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Operating and Financial Leverage in Gen Y Households

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Abstract

Using a representative example from financial plan projects completed by senior-level undergraduates ("new Gen Y households"), I observe high levels of household leverage, measured in both operating and financial terms. The findings suggest that shocks to income and expenses are highly magnified in new Gen Y households. Given the high levels of leverage, the results suggest that the seeds of income (and lifestyle) disparity are planted early. New Gen Y households with robust safety nets either from family or group benefits through the workplace can separate widely from those without such supports. Also mechanisms that substitute variable costs for fixed costs reduce leverage, and are a rational response to the high levels of sensitivity between earned income and surplus.

Introduction

The TIAA Institute's September 2013 symposium on the financial engagement of Gen Y highlighted a number of issues of importance to individuals, employers, financial service providers and policymakers. As Yakoboski (2013) states: "Gen Y is the largest generation in U.S. history. Financial decision-making by Gen Y and the state of their personal finances have significant implications for the individuals themselves and for the U.S. economy overall. It is therefore important to understand Gen Y's personal finances. This can then help identify strategies to better engage Gen Y in managing their personal finances to ensure financial well-being." Building on the scholarly exchanges in the Symposium, I explore the *financial vulnerability* of new Gen Y households in this *Research Dialogue*.

Gen Y is a cohort that is generally considered to include those with a birth date ranging from early 1980s to early 2000s. In this article, I focus on Gen Y "new households," (defined as a new household unit that is headed by a Gen Y individual). I gather impressions about this demographic group in the context of a senior-level undergraduate financial planning project that I have administered over the past 16 years. I have reviewed over 500 student plans in this period. The context is a large, urban research university with a student population that is highly diverse on many levels, including socio-economic status.

Each student completes a comprehensive financial plan that spans the major domains of financial advice, including financial health, goal setting, taxes, insurance, investments, financial freedom planning and estate planning. I ask each student to consider themselves as a financially independent "new household" and analyze themselves from that perspective. Those who will remain in "full-time student dependent status" are encouraged to drop the course and return when they are close enough to graduation or financial independence to more fully benefit from the planning project. While financial independence is a key construct in the project, it is clear that many students will continue to receive some outside support after their new household "launches." It is also apparent that many students will provide support to individuals outside their new household after launch. Planning for these inter- and intra-generational transfers is a key aspect of the project.

Every plan requires a current balance sheet and a *pro forma* income and expenditures statement. The balance sheet is a "snapshot" of their current position, with fair market values for assets. The income statement is a full-year projection of income and expenditures. Some students are already employed while taking the class, and in a living situation that will be stable on a one-year look forward basis. Others have temporary or no current employment, and are planning a transition in living arrangements. For these latter students, the projection elements include both income and expenditures. I encourage documentation of key estimates of both, including sources for starting salaries, discussions with currently employed peers, and data regarding rents and other costs of the planned living arrangement.

To encourage the student to take an analytical approach to their situation, I ask for a one-page summary of the "client" that discusses key personal, family and employment issues. As part of that summary, I request that the student describes the key elements that have influenced their "money personality." This qualitative component has the goal of getting the student to consider how they approach financial decision-making, and why so.

Representative New Gen Y Household Financial Statements

This section discusses representative financial statements—balance sheet and income and expenditure statement—for the new Gen Y households described above. The representative nature of the numbers in these statements reflects a typical new Gen Y household. There is a wide dispersion of numbers across the student plans. For purposes of discussion in this paper, I will focus on a case which is representative of the median new Gen Y household.

Table 1 is a market-value balance sheet and shows that the typical Gen Y new household has negative net worth. This is not surprising or even a phenomenon limited to Gen Y. Student loans drive the negative net worth. Since the Great Recession, credit card usage in the United States. has declined and the drop has been more pronounced for Millennials. Princeton Survey Research Associates reports that nearly two-thirds of Gen Y individuals surveyed did not have a credit card in 2014 (see Skowronski). Some of that decline in credit card usage has been offset by student loan growth among Gen Y individuals, as student loans are used for both education and living purposes (See Glowacki and Hunley, 2012).

Table 1: Representative Balance Sheet of New Gen Y Household

Assets		Liabilities	
Cash	$0	Credit card balance	$2,500
Short-term financial assets	$500	Student loan balance	$25,000
Investments	$0	Other loans balance	$2,000
House	$0		
Personal or use assets	$1,000		
		NET WORTH	($28,000)

To keep the balance sheet simple, I suggest that students use footnotes to address hard-to-value assets or liabilities. I encourage them to footnote their status regarding their Social Security benefits, for example. In addition, I encourage them to document whether they are on their parents' health plan. Well less than half are. Both Social Security and insurance are viewed as "contingent assets" in this context. In contrast, loans to or from family members that have clear repayment terms should be on the balance sheet, and they do show up under "other loan balance" or "personal asset." Promises of contingent support *from* family members is a common footnote but such support *to* family members (such as parents and siblings) is also common.

Table 2 shows the representative *pro forma* income and expenditures statement for the first year of financial independence. The typical new Gen Y household has a mix of employee (W-2) and independent contractor (1099) income. During the last 15 years, and especially since the Great Recession, there has been a rising trend of 1099-type income. For the Gen Y cohort, the last six years have been especially challenging as full-time entry-level salaried positions in a number of career fields have been slow to re-emerge. The result is greater reliance on part-time work that can be either in W-2 or 1099 status. For the representative Gen Y household, the variability to the inflows line is higher than in the past.

On the expenditures side, the projections for the typical household are such that the first year of financial independence will yield a surplus. However, projected expenditures contemplate few contingencies, which is one aspect of vulnerability. Consider the impact of an upward "shock" to expenditures. This could be an unexpected rent increase, a large repair to a critical asset like a car or a significant out-of-pocket medical expenditure. One approach to address the expense shock would be to rely on short-term assets, but the representative household has very little liquidity on its balance sheet. The household could also use credit card debt to cover the expense shock, but the 2009 Credit Card Act has greatly limited credit card access and limits. Another option would be to consider help from family or friends. If the expense shock also hinders the ability to earn money, then the effect would be compounded by a negative earnings shock.

Table 2: Representative Income and Expenditures Statement of New Gen Y Household

Cash Inflows			
Earned (mix of W-2 and 1099)	$30,000		
Cash Outflows			
Federal income tax	$2,300	Food/personal care	$4,000
State income tax	$1,200	Transportation	$3,000
Social Security/Medicare payroll tax	$2,300	All insurance premiums	$1,000
Rent/utilities	$7,200	Clothes	$1,000
Student loan payments	$2,000	Credit card payments	$1,000
Entertainment/phone	$2,000	Miscellaneous	$1,000
Expected surplus: $30,000 - $28,000 = $2,000 (6.7% of gross)			

Operating and Financial Leverage Considerations in Financial Vulnerability

These financial statements can be used to examine the financial vulnerability in the representative new Gen Y household by using operating, financial and total leverage metrics to analyze the impact of various income and expense shocks. To begin, operating expenses are classified as fixed, mechanically variable or discretionary. In the long run, all household expenditures are variable, but consider the short run. Some expenses take on a fixed nature as failing to meet those expenses results in extremely high costs or an extreme shock to lifestyle. An example could be breaking a lease. Mechanically variable expenses change automatically in direct proportion to income; federal and state income taxes and the Social Security payroll tax are examples. Lastly, discretionary expenditures can be cut without severe lifestyle disruption.

Operating leverage is generally used in a corporate context to convey how sensitive a company's operating income is to changes in revenues. Operating leverage measurements take place prior to any consideration of financing expenses, such as interest. High operating leverage means a high level of sensitivity. Consider a firm whose operating costs are entirely fixed. In this case, increases in revenue do not result in increased operating costs since all such costs are fixed. Thus, operating income will be very sensitive to changes in revenue – high operating leverage. Conversely, a firm whose costs are largely variable in nature will have very low operating leverage.

Moving to the household context, the operating leverage concept can be applied in a similar manner. The operating leverage inquiry begins with an examination of what household expenditures (operating or living expenses) are fixed and what household expenditures are either mechanically variable or discretionary. While this is a somewhat qualitative exercise, students generally recognize that once they have chosen a certain standard of living, that choice fixes a number of their living expenditures. Choosing to live in an apartment in a certain part of the city, for example, can strongly influence rent, utilities and transportation expenses, and impact other issues like food costs. Once the location is chosen, operating costs have a largely fixed nature since it could be difficult to cut expenditures deeply without lifestyle upheaval. The implication is that operating leverage may be relatively high.

Table 3 presents a streamlined version of the income and expenditures statement with the timing of cash flows highlighted. Inflows in the current period are used to cover present period expenses (operating) for the household. They are also used to pay for past period consumption (financing expenses). On the representative income and expenditures statement, some inflows (the surplus) are projected to remain after current and past period expenditures are made. The surplus is devoted to future consumption. **The financial planning exercise for new Gen Y households is fundamentally about managing the balance between current, past and future consumption.**

Table 3: Inflows and Timing of Expenditures

Inflows (present period)	$30,000	
Operating expenses (present period)	$25,000	
Operating cash flow		$5,000
Financing expenses (past periods)	$3,000	
Expected surplus (future periods)		$2,000

The degree of operating leverage (DOL) measures the sensitivity of operating cash flow to changes in inflows (earned income). In equation form:

DOL= (Inflows-Variable Expenses)/Operating Cash Flow

From the DOL, the percentage change on operating cash flow can be assessed from the percentage change in inflow. Assume that the representative Gen Y household summarized in Table 3 determines that 40% of its operating expenses are variable. For that household, DOL = (30,000-(0.4)(25,000)/5,000) = **4**. Having a DOL of 4 implies that a 10% change in inflows (for example) will result in a 40% change in operating cash flow.

The estimation of fixed versus variable expenses is a key input to the calculation. In the case just mentioned, estimating that 40% of operating expenses are variable does not seem unreasonable, given that the combined marginal impacts of 15% federal income, 7.65% Social Security & Medicare, and 6% (in Georgia) state income taxes. If 40% of expenses are variable, removing the mechanically variable tax component (sum of 28.65%) leaves just over 11% of expenses as discretionary.

Financial leverage is generally used in a corporate context to convey how sensitive net income is to changes in the capital structure of the firm. The capital structure decision is one where the company chooses to employ either debt or equity to finance its need for capital. Financial leverage occurs when the firm uses debt to finance its need for capital. Debt use brings about financing expenses, namely interest costs. A firm with no debt has no financial leverage. One that employs debt increases the sensitivity between operating and net income. In equation form, the degree of financial leverage is:

DFL = Operating Cash Flow/(Operating Cash Flow – Financing Expenses)

In the household context, financing cash flows are measured as required minimum payments for *past consumption.* Assume these consist of credit card and student loan payments in the typical case. Then, for the representative new Gen Y household: DFL = ((5,000)/(5,000-3,000)) = **2.5.**

The implication is that a 10% increase in operating income would lead to a 25% increase in surplus (net income).

Combining operating and financial leverage provides an estimation of the sensitivity from the “top line” (earned income) to the “bottom line” (surplus). The degree of total leverage (DTL) measures the sensitivity of surplus to changes in inflows (earned income). DTL thus includes both operating and financial leverage considerations. In equation form:

DTL = DOL x DFL

In the stylized example of the representative new Gen Y household, the DTL would thus be 4 x 2.5 **= 10.** To put the DTL in a dollar context, consider two scenarios from the representative case. In the first, the new Gen Y household gets an annual $3,000 (10%) raise to $33,000 (from $30,000).Variable expenses increase by (40%) of the earned income increase of 10% or 4%. Thus, operating expenses increase by $1,000 (4% of $25,000). With earned income increasing by $3,000 and expenses increasing by $1,000, the change in surplus is $2,000.

Using the DTL of 10 thus gives the following summary:

- Percentage Change in inflows: +10%
- Percentage Change in surplus: +100%
- Surplus moves from $2,000 to $4,000.

In the reverse scenario, the new Gen Y household Grad earns $3,000 less than expected on an annual basis, a 10% decline. Expenditures drop by $1,000, a 4% decline. Surplus changes from $2,000 to zero as inflows decrease by $3,000 and expenditures decrease by $1,000 relative to the base case. Using the DTL of 10 thus gives the following summary:

- Percentage Change in inflows: -10%
- Percentage Change in surplus: -100%
- Surplus moves from $2,000 to $0.

In cases where earned income decreases by more than $3,000, the surplus will turn to a deficit.

Implications

The analysis shows the high level of sensitivity that new Gen Y households have to income shocks due to leverage-induced amplification. This sensitivity is one factor breeding the growing separation of financial strength among households in the United States. On the upside, there is significant potential to increase savings at early ages. On the downside, however, there is vulnerability to either negative shocks to income or unexpected increases in expenses.

Consider first the upside scenario. Salary increases tend to go with strong work performance. New Gen Y households with strong human capital often have other advantages. They have received both financial and moral support that encourage a focus on their academics. Better academic performance leads to a higher probability of valuable internships in their desired area of employment. This support, often from parents or grandparents, also means that these new Gen Y households often have little or no student debt, little or no credit card debt and an ample safety net to deal with expense shocks. One of the more recent manifestations of this advantage is the ability (under the Affordable Care Act) of children to stay on parents' health insurance until age 26.

In contrast, the Gen Y household downside scenario combines a loss in income with a weaker balance sheet (low levels of liquid assets and little if any debt capacity) and limited or no family support. In the large urban university setting, the dispersion between support from and support to family members is wide. The downside case can thus result from an expense shock to a family member outside of the Gen Y household. For example, this might involve paying out-of-pocket medical expenses for an uninsured sibling or parent.

The new Gen Y household analysis shows that the seeds of growing income and wealth disparity are planted early. Two environmental factors deserve mention. First, the increasingly competitive global labor market is accelerating disruptions, placing premiums on those with marketable skills and punishing the rest. Second, the shifts in risk from governments and businesses to households (as seen by the move to 401(k) retirement plans and the growth of high-deductible health insurance plans) is driving a spread between those who have a strong family safety net and those who do not.

Gen Y is the first cohort to *enter* this changed world as a newly independent household unit. While other cohorts, such as Gen X, have certainly felt its effects, they did not enter this world *en masse*. From my observations of over 15 years of new Gen Y household plans, I have observed the emergence of several new risk management mechanisms to deal with this confluence of factors. One is the growth of the barter and sharing economy – enabled by social media. Rather than owning a car for example, Gen Y relies on innovations such as Zip-Car. This converts the fixed costs of auto ownership, which are both operating and financial (if a car loan is taken) to the variable cost of using the car only when needed. Gen Y households are able to leverage the benefits of "friends and family" to trade in risks. The in-kind economy involves the sharing of time and non-financial assets, as opposed to dollars, to manage risk. Gen Y's comfort level with social media and multi-tasking capability make this adaptation possible.

Advising and Policy

The new Gen Y household analysis suggests a critical need for financial advice. The representative household is highly vulnerable to both income and expense shocks. Good decisions can lever into significant standard-of-living increases over a lifetime, while poor decisions have the opposite effect.

Despite the need, the representative financial statements point to challenges serving the Gen Y cohort with traditional advising models. Advisors have traditionally earned money via commissions and/or fees. The advisory trend is toward "fee only" models that rely on building assets under management. The challenge is that the representative Gen Y household has no financial assets to manage. Advisors also could charge for time. While this might be value added for the Gen Y client, their ability (and thus, willingness) to pay will likely be low.

New ultra-low-cost money management models that rely heavily on technological delivery and algorithmic portfolio rebalancing are one answer. The results in this article reveal, however, that financial issues besides investment are driving vulnerability. These include budgeting, debt management, insurance and liquidity. Working with a representative Gen Y on these matters may be too much of a "loss leader" for most advisors.

Policies can assist with the goal. The TIAA symposium on Gen Y personal finances highlighted human resource (HR) office methods to build engagement in that cohort (see Yakoboski, 2013). New Gen Y households with robust employee benefits and a supportive HR office can prosper. Defaults in 401(k) plans to both enroll and place in target-date funds are also positive. The very recent promulgation of MyRA by the U.S. Treasury can also assist new Gen Y households without retirement plans.

Healthcare remains a huge challenge for Gen Y. The planning exercise reveals that some new Gen Y households benefit from remaining on their parents' plan. But this is not representative. Among those with no parent or employer coverage, the choice to purchase insurance is often a difficult financial one. From a legal standpoint, this is technically not a choice since the Affordable Care Act requires the purchase of insurance or the payment of a penalty. Despite my advice to purchase health insurance, I believe that a number of new Gen Y households in my sample do not carry it. This exposes them to very large health and financial risks.

Summary

This report examines the financial status of a representative new Gen Y household relying on observations from 15 years of financial planning projects. An examination of Gen Y finances reveals that the typical degree of total household leverage is high – in both operating and financial terms. Leverage amplifies top to bottom line changes, highlighting household *vulnerability* to downward income and upward expense shocks. The analysis also shows that family is becoming a more complex risk-bearing unit with both intra- as well as inter-generational income transfers. While traditional cash flows typically went from older generations to younger, transfers in the opposite direction are also common.

The shift toward a "1099" workforce, along with the growth of defined contribution style retirement plans and high-deductible health plan coverage, has also greatly increased the vulnerability of new Gen Y households to both temporary and permanent shocks in their standard of living. Traditional financial advice models fail to reach the vast majority of these new Gen Y households as they have little to no money to manage and no reason to purchase a commission product. Advice needs for the new Gen Y household tend to focus more on basic budgeting, debt, liquidity and the structuring of basic insurance, like health, disability and life.

Good financial decision-making by new Gen Y households is amplified through leverage, as is poor decision-making. The seeds of growing disparity in household financial health are thus planted early. Building on the recent TIAA symposium on Gen Y personal finances, this article stresses the importance of employee benefits office engagement (see Yakoboski, 2013) and behavioral financial "nudges" (Thaler and Sunstein, 2008; Ciccotello and Yakoboski, 2014).

References Cited

Ciccotello, Conrad and Paul Yakoboski (2014). A Tale of Two Nudges: Improving Financial Outcomes for Boomers and Millennials*. Benefits Quarterly*, 30(3), 32-37.

Glowacki, Jonathan and Leighton Hunley (2012). The Student Loan Debt Crisis in Perspective, Milliman, available at ttp://us.milliman.com/insight/insurance/The-student-loan-debt-crisis-in-perspective/

Skowronski, Jeanine. More Millennials Say No to Credit Cards. Bankrate, available at http://www.bankrate.com/finance/credit-cards/more-millennials-say-no-to-credit-cards-1.aspx

Thaler, Richard and Cass Sunstein (2008). Nudge: Improving Decisions about Health, Wealth and Happiness. Yale University Press.

Yakoboski, Paul (2013). Engaging Early Career Workers in their Financial Well-Being. TIAA-CREF Institute Symposium *Trends and Issues*. October.

About the Author

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Ciccotello's primary research interests are in law and finance, with emphasis on financial intermediation, organization, and contracting. He has over 50 publications including articles in the *Journal of Financial Economics*, *Journal of Law and Economics*, *Journal of Financial and Quantitative Analysis*, and *Financial Analysts Journal*. Ciccotello has received research grants from TIAA Institute, Kauffman Foundation, and the William Davidson Institute. He is the author of the first two chapters in *Mutual Funds: The Blackwell Series in Finance*. Ciccotello's research on the financial advisory profession is cited in the Federal Register and his paper on market timing of mutual funds is entered into the Congressional Record as Senate Banking Committee testimony.

Ciccotello currently serves as a Research Fellow in the TIAA Institute. From 2001-2007, he was Editor of *Financial Services Review*. Since 2012, he has also served as the Executive Director of Huebner Foundation, which is dedicated to the advancement of the next generation of risk management and insurance educators. Well known in the Atlanta area for his television appearances discussing household finance issues, Ciccotello has also provided expert testimony to the Retirement Committee of the Georgia Senate. He currently serves as the investment consultant for the defined contribution retirement plan for the University System of Georgia.