he has no savings for a rainy day? When should a household that faces increasing debt problems consider debt restructuring as a last resort? Making financial decisions is an indispensable part of life. When people make decisions on a daily basis, they are bound to make mistakes every now and then. For many, occasional mistakes may only create temporary setbacks. But for others financial mistakes can be much more consequential. People who live paycheck to paycheck, or families who owe more than they own, have a generally narrow margin for error. If Tim faces an emergency and has no savings to fall back on, once again, he will have to rely on costly cash advances or other types of loans to pay for those expenses. This will set him back financially to practically the same place he was when he first started to pay down his debt, only this time feeling more distressed and helpless than before. Similarly, if Stacy makes rent payments above and beyond what she can realistically afford, she will soon deplete her savings and face a new financial crisis on her hands.

It is almost impossible to measure the collective costs of bad financial decisions. This is because, in most cases, these decisions take not only a financial, but also psychological and emotional toll on the decision maker. Yet, at least superficially, the cost to society is often easier to observe through defaults, rising aggregate personal debt levels, heavier dependence on various public benefit programs, rising budget deficits, and on occasion, the social and political instability resulting from them.

Unfortunately, the social costs of bad financial decisions have become even more pronounced since the Great Recession, especially among the younger generations. For example, according to the Federal Reserve Bank of New York, as of 2012, 43% of all 25-year-olds in the US had student

debt to payoff while that number was only 25% just a decade before.¹ In addition, debt levels grew by 91% during the same period. These numbers are outright alarming because they point to bigger social, demographic, and economic challenges in the years ahead. With growing student loan amounts, it takes longer for an individual borrower to pay off debt and start underwriting appreciating assets through new lifetime investments. In fact, according to the Federal Reserve Bank of New York, a 30-year-old individual with a history of student debt not only has a lower credit score compared to a 30-year-old with no student debt, but also for the first time as of 2012 is less likely to be a homeowner.²

No doubt, continuation of these trends can destabilize the foundations of the American middle class as they jeopardize the potential for many households to accumulate assets earlier in life. But if students receive proper counseling on their educational choices, parents understand the importance of saving from an early age for their children's education, and in general, consumers are empowered to assess their overall financial situation more realistically, they will be able to make more informed financial decisions that can engender positive, economy-wide spillover effects. For this reason, helping individuals and families, especially low-income households, to improve their financial decision making skills can pay significant dividends to the American economy.

Data Assisted Financial Coaching

To assist low-income households with making better financial decisions, this paper proposes the implementation of a data-assisted model using a set of financial, environmental, and attitudinal indicators as part of a framework called the Equilibrium Model of the Household. Data collection is of course not a new idea. But its application to household financials is a relatively nascent practice. The idea was primarily adopted from the literature on corporate finance, which eventually led to efforts that defined a set of benchmarks and standardized financial terminology for households. (Griffith, 1985), regarded as one of the early writings on this topic, and subsequent efforts by others, including a widely referenced article by (Greninger, Hampton, Kitt, & Achacoso, 1996), identified a number of important financial ratios and benchmarks for household financial well-being. (DeVaney, 1994), argued that financial ratio analysis for the household was meant to meet three distinct goals; i) measure family finances in an objective manner, ii) track progress in financial situation over time, and iii) help financial educators, counselors, and planners in providing guidance to families.³ But what are these indicators and how can they be utilized to help with financial decision making?

¹ See <http://libertystreeteconomics.newyorkfed.org/2013/04/young-student-loan-borrowers-retreat-from-housing-and-auto-markets.html#more>

² *ibid*

³ The term financial coaching had not been coined at the time.

Common Financial Indicators and Benchmarks

(Harness, Finke, & Chatterjee, 2008) provide a comprehensive review of literature on household financial ratios and indicators. The list of indicators identified by various authors in most cases includes five or more items. In general, indicators such as solvency ratio, liquidity ratio, debt to income ratio, investment assets ratio, and savings ratio appear to be the common denominator among various scholarly writings that discuss household financial wellbeing. Definitions of these indicators are provided in Table 1.

In concept, utilizing household financial ratios is a major step forward for an objective evaluation of financial wellbeing. But in practice, the process becomes complicated by the fact that in addition to identifying appropriate indicators, one also needs to define benchmarks or reference values for these indicators in order to make them practically relevant for decision making purposes. Unfortunately, in most cases there is no a priori knowledge about how these indicators and ratios relate to household financial well-being. In addition, access to reliable data on household financials remain a rare commodity for a number of reasons, but primarily because practitioners who have the most direct engagement with clients are typically not accustomed to utilizing standardized definitions in order to collect household-level financial data. Often, different interpretations of what constitute income, consumption, asset, and liability makes it difficult to aggregate data sets in order to analyze financial ratios.

In the absence of an established literature, early studies looked at central measures, such as averages and medians of data samples to define benchmarks. Different data sets were used to collect raw data for such analyses. In one example, using a multistage probability sampling, (Prather, 1990), used a sample of 3824 households from the 1983 Survey of Consumer Finances (SCF) to calculate the financial ratios that were recommended by (Griffith, 1985). A correlation analysis looked at the relationships between age, income, and financial ratios. (Greninger, Hampton, Kitt, & Achacoso, 1996), recommended the use of expert opinion to create benchmarks. The authors collected information from a panel of 156 financial planners and educators using the Delphi method. Later studies used correlational methods, including logistic regression and other multivariate models to evaluate relevant benchmarks in explaining one or more aspects of household financial wellbeing. Common related measures or definitions of wellbeing include financial fragility, financial insolvency, and household financial satisfaction. For example, (DeVaney, 1994), used the criterion of having a net worth of less than one month's income to define financial insolvency as a binary variable; (1=insolvent, 0=solvent). Using benchmark values, she also created a number of binary-coded independent variables and ran a logistic regression model to assess the significance of each of the independent variables in explaining household financial insolvency. This approach offered a solution for creating or adjusting benchmarks.

Using a similar approach, (Garrett & James III, 2013), looked at the relationship between household financial satisfaction and financial ratios. (Brunetti, Giarda, & Torricelli, 2012), studied the role of household portfolio composition on financial fragility in Italy. One interesting aspect of this study was that the authors categorized households into four non-overlapping nominal categories based on two general conditions; i) whether or not income exceeded or was

equal to planned household expenses, and ii) whether or not liquid assets of the household were sufficient to meet potential unexpected expenses. Households were assumed to be in good financial shape if they met both conditions. If they met the first condition but not the second, the household was considered financially fragile. If they didn't meet the first condition but met the second, the household was considered a dissaving household. Finally, if they didn't meet either condition, the household was considered poor. The authors then used a multinomial logit model to associate different household characteristics to the above-referenced financial categories. One interesting finding in the study was that financial fragility increased with age and was higher for widows only in the presence of housing; a result that is probably more relevant to Italy.

Using Financial Benchmarks to Guide Financial Decision Making for Low Income Households

The literature on household financial ratios recognizes that income and economic circumstances bear a direct relationship to financial wellbeing. However, there is no evidence to suggest whether or not established benchmarks are equally appropriate for analyzing financial wellbeing of both low- and high-income households. In other words, it is not clear whether or not different benchmarks should be applied to different households based on their income levels and/or economic circumstances. By taking this argument to its logical extension, it could also be argued that perhaps a different set of indicators are needed to assess household financial wellbeing for different types of households.

While more research is needed to answer these questions, following (Munnell, Sergeyevna Orlova, & Webb, 2012), it appears that the existing literature focuses mostly on balance sheet ratios, (i.e., financial ratios that are derived from assets and liabilities and their allocation). Yet, the applicability of these ratios to low income households, while may still be relevant, is fairly limited as a majority of low income households generally have zero or negative net assets to begin with. In addition, access to financial mainstream is fairly limited for most low-income households. So, while the concept of benchmarking financial ratios, assuming financial wellbeing is an absolute concept, can be reasonably applied to households in all income categories, the emphasis on balance sheet ratios might be somewhat misaligned when applied to lower and middle income families. Instead, emphasis on the cash flow indicators that primarily deal with income and expenditure flows might be a better starting point for this group of households.

It appears that this view is also gaining more traction in light of recent findings that highlight the inadequacy of household liquidity buffers amid growing economic and income volatility. The call to create tools and policies that can help households understand and better manage their bottom lines is a common theme that appears in recent articles and reports (Lusardi, Schneider, & Tufano, 2011), (Gjertson, 2015), and (JPMorgan Chase & CO. Institute, 2015). In line with these arguments, this paper proposes the use of the Equilibrium Model of the Household when utilizing financial indicators in order to help low income households with better financial decision making.

Table 1- Common Financial indicators and their Recommended Ranges.

Indicator	Definition
Debt to Income Ratio	Also known as debt service to income ratio, or debt burden ratio measures the share of monthly nonmortgage payments to net monthly income. Typically, a separate indicator that includes mortgage payments in the numerator is also defined. Guidelines: <ol style="list-style-type: none"> 1- Less than 15% if mortgage payments are not included (Greninger, Hampton, Kitt, & Achacoso, 1996) 2- Less than 40% if mortgage payment is included (Garman & Fogue, 2012). A value between 30% and 35% is recommended by (Lytton, Garman, & Porter, 1991).
Liquidity Ratio	Liquidity ratio measures the amount of liquid assets (cash and near cash assets) to monthly expenses. Some studies also recommend the use of monthly income in the denominator (De Vaney, 1994). Guidelines: <ol style="list-style-type: none"> 1- Between 2 and 6 (Griffith, 1985); or 3 recommended by (Greninger, Hampton, Kitt, & Achacoso, 1996) 2- 2.5 if disposable income is used in the denominator (DeVaney, 1994).
Savings Rate	Saving as a percentage of monthly gross income. Guideline: <ol style="list-style-type: none"> 1- 10% recommended by (Greninger, Hampton, Kitt, & Achacoso, 1996)
Solvency Ratio	Total assets to liabilities. Guideline: <ol style="list-style-type: none"> 1- Greater than 1, (Kim & Lyons, 2008)
Investment Assets Ratio	Generally includes all funds available for investment as a percentage of total assets. A variant of this indicator replaces the denominator by net assets. Guidelines: <ol style="list-style-type: none"> 1- 20% (Griffith, 1985) and (ArthaYantra, 2013) 2- 25% to 50% if net worth appears in the denominator (Yao, Hanna, & Montalto, 2003), (Kim & Lyons, 2008)

The Equilibrium Model of the Household (EMH)

EMH treats the household as an evolving economic unit. Financial indicators are applied in EMH to assess performance and financial health of the household, both in the short and the long runs. The short-term indicators are mainly centered on explaining and improving the household cash flow position. Income and expenses are monitored within the framework of a household

budget and discretionary income is measured as the difference between income and total expenses.

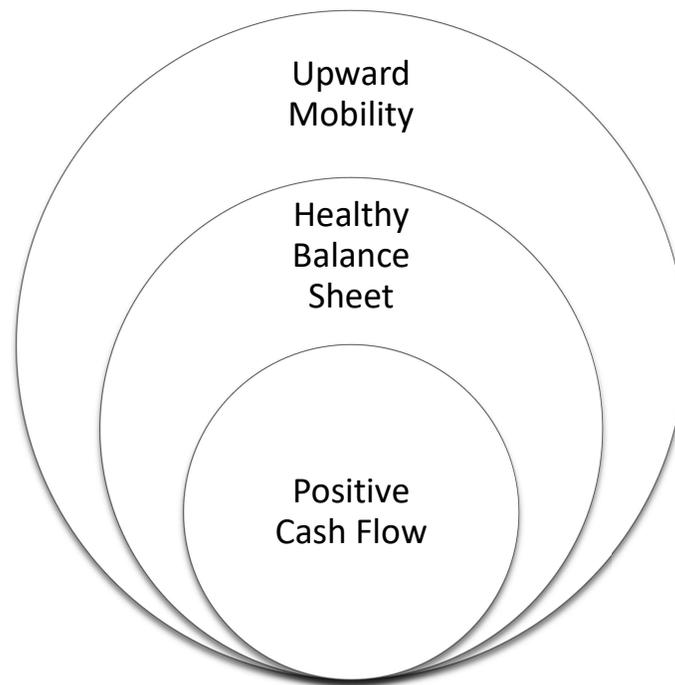


Figure 1- Short term equilibrium and long term growth in EMH.

EMH is geared toward helping households achieve financial equilibrium in the short run and build wealth in the long run. This means that the household is initially guided to manage and stabilize its cash flow situation in the short run. Stabilizing and increasing the household discretionary income is therefore the main goal of the EMH framework. A positive discretionary income, spills over into the household balance sheet and, everything else constant, contributes to an increase in the household net assets position. A sustainable positive cash flow will contribute to assets accumulation and result in long term growth, leading eventually to upward financial mobility (see Figure 1). The long term indicators of economic performance in EMH are more elaborate and include an assessment of the household balance sheet (i.e., assets and liabilities), as well as allocation of these assets and liabilities. Long term indicators of EMH will be discussed in a forthcoming paper.

The basic idea behind EMH is that providing a holistic picture of the household financial status by initially improving the cash flow situation and then looking at the balance sheet indicators will put any household in a better position in order to make more informed decisions. Therefore, in applying the concepts of household finance to lower income families, a slightly different set of metrics and financial ratios that concentrate on income and expenses rather than balance sheet items, are considered in EMH as being more relevant in guiding financial

decisions in the short run. A proposed list of six indicators is presented in Table 2. Of the six recommended measures, three are similar to entries in Table 1 (however, in some cases they are titled differently).

Table 2 - Key Financial indicators in EMH.

Indicator	Definition
Monthly Discretionary Income (MDI)	This is simply a measure of net cash flow. It is calculated by subtracting all types of expenses from all forms of Income Guideline: 1. MDI>0. This will indicate a positive cash flow
Monthly Savings Rate (MSR)	Same as Savings Rate in Table 1.
Average Liquidity Rate (ALR)	Same as Liquidity Ratio in Table 1.
Percentage Fixed Expenses (PFE)	Total fixed expenses (excluding tax payments) as a share of net income. Note that since PFE is calculated using net income in the denominator, adding it to a ratio for variable expenses will generally not result in 100%. 1- No specific guidelines exist, but generally recommended at or below 60%.
Credit Insolvency Rate (CIR)	Same as Debt to Income ratio in Table 1. The author prefers the use of CIR as the Debt to Income ratio is typically inclusive of mortgage payments and is not applicable to most low income households.
Income Supports Ratio (ISR)	Share of household net income received through public benefits programs. This ratio could be interpreted in two different ways; higher rates indicate a more reliable stream of income for the near term, but also imply the existence of additional restrictions or barriers in the way of households increasing assets. Guidelines: 1- Specific guidelines do not exist for this ratio, but lowering ISR is consistent with the long term goal of EMH.

Among the indicators listed in Table 2, MDI is the only measure that is not expressed as a fraction. It simply shows the cash flow surplus or shortfall for the household.⁴ This is usually the

⁴ In practice, MDI values near zero (either positive or negative) are not considered significantly different from zero. Only larger and positive values of MDI are regarded as positively contributing to the household financial well-being in EMH.

starting point in the EMH analysis. Figure 2, presents a proposed flow chart that explains how the indicators listed in Table 2 can be used systematically (and in combination) in order to determine the household financial status. To design a case management strategy based on EMH, financial specialists will look at MDI values for a given household budget cycle. A positive or near zero MDI suggests short run cash flow equilibrium. For households achieving short run equilibrium, case management strategy will then concentrate on the household liquidity position. Once optimal liquidity position is achieved, debt reduction will be the main focus. It should be emphasized that depending on the financial situation of the household a debt reduction strategy could also be combined with a savings strategy for families that have a below-optimal liquidity position.

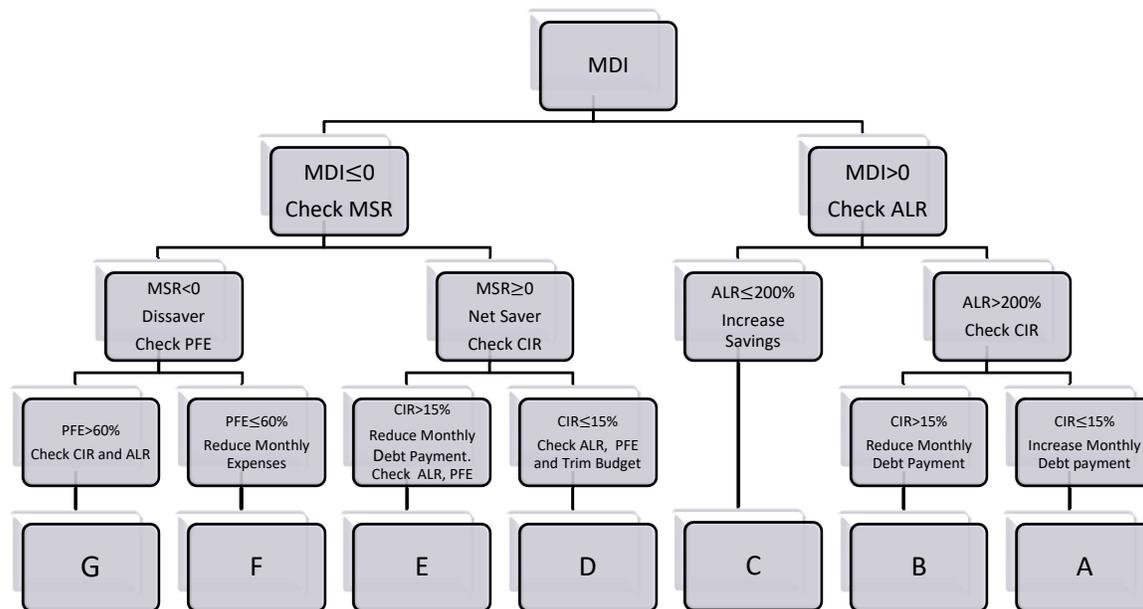


Figure 2 – EMH Flowchart of Indicators to Determine the Financial Status of the Household.

Case management strategy is typically more complicated for households that experience a negative MDI during a given budget cycle. In the strict interpretation of EMH, monthly household expenses include all types of payments, including contributions to short or long term savings accounts, suggesting that MDI is really a balancing term in bridging the gap between income and all types of household financial outflows (or expenses).⁵ In this sense, and in order to determine short term equilibrium, MSR should be used as a supplementing measure to MDI. Calculation of MSR includes the numerical value of MDI, but also incorporates existing

⁵ In other words, if MDI is positive, for example, it may suggest that the amount of money a household can save is above and beyond what they have already contributed to their savings accounts.

contributions to savings accounts. Thus a positive value of MSR suggests that the household is in short run equilibrium in spite of a negative MDI.⁶ These households are still regarded as net savers and typically, financial specialists will look at household debt ratio (or what is more formally referred to as CIR in Table 2), in order to better understand the financial situation of the household they are trying to help. They will also check liquidity rates and the percentage of fixed expenses in order to find ways to help clients trim household expenses and improve MDI. It should be emphasized that while improvements in MDI are achieved, both by reducing expenses and/or increasing income, the latter is usually not considered a short run strategy, therefore is not addressed in Figure 2. However, it is clearly an ideal way to help households achieve cash flow equilibrium.

Finally, families reporting a negative MDI and MSR values are considered dissaving households. For this group the most immediate strategy is to explore options to trim household expenses by looking at the Percentage of Fixed Expenses (PFE) as well as CIR values. Negative MSR and MDI values indicate a worsening in the balance sheet situation and need to be remedied in any way possible. In some cases this will require referring coaching or case management clients to specialized counselors in order to assist with debt restructuring/ consolidation.

A combination of possibilities outlined in the preceding paragraphs leads to a categorization of low or medium income households into seven distinct classes listed by the letters of alphabet in Figure 2. Following is a general description of household financial status in each category, along with a recommended strategy.

- A- Upwardly Mobile Household:** Household enjoys a positive cash flow balance and savings meets the ALR limit of a minimum of 200%. The household may consider reallocating assets by increasing retirement savings, or other long term investments. The client should be referred to a financial planner to explore options to better allocate assets and liabilities.
- B- Financially Stable and Improving Household:** Household enjoys a positive cash flow balance and savings meet the ALR limit of a minimum of 200%. Since CIR is over 15%, the household should be advised not to increase debt levels; however, it may consider accelerating payments on existing debt. For clients that have positive and relatively high net asset values, reallocation of assets into investments to generate passive income, may help lower CIR over time. Clients with high net assets should be advised to increase knowledge of financial investments and consider working with a financial planner once they have reduced their CIR to below 15%.
- C- Financially Stable/ Near-Stable Household:** The household should accelerate monthly saving. However, depending on the value of CIR, financial coach may offer alternative

⁶ When MSR is positive, a negative MDI suggests that the household is either shifting assets (i.e., reallocating assets from one category to another) or increasing liabilities.

- strategies combining savings and debt reduction. This is generally a transitional stage for the household. If MDI is significantly greater than zero and has been consistently so, one would expect ALR levels to exceed 200%. The fact that this is not the case, casts doubts on reported expenses or income levels, or it may suggest higher than normal variability or instability in reported income and expenses. Households in this category can typically benefit from coaching sessions with a focus on budgeting. The client is a good candidate for a matched savings program if CIR levels are not too high.
- D- Fragile/ Near Stable Household:** The household is a net saver, but monthly savings rate is low. In some cases (if MDI is negative), actual monthly savings contributions could be lower than the reported contribution amounts. Check PFE to determine if the household can further trim down household budget in order to increase savings rate. Once cash flow surplus is achieved depending on ALR, the coach might recommend increasing savings (if $ALR < 200\%$) or accelerating debt repayment up to $CIR = 15\%$. The client is also a good candidate for matched savings programs.
- E- Fragile Overleveraged Household:** Four different scenarios are possible under this category:
- a. ($ALR < 200\%$ and $PFE > 60\%$ and $MSR < 3\%$): The household is a net saver, but monthly savings rate is very low. The client is advised against any additional borrowing at this time as monthly payments on existing liabilities are higher than the recommended levels. It would also be difficult to reduce monthly expenses as fixed expenses are relatively high. Check the budget and identify why fixed expenses are too high. The household has to consider increasing savings to reach the recommended 200% level for liquid assets. The client might be a good candidate for a matched savings program. The Household status is “Fragile/Overleveraged”.
 - b. ($ALR < 200\%$ and $PFE < 60\%$ and $MSR < 3\%$): The household is a net saver, but monthly savings rate is very low. The client is advised against any additional borrowing at this time as monthly payments on existing liabilities are higher than the recommended levels. However, the client should be able to increase savings relatively easily by reducing monthly expenses (fixed expenses are relatively low). Check the budget and identify areas to cut expenses. The client is a great candidate for a matched savings program. The Household status is “Fragile/Overleveraged”.
 - c. ($ALR > 200\%$ and $PFE > 60\%$ and $MSR < 3\%$): The household is a net saver, but the household monthly savings rate is very low. The client is advised against any additional borrowing at this time as monthly payments on existing liabilities are higher than the recommended levels. It would also be difficult to reduce monthly expenses as fixed expenses are relatively high. Check the budget and identify why fixed expenses are too high. Since the household has met or exceeded minimum average liquidity rate of 200%, the household can accelerate loan repayment to reduce debt burden, if they can trim monthly budget to increase MDI. The Household status is “Overleveraged”.

- d. (ALR>200% and PFE<60% and MSR<3%): The household is a net saver, but the household monthly savings rate is very low. The client is advised against any additional borrowing at this time as monthly payments on existing liabilities are higher than the recommended levels. Since the household has met or exceeded minimum average liquidity rate of 200%, the household can accelerate loan repayment on revolving liabilities in order to reduce debt burden. The client should be able to reduce monthly expenses to make room for higher repayment amounts as fixed expenses in the budget are relatively low. The Household status is “Overleveraged”.

F- Fragile Dissaving (Near-Distressed) Household: Four different scenarios are possible under this category:

- a. (CIR>15% and ALR<200%): The household has the ability to improve its cash flow situation, as monthly expenses can be reduced relatively easily. The client may not be able to rely on additional borrowing and her cash reserves are low. In most cases, if the household is unable to cut expenses quickly and if CIR is involuntarily high, the best recommendation is to refer the client to a financial counselor for debt restructuring and other public benefit programs if eligible. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Fragile/Near Distressed”.
- b. (CIR<15% and ALR<200%): The household has the ability to improve its cash flow situation, as monthly expenses can be reduced relatively easily. The client may have to rely on additional borrowing as her cash reserves are low. The household should be advised to cut expenses quickly in order to improve MDI. The client may qualify for certain public benefit programs. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Fragile”.
- c. (CIR>15% and ALR>200%): The household has the ability to improve its cash flow situation, as monthly expenses can be reduced relatively easily. The client may have to rely on past savings as her ALR reading is above 200%. The household should be advised against additional borrowing and cut expenses as quickly as possible in order to improve MDI. The client may qualify for certain public benefit programs. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Fragile/Dissaving”.
- d. (CIR<15% and ALR>200%): The household has the ability to improve its cash flow situation, as monthly expenses can be reduced relatively easily. In the meantime, the client may have to rely on past savings and/or borrowing to cover ongoing expenditures. The household should be advised against additional borrowing and cut expenses as quickly as possible in order to improve MDI. The client may qualify for certain public benefit programs. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Dissaving”.

G- Distressed Household: Four different scenarios are possible under this category:

- a. (CIR>15% and ALR<200%): The household has a limited ability to improve cash flow situation by trimming monthly expenses. Moreover, they already spend a big share of income to pay for past debt. Therefore there is no more room for additional borrowing and cash reserves are very low. The client should not increase credit card debt. In most cases, especially if CIR is involuntarily high, the best recommendation is to refer the client to a financial counselor for debt restructuring and other public benefit programs if eligible. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Distressed”.
- b. (CIR<15% and ALR<200%): The household has limited ability to improve cash flow situation by trimming monthly expenses, and may have to rely on borrowing to meet ongoing expenses as existing cash reserves are low. The best recommendation may be to refer the client to public benefit programs if s/he is eligible. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Near Distressed”.
- c. (CIR>15% and ALR>200%): The household has a limited ability to improve cash flow situation by trimming monthly expenses and in the short run may have to rely on past savings to meet ongoing expenses. The client already spends a big share of income to pay for past debt. Therefore there is no more room for additional borrowing. The client should not increase credit card debt. In most cases, especially if CIR is involuntarily high, the best recommendation is to refer the client to a financial counselor for debt restructuring. The client may also be eligible to qualify for certain public benefit programs. Check housing expenses and provide guidance on affordable housing options if necessary. The Household status is “Fragile/Near Distressed”.
- d. (CIR<15% and ALR>200%): The household has a limited ability to improve cash flow situation by trimming monthly expenses and in the short run may have to rely on past savings or borrowing to meet ongoing expenses. The client may also be eligible to qualify for certain public benefit programs. Check housing expenses and provide guidance on affordable housing options if necessary. If PFE is not very high, the financial coach might be able to help the client to reduce monthly expenses and help improve MDI.

Examples of the Application of EMH

While a full-fledged analysis of the EMH presented in Figure 2 is beyond the scope of this paper, as a demonstration of how financial indicators could be utilized to aid decisions, let's return to our earlier examples. Data assisted financial coaching in the EMH framework can be used to help Tim determine his monthly credit card payment based on his CIR. Using this approach, a financial coach can provide guidance to Tim in order to lower his credit card payments to \$275 per month and allocate the balance (\$125/month) to build up emergency savings. This corresponds to lowering Tim's credit insolvency rate or CIR (i.e., non-mortgage debt to income

ratio) from almost 22% down to 15%. Similarly, by looking at Stacy's housing expense indicator (not discussed in this paper) the financial coach was able to help Stacy determine her housing budget as a percentage of gross monthly income, resulting in a recommended \$750 per month instead of \$950 rent payment. Based on this information, Stacy was able to move into a two-bedroom instead of a three bedroom apartment in Louisville and by doing so, was able to lower the probability of depleting her savings over time.

It is important to emphasize that for most people, financial decisions typically impact the household cash flow situation. Therefore, in providing financial coaching to clients, regardless of what the underlying goal really is, the EMH framework is still applicable to almost every decision situation involving lower income households. For this reason, it is important for financial educators, counselors, coaches, and planners to develop a better understanding of key financial indicators when analyzing basic household financial data.

A New Platform to Collect Data and Analyze EMH

In order to facilitate the process of collection and analysis of household financial data, Opportunity to Assets, a social enterprise based in Los Angeles, CA recently introduced *OPTAMetrics*, a financial case management and data tracking platform for community-based organizations. *OPTAMetrics* is a comprehensive financial case management system. It is designed to capture and store financial and behavioral information for financial coaching and case management clients. After collecting data, the system analyzes the information and creates the EMH flowchart to provide financial guidance based on the household financial information. Several other quantitative measures and indicators (including scores from behavioral surveys) are also computed and compared to recommended ranges and/or benchmarks. These indicators are stored chronologically and the system allows users to compare these measurements, in a before and after fashion, in order to assess the degree of progress or effectiveness of the support provided by financial coaches and counselors. Figure 3 provides a sample screenshot of *OPTAMetrics* that was used to help Stacy determine how much rent she could afford on a monthly basis.

In early 2015, *OPTAMetrics* was used to collect and analyze household financial data from a sample of more than 200 households who received financial coaching services from four community based organizations across Los Angeles. Findings from the first round of data collection appear in a report that is available on OPTA's [website](#).⁷

⁷ The report is titled "Data-Assisted Financial Case Management – Results from the First Round of Data Collection with *OPTAMetrics* in Los Angeles". It can be accessed on OPTA's website under [Resources](#).

Summary and Concluding Comments

A number of recent articles and reports, including a mega-sample data analysis by JP Morgan Chase, highlight the importance of household cash flow decisions in improving financial well-being. On a parallel track, the concept of financial coaching and case management has recently gained more traction among practitioners across community based organizations that focus on improving financial capability of their mostly low income clients.

Financial coaching and case management programs often provide an excellent opportunity for collecting self-reported household data, but collected data is often used in ways other than to provide client-specific guidance. Moreover, lack of standardization of key definitions across different programs results in poor quality of data. Therefore financial data is seldom analyzed in a systematic way to guide household financial decisions.

Incorporating household financial data in providing relevant and meaningful financial guidance to clients as part of financial coaching programs will inevitably lead to the professionalization of the field of financial coaching and case management and will generate a real demand for structured training of new cohorts of financial coaching experts. Over time, this will create a pathway to build upon the collective knowledge base of all practitioners and present an opportunity to standardize definitions, facilitate communication among experts, and track improvements in financial well-being using objective measures of data. It can also lead to a more effective segmentation of the market, a key element in improving the delivery of programs and services to LMI communities.

By introducing the Equilibrium Model of the Household, this paper offers a systematic approach to analyze household cash flow situation. Using the financial case management platform known as *OPTAMetrics*, standardized data collection has become possible for a group of community-based organizations in the Los Angeles area. But more research and experiments are needed to assess whether cash-flow strategies and specifically the EMH framework can effectively help improve financial well-being of lower income households.



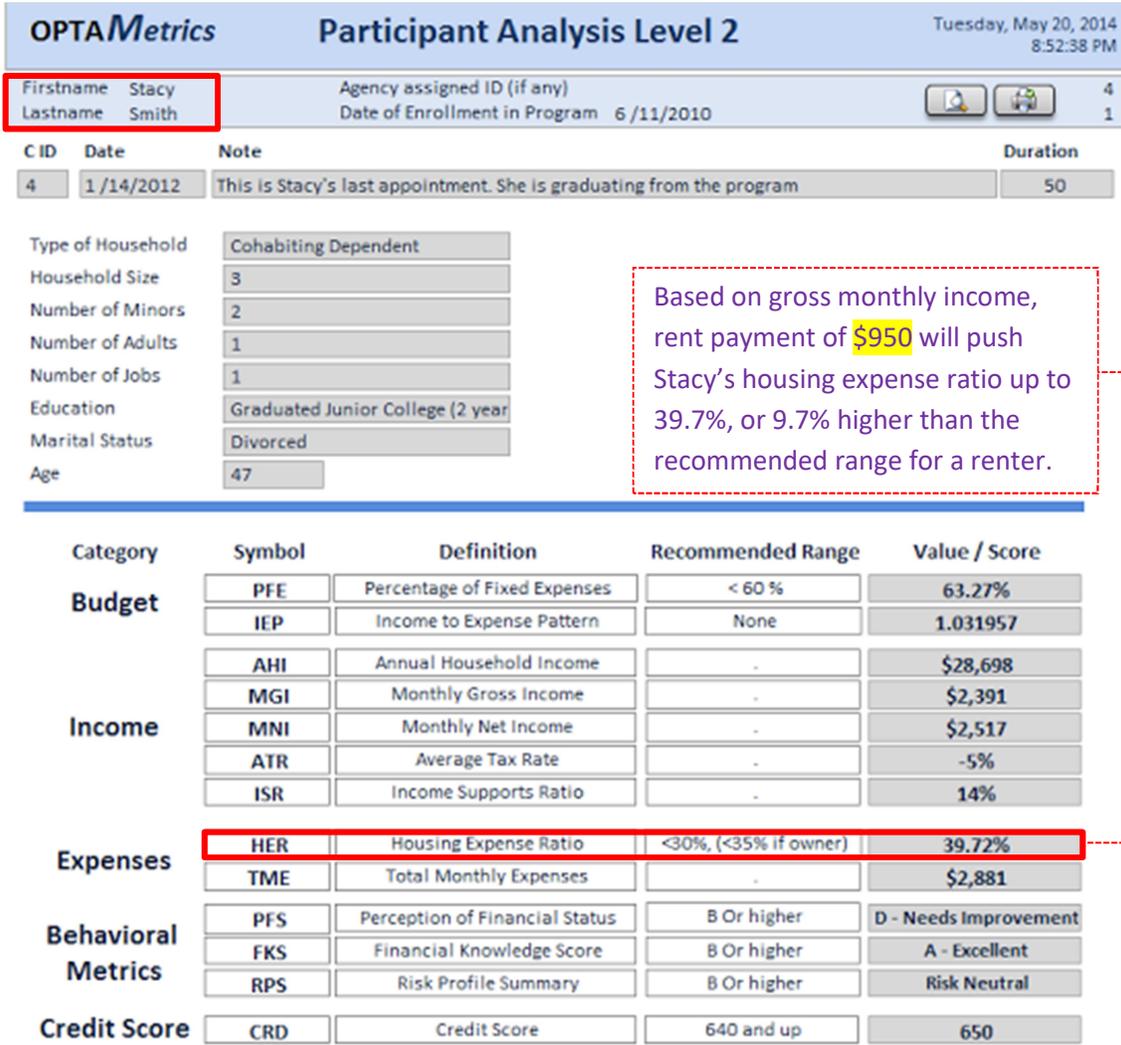


Figure 3 - Sample OPTAMetrics Screenshot.

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