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Presents WiseHarvesting
(The Product Formerly Known As Tax-Loss Harvesting)

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Introducing WiseHarvesting

Automation is a powerful – and empowering – force when it comes to investing. Traditionally, manual processes such as portfolio allocation, rebalancing, and dividend reinvestment required significant time, and by extension, cost, such that the economics of their value could only be justified for the wealthiest clients. However, as technology has introduced increased automation to these processes, the time and cost restraints have been minimized to virtually nothing, making it viable to offer these services to all clients regardless of their starting account sizes.

Today the WiseBanyan team is excited to announce our newest product: WiseHarvesting (or The Product Formerly Known as Tax-Loss Harvesting). WiseHarvesting is the perfect example of a manual process that traditionally only the most affluent investors could utilize before automation. As a result of the new paradigm of complete automation and full investment efficiency, we are able to release what we believe to be the most advanced tax-loss harvesting product to date. In keeping with our ethos that professional wealth services should be available to everyone, there is no minimum balance required to start and we are introducing a new approach to pricing that is unique to the financial industry.

Easy in theory – difficult in practice

Tax-loss harvesting is an investment strategy designed to help lower your income taxes by offsetting income and/or investment gains. Put succinctly, when executed properly it finds opportunities to capture investment losses to deduct against your taxable income and investment gains, resulting in a reduced tax liability for the year.

While it sounds simple in nature, a manual approach to tax-loss harvesting makes it difficult to realize its full potential. Every time a security is purchased a tax lot is created to record the original purchase price. Traditional tax-loss harvesting requires investors to find the time to look through the tax lots of their investments and sell those in which a tax loss could be realized. It's a tedious process as each holding and tax lot should be reviewed. In addition, investors would introduce greater complexity to their tax-loss harvesting when using investment strategies involving frequent deposits, such as dollar-cost averaging, because the number of tax lots would grow.

Let's assume the investor was a rock-star harvester of losses and captured the full potential of market dips for the most recent period. This resulted in more work for the investor as it was then necessary to monitor the portfolio for potential wash sales. If tax-loss harvesting is your friend, then wash sales are your enemy. We'll dive deeper into them later, but for now it's important to understand that wash sales can void or greatly diminish the utility of a realized tax loss, thus reducing or eliminating the year-end benefit after all that work. In order to avoid wash sales, the previously sold security cannot be repurchased within a 30 day waiting period. This often meant that while waiting for this period to end, the investor would be "out of the market" with respect to the asset class of the sold securities, and potentially sitting on the sidelines if the market recovered the lost value.

The complications didn't stop there. As each tax loss was harvested, the investor would need to manually confirm the broker was in fact designating the correct tax lot to be sold. Should a different tax lot be designated, a realized tax loss could turn into a realized gain thus reversing the benefit.

Finally, the IRS requires an investor to track wash sales across all accounts – if an investor were to realize a tax loss in a taxable investment account and subsequently buy the same security within an IRA (or non-taxable investment account), the tax loss would be "disallowed." However, brokers are not explicitly required to track this, and therefore they were often unable to account for wash sales across accounts. This left the investors at risk as they filed their taxes.

Before we continue, we'd like to note there are definitely many financial advisors and investors who are capable of performing the tasks above. The point we'd like to make is it's very time consuming to do so effectively while also managing the allocation for one, if not multiple portfolios. Even if an individual could oversee the whole process effectively, it would be near impossible to do so for a significant number of portfolios due to time constraints. Seems like the perfect opportunity for an automated service to expand access and efficiency...

Harvest wiser, not harder

Enough setting the stage – let's jump into how WiseHarvesting works. As a WiseBanyan client, you are enjoying your well-diversified, automated, (not to mention free), investment account(s). However, as in all diversified portfolios, some securities rise in value as others fall. If the price of a security falls below the original purchase price, WiseHarvesting has the opportunity to spring into action!

WiseHarvesting monitors your account(s) for opportunities to "harvest" these market dips. When enabled, it reviews all securities and tax lots within your portfolio on a daily basis for any that can be sold to realize a loss. When it sees the market price of a security is less than the original purchase price, it harvests or sells the security to capture this investment loss.

Once an investment loss is harvested, WiseHarvesting then purchases an alternate security carefully selected to provide exposure to the same asset class in order to maintain your desired portfolio allocation. As additional opportunities to harvest losses for the same security arise throughout the year, WiseHarvesting opportunistically switches back from the alternate security to the primary security.

Hold on, aren't investment losses supposed to be a bad thing? In the long term, yes, but WiseHarvesting takes advantage of this inevitable part of investing to make it beneficial to the investor! Harvested losses on a single tax lot or security does not mean an investor has necessarily lost money as his or her overall holdings can still be worth dramatically more than the original cost. Instead, these losses can be deducted against investment gains as well as up to $3,000 of taxable income, which lowers the investor's tax burden at the end of the year. Therefore, from a tax perspective, harvested (realized) losses can be beneficial.

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We didn't tack on "Wise" for nothing!

So far we have only outlined WiseHarvesting from a bird's eye view. Our investment and engineering teams won't be happy if we don't dive deeper into the intricacies and additional benefits they've built into WiseHarvesting:

- **Stay fully invested:** Unlike a simple "sell and wait" investment approach where an investor would harvest a loss and then wait 30 days to repurchase the security, WiseHarvesting immediately invests the proceeds from the harvested tax loss into a security that is selected to give the client exposure to the same asset class. This means if the price of the asset class goes back up after you have harvested a loss, you can still participate in that gain.

- **Sidestep wash sales:** WiseHarvesting's decision engine for purchasing the primary, secondary, or tertiary security within an asset class can help avoid wash sales. The decision engine will first consider purchasing the primary security, but instead purchase the secondary or tertiary security if the preceding will generate a wash sale. In addition, when an asset class needs to be sold, the security is sold that will generate the lowest realized gain (or largest realized loss). Since deposit and withdrawal requests also result in buy or sell orders, WiseHarvesting's decision process selects, to the extent possible, the securities that will have the most favorable tax impact for the client.

- **Outsmart disallowed losses:** WiseHarvesting uses up to three securities for each asset class, allowing WiseBanyan IRAs to stay fully invested without creating a disallowed loss. A disallowed loss occurs when an investor sells a security in a taxable account but then buys the same security back in an IRA. Normally this would simply be a wash sale, but since the purchase occurred in an IRA, the original loss in the taxable account is "disallowed" preventing it from being claimed at the end of the year. Disallowed losses are undesirable because the investor receives no taxable benefit despite also realizing a loss. Using up to three securities for WiseHarvesting allows us to maintain your desired allocation as we rebalance your IRAs, while also selecting the alternate security that should not result in a disallowed loss.

- **Monitor across accounts:** We've also built WiseHarvesting to be prepared for one-off events such as a client closing her account or requesting a withdrawal so large we are forced to create a disallowed loss or wash sale in order to produce the requested cash. In these instances, WiseHarvesting looks across all WiseBanyan accounts held by the client, both taxable and non-taxable, to ensure the client is adhering to all reporting regulations.

Overall, the benefit of automating these tasks cannot be understated. A WiseBanyan client who has a weekly auto-deposit as part of her plan will have generated over 1,200 tax lots within her portfolio after two years of investing. Efficiency at this scale would be impossible if not for automation.

Three is the Magic Number

As noted above, WiseBanyan carefully selects secondary and tertiary securities for certain asset classes to bring more flexibility to WiseHarvesting in the form of avoiding wash sales and disallowed losses. The table below outlines the primary, secondary, and tertiary securities we've selected to help WiseHarvesting do its thing:

WISEHARVESTING ALTERNATE SECURITIES

WiseHarvesting Securities	US Equities	International Developed Equities	International Emerging Equities	US Corporate Bonds	Short-Term High Yield Bonds	REITs	Short-Term Corporate Bonds	US Treasuries	US Inflation Protected Bonds	Short-Term Government Bonds
Primary	VTI	VEA	VWO	LQD	SJNK	VNQ	VCSH	VGIT	TIP	VGSH
Secondary	SCHB	SCHF	IEMG	VCIT	HYS	IYR				
Tertiary	SPY	EFA	EEM		SHYG	ICF				

Please note that we have chosen to exclude some asset classes from WiseHarvesting, because upon careful evaluation and back-testing we found the return profile of those asset classes showed the strategy would be ineffective. Essentially, the securities did not fluctuate enough to create opportunities for harvesting losses. This is typical, and desirable, of the less volatile portion of a diversified portfolio, because an investor typically uses this group of securities to provide potential downside protection during a market downturn.

The Value of WiseHarvesting

To gauge the value of WiseHarvesting, we looked back over the preceding 10 years to see how a portfolio would have performed had WiseHarvesting sought to dynamically harvest losses within a representative client portfolio. To start, we chose to back-test a 70% equity and 30% bond portfolio because this was the most common portfolio chosen by our clients. Let's jump right into the results:[1]

AVERAGE ANNUAL HARVESTED LOSSES

WiseHarvesting On	WiseHarvesting Off	WiseHarvesting Difference
3.87%	0.28%	3.59%

As the results show, WiseHarvesting would have successfully generated 3.87% in average realized tax losses per year. Another exciting finding is that even *without* WiseHarvesting, our automated portfolio rebalancing system is so efficient it did not generate any gains over the past ten years, but instead organically generated 0.28% of average annual losses. This is the result of selecting tax lots to either minimize realized gains or generate realized tax losses during the course of normal

1. The results below show the average annual harvested losses as a percentage of end of year portfolio value based on the hypothetical performance of the WiseBanyan 70% equity portfolio with a $250 initial deposit and a $250 recurring monthly deposit invested from January 1, 2005 through August 31, 2015.

rebalancing when possible. So when taking into account the organic value from our free investment management over the past 10 years, WiseHarvesting would have generated an average of 3.59% more realized tax losses per year than the standard WiseBanyan process of selling securities to rebalance the portfolio.

To be fully transparent, WiseHarvesting doesn't come without some cost. We found the combined pre-tax annualized "cost" of moving between securities and the potential underperformance between the primary and alternate securities came out to 0.02%. That said, the 3.59% in harvested losses seems to more than make up for it!

Who should turn on WiseHarvesting?

While we'd love for all our clients to turn on WiseHarvesting, some clients have a higher probability than others of seeing value over the cost. Since WiseHarvesting is our first paid product, we want to review what factors clients should consider before turning it on.

Before we begin, please note that while WiseHarvesting does account for wash sales across all of your WiseBanyan accounts, we are not currently able to see the securities in your outside investment accounts. If you file taxes jointly, the potential to incur wash sales can extend across your partner's non-WiseBanyan investment accounts as well.

When evaluating the value of WiseHarvesting, there are three points to remember regarding the utility of capturing tax losses:

1. **What's your time horizon?** A client who is engaged in WiseHarvesting will eventually have to realize gains and pay taxes. By realizing tax losses in the present, it means more gains (or at least less losses) will be realized in the future. The theory of the time value of money outlines the idea that money available in the present is worth more than the same amount of money in the future due to the earning potential of interest and returns. It follows that the longer a client can delay paying taxes into the future the better. Therefore, clients with a longer time horizon may potentially benefit more from offsetting tax gains with WiseHarvesting.

2. **What will you offset?** Capturing tax-losses is only useful when they can be written off against realized gains or income elsewhere. The utility of your realized tax-loss is correlated to the tax rate of the gains or income that can be offset – the higher the tax rate, the higher the utility of any tax liability that can be deducted. If there are not enough gains in a given year against which to apply captured tax-losses, these unapplied losses can be rolled into future years. In this scenario it should be taken into consideration that the investor is paying for something today to be used in the future, which brings us back to the time value of money outlined above.

3. **Are you utilizing auto-deposit?** WiseHarvesting works best when there are many tax lots to potentially create harvesting opportunities. This means WiseHarvesting should add more value to an account that has an auto-deposit turned on or who contributes regularly than one that has only made a few sporadic deposits.

Let's start by looking at the impact of marginal tax rates. Depending on your income and state of residence, income taxes vary widely, as do capital gains rates (short term capital gains are taxed as ordinary income). Below is a sample of three states representing a range of income tax rates:

MARGINAL INCOME TAX RATES						
Annual Income	**California Residents**		**Kansas Residents**		**Texas Residents**	
	Federal	25.0%	Federal	25.0%	Federal	25.0%
	State	8.0%	State	4.8%	State	0.0%
$50,000	**Total**	**33.0%**	**Total**	**29.8%**	**Total**	**25.0%**
	Federal	28.0%	Federal	28.0%	Federal	28.0%
	State	9.3%	State	4.8%	State	0.0%
$100,000	**Total**	**37.3%**	**Total**	**32.8%**	**Total**	**28.0%**
	Federal	33.0%	Federal	33.0%	Federal	33.0%
	State	9.3%	State	4.8%	State	0.0%
$200,000	**Total**	**42.3%**	**Total**	**37.8%**	**Total**	**33.0%**

Next we have to consider the marginal reduction in tax liability that can be achieved by generating an additional 3.59% in tax losses each year. Our analysis below assumes investors can write off tax losses against short-term capital gains and income. Note that this is simply 3.59% (WiseHarvesting's average realized tax losses) multiplied by the marginal income tax rate: [2]

REDUCTION IN TAX LIABILITY AS A PERCENTAGE OF PORTFOLIO VALUE			
Annual Income	**California Residents**	**Kansas Residents**	**Texas Residents**
$50,000	1.18%	1.07%	0.90%
$100,000	1.34%	1.17%	1.00%
$200,000	1.52%	1.35%	1.18%

2. The table below shows the average annual reduction in tax liability as a percentage of end of year portfolio value based on hypothetical performance of WiseBanyan's 70% equity portfolio with a $250 initial deposit and a $250 recurring monthly deposit invested from January 1, 2005 through August 31, 2015.

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Remember that the data above shows the tax liability being *delayed*, not eliminated. Therefore, it depends on how long one is able to delay this tax liability and what discount rate (the value of money today compared to the future) is applied. Below are three scenarios delaying taxes for 10, 20, and 30 years. We use a 7% annual discount rate for each of these scenarios, and all value is expressed as a percentage of portfolio value.[3]

VALUE OF WISEHARVESTING: POSTPONING TAXES 10 YEARS

Annual Income	California Residents	Kansas Residents	Texas Residents
$50,000	0.58%	0.52%	0.44%
$100,000	0.66%	0.58%	0.49%
$200,000	0.74%	0.67%	0.58%

VALUE OF WISEHARVESTING: POSTPONING TAXES 20 YEARS

Annual Income	California Residents	Kansas Residents	Texas Residents
$50,000	0.88%	0.79%	0.66%
$100,000	0.99%	0.87%	0.74%
$200,000	1.12%	1.00%	0.88%

VALUE OF WISEHARVESTING: POSTPONING TAXES 30 YEARS

Annual Income	California Residents	Kansas Residents	Texas Residents
$50,000	1.03%	0.93%	0.78%
$100,000	1.16%	1.02%	0.87%
$200,000	1.32%	1.18%	1.03%

As one can see, the end value of harvesting an additional 3.59% of tax losses annually varies widely depending on a client's income, state of residence, and the length the client is able to delay paying those taxes.

3. Tables below show the average annual value of WiseHarvesting based on the hypothetical performance of WiseBanyan's 70% equity portfolio with a $250 initial deposit and a $250 recurring monthly deposit invested from January 1, 2005 through August 31, 2015 assuming that a client could deduct harvested losses against short term capital gains or earned income and defer taxes for a stated number of years with a 7% discount rate.

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To put it all together, we created the table below to show the end value of harvesting an additional 3.59% in tax losses annually across different combinations of years of postponement and income tax rates. We again used a 7% discount rate. As you find your approximate profile, please keep in mind the utility of WiseHarvesting could change if your tax rate changes in the future.[4]

VALUE OF WISEHARVESTING

Marginal Tax Rate

Years Postponed	0%	10%	15%	20%	30%	40%	50%
1	0.00%	0.02%	0.04%	0.05%	0.07%	0.09%	0.12%
5	0.00%	0.10%	0.15%	0.21%	0.31%	0.41%	0.51%
10	0.00%	0.18%	0.26%	0.35%	0.53%	0.70%	0.88%
15	0.00%	0.23%	0.34%	0.46%	0.69%	0.91%	1.14%
20	0.00%	0.27%	0.40%	0.53%	0.80%	1.06%	1.33%
25	0.00%	0.29%	0.44%	0.58%	0.88%	1.17%	1.46%
30	0.00%	0.31%	0.47%	0.62%	0.93%	1.24%	1.56%

Fees for WiseHarvesting

We kept the above in mind as we designed the pricing structure for our first paid product in order to build one that can provide an expected demonstrable value for as many clients as possible. To ensure all clients can take advantage immediately, there is no minimum account size to start. The price is 0.25% of assets per year.

As you may or may not know, we're not huge fans of the asset-based fee here at WiseBanyan. We won't digress too much on why, other than we believe it creates a misalignment between fiduciaries and clients as the restrictions of the business model naturally lead to favoring clients with more money over those with less.

With that in mind, we capped the fee a client pays for WiseHarvesting to $20 per month. Not only does this prevent us from falling into the trap of the asset-gatherer business model, but it also helps our clients potentially see increased value over the fees paid as their account values increase in size. In addition, since harvested losses can't offset more than $3,000 in income each year, we don't believe it makes sense for our clients to potentially see their fees continue to scale above the annual IRS cap. Just one more way we believe WiseBanyan is reinventing the financial industry for the better!

4. The table below shows the average annual value of WiseHarvesting based on the hypothetical performance of WiseBanyan's 70% equity portfolio with a $250 initial deposit and a $250 recurring monthly deposit invested from January 1, 2005 through August 31, 2015 assuming that a client could deduct harvested losses against short-term capital gains or earned income and defer taxes for a stated number of years with a 7% discount rate.

We hope you enjoy

So there's WiseHarvesting explained in all its glory. We tried to be fully transparent in outlining how it works and the value it adds to clients of various profiles, but we plan to continue adding to this overview as questions from clients roll in. To conclude, we've outlined additional details below regarding the model portfolio and assumptions used when modeling the added value WiseHarvesting would have provided to WiseBanyan client accounts.

Finally, if you've read this far and are not yet a WiseBanyan client, you can use this link to skip the current waitlist and earn Founding Member status. As a Founding Member, you'll receive six months of free WiseHarvesting, but please note that we're closing this distinction for new clients after 12/31/15.

WiseBanyan Invite Link: https://www.wisebanyan.com/referral/fOBe4SyLI

Notes on our Model Portfolio and Other Assumptions

- In order to back test WiseHarvesting, we used a fixed portfolio with a $250 initial deposit and a $250 per month auto deposit
- We chose a 70% allocation to equities for our model portfolio, which is the most commonly chosen portfolio by clients at the time of writing – the target allocations of this portfolio are shown below
- We used a timeframe of January 1, 2005 through August 31, 2015
- In addition to WiseHarvesting related trades, we simulated that individual asset classes within the portfolio would be rebalanced if they strayed further than 5% from their target allocation due to market performance
- All trades were simulated as to have occurred at the end of the day at close prices
- To replicate a spread, all hypothetical sells were simulated to have been executed at $0.01 less than the close price of the security and all buys were simulated to have been executed at the close price of the security

Below are the target allocations of our 70% equity portfolio:

MODEL PORTFOLIO TARGET ALLOCATION				
Asset Class	**Primary Security Ticker**	**Secondary Security Ticker**	**Tertiary Security Ticker**	**Target Allocation**
US Equities	VTI	SCHB	SPY	42.0%
International Developed Equities	VEA	SCHF	EFA	22.8%
International Emerging Equities	VWO	IEMG	EEM	5.3%
US Corporate Bonds	LQD	VCIT	n/a	8.1%
Short Term High Yield Bonds	SJNK	HYS	SHYG	3.0%
REITs	VNQ	IYR	ICF	2.8%
Short Term Corporate Bonds	VCSH			3.1%
US Treasuries	VGIT			7.2%
US Inflation Protected Treasuries	TIP			5.8%

Below is a table of the tax losses our simulation found would have been harvested each year given the assumptions outlined above. The average was 3.87% per year for the WiseHarvesting simulation and 0.28% for the non-WiseHarvesting simulation:[5]

REALIZED LOSSES EACH YEAR		
Year	**WiseHarvesting**	**Non WiseHarvesting**
2005	1.35%	-0.01%
2006	1.03%	-0.01%
2007	0.63%	-0.26%
2008	28.99%	1.07%
2009	7.19%	1.33%
2010	0.51%	0.34%
2011	0.82%	0.00%
2012	0.22%	0.00%
2013	0.00%	-0.13%
2014	0.11%	0.61%
2015*	0.39%	0.08%

*Through August 31

5. Harvested losses are shown as a percentage of the end of year portfolio value.

Some of the securities in our portfolio did not have data back to January 1, 2005. Typically, if either the primary or alternate security did not have data, the other security was used as a proxy for performance.

Below is a table showing which securities were used if the securities within the WiseHarvesting portfolio did not have available data:

MODEL PORTFOLIO SUBSTITUTED SECURITIES				
Security	**Substitute Security 1**	**Substituted Before Date**	**Substitute Security 2**	**Substituted Before Date**
SCHB	VTI	11/2/09		
VEA	EFA	7/25/07		
SCHF	EFA	11/2/09		
VWO	EEM	3/9/05		
IEMG	EEM	11/23/12		
VCIT	LQD	11/20/09		
SJNK	HYS	4/5/12	LQD	6/16/11
HYS	LQD	6/16/11		
SHYG	HYS	10/17/13		
VNQ	IYR	9/28/04		
VCSH	VBISX	11/20/09		
VGIT	IEF	11/20/09		
VGSH	VFISX	11/20/09		