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Introduction and Statement of the Problem

This final report for the Vietnamese Development Fund (VDF) is a culmination of a semester-long project undertaken by Masters of City Planning students in Professor Karl Seidman's Economic Development Finance class. The goals of this project are twofold:

1. To determine how to most effectively channel remittance funds from the United States towards community development in Vietnam

2. To identify options for providing financial services to the Vietnamese community in the United States, i.e. enable more of the Vietnamese population to use mainstream banking products and services.

The mission of the VDF is to incubate and promote innovative social purpose ventures that create economic opportunities while expanding access to quality housing, social, health care, educational and financial services, advance business sector reform, growth and development, provide support to community development initiatives, strengthen the capacity of individuals, businesses, the community and governments, and impact policies at all levels.

In identifying strategies for achieving this mission and addressing project goals, several things became clear. First, the Vietnamese immigrant community throughout the US is largely unbanked or underbanked, and identifying strategies to bring these immigrants into the financial mainstream could enhance development opportunities here and abroad. Second, community credit unions like the Latino Community Credit Union have developed models for serving immigrant groups that could be translated to serving the needs of Vietnamese immigrants. These models include a set of services around remittance transfer, payday lending, money order sales, bi-lingual financial literacy and more conventional financial services. However, we have not identified a credit union in the US which has aggressively attempted to capture the Vietnamese market, and a distinct possibility exists for doing this. Third, we discovered that a great deal of competition currently exists in remittance transfers to Vietnam. This competition arises from a favorable regulatory environment in Vietnam and results in lower prices than many other immigrant groups experience. These three points are drawn out through the first two sections of this paper.

In the third section, we begin to quantitatively test which approaches could be most successful for Vietnamese communities in the US, and where our efforts should be targeted geographically. Through the use of research done on Mexican immigrants, we have developed a financial model to predict the volume of remittance flows coming out of various geographic areas in the US. This financial model allows us to test various options for banking the Vietnamese community and for channeling remittance flows to achieve development goals in Vietnam. In the end, we identify California as the optimal location for VDF, show why a community credit union is the most desirable option for channeling remittance flows and providing financial services to underbanked individuals, and establish a three-part strategy for offering these services.

Financial Services in the U.S. Vietnamese Community

In the past twenty years, the supply of financial services through formal commercial banks has steadily decreased in low and moderate income areas. According to Michael Stegman in *Banking the Unbanked: Untapped Market Opportunities for North Carolina's Financial Institutions*, these neighborhoods lost 21% of their bank branches since the early 1980's. These retreating banks left a vacuum of financial services in low-income areas. This market gap was quickly filed by "fringe" banks – check cashers and payday lenders. Check-cashing businesses cash more than $55 billion dollars worth of checks per year in the United States and the number of payday lenders had grown to 10,000 by 2000.[1]

In 1999, there were 85 licensed check-cashers in Massachusetts. These companies have been known to charge exorbitant rates to provide their services. According to the *Second Annual Study on the Costs of Utilizing Massachusetts Licensed Check Cashers*, which did a comparison of fees paid to check cashers versus fees for a Basic Checking Account at a bank, "On a monthly basis, consumers would pay 3.3 to 40.8 times the maximum fees charged to maintain a Basic Checking account. Annual fees paid to check cashers would range from $117.68 to $1467.60 to cash weekly payroll checks and write money orders."

Low-income immigrant communities are the prime target market for these fringe banks. Distrust of traditional banks, language barriers, lack of economic literacy, and high fees often prevent immigrants from using formal banking services. As a result, these "fringe" banks have positioned themselves to be the supplier of financial services in these communities. In a study of Charlotte, North Carolina, Stegman "found that check cashers and payday lenders are not scattered throughout the city, but are more likely to locate in high-minority and working class neighborhoods."

Our research indicates that the Vietnamese community in Boston may be taking advantage of the services provided by these "fringe" banks as a relatively large percentage of Vietnamese immigrants do not have checking and savings accounts. Data from the H & AMCR Chinese and Vietnamese Consumer Profile of the San Francisco Bay Area in 1997 provided the following information. 63% of the Vietnamese surveyed have checking accounts while 43% have savings accounts. These immigrants use basic banking services, including checking and savings accounts on a regular basis. Sixty percent of the Vietnamese surveyed use ATM cards to conduct bank transactions. Credit card usage is low among Vietnamese. While the national average for owning a credit card is 66%, the Vietnamese surveyed reported 43% ownership of a credit card. Those who do have credit cards or ATM cards use them on a regular basis. According to H&AMCR, "There appear to be great opportunities for financial services to educate and market the benefits of various types of financial investments to these consumers."

First Accounts for Immigrants and Refugees (FAIR), a non-profit affiliate of Boat People SOS based in the Washington DC area, targets low- to moderate-income individuals

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[1] Stegman, Michael. "Banking the Unbanked: Untapped Market Opportunities for North Carolina's Financial Institutions"

within the Vietnamese American community. The organization's mission is to help underserved refugees and immigrants from Vietnam achieve financial self-sufficiency and social integration. BPSOS recently received a grant from the Department of Treasury to partner with Citibank to encourage Vietnamese refugees and immigrants to set up bank accounts and use banking services.

FAIR conducted a study of their clients, mostly newly arrived immigrants, in their target markets. This study used the number of clients who had pay to for services with money orders or cash for lack of a bank account as an indicator of "unbanked" clients. Of the thirteen cities analyzed by BPSOS, an average of 60% of their clients was "unbanked". The range of unbanked clients was 45%-90%, depending on the city.

Why are such a high percentage of Vietnamese immigrants "unbanked" and potentially using financial services from check cashers and payday lenders? There are several reasons why unbanked populations find "fringe" banks more appealing than traditional banks.

- A major reason that immigrants use "fringe" banks is that, according to Boat People SOS's First Accounts of Immigrants and Refugees, "very few Vietnamese citizens trust and use the banking system in Vietnam despite the Vietnamese government's gradual move to an open market economy." This negative view of banks persists in the Vietnamese community, particularly with the older Vietnamese population and newly arrived immigrants.

- Some check cashers and payday lenders are also more convenient for low-income or immigrant communities to access. They are located within the urban neighborhoods in which their customers live, they are open longer hours than banks, and they often provide information in multiple languages. In addition, some undocumented immigrants may be afraid that they will be required to provide a Social Security Number to open a bank account.

- Another key reason is that check-cashers often provide many other services that these customers demand – services that are either not provided by banks to customers without an account or services that charge high fees or take several days to process. These services include bill payments, remittance transfers, and money orders.

- Some individuals believe that requirements for minimum account balances, checking fees, and other transaction fees are too expensive to warrant opening a bank account. A lack of financial literacy leads them to believe that using "fringe" banks for their financial services is actually less expensive than having a bank account.

- Finally, immediate access to cash is a significant reason why some people prefer using check cashers. Depositing checks into accounts and accessing that account requires waiting for checks to clear and keeping track of the account balance.

Check-cashing customers would often prefer to have their funds immediately available for bill payments and other expenses.

How to Bank the Unbanked

There have been several initiatives in the past few years to bring "unbanked" individuals into the financial mainstream. These initiatives could provide some valuable insights into how VDF could potentially target the unbanked Vietnamese population in Boston and the US overall. Some best practices are listed below, categorized by government, individual bank, technology, and partnerships.

Government Initiatives

The government has instituted a variety of policies that enable low-income, unbanked individuals to access their federal benefits electronically.

- Electronic Funds Transfer (EFT) is an initiative to provide federal benefits to citizens via electronic transfer into deposit accounts. These accounts, called Electronic Transfer Accounts (ETA's) require no minimum balance, allow for cash withdrawals, and are not limited to federal benefits. The Treasury Department provides free materials that banks can use to promote the EFT and ETA programs.
- Individual Development Accounts (IDA) programs are financial and economic development tools designed to help low-income families save and accumulate financial assets. These accounts provide financial matches (often from the federal and state governments), and the funds can then be used for education, to start a business, or to buy a house.
- The First Accounts Initiative, started by the Treasury Department, granted $8 million to 15 community non-profits and financial service providers to create programs that provide unbanked populations with financial products and services and financial literacy education. Bank of Americas in Chicago received a $700,000 grant to provide services to the unbanked Mexican population in Chicago. Each deposit account holder can send one of the two ATM cards he/she receives to a relative abroad to allow for easy transfer of funds to ATM's in Mexico.[2]

Individual Bank Initiatives

Several financial institutions have begun to provide products and services that target unbanked and underserved populations, with the hope that these services will compete with "fringe" banks and provide an incentive for these individuals to become banked.

- Union Bank in California has created the Cash & Save program, which targets low-income populations. Cash & Save provides an alternative to check-cashers by providing competitive fees for check cashing, money orders, basic checking and savings accounts, and electronic transfer accounts.[3]

[2] McGill, John. "Banking the Unbanked"
[3] Stegman.

- Citibank provides a Bank at Work program which offers direct deposit of payroll, no-fee bill payment services, no-fee on-line banking services, and no-fee ATM services.[4]
- TCF National Bank in Minneapolis offers a low-fee check cashing service for individuals who do not have accounts at the bank.[5]
- The Latino Community Credit Union provides low-cost checking accounts with only a $25 requirement to open an account. The LCCU also offers competitive rates for remittances – senders can remit up to $1,500 to El Salvador, Honduras and Guatemala, or up to $1,000 to Mexico, for only $10. The fees charged for remittances are used to fund free services to its customers.[6]
- Cardinal Bank, a branch of Mitchell Bank, is a bank branch in a predominantly Hispanic high school in Milwaukee. Locating the branch in the high school has been an effective strategy to reach the Mexican immigrant parents of these students.[7]

Technology Initiatives

Several banks use ATM technology to access the unbanked populations in their communities. According to TouchPoints' *Banking the Unbanked*, "If an unbanked person finds he can perform any number of transactions cheaply – from checking his account balance to transferring money to cashing checks – that person not only finds more reason for establishing an account, he or she also winds up more likely to use ATM's for purchase and other commerce." In addition, banks have found that ATM technology greatly reduces their expenses in providing products and services to their customers.

- Banco Popular in Puerto Rico has focused its efforts on banking the large unbanked population in Puerto Rico. It has spent $100,000 on a marketing campaign to educate its community on the benefits of using ETA's, created low-risk and low-cost restricted access accounts, and accounts that automatically transfer money from debit accounts to savings accounts.[8]
- US Bank in Minneapolis offers debit accounts for direct deposit of federal benefits or paychecks. These accounts can be accessed via cards and do not require opening checking accounts at the bank.[9]
- Directo, a company based in Atlanta, focuses entirely on banking the unbanked by, "offering FDIC-insured accounts, direct deposit participation, no check-cashing fees and year-round, 24-hour a day access to money via the ATM network and at retail POS terminals." The company, whose clients are chiefly employers with large numbers of unbanked employees, also offers the

[4] Ibid
[5] Stone, Adam. "Banks Develop Cards and Cashing for the "Unbanked."
[6] http://www.cooperativalatina.org.
[7] Orozco, Manuel. "Costs, Economic Identity, and Banking the Unbanked."
[8] Stegman.
[9] Stone.

Acce$oCard which enables employees to offer ATM cards to their relatives overseas for direct money transfers abroad.[10]

- Some banks in South Africa offer several services which allow illiterate customers to open and access accounts, including touch-screen ATM's, biometric identification, POS terminals, and smart cards.[11]

Partnership Initiatives

Partnerships can also be a valuable tool for reaching out to the unbanked population. According to Michael Stegman in *Banking the Unbanked*, "the Treasury believes that depository institutions are more likely to succeed if they forge strategic alliances with partners who have more direct access to the target market than they do, including employers, labor unions, faith-based organizations, and other non-profit organizations…"

- The Chicago CRA Coalition and Bank One created the Alternative Banking Program (APB) which provides low-cost financial products and services and financial literacy education workshops. These low-cost services include $0 minimum balance requirements, unlimited checks, unlimited use of bank ATM's, and a $10 minimum to open an account.[12]
- South Shore Bank and the Center for Law and Human Services partnered to create the Extra Credit Savings Program which provides low-cost savings accounts for individuals who can opt to have part of their earned income tax credit deposited directly into the account. These accounts require no minimum balance, require no fee to open, and provide an ATM card.[13]
- Bethex Federal Credit Union and RiteCheck check-cashing company have entered into a partnership in the Bronx. Customers can make deposits in their credit union account through the check-cashing outlets and the outlets provide materials on Bethex's products and services.[14]

Based on our research, we would recommend that credit unions are in the best position to provide financial services to the unbanked Vietnamese population. Credit unions have several advantages over banks and "fringe" banks in providing financial services to their communities.

- Credit unions have a commitment to serving their community and are generally trusted by the residents to provide safe and reliable services. Credit unions often provide low-fee savings and checking accounts, low-minimum balances, and transparency about their competitive lending rates and fees. As stated in *Making the Best of Globalisation: Migrant Worker Remittances and Micro-Finance* regarding remittances, "The primary reason why credit union members used the

[10] Smith, Steve. "Banking Outside the Box."
[11] McGill.
[12] Stegman.
[13] Ibid
[14] Stegman, Michael and Stephanie Lobenhofer. "Bringing More Affordable Financial Services to the Inner City: The Strategic Alliance between Bethex Federal Credit Union and RiteCheck Cashing, Inc. - A Case Study."

service of their unions was *trust*: they were sure that the money would arrive and that credit unions were looking out for their best interest."

- Credit unions, particularly those that have a commitment to serving underserved populations, have undertaken measures to become more accessible to immigrant communities. Depositors can open accounts in credit unions without a Social Security number. Many credit unions, such as LCCU, have bi-lingual staff and materials in Spanish and English.

- Some credit unions, such as Vermont Development Credit Union, have a reputation for providing products and services that are designed to help build the wealth of low-income individuals, including financial literacy counseling, credit-building Tracker Loans, and IDA accounts.

As described in the best practices above, in order for credit unions to compete with "fringe" banks, credit unions must expand their traditional role of providing checkings, savings, and lending services. Credit unions should focus on providing low-cost, relevant, and easily accessible services that are responsive to the needs of the Vietnamese market. According to the Industry Pages Network, "Adding check cashing, payday lending, money orders, wire transfers, bus passes, bill payment, and many other services to the ranks of an insured depository institution will not only bring in new members but also create a fair advantage for the credit union."

The expansion of products and services has many implications for how the credit union can leverage the increasing use of those products by its customers. One of those products is remittance services. The following sections of this report will focus on remittances as a financial service, the institutional framework of remittances, trends in the industry, remittance sending behaviors, how credit unions can send remittances, and how those remittances can be leveraged by credit unions to fund community development in Vietnam.

Remittances as a Financial Service

Money transfers are an important financial service for immigrants who have family in their home countries. According to H&AMCR's Vietnamese consumer profile, Vietnamese immigrants remit money to Vietnam approximately 6 times per year. Formal remittances are increasing at a fast pace - the Dow Jones Newswire stated that $2.4 billion of remittances flowed into Vietnam in 2002, a 500% increase since 1996. These remittances play a significant role in the financial health of these families. According to Jonathan Haughton in *Money Transfer*, 23% of households in Vietnam receive remittances and on average, remittances fund 38% of all household expenditures for recipients.

These transfers are more often being sent through formal channels rather than informal channels. These formal channels include money transfer companies such as VINA USA (which targets Vietnamese immigrants) and Western Union. While the industry was dominated by these money transfer companies in the 1980's and 1990's, more and more financial institutions such as banks and credit unions are entering the market as the volume of remittances and the demand for remittance services have grown.

Banks and credit unions are increasingly recognizing the importance of convincing remittance senders that they should be sending their money through financial institutions rather than money transfer companies. Several financial institutions, including Wells Fargo, Bank of America, and Harris Bank have launched major program initiatives targeted towards the Latino immigrant market.[15]

A key reason that banks are focusing on formalizing remittances is that it provides senders with the opportunity to get banked through remittance sending. According to the Chicago Fed Letter, "Many people who use internal money transfers are in the "unbanked" category, meaning they do not have bank accounts, and much attention was placed on money transfers as a way of integrating the unbanked into the financial system." Formal collaborations between community-based organizations and financial institutions will also enhance the efforts to get immigrants "banked."

In addition, remitters benefit in several important ways by sending their remittances through financial institutions. More demand for remittance sending has translated into more financial institutions entering the market, which has put downward pressures on prices for sending remittances to Vietnam. This increased competition has also resulted in more transparency in the transfer rates – senders now receive more disclosure from money transfer companies regarding the actual costs of sending remittances (including the fee and exchange rate difference). An additional benefit from sending remittances through financial institutions is that they generally provide better exchange rates on transfers than money transfer companies.[16]

Finally, formalizing remittances provides the opportunity to provide financial literacy education and workshops to senders and receivers, and remittance channels can be tapped for development funds, which will be discussed in more detail later in this report.

Remittance Institutional Framework

The main institutional players in the remittance market are:

- Financial Institutions
- Money Transfer Companies
- Money Service Businesses

Financial Institutions

The two types of financial institutions in the remittance framework are retail commercial banks and credit unions. Retail commercial banks are for-profit financial institutions that provide investment, deposit, and lending services to private individuals. Credit unions are non-profit, depositor-owned cooperatives where members purchase a share (deposit)

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[15] Suro, et al.

[16] Handlin, Elizabeth, Margrethe Krontoft, and William Testa. "Remittances and the Unbanked." Federal Reserve Bank of Chicago

in the credit union. Credit unions provide investment, deposit, and lending services to private individuals. In order to retain membership, members must maintain a single share deposit.

Both types of financial institutions may partner with money transfer companies and even money service businesses (courier services for home delivery, for example) to provide remittance services. Most credit unions utilize the IRNet network for sending and receiving remittances (see IRNet below).

Money Transfer Companies

Money transfer companies are businesses specialize in transferring funds across distances and networks in domestic and international locations. Some examples of global money service businesses are:

- Western Union
- MoneyGram

The fees and costs for sending remittances vary tremendously depending on the country and the level of competition between money transfers companies and other transfer options (if any). Money transfer companies may also partner with banks and credit unions to extend their service areas.

Money Service Businesses

In the remittance institutional framework, money service businesses act as points of contact for remittance senders and receivers. These businesses can be anything from the traditional money service business that provides fringe financial services (which could be financed by a money transfer company such as a Western Union), to a courier service that provides home delivery service, to a corner grocery store. In densely populated immigrant communities in the U.S., corner grocery stores are more common. These remittance services may also be provided by businesses that function primarily as real estate, insurance, tax preparation, or immigration service providers. Money transfer companies actively recruit stores to become 'agents' of the company to provide front end and back end services on money transfers. The incentive for the stores is the ability to charge a commission for the service provided to the remittance sender.[17] Elaborate partnerships can exist between money service businesses and money transfer companies, where money service businesses recruit other 'agents' to become part of the network.

Remittance Transfer Methods and Networks

There are several technologies and methods that are utilized for remittances. Some of those methods that have been identified will be explained here to provide a structural framework for best practices in sending remittances.

- Automated Clearing House (ACH) Network[18]
- SWIFT networks[19]

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[17] New York City Department of Consumer Affairs
[18] Automated Clearing House Network.
[19] www.swift.com/index.cfm?item_id=2325.

- ATM/Debit Card technology
- International Remittance Network (IRNet)[20]

There are other networks aside from ACH and SWIFT and other methods than the ones listed above, but these have been identified specifically by financial institutions in the remittance market.

Automated Clearing House (ACH) Network

ACH provides electronic transfer of funds nationwide and enables bank-to-bank transfers that are very efficient for participating financial institutions. Common forms of electronic transfer payments that utilize the ACH network include direct deposits of payroll wages, government benefits, tax refunds, and e-commerce. See Appendix I.

The SWIFT Network

The SWIFT network is the traditional wire transfer technology between financial institutions across international borders. See Appendix I.

In Vietnam, several of the major banks noted for the volume of money transfer services utilize the SWIFT network to establish relationships with U.S. based banks. The relationship across the SWIFT network is considered a 'correspondence' relationship. Below are Vietnamese banks that have listed their partnered correspondent banks based in the U.S. See list in Appendix II.

[Bank for Foreign Trade of Vietnam – Cantho Branch (Vietcombank Cantho) does not specify a listing of correspondent banks in the U.S. Instead, the bank instructs the sender of a remittance payment to use a local bank that has a correspondent relationship with a Vietcombank Cantho's correspondent bank. Vietcombank Cantho provides its SWIFT ID number in order that the remittance would be received by Vietcombank Cantho.]

ATM/Debit Card Technology

Research by Manuel Orozco of the Inter-America Dialogue showed that in comparing costs to sending remittances to Mexico through various channels (wire transfer, credit union, and money transfer), ATM technology resulted in the lowest cost of remittance. Though information regarding the specifics of ATM technology was not readily available, the convenience and benefits of this technology cannot be ignored in the remittance market.

IRNet and Credit Unions

Established by the World Council of Credit Unions (WOCCU), IRNet is a credit union-to-credit union remittance network that utilizes ACH network technology, using Citibank as the clearing institution for the funds. Utilization of this network results in some of the lowest charges for remittances, but use is limited to credit unions in the WOCCU network, and senders and receivers must be members of those credit unions. The low cost of the transaction provides an added competitive option for remittance senders.

[20] www.woccu.org/prod_serv/irnet/index.php.

More importantly, credit unions can leverage low cost IRNet services to draw in non-members who may be reliant on money service businesses for their remittance services.

Credit unions have expanded their reach in the remittance landscape through several partnerships. WOCCU and IRNet expanded their service area for remittances by partnering with the VIGO Remittance Corporation, a money transfer company in July of 2000. See Appendix I.

In May of 2003 WOCCU and the Credit Union National Association (CUNA), which had an established partnership with Travelex, another money transfer company, established a 4 way partnership between WOCCU, CUNA, VIGO, and Travelex, further expanding the network for remittances.[21]

Remittance Industry Trends

United States

There are several trends that have affected remittance transfers from the U.S., but the 2 most important trends have been the increase in competition amongst institutional players and the increase in regulations as a result of the events of September 11th, 2001.

Increased Competition

The role of financial institutions (both retail commercial banks and credit unions) in the remittance market has increased significantly. As already mentioned, credit unions and retail commercial banks have realized the potential market that remittance services provide, particularly as part of creating incentives for banking the unbanked. Specialized products and services geared towards remittance senders and recipients have increased, raising the standard for remittance service providers overall.

In addition to the increased role of financial institutions, more money transfer companies have entered the remittance market in the U.S. Traditionally, only a handful of money transfer companies had the necessary technology and delivery networks needed to provide formalized channels of remittances, resulting in a monopolistic situation based on specific regions (e.g. different regions of the U.S., Caribbean, Mexico, and Central America). Though monopolies still exists in certain areas, competition has increased dramatically in the U.S. market for remittance services, thereby reducing costs.

In situations where particular money transfer companies have a monopoly, the companies often retain as much as 1/5 of the money remitted by their service, according to The Face of Immigration.[22] These companies charge a transfer free for the service, which can be as much as 10% of the amount transferred. The companies also set the exchange rate at which the money is transferred, usually charging over the going exchange rate for the benefit of the transfer company. Lastly, because money transfer companies often utilize

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[21] CUNA press release
[22] http://www.bpsos.org/fair/fair.html.

money service agents who act as points of contact for remittance senders or recipients, commission fees may be charged on top of the other charges. The net result can be a cost of up to 20% of the amount transferred.

Impact of Increased Regulations Post September 11th, 2001

A significant negative impact to the remittance market has been the increase in regulations as a result of the Patriot Act. Several laws regulate the reporting of money transfers, including the Know Your Customer provisions in the Money Laundering Act and the Bank Secrecy Act. Regulatory agencies such as the U.S. Treasury require reporting of money transfers over $750 for some routes. In addition, the Office of Foreign Assets Control requires banks to check their sender's names against lists of Specially Designated Nationals & Blocked Persons lists.

It is not altogether clear what the specific impacts the increased regulations may have on the remittance market. According to conversations with Glenna Hicks of Citizens Bank, the increased regulations have affected partnerships that the bank has had with several Cape Verdean banks for remittances services. Since some of the Cape Verdean based banks have not provided information required by the increased regulations, Citizens Bank will have to sever relationships with those banks. Hicks also stated that Citizens Bank does not partner with money transfer companies since there are uncertainties whether the money transfer companies conduct the due diligence needed to comply with the regulations.

However, this was a policy that had been in existence prior to September 11th, 2001. In conversations with Ivonne Lopez of the Lower East Side Peoples' Federal Credit Union (LESPFCU), which transfers a modest amount of remittances, it seems that the regulatory environment prior to and after September 11th, 2001 have not changed. LESPFCU utilizes the IRNet network to provide remittances for Caribbean, Central American, and Latin American immigrants.

Vietnam

In Vietnam, the remittance industry has undergone more dramatic changes than in the U.S. Government policies have played a key role in producing this change, as the Vietnamese government has taken steps to create incentives to lure remittances into Vietnam. It is believed that the Vietnamese government considers increasing flows of remittances as signs of acceptance by the Viet Kieu (Vietnamese living abroad) of the government, and traditionally discriminatory policies against Viet Kieu (separate pricing schemes, prohibition from owning property) have been lifted as favorable policies towards remittances have been introduced.

One result of this policy has been the increased availability of formalized channels for remittances to Vietnam. The following series of newspaper articles reflect how the climate of remittance policies have changed in recent years, leading to a dramatic increase in the amount of remittances sent through official channels (*emphasis* added):

- 1/99 – "What is known is that in 1996 about $400 million was remitted through banks and other licenses remittance-server organizations. But *for every dollar*

that passes through such channels it is believed that up to two more enter as cash" ["Money Transfer" Vietnam Business Journal – Jonathon Haughton]
- 6/8/01 - "*The increase in remittances has been attributed to Vietnamese government's decisions to encourage overseas Vietnamese to transfer money, providing favorable conditions for both senders and beneficiaries.* The country's new incentives offer overseas Vietnamese a single-price policy, loans for investment and preferential tax treatment, and encourage them to buy real estate in Vietnam." ["Overseas Remittances to Vietnam Increases" Xinhua]
- 12/2/02 - "Viet Kieu foreign currency remittances reached $1.5 billion for the first 3 quarters of the year. *Some 93% of this amount was transferred via banks and money transfer agencies*…Local banks with money transfer services acknowledged that current policies for foreign currency transfers from Viet Kieu were quite relaxed. Recipients could get their remittances in US dollars and income tax is abolished." ["Viet Kieu Remittances set to top $2 billion target" - Vietnam Investment Review]
- 9/24/03 - "The State Bank of Vietnam has allowed joint-stock banks to set up overseas remittance companies, in a bid to boost overseas remittances" [VDC Business Newsletter]

The following table summarizes the substantial growth in remittance volumes to Vietnam:

Year	**Amount US$**	**Recorded Channels**
1996	$400 million thru official channels	Estimated that remittances through official channels represent less than 33% of remittances[23]
2000	$1.3 billion	Not specified[24]
2001	N/A	N/A
2002	$2.4 billion [vov.org.vn, 5/24/03]	Estimated that 93% of remittances are through banks and money transfer agencies[25]
2003	$1.1 billion (Jan-Jun)	Not specified;[26] estimated to reach up to $2.6 billion[27]

Costs of Remittances

On the consumer side, the evidence seems to show that conditions are very favorable for Vietnamese remittances. There are significant numbers of financial institutions and money transfer companies in Vietnam which provide for many routes for remittances.

Evidence from focus groups and interviews states that transfer costs are quite competitive, (3-5% of the amount of remittance for small amounts, and 2% for larger amounts) with options for home delivery. Companies that listed their fees and charges consistently showed very small fees for remittances. Fintec Corp. charged a percentage

[23] Haughton.
[24] Dapice.
[25] Vietnam Investment Review.
[26] Dow Jones Newswire
[27] VietNamNet

of .05% on remittance on top of the bank-to-bank transfer costs over the SWIFT network,[28] and USVINA.com listed percentages from 4% to 7%, depending on the location in Vietnam.[29]

Remittance Behaviors

According to the Migration Information Source, there are several theories on why immigrants remit money to their home countries. These reasons include:

- altruism, which implies that a migrant will send money home when his/her family needs the income
- exchange, which implies that migrants feel an obligation to send money to their families back home in return for the support they received from them
- coinsurance, which implies that the migrants and their families act to protect each other from financial hardship by viewing their monetary resources collectively.

The Federal Reserve Bank of Chicago observed that there are three types of remittances:

- Remittances between family members used to purchase consumer goods, pay for health care, or pay for "conspicuous consumption" such as weddings.
- Immigrants who continue to have savings in their home country, which finances investments in that country
- Community-based transfers, such as hometown associations, which fund development projects

As mentioned previously, many remittance senders are suspicious and distrustful of banks, and thus do not readily use banks to send remittances. An interesting note from the Pew Study was that those senders that did have bank accounts did not use them to send remittances. However, "one-third of respondents said they would switch to a bank to send remittances if the fees were lower and exchange rates more favorable."

Other noteworthy remittance behavior is that senders do not generally spend the time and effort required to investigate their remitting options. They are loyal customers who value reliability, security, and convenience (both on the receiving and sending end). While costs matter, the majority are not sophisticated consumers who understand that an exchange rate differential is included in the total costs. Surprisingly, senders were open to using new transfer technologies such as ATM cards, as long as they met their criteria for:

- Convenience
- Reliability
- Low cost
- Security

There are several general demographic factors that can help predict remittance behavior. Most households that remit are young, low-income, have low educational levels, and are not permanent US residents or citizens.[30] Immigrants who have been in the country more than 5 years tend to reduce the frequency and volume of remittances. Once the immigrant becomes a permanent resident, their remittances tend to decline further. These demographic factors will be discussed in more detail in the section titled, "How can we Raise Money for Development?"

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[28] www.kieuhoi.com/usd.htm.
[29] www.usvina.com
[30] Handlin, et al.

How can Credit Unions Send Remittances?

Examples from the Existing Remittance Players in the U.S.-Vietnam Market

Various partnerships of money service businesses, money transfer companies, and financial institutions utilizing various networks provide remittance services to Vietnam. An overview of several examples will be described here to provide a best practice model for the credit union.

Western Union[31]

Western Union is one of the largest money transfer companies in the world, with numerous money service businesses affiliated with its network in the U.S. In Vietnam, the Western Union website lists Asia Commercial Bank, Eden Trading Company, and VP Bank (Vietnam Joint-Stock Commercial Bank for Private Enterprises) as specific partners, but upon searching Western Union's 'agent location' feature for Vietnam, the list of partnered banks also includes branches of the Agricultural Bank of Vietnam and Industrial and Commercial Bank of Vietnam. Eden Trading Company and Long Hai Security Services and others not specified as banks are also listed as agents. These outposts may be considered money service businesses.

Another observation regarding Western Union is that home delivery is only available through Asia Commercial Bank, and in certain cities the delivery is free and within 24 hours. This shows that the delivery networks may be part of the bank's services rather than something established by Western Union. This is an important consideration when thinking about the possibilities of services that may be available in partnerships with certain banks over others.

iKobo[32]

Another global money transfer company, iKobo provides remittance recipients with an iKobo account and an iKobo ATM card. Recipients of the iKobo ATM card could have funds deposited into their iKobo account from anybody anywhere in the world. The cardholder could then use any ATM machine to withdraw money. The company seems to be utilizing ATM technology and the network of Vietnam's existing bank and ATM infrastructure to deliver remittance payments.

Fintec Corp.[33]

It is not clear whether Fintec Corp. is a money transfer company specifically, or a money service business based in Vietnam. However, the company provides remittance service through the use of the SWIFT network between the Vietnam Technological and Commercial Joint Stock Bank (Techcombank) and several U.S. based banks. Senders must utilize the U.S. based banks listed to send the remittance, who would then send the

[31] www.westernunion.com/info/intlCountryInfoIndex.asp?country=VN.
[32] www.iKobo.com/cp/send-money-to-vietnam.html.
[33] www.kieuhoi.com/usd.htm.

money into the Fintec Corp. account at Techcombank. It seems that Fintec Corp. may then deliver the remittance to the intended recipient.

It is important to note that several Vietnamese based banks (Sacombank, Asia Commercial Bank, Indovina Bank) that advertised remittance services on their website listed U.S. based correspondence banks through the SWIFT network. This may reveal that there are extensive partnerships already in existence between Vietnamese based banks and U.S. based banks.

USVINA.com

This company is an internet based money service business providing an interesting model for remittance services. The company provides the following services:

1. Internet based remittance processing (very similar to online shopping, but the individual is purchasing 'a remittance' and directing the payment to a specified recipient in Vietnam)
2. Utilization of Automated Clearing House (ACH) to transfer the specified remittance payment from a personal bank account to a USVINA bank account
3. Transfer of remittance payment from USVINA bank account to 'Vietnam Bank' in Vietnam (not specified whether this is done through SWIFT network or another method)
4. Delivery of remittance payment to recipient's door

The company states that they partner with 'Vietnam Bank' as well as with Anh Minh Bank Transfer, Inc., a California based corporation. It is not stated explicitly, but it may be that Anh Minh Transfer, Inc. either provides the international remittance service or the actual courier service for home delivery, or both. However there is the possibility that the inter-bank transfer occurs through the SWIFT network. Attached is USVINA.com's Money2Vietnam service flow chart. See Appendix I.

KimPhu[34] and VINA USA[35]

It is not clear whether KimPhu is a money service business, like USVINA.com, or an actual money transfer company. It is more likely that it is the former, since KimPhu partners with 2 companies, Continental Currency Services and RIA Telecommunications Inc, one of which probably acts as the money transfer company. On RIA Telecommunications' website, KimPhu is listed as the company's office name in Vietnam. KimPhu has its main office in Little Saigon, California, as well as offices in different parts of the U.S., Canada, and Europe. KimPhu solicits businesses to become 'agents' for KimPhu in providing remittance services. KimPhu reveals the complexity of layers between what may constitute money service businesses and money transfer companies.

VINA USA (different from USVINA.com) considers itself a foreign currency exchange company with representative offices in both the U.S. and Vietnam. Though the company does not have a website, and its director would not disclose information over the

[34] www.kimphu.com
[35] Voice of Vietnam News

telephone, according to newspaper reports it has nationwide transfer networks, cooperation with commercial banks, and clout in mobilizing remittances for Vietnam, (supposedly all this is accomplished with a staff of 6). This is another example of the ambiguity between money service businesses and money transfer companies.

Another important note about both these companies is their commitment to charitable giving and in bridging the gaps between Vietnamese living abroad and those in Vietnam. Kimphu states on their website that they are committed to socially conscious giving. VINA USA has been recognized for its donations to hurricane relief victims and humanitarian programs, including grants to teachers, a scholarship fund, and revenues to help disadvantaged children. Both companies provide an added service aside from the standard convenience, cost, and reliability benefits.

Recommended Model for Credit Union

Providing the remittance service within the credit union needs to be recognized as an essential piece of the overall financial services that the credit union provides. If the service is not provided the credit union will be ignoring an essential financial service need of the community, leaving the community to continue to rely on money service businesses.

From the existing models, the credit union will have to compete on 5 levels in regards to remittances:

- Convenience
- Reliability
- Low cost
- Security
- Altruism and commitment to socially responsible giving

The strategies to accomplish the first 4 points will be discussed here. The 5th point will be discussed in the section titled "How can we raise money for development." Following are three options that are available for the credit union in order of most favorable to the least favorable.

Option 1: Possibilities of Using Existing Credit Union Networks in Vietnam

An ideal model would be for the credit union to utilize the IRNet network; however this network does not currently exist in Vietnam. This is primarily because it is illegal in Vietnam to form credit unions, despite the existence of numerous micro-finance cooperatives that conduct lending activties. WOCCU also has initiated a partnership presence in Vietnam with a women's cooperative, but the problem is that there is no credit union network in Vietnam for IRNet to tap into.

In addition, VIGO and Travelex do not seem to have a presence in Vietnam. VIGO has extensive networks in the Western Hemisphere but not in Southeast Asia. Travelex, the money transfer company that is partnered with CUNA, has a presence in certain parts of Southeast Asia, but it seems that they do not have a presence in Vietnam. However, it is possible that VIGO or Travelex may enter into the Vietnam market. An inquiry needs to be done to consider the likelihood of either company entering the Vietnam market. If this is a possibility, this would be the best option for remittances services since WOCCU and CUNA networks enable the credit union to use existing networks and services without relying on a new private partnership.

Option 2: Direct Partnership with an Existing Money Transfer Company

This option should be pursued if Option 1 is not available. The credit union will be wholly relying on the existing networks of the money transfer company (for example USVINA.com, KimPhu or VINA USA - most likely a company that aligns closest with the credit union's mission and goals).

However, the disadvantage of this option is that the credit union may be simply duplicating the service that other money service businesses are providing. The credit union will not have control over the pricing and will be limited from adding products to the remittance service.

Models for this type of service could be based on USVINA.com, a money service business that has partnerships with the Anh Minh Bank Transfer Inc, where USVINA.com simply provides the interface for the actual remittance service. Even WOCCU and CUNA's partnership with VIGO and Travelex reflect the reciprocal collaborative opportunities between credit unions and money transfer companies.

Option 3: Direct Correspondence Partnership with a Vietnamese-Based Bank

This option is modeled on the fact that many Vietnamese banks have partnerships with existing U.S. banks through the SWIFT network. This option may be challenging in that establishing a partnership with a Vietnamese based bank may have to take on several forms. For example, it may not be financially feasible for the credit union to be part of the SWIFT network or even to be part of the ACH network by itself. A corresponding partnership may have to include other intermediaries and other corresponding banks that do have SWIFT networks with a Vietnamese based bank.

There are companies that advertise themselves to credit unions as offering bank-to-bank transfer services through ACH. An example of three companies that have been identified as providing these services are:

- SunCorp Corporate Credit Union – www.suncorp.coop
- CashEdge – www.cashedge.com
- PayQuik – www.payquik.com

These companies may establish networks between the credit union and a corresponding bank which could utilize its own SWIFT network correspondence relationship with a Vietnamese based bank to deliver the money transfer.

Utilizing these intermediaries is similar to partnering with a money transfer company (in fact, PayQuik provides a remittance service called QuikRemit), but the goals are to enable a partnership with a Vietnamese based bank. The costs may be substantial if there are fees associated with the inter-bank transfers, and if the resulting networks are limited in their service areas. It may not be feasible for the credit union to try to provide remittance services if it results in costs that cannot compete with the existing money transfer options and limited service areas. Most importantly, higher remittance costs reduce the likelihood of raising funds through remittance services.

Option 4: Utilizing ATM Technology

In the Mexico example, ATM technology led to the lowest cost in providing remittance service. However, we were not able to verify whether or not this affordability of ATM technology was the same in Vietnam. Also, it would seem that the numerous players in the remittance market in Vietnam would be utilizing ATM technology if it did indeed lead to the cheapest method. In addition, the same costs associated with Option 3 would apply in ensuring that the credit union had access to the networks needed for ATM technology to be fully utilized (for example, NYCE and Cirrus networks, whose logos appear in most ATM machines). This option should be further explored, but most likely the costs associated with utilizing ATM technology may not make this option feasible.

How Can we Raise Money for Development?

In order to provide financial services to Vietnamese immigrants in the US, we need capital. Remittance transfers not only represent a recurring capital source, but they also embody a potential strategy for drawing under-banked and un-banked populations into the financial mainstream, as discussed earlier. First, the remittance transfers themselves could be channeled to generate revenue for VDF, especially if they were flowing through a central source like a community credit union. Second, offering remittance transfer services could be a central strategy for marketing financial services in Vietnamese communities and could help build a membership base for a Vietnamese Community Credit Union. This credit union could not only provide banking services in under-banked communities but could also send a portion of its program income to VDF. In considering these and other ways to raise funds, we reviewed a variety of options. The options included:

- Adding a check off box to transfer forms allowing remitters to send a dollar amount or percentage of each transfer to VDF.[36]
- Utilizing one of the banking services in Vietnam (likely Asian Development Bank) to provide deposit services for the receivers in Vietnam. A percentage of program income from these deposits could be channeled to VDF.
- Charging a fee per transfer that is channeled to VDF. This would in effect be an involuntary development fee, causing transfer costs to be higher for transfer

[36] Western Union has agreed to put a check off box on their remittances similar to the contribution section on many U.S. state tax returns where a portion of the transfer amount can be donated directly to a special social service program or fund.

companies that collect the fee. This option is gambling that remitters will be interested in putting some of their money in a special fund.37

- Using interest earned in the transfer of funds from the US to Vietnam (by lending against future flows, or offering short-term debt secured against remittance flows) to carry out development.
- Organizing (or expanding) a credit union or bank to serve the Vietnamese population in a given area, and channeling a percentage of the financial service income generated from the Vietnamese community to the fund.

In weighing these different options, several factors were paramount in selecting the most appropriate method to pursue. Those factors included:

1. How well each option would be accepted by senders and receivers,
2. What competitors exist for each approach, and
3. The potential to raise revenue using each approach.

To weigh these different possibilities we analyzed them both quantitatively and qualitatively. The quantitative analysis is based on a model that we built to predict the amount of remittance flows coming from the Vietnamese population in a given area. We will describe that model below, and then return to the criteria used to weigh the different development options, describing each option in detail.

Modeling the Results

To measure which of these approaches has the greatest potential for raising the necessary amount of capital,[38] we created a model that could predict the volume of remittance flows coming from different areas in the US. We ran this model three times in three different ways. The first, which we will call the pessimistic model, used a beginning set of assumptions to establish likely remittance flows. The second, which we will call the optimistic model, scaled the total volume of remittances upwards to the total volume of flows into Vietnam in 2003. The third, which we will call the expected model, adjusted our demographic assumptions from the pessimistic model to close part of the gap between the optimistic and pessimistic models. Decisions about which fundraising option was the most effective were based on results obtained in the expected model. Each of the three will be discussed in turn below.

[37] The issue with this option is that people will not use the service. Studies showed that a 5% tax on remittances caused a 50% reduction in the use of formal channels. There is much speculation that Viet-Kieu's distrust of government caused a large amount of the reduction in formal flows, but it is still sobering to think that the fee elasticity is 10. Also know that cost, convenience, and reliability are the three biggest drivers of remitting decisions.

[38] Through conversations with the VDF mortgage group, we determined that $300,000 in annual disbursements was sufficient for establishing and supporting VDF.

Pessimistic Model

The model is based on focus group research done on Mexican immigrants.[39] This study used regression analysis to determine the statistical significance of factors related to remittance sending behavior. It found that 24% of immigrant households send remittances, and the ones that do send a base amount of $2,285 annually. Demographic factors affecting remitting behavior were:

- Every year of age decreases the likelihood of sending remittances by 3%,
- Every year of education decreases the likelihood of remittance sending by 7%,
- Having minor children in a household decreases the likelihood of remitting by 25%,
- Every 1% increase in time in the US decreases the likelihood of remitting by 2%,[40]
- Men are more likely to send remittances than women,
- Households that earn less than $10,000 per year are less likely to send remittances,
- US citizens are less likely to send remittances.

Initially, we made several adjustments to the assumptions included above. We assumed the base amount of transfers for the Vietnamese community should be $6,000 and that the average remittance sending Vietnamese household sent between $2,000 and $6,000 annually.[41] This was more than similar remitters in the Mexican population. Additionally, we assumed a decrease in the likelihood of sending remittances was a decrease in the amount of remittances sent and developed the following model to describe the total flows out of any area.

Remittances sent per household = 6,000 + 6,000 [a*(observed median years of education – base years of education) + b*(observed median years in US – base value of years in US) + c* (observed median age – base age) + d*(% of households with minor children) + e*(% of households with male householder) + f*(% of population that is citizen) + g*(% of households that earn less than 10,000)]

Of these coefficients: a, b, c, and d were values from the study of Mexican immigrants. Values for coefficients e, f, and g were assumptions. Base values were also assumed to help normalize the information (obviously a new born is not more likely than a 20 year old to send remittances, but the model would predict that unless a base value was added). The following table shows the numbers used for coefficients and base values.[42]

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[39] DeSipio, Louis. "The Development Role of Remittances in U.S. Latino Communities and in Latin American Countries."

[40] We could not find greater clarification on this number and so we interpreted it to mean that every year spent in the US caused a 2% decrease in the likelihood of sending a remittance.

[41] These changes were based on findings in Tam Doan's study on VDF completed for Viet-Aid in the summer of 2003.

[42] It's very important that all aspects of this model be tested with primary research on the Vietnamese community. This analysis provides some order of magnitude calculations on the likely flows of remittances from the US to Vietnam. However, the basic structure comes from a study of Mexican immigrants, and that structure has been modified based on incomplete and inconsistent data that we have tested the model against. The only way to develop a more rigorous model is to determine the actual preferences and behavior patterns in various Vietnamese communities in the US.

Variables	Base variable	Observed variable	Co-efficient
Percentage of Households sending	--	24%	--
Base Value of Remittances sent	--	--	6,000
Age	24	--	-0.03
Years of education	9	11	-0.07
Years in US	8	6	-0.02
% of households where male is head of household	--	--	0.05
% of foreign born people who become citizens	--	--	-0.15
% of households where minor children are present	--	--	-0.25
% of households that earn less than 10,000 per year	--	--	-0.15

We used this model to establish our base case results, which are summarized below.

Geographic Area	Remittance Sent per HH	Total Remittance Flow	% of Flow in US	Total # of Vietnamese People	Number of Vietnamese Households
Boston MSA	$3,545	$7,469,202	3.0%	35,420	8,778
Massachusetts	$3,577	$7,764,285	3.1%	36,685	9,043
New England	$3,743	$11,340,888	4.5%	50,641	12,623
Texas	$3,387	$31,825,624	12.6%	143,352	39,153
California	$3,101	$87,942,633	34.8%	484,023	118,178
US	$3,346	$252,857,996	100.0%	1,223,736	314,829

Optimistic Model

Looking at these results, we recognized that the total remittance flow from the US did not equal expected levels. We found that the total volume of foreign remittance flows into Vietnam in 2003 is expected to be about $2.5 billion. Though a significant share of this money comes from Australia, the European Union, and other countries, it is expected that somewhere close to half of the amount comes out of the US.[43] According to this assumption, our model underestimates the amount of remittance flow coming out of the US. To address this gap, we adjusted the model using the assumptions below:

Total Remittance Flows Into Vietnam	$2,500,000,000
Projected US Share	40.0%
Total Remittance Flows from US into Vietnam	$1,000,000,000
Scaling Factor (to get modeled flows to US total)	3.95

This provided the following results. Going forward we will refer to this as the optimistic case.[44]

[43] Haughton.

[44] While this was projected with information on total remittance flows into Vietnam, there were inconsistencies with the data source (where did we get this) and with numbers on the projections of the Vietnamese population in the US (data sources). Because of these uncertainties around the $1 billion dollar number and because we were uncomfortable with a prediction that had over 7% of aggregate income in the Vietnamese population in the US being sent back to Vietnam, we developed an expected model that has results between the optimistic and pessimistic cases.

Geographic Area	Total Remittance Flow	% of Flow in US	Aggregate Income of Vietnamese Community	% of Aggregate income remitted
Boston MSA	$29,539,116	3.0%	378,059,682	7.81%
Massachusetts	$30,706,106	3.1%	384,472,188	7.99%
New England	$44,850,817	4.5%	525,817,377	8.53%
Texas	$125,863,625	12.6%	1,792,737,564	7.02%
California	$347,794,552	34.8%	5,702,679,390	6.10%
US	$1,000,000,000	100.0%	14,113,154,412	7.09%

Expected Model

Both the optimistic and pessimistic models are based on census counts, which we believe undercounts low-income, immigrant communities, and the rate of sending remittances is tied to results in a population (Mexican) that we think is less likely to send remittances than the Vietnamese. In developing our expected model, we included assumptions that accounted for these two shortcomings. We have assumed that 48% of Vietnamese households send remittances (as opposed to 24% of Mexican households) and that the population is 15% larger than the census counts. These assumptions produced the following results. Going forward we will refer to this as the expected model, and it will be used to test the different possibilities for raising funds that were outlined in the previous section.

Geographic Area	Remittance Sent per HH	Total Remittance Flow	% of Flow in US	Aggregate Income of Vietnamese Community	% of Aggregate income remitted
Boston MSA	$3,545	$14,938,404	2.6%	378,059,682	3.95%
Massachusetts	$3,577	$17,857,854	3.1%	442,143,016	4.04%
New England	$3,743	$26,084,042	4.5%	604,689,983	4.31%
Texas	$3,387	$73,198,935	12.6%	2,061,648,199	3.55%
California	$3,101	$202,268,057	34.8%	6,558,081,299	3.08%
US	$3,346	$581,573,391	100.0%	16,230,127,574	3.58%

Testing the Possibilities for Raising Funds

Once again, the central issues in testing our five possibilities were: acceptance by the senders and receivers, the general competitiveness of the approach, and the potential to raise revenue using this approach. In running the model, we learned one thing immediately – the single largest impact on the amount of funds available to VDF is not the approach used for fundraising, but the place in which VDF chooses to locate. California has a ten times larger Vietnamese income base than New England and sends ten times more remittances to Vietnam than Massachusetts. So our first recommendation about VDF fundraising is that the program be based in California. Beyond this, the five options have the following benefits and drawbacks.

Check-off Box and Fee per Transfer Options

Essentially, these approaches are similar in effect but different in the approach that they take. Both involve a mechanism for funneling funds to VDF from every remittance transfer made through a certain location or service provider. Both also involve an increased price for the sending of remittances; however, the check-off box can be thought of as a donation while the fee per transfer functions more like a tax. In the check-off box option, a sender can select to have funds diverted or not. In the fee per transfer option, that choice no longer exists, and every time a transfer is made, VDF gets a portion. The danger in this fee per transfer option rests in the increased remittance sending prices that such a service would require. Earlier we discussed how price was a central factor in choosing a remittance sending outlet and how low the prices already are due to widespread competition. This indicates that there may be precious little margin to absorb forced cost increases and still be competitive. Beyond this, we know that a 5% tax on remittances through formal channels caused a 50% drop in remittance sending through those channels. Much of this elasticity is generally explained by widespread mistrust of the Vietnamese government among the Viet-Kieu; however, it also points to extreme price sensitivity around the choice of a remittance sending outlet. For that reason, we think that the check-off box is superior to the fee per transfer option, even though they have similar results when we measure their ability to raise funds for VDF.

Boston MSA

Fee Per Transfer and Check-off Box Options	% of transactions need to use option	% or dollar amount taken	Total Cash Stream from option
Take % of transaction	200.82%	1.0%	$300,000
Take Dollar Amount	356.00%	$5	$300,000

New England

Fee Per Transfer and Check-off Box Options	% of transactions need to use option	% or dollar amount taken	Total Cash Stream from option
Take % of transaction	115.01%	1.0%	$300,000
Take Dollar Amount	215.27%	$5	$300,000

California

Fee Per Transfer and Check-off Box Options	% of transactions need to use option	% or dollar amount taken	Total Cash Stream from option
Take % of transaction	14.83%	1.0%	$300,000
Take Dollar Amount	22.99%	$5	$300,000 [45]

Utilizing a Banking Service in Vietnam – Banking the Receivers

By providing banking services in Vietnam for receiving families, we create an option in which a relatively small portion of remitted funds could be saved by receiving families while generating a relatively large capital source both for the financial institution that holds such deposits and the communities into which these deposited funds are lent. A portion of the program income from such a transaction could be given to VDF as

[45] Looking just at these three geographic areas underscores the market advantage of California. The population does not exist in New England or Boston to support VDF from a $5 or 1% transfer fee. To generate $300,000 in transfers, a credit union would need to capture the entire New England market and charge $18 per transfer. On the other hand, in California, if 15% of the remittance sending market was participating, $300,000 could be generated on a 1% fee per transfer. This is still an aggressive estimate, but it is in the realm of the reasonable.

additional operating funds (lending, to the extent that projects could earn sufficient return, could also be directed by VDF or a similar initiative).

Boston MSA

Investment Options	Aggregate Income/ Transfers	% of Funds Invested	Total Funds Invested	Spread on funds (including losses)	Program Income	Funds to VDF (10% of income)
Banking Receivers	$14,938,404	1004%	$150,000,000	2.00%	3,000,000	300,000

New England

Investment Options	Aggregate Income/ Transfers	% of Funds Invested	Total Funds Invested	Spread on funds (including losses)	Program Income	Funds to VDF (10% of income)
Banking Receivers	$26,084,042	575%	$150,000,000	2.00%	3,000,000	300,000

California

Investment Options	Aggregate Income/ Transfers	% of Funds Invested	Total Funds Invested	Spread on funds (including losses)	Program Income	Funds to VDF (10% of income)
Banking Receivers	$202,268,057	74%	$150,000,000	2.00%	3,000,000	300,000

The total % of funds that need to be invested in order to generate sufficient revenue from this option show its limitations as a viable source of funding for VDF, especially as the principal source. However, such a program could be developed over time as an additional VDF service and a way of expanding access to capital in Vietnam.

Earning Interest on Remittance Flows by Volume

We actually did not include a full model of this option, because our preliminary results for the income it could generate were so small. The idea was that investing remittance flows during the time period in which a financial institution holds the remittances could generate some program income that could be directed towards VDF. However, we found that every $40,000 of remittances sent generates $1 in program income for VDF. We believe that our other options can generate funds more readily.

Creating a Banking Service in US – Banking the Senders

By offering financial services to the Vietnamese community in the US, we not only create an avenue which provides access to remittance flows, but we also create institutions that could help build wealth in the Vietnamese community while generating program income that could be partially re-directed to VDF. In our search of the Boston area (and less comprehensive search of the US), we found no mainstream financial service providers that focused their efforts on Vietnamese immigrant communities. This indicated a lack of competition in providing mainstream financial services to this community, and a credit union model can provide a set of financial services that can help introduce un-banked and under-banked immigrants to the financial mainstream. These services could include payday lending, check cashing, and sales of money orders (along with remittance transfers). Our research shows that a credit union could provide these services (with the exception of remittance transfers) at cheaper rates than the standard market competitors and use them as a marketing vehicle that attracts harder to bank customers into the credit union system. The potential market for banking services (and the income they could generate for VDF) in Boston, New England and California is included below.

Boston MSA

Investment Options	Aggregate Income/ Transfers	% of Funds Invested	Total Funds Invested	Spread on funds (including losses)	Program Income	Funds to VDF (10% of income)
Banking Senders	378,059,682	52.90%	$200,000,000	1.50%	3,000,000	300,000

New England

Investment Options	Aggregate Income/ Transfers	% of Funds Invested	Total Funds Invested	Spread on funds (including losses)	Program Income	Funds to VDF (10% of income)
Banking Senders	604,689,983	33.07%	$200,000,000	1.50%	3,000,000	$300,000

California

Investment Options	Aggregate Income/ Transfers	% of Funds Invested	Total Funds Invested	Spread on funds (including losses)	Program Income	Funds to VDF (10% of income)
Banking Senders	6,558,081,299	3.05%	$200,000,000	1.50%	3,000,000	$300,000

This model shows that to reach a level where the program income generated from banking the senders reached a level of $300,000 per annum, we would need a total deposit base of $200,000,000. This would take a significant period of time, and represents the limitations of this model as the sole source of funding for VDF. However, the model also shows that in California such a level could potentially be reached.

Most Effective Options

In the end, a combination of the options above represents the most effective means of raising funds for VDF and serving the needs of the Vietnamese community in the US and in Vietnam. This combination should include the development of a community credit union focused on the needs of the Vietnamese immigrant community, a check-off box that allows senders to commit funds from each transfer to VDF, and developing partnerships with receiver banks to target remittance receivers as potential banking clients in Vietnam (though this option should be done when the others are mature). Assuming .50% of sender income as credit union deposits and 5% of remittances received as receiver deposits, the model predicts the following flows to raise $300,000 annually.

	Total Funds to VDF	% of transfers using check off box	Total funds from check-off box	Total funds from credit union	Total funds from receiver deposits
Boston	$300,000	197.93%	$295,671	2,835	1,494
Massachusetts	$300,000	165.14%	$294,898	$3,316	1,786
New England	$300,000	112.27%	$292,856	$4,535	2,608
California	$300,000	11.40%	$230,588	$49,186	20,227

The following series of steps outlines the process for developing these options.

1. Launch a credit union focused on serving the Vietnamese community in a given geographic area (we suggest California)
    a. Target initial membership drive through existing organizations providing services to Vietnamese community, and also sign up stores that act as front-ends in the remittance transfer business. In order to sign up stores as members, the credit union will likely need to develop a set of financial services targeted

to the needs of these store owners. We have not researched what these needs are, but this seems important because the store fronts are already effectively sending remittances without the involvement of a credit union, and an incentive is needed to gain their support.

2. Begin offering remittance services through member storefronts. Use these same storefronts as an advertising source for credit union services. Offer a variety of services to meet the demands that are currently absorbed by the sub-prime market – payday lending, check cashing, money orders, bill-payment services, along with traditional banking and wealth-building services. Build on initial membership through this remittance channel.
3. Capture funds for VDF through check-off box option on remittances sent and through a portion (10%) of program income generated by the credit union.
4. As these systems mature, explore the option of extending financial services to remittance receivers in Vietnam. This would likely be done by arranging a partnership with a receiving bank. A percentage of program income on those deposits could be channeled to VDF.

Final Conclusions

Vietnamese immigrant communities in the US are currently underbanked, and many immigrants use sub-prime lenders for their day-to-day financial services. This presents a significant opportunity for any financial service provider who can offer lower cost services to this population, most especially to a credit union established to capture the need in this demographic. One of the critical services desired by underbanked Vietnamese residents is remittance transfers, and credit unions have access to low cost networks for sending remittances abroad. Unfortunately, Vietnamese regulation currently prohibits credit unions, and many of the services used in other receiving nations (like IRNet and Travelex) are not currently available in Vietnam. However, there are several current attempts to extend these networks to Vietnam, and other options exist for tapping into the remittance sending market as a credit union. In entering this market, price competition is paramount, because there are already many players which have driven prices well below the level for many other immigrant groups.
By channeling remittance funds through a central source like a credit union, one can tap that source to provide a steady stream of capital. VDF should employ this strategy and use the flow of remittance funds through their network as the main source of capital for their development activities. In addition, providing banking services to Vietnamese communities in the US and (ultimately) providing banking services to receiving households in Vietnam, VDF could generate program income that could be partially diverted back to the fund. The financial model that we built shows that this combined strategy could generate $300,000 annually for VDF, especially if it is based out of California.

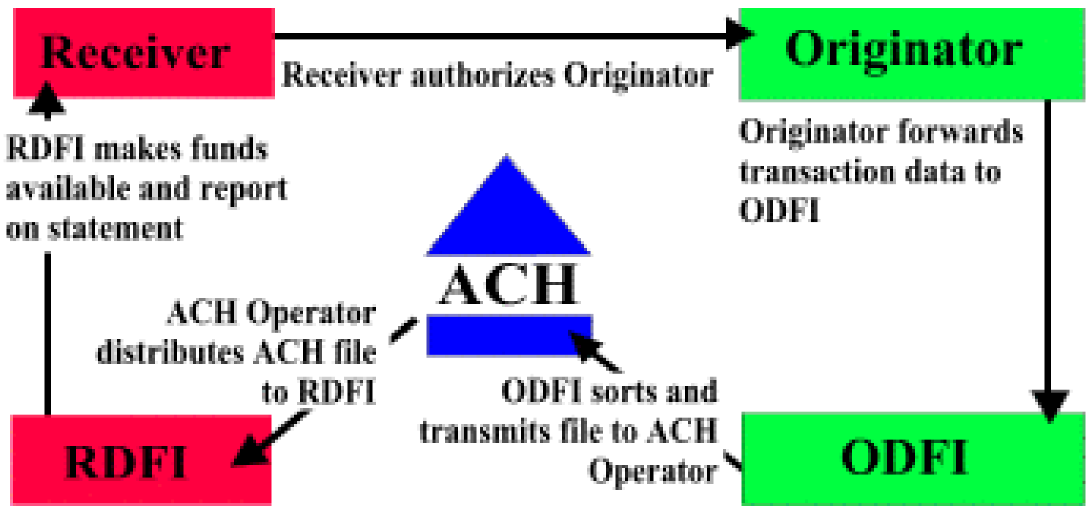
There are also some important areas where more research needs to be done. First, our financial model was based on research on an entirely different demographic group. Primary research needs to be conducted in target Vietnamese markets to see if their behavior is similar to the observed behavior of Mexican immigrants. Second, the regulatory environment is changing very quickly in both Vietnam and the US. Attempts to forge partnerships with the Vietnamese government that could result in the extension of credit union transfer services into Vietnam should be investigated. If these efforts are fruitless, then other options and partnerships should be explored. Additionally, VDF should keep a close eye on regulatory shifts in the United States. The current anti-immigration legislation and tightening of policy around immigrant rights could have a negative effect on the operation of a project like this one.

In closing, our recommendations can be summarized in a few simple steps:

- Develop a community credit union to serve the Vietnamese community and target underbanked members of that community,
- Offer remittance transfers as a central part of credit union services, and use remittance transfers as a marketing tool for building membership. Couple remittance transfer services with other financial services often used by low-income populations including check-cashing, pay-day lending, money orders, and bill payment.
- Raise funds for development in Vietnam through voluntary donations of a small percentage of remittance transfers and a percentage of program income from credit union operation,
- Ultimately build a relationship through which financial services can be provided to receiving households in Vietnam, also generating a new revenue source for development in Vietnam.

Appendix I - Flow Charts of Remittance Transfer Processes

ACH Flowchart



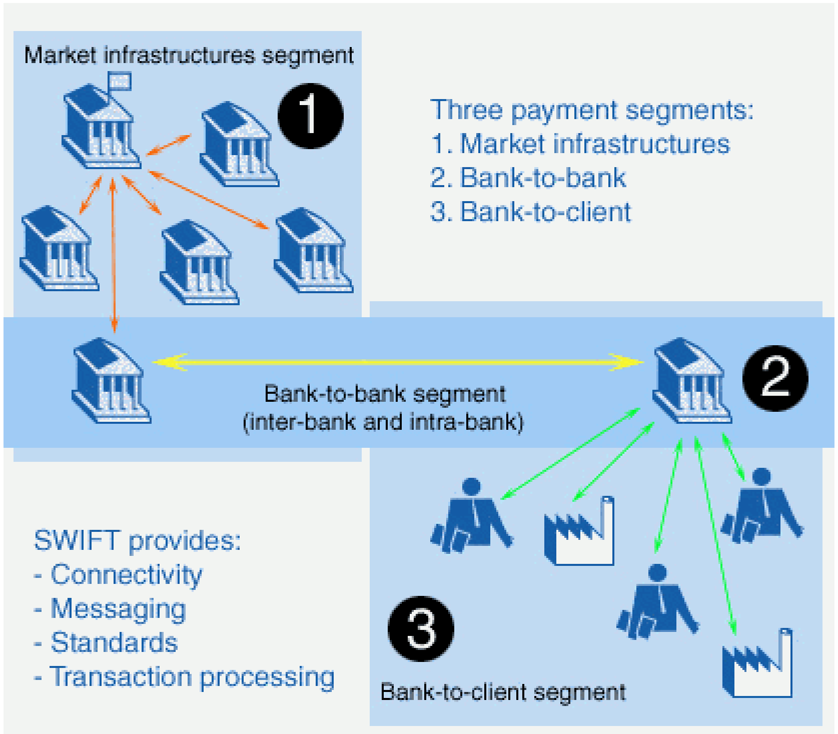
Originator
Any individual, corporation or other entity that initiates entries into the Automated Clearing House Network.

Originating Depository Financial Institution (ODFI)
A participating financial institution that originates ACH entries at the request of and by (ODFI) agreement with it's customers. ODFI's must abide by the provisions of the NACHA Operating Rules and Guidelines.

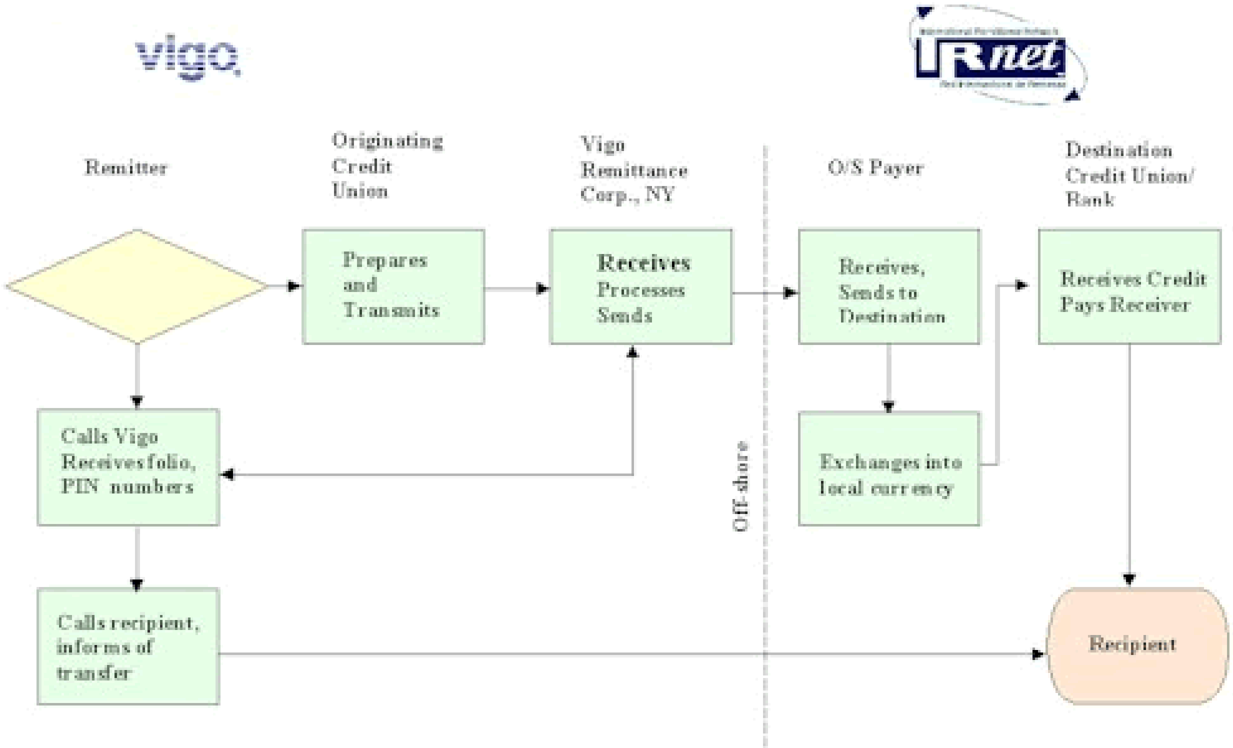
Receiving Depository Financial Institution
Any financial institution qualified to receive ACH entries that agrees to abide by the NACHA Operating Rules and Guidelines.

Receiver
An individual, corporation or other entity who has authorized an Originator to initiate a credit or debit entry to a transaction account held at an RDFI.

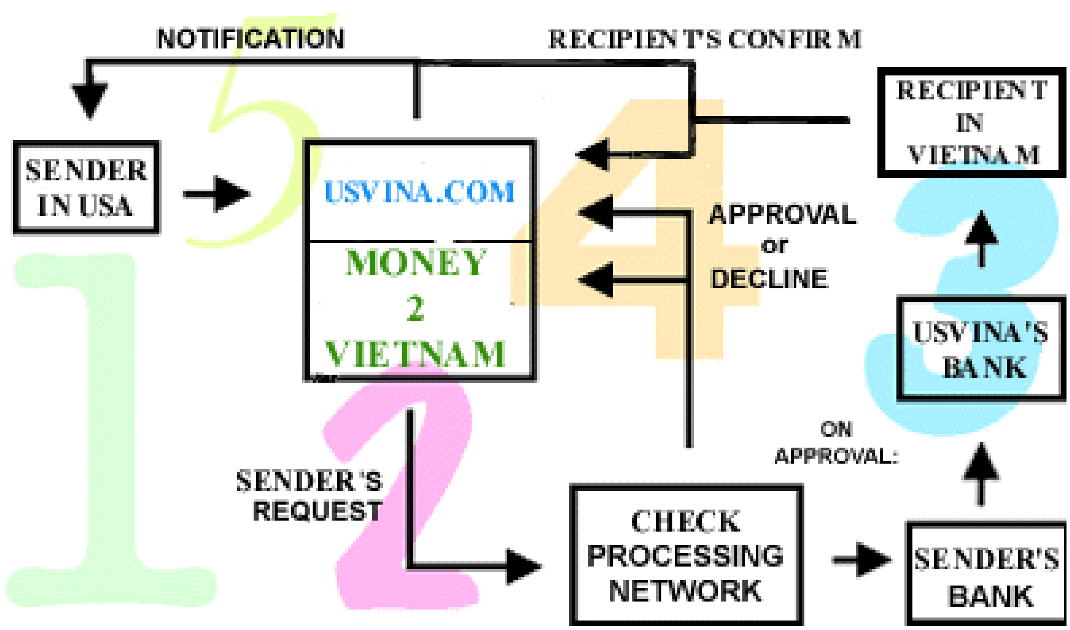
Swift Flowchart



IRNet – VIGO Flowchart



USVina Flowchart



Appendix II - Vietnamese Banks and Relationships With Correspondent Banks In The U.S. Through The Swift Network

Sacombank:

Standard Chartered Bank (New York)
Citibank (New York)
HSBC Bank (New York)
ABN AMRO Bank (New York)
Wachovia Bank (New York)
American Express Bank (New York)
Bank of America (New York)
Union Bank of California (New York)
Metro Bank (Houston)
Far East National Bank (Los Angeles)

Techcombank: (Fintec Corp.)

Standard Chartered Bank (New York)
ABN AMRO Bank (New York)
Bank of New York (New York)

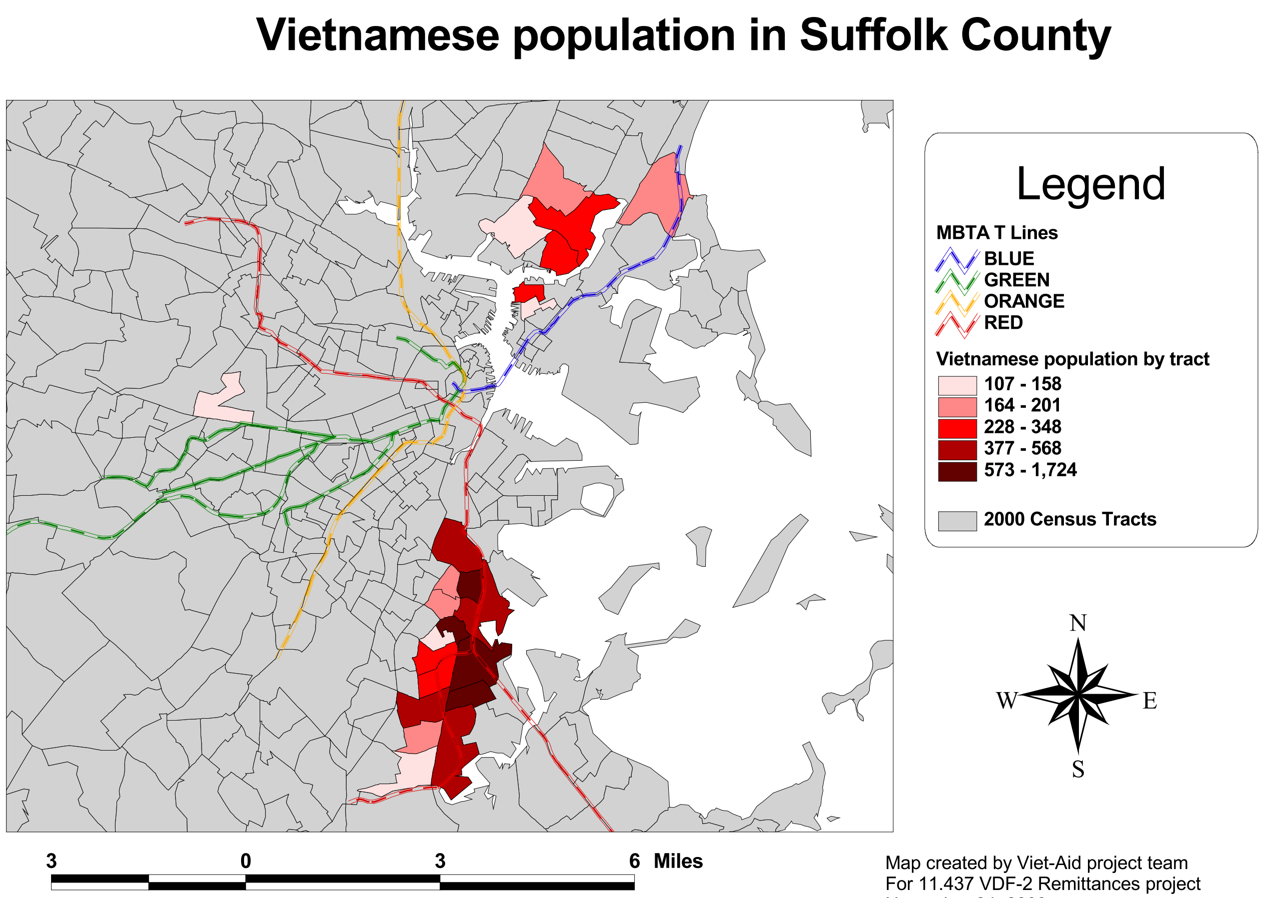
Asia Commercial Bank:

ABN AMRO Bank (New York)
Citibank (New York)
American Express Bank (New York)
Bank of America (San Francisco)
Wachovia Bank (New York)
HSBC Bank (New York)
JP Morgan Chase Bank (New York)
Standard Chartered Bank (New York)

Indovina Bank:

Credit Lyonnais
Bank of New York
Bankers Trust Co
Harris Bank
Union Bank of California
International Royal Bank of Canada
UFJ Bank
UBS AG
Standard Chartered Bank
Bank of American
JP Morgan Chase
Wachovia Bank
HCBC USA
American Express Bank

Appendix III – Map of Vietnamese Population in Suffolk County



Map created by Viet-Aid project team
For 11.437 VDF-2 Remittances project
November 24, 2003
Source: US Census 2000, MassGIS, MBTA

Vietnam Development Fund
Leveraging Funds for Development

Submitted to: Long Nguyen, Viet-Aid
Karl Seidman, MIT

Project Team: Will Bradshaw, Brian Cheigh, Shoma Haque

Course 11.437 - Economic Development Finance
Department of Urban Studies and Planning, Massachusetts Institute of Technology

December 12, 2003

<u>Documentation for VDF Remittance Model</u>

Model and Documentation submitted to Long Nguyen of Viet-Aid
in partial fulfillment of requirements for 11.437 Financing Economic Development
Submitted by Brian Cheigh, Shoma Haque, and Will Bradshaw

GOALS IN BUILDING THE MODEL

This model was built in order to provide a software tool that could take demographic information as inputs and predict the amount of money that would be remitted out of immigrant households in a given geographic area. In doing this, two things were important in design:

1. All model results are calculated from several key assumptions or user inputs. By basing results on these inputs, VDF can adjust those see how various scenarios affect their policies and approaches. This guide is intended to provide enough information so that anyone proficient in Excel could use this spreadsheet.
2. We wanted to compare impact over geography and types of fundraising approaches, and to do sensitivity analysis around assumptions. In many ways the chosen names of the models (optimistic, pessimistic, and expected) are misnomers, as they actually represent various adjustments that allow a user to refine predictions and test assumptions that feed these predictions.

We hope that this guide will assist the Vietnam Development Fund in using the model to more accurately predict remitting behavior and make informed decisions about program structure, location, and operation.

GETTING AROUND THE MODEL

There are five tabs in the model. Tab 1 and 2 include the demographic information and the assumptions on which the model is based. Tabs 3-5 present results from three different scenarios and predict the funds that could be raised under each scenario using different fundraising approaches. The five tabs and their basic functions are:

Tab 1 – Model-op and pess – Displays census data and the assumptions which feed the optimistic and the pessimistic scenarios. These scenarios are based on research done on a study of Mexican immigrants coupled with focus group research completed this summer for Viet-Aid by Tam Doan.

Tab 2 – Model-expected – Displays census data and the assumptions for the expected scenario. It varies from the *model-op and pess tab* in two ways only. First, all of the predictions for how remitting households will act have been de-coupled for the expected scenario (i.e. you can change the assumptions without changing the results of the other scenarios), even though only the percentage of households remitting number has changed to this point. Second, it allows for the user to make some determination about census undercounting and to adjust population numbers upwards based on that assumption.

Tab 3 – Pessimistic – Shows the results of the pessimistic scenario and the cash flows that could be generated in each geographic area for different fundraising options (i.e. check-off box, fee per transfer, banking senders, banking receivers).

Tab 4 – Optimistic – Shows the results of the optimistic scenario and the cash flows that could be generated in each geographic area for different fundraising options (i.e. check-off box, fee per transfer, banking senders, banking receivers).

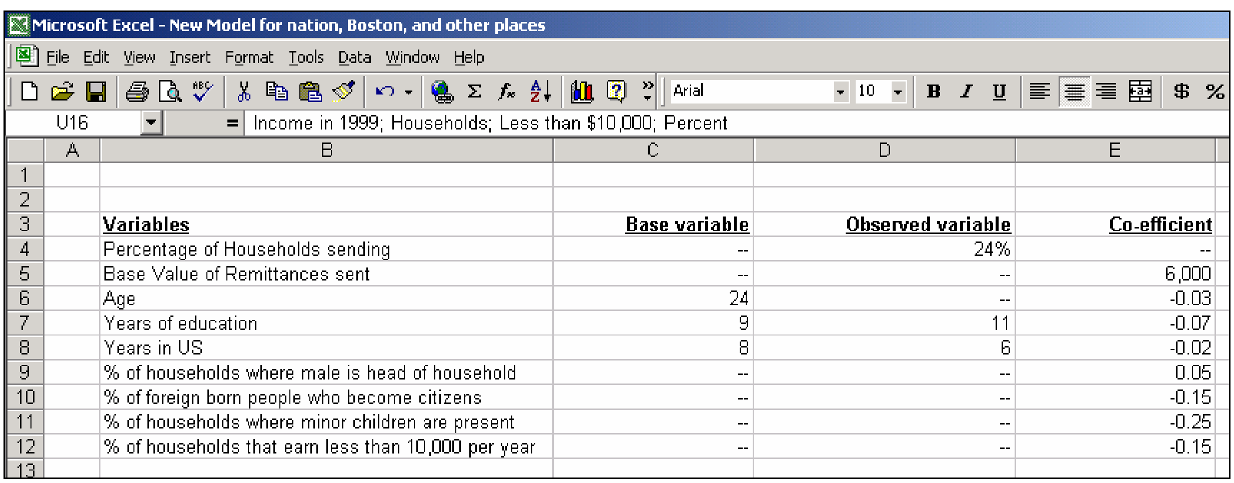
Tab 5 – Expected – Shows the results of the expected scenario and the cash flows that could be generated in each geographic area for different fundraising options (i.e. check-off box, fee per transfer, banking senders, banking receivers).

Those same tabs are shown in the partial screen shot below.

Each tab will be described in more detail below. We will thoroughly describe the layout and operation of the *Model-op and pess tab* and the *Pessimistic tab*. The other three tabs will be described only to the extent that they vary from the ones described. Screen shots will be used to clarify descriptions when necessary.

TAB 1 – MODEL-OP AND PESS

Rows 3-12 display user inputs and assumptions about the model. These can be adjusted to shift calculated results. A screen shot below shows these rows.



	A	B	C	D	E
1					
2					
3		Variables	Base variable	Observed variable	Co-efficient
4		Percentage of Households sending	--	24%	--
5		Base Value of Remittances sent	--	--	6,000
6		Age	24	--	-0.03
7		Years of education	9	11	-0.07
8		Years in US	8	6	-0.02
9		% of households where male is head of household	--	--	0.05
10		% of foreign born people who become citizens	--	--	-0.15
11		% of households where minor children are present	--	--	-0.25
12		% of households that earn less than 10,000 per year	--	--	-0.15
13					

The model uses the co-efficients (column E) to adjust a base remittance of 6,000 (value in E5) up or down depending on the household characteristics. The base variables are included for terms where not including such a variable produces a ridiculous result (i.e. younger people are more likely to send remittances; however, newborn children are not the most likely remittance senders, so the model needs a baseline calculation to adjust for this outcome). Since years of education and years in US could not be directly calculated from the census information, an estimate was made and included in the model. Other observed variables refer to census information and the process for making these calculations is included below.

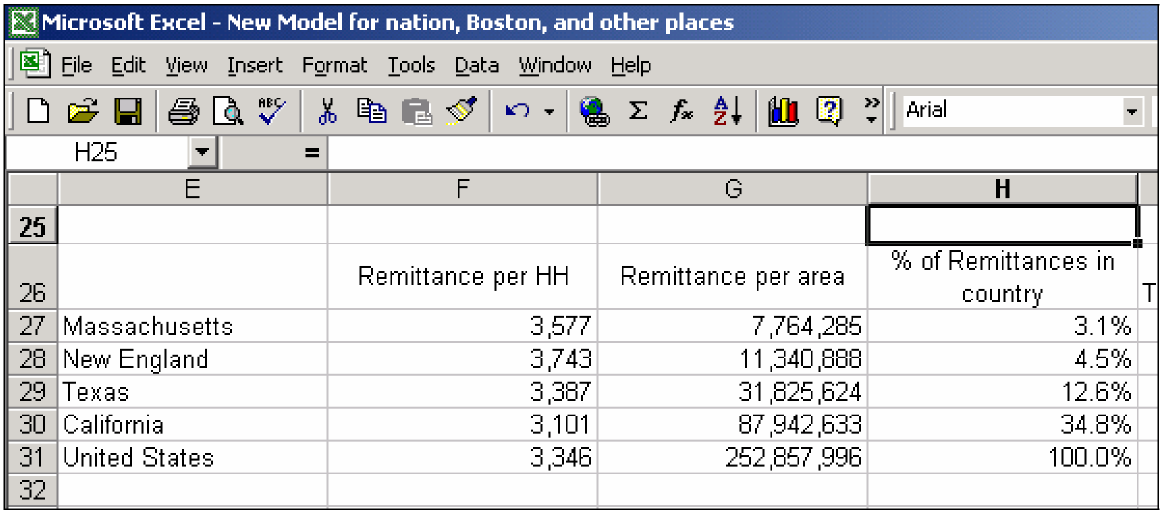
Census Information

This information is separated into three categories. The first includes data for various states and is contained in rows 15-24. The second summarizes this state data into important regions for comparison. Those regions include: Massachusetts, New England, Texas, California, and US. This data is contained in rows 26-30. The third is data for the Boston census tracts and the Boston Metropolitan statistical area. It is included in rows 33-61.[1] The data points taken from the census for the model are as follows:

Variable	Name of Census variable or manner calculated	Census Variable number
Age	Total Population: Sex and Age, Median Age (years) number	DP1.C32
% of households where male is head of household	Variable used = (100% - Households by type; Households; Family households (families); Female householder, no husband present; Percent)	100% - DP1.C86
% of foreign born people who become citizens	Variable used = (nativity and place of birth, foreign born, naturalized citizen, number)/(Nativity and place of birth total population, number)	(DP2.CO2)/(DP2.C86)
% of households where minor children are present	Households by type; Households; Households with individuals under 18 years; Percent	DP1.C96
% of households that earn less than $10,000 per year	Income in 1999; Households; Less than $10,000; Percent	DP3.C93

[1] The data on census tracts and the Boston MSA has many columns that cannot calculate a remittance value. This is not a failure in the model. Because of variation in the census data collection processes, there are a number of census tracts in Boston that show up as having a significant Vietnamese population (over 100), but do not have sufficient numbers to include information about income, years of education, number of children in the household, etc. Since the model cannot calculate in areas where demographic data of this sort doesn't exist, all the census tracts that have population counts but nothing else show up as #DIV/O! errors in Excel. These tracts have been left in the spreadsheet because we found it useful to map these characteristics in GIS and to know which tracts had over 100 Vietnamese people living in them.

These same variables are used for every census calculation over every geographic boundary (i.e. the calculations for California and Massachusetts use the same census variables). These calculations are used to determine the average amount of remittances sent per household (displayed in column F), which is multiplied by the number of households to determine the projected amount of money sent out of a geographic area (displayed in column G). A screenshot below shows the results for the state level data.



	E	F	G	H
25				
26		Remittance per HH	Remittance per area	% of Remittances in country
27	Massachusetts	3,577	7,764,285	3.1%
28	New England	3,743	11,340,888	4.5%
29	Texas	3,387	31,825,624	12.6%
30	California	3,101	87,942,633	34.8%
31	United States	3,346	252,857,996	100.0%
32				

TAB 2 – MODEL – EXPECTED

This tab is identical to the *model – op and pess tab* except for rows 13 and 14 and cell D4. Rows D13 and D14 make assumptions about the census undercounting population and households in its counts. This allows the user to scale households and population upwards, thereby increasing the determined value for expected remittance flow. Cell D4 has the value for the expected percentage of remitting households (out of total immigrant households). In this model it is scaled up from 24% to 48%. In addition, all the assumptions for the expected model can be determined independently from the assumptions included on the *model – op and pess tab*.

TAB 3 – PESSIMISTIC

This tab displays the results of the pessimistic scenario. It has four distinct sections: Assumptions, Summary of Results, Fee per Transfer Options, and Investment Options.

Assumptions

The assumptions section lists the assumptions of the model, as shown in the screenshot below.

Microsoft Excel - New Model for nation, Boston, and other places.xls

	A	B	C	D	E	F
1					Assumptions for Pessimistic Model	
2						
3					VDF Goal Annual Cash Stream	$300,000
4					Times per year that remittances are sent	4

Summary of Results

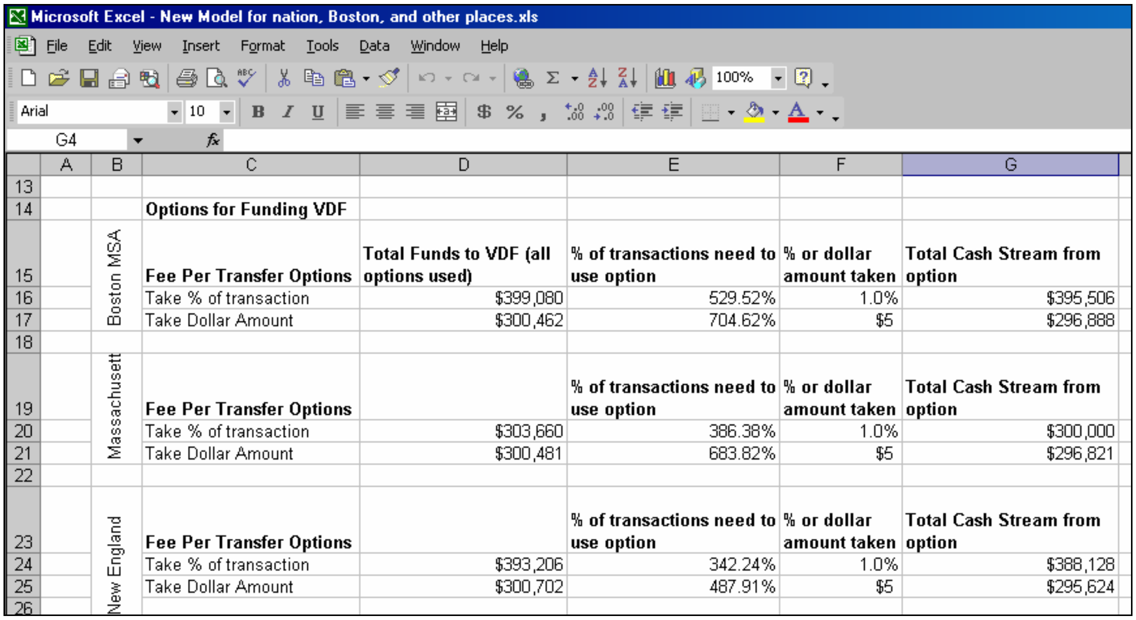
The next section is a summary of key results, and it is shown in rows 6-12. This section includes calculations for remittances sent per household, total remittance flow, % of US remittances sent from that geographic area, aggregate Vietnamese income, % of aggregate income remitted, total number of Vietnamese people, and number of Vietnamese households. These results are all summarized from calculations or demographics on the model tab. A part of this section is shown in the screen shot below.

Microsoft Excel - New Model for nation, Boston, and other places.xls

	A	B	C	D	E	F	G
1					Assumptions for Pessimistic Model		
2							
3					VDF Goal Annual Cash Stream	$300,000	
4					Times per year that remittances are sent	4	
5							
6			Geographic Area	Remittance Sent per HH	Total Remittance Flow	% of Flow in US	Agg Vietna
7			Boston MSA	$3,545	$7,469,202	3.0%	
8			Massachusetts	$3,577	$7,764,285	3.1%	
9			New England	$3,743	$11,340,888	4.5%	
10			Texas	$3,387	$31,825,624	12.6%	
11			California	$3,101	$87,942,633	34.8%	
12			US	$3,346	$252,857,996	100.0%	

Fee per transfer section

The next section displays information about the check-off box and required fee per transfer strategies for raising funds (rows 14 – 37 and columns A – G). These options are explored through two scenarios - one, where a specific dollar amount of each transfer goes to VDF; two, where a percentage of the transfer goes to VDF. Both scenarios are calculated based on dollars to VDF per transfer and the percentage of transfers that use this option. The screenshot below shows the structure.



	A	B	C	D	E	F	G
13							
14			Options for Funding VDF				
15		Boston MSA	Fee Per Transfer Options	Total Funds to VDF (all options used)	% of transactions need to use option	% or dollar amount taken	Total Cash Stream from option
16			Take % of transaction	$399,080	529.52%	1.0%	$395,506
17			Take Dollar Amount	$300,462	704.62%	$5	$296,888
18							
19		Massachusett	Fee Per Transfer Options		% of transactions need to use option	% or dollar amount taken	Total Cash Stream from option
20			Take % of transaction	$303,660	386.38%	1.0%	$300,000
21			Take Dollar Amount	$300,481	683.82%	$5	$296,821
22							
23		New England	Fee Per Transfer Options		% of transactions need to use option	% or dollar amount taken	Total Cash Stream from option
24			Take % of transaction	$393,206	342.24%	1.0%	$388,128
25			Take Dollar Amount	$300,702	487.91%	$5	$295,624
26							

Results are displayed for a given geographic area. Column D displays a sum that includes the result from column G and the results from investment option strategies (see below). The user can determine whether or not he wants to make column D equal 300,000 (a variety of fundraising strategies being used to generate the VDF income) or for column G to equal 300,000 (only the check-off box or required fee per transfer options used to generate VDF income). For the moment, we will assume that column G is the one we are trying to set to 300,000. The spreadsheet assumes the % or dollar amount taken per transfer is fixed (column F), and calculates what percentage of transfers (column E) need to elect this option in order to reach a dollar amount of $300,000. The solver function can be used to determine the % of transfers that need to use the option in order to reach 300,000 in VDF funds annually. For more information on Solver see “a note on solver” at the end of the guide.

Investment Options

The next section displays the funds that can be raised by banking senders and receivers. This information is contained in rows 15-37 and columns M-Q. The screenshot below displays information used in the calculations.

Microsoft Excel - New Model for nation, Boston, and other places.xls

	J	K	L	M	N	O	P	Q
13								
14								
15	Boston MSA	**Investment Options**	**Aggregate Income/ Transfers**	**% of Funds Invested**	**Total Funds Invested**	**Spread on funds (including losses)**	**Program Income**	**Funds to VDF (10% of income)**
16		Banking Senders	378,059,682	0.50%	$1,884,788	1.50%	28,272	2,827
17		Banking Receivers	$7,469,202	5%	$373,460	2.00%	7,469	747
18								
19	Massachusett	**Investment Options**	**Aggregate Income/ Transfers**	**% of Funds Invested**	**Total Funds Invested**	**Spread on funds (including losses)**	**Program Income**	**Funds to VDF (10% of income)**
20		Banking Senders	384,472,188	0.50%	$1,922,361	1.50%	28,835	$2,884
21		Banking Receivers	$7,764,285	5%	$388,214	2.00%	7,764	776

Strategies to bank both senders and receivers are considered as investment options in the model. The banking the senders option shows the amount of income that could be generated by a credit union serving a given remittance sending community. The credit union's assets are calculated from the aggregate income of the Vietnamese population in each area (Column L) and an assumption about the percentage of that income that would be invested in a credit union (Column M). The Aggregate Income/Transfers line shows the total combined income of Vietnamese people living in an area (i.e. cell L16 shows that Vietnamese immigrants in the Boston MSA earn a combined $378,059,682 each year. This number was calculated from census data – median household income * number of households). The next column is % of funds invested. We have assumed that a credit union could obtain deposits equal to 0.50% of all the income earned by a targeted immigrant population. The following line (total funds invested) shows the dollar amount that would be invested in this credit union if 0.50% of aggregate income was actually deposited. This total funds invested line represents the credit union's expected assets. The next column, spread on funds (including losses), shows the amount of income that the credit union would expect to earn on each dollar deposited. We have assumed this to be 1.50% in the US. This calculates a projected program income and we have assumed that 10% of the total program income could be paid to VDF.

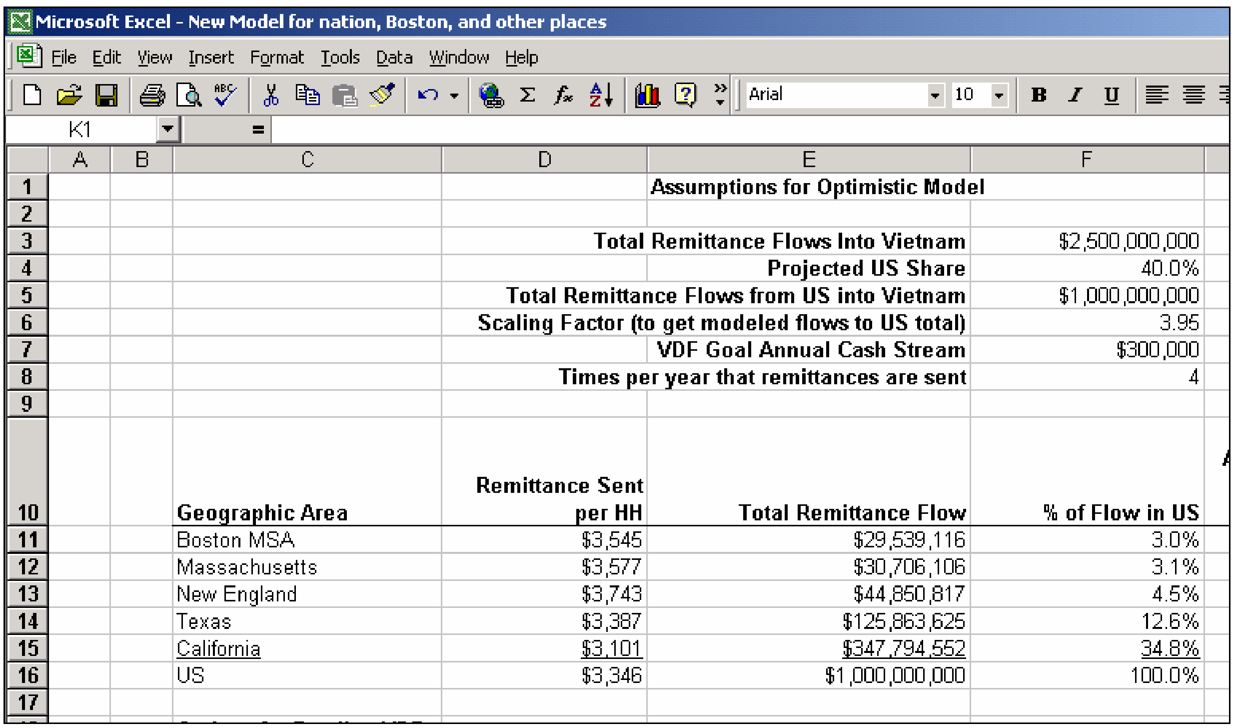
The banking receivers example (which is the row immediately below the banking senders example) is very similar to the banking senders example, but there are several differences. These include:

- the total amount of remittances expected to come out of an area are used as the aggregate income/transfers (Column L),
- we have assumed that a larger percentage of received funds are deposited (5%), and
- that there is a greater spread on investments in Vietnam than in the US (commensurate with what we expect to be a higher level of risk).

We still assume that 10% of program income is channeled to VDF.

TAB 4 – OPTIMISTIC

This scenario differs from Tab 3 only in the assumptions made about it. The pessimistic scenario assumes that only $252 million dollars are transferred from the US to Vietnam each year. This would only be 10% of the world's total remittances into Vietnam according to research cited in our companion report, "Vietnam Development Fund: Leveraging Funds for Development." So we established a conservative estimate for the share of US-originated remittances sent annually to Vietnam (40%), and calculated that $1 billion dollars of remittances should therefore be flowing from the US to Vietnam. By dividing $1 billion by the pessimistic scenario's $252 million in remittance flows, we obtain a scaling factor of 3.95. This scaling factor is then multiplied by the expected total flows from any area, and we obtain new results (Column E). These results are used to test different fundraising strategies. This can be seen in part on the screen shot below.



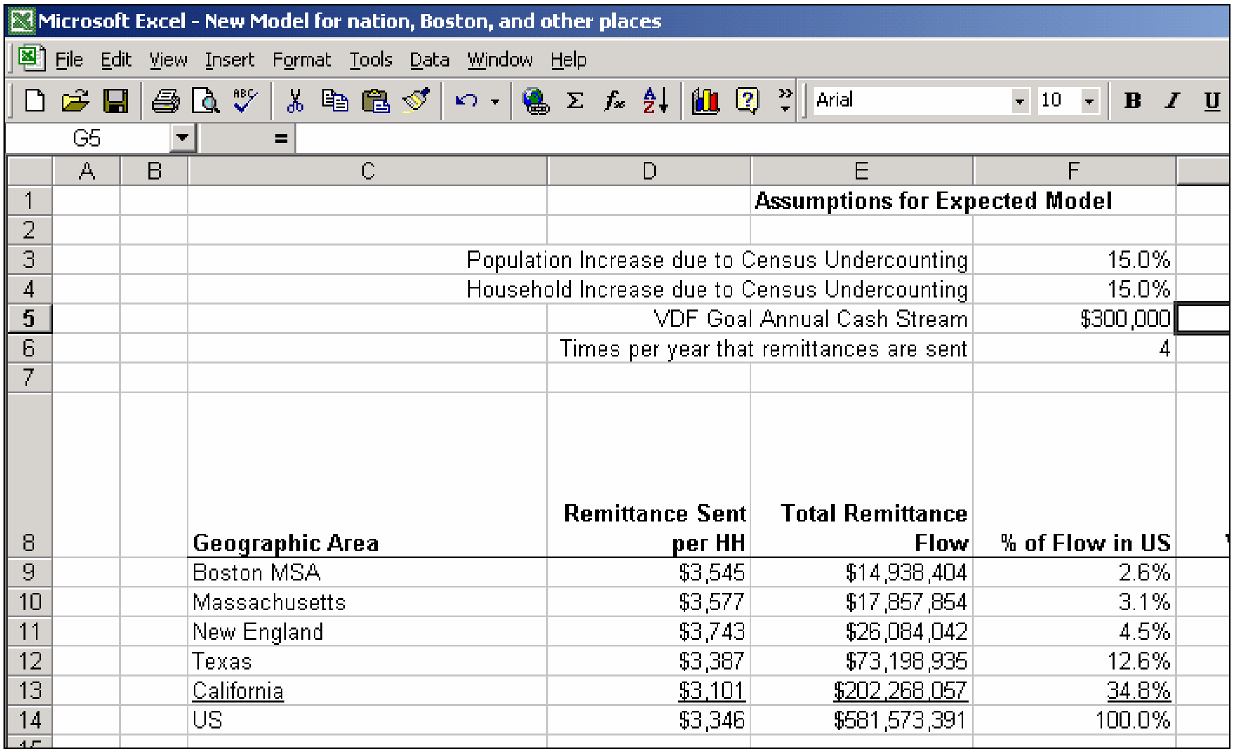
	A	B	C	D	E	F
1					Assumptions for Optimistic Model	
2						
3					Total Remittance Flows Into Vietnam	$2,500,000,000
4					Projected US Share	40.0%
5					Total Remittance Flows from US into Vietnam	$1,000,000,000
6					Scaling Factor (to get modeled flows to US total)	3.95
7					VDF Goal Annual Cash Stream	$300,000
8					Times per year that remittances are sent	4
9						
10			Geographic Area	Remittance Sent per HH	Total Remittance Flow	% of Flow in US
11			Boston MSA	$3,545	$29,539,116	3.0%
12			Massachusetts	$3,577	$30,706,106	3.1%
13			New England	$3,743	$44,850,817	4.5%
14			Texas	$3,387	$125,863,625	12.6%
15			California	$3,101	$347,794,552	34.8%
16			US	$3,346	$1,000,000,000	100.0%
17						

TAB 5 – EXPECTED

This tab is the same as the previous two tabs (pessimistic and optimistic) except for several things:

1. The remittances sent per HH and the Total remittance flow numbers are tied to the *model – expected tab* instead of the calculations made in *model – op and pess tab*.
2. The assumptions include an expectation of population and household increases due to census undercounting (don't change the undercounting values on this sheet, they can be changed on the *model – expected tab* and these cells will update).

The first difference cannot be seen from a screenshot, but has to do with underlying references in the spreadsheet. The second change is shown in the screenshot below.



Microsoft Excel - New Model for nation, Boston, and other places

	A	B	C	D	E	F
1					**Assumptions for Expected Model**	
2						
3					Population Increase due to Census Undercounting	15.0%
4					Household Increase due to Census Undercounting	15.0%
5					VDF Goal Annual Cash Stream	$300,000
6					Times per year that remittances are sent	4
7						
8			**Geographic Area**	**Remittance Sent per HH**	**Total Remittance Flow**	**% of Flow in US**
9			Boston MSA	$3,545	$14,938,404	2.6%
10			Massachusetts	$3,577	$17,857,854	3.1%
11			New England	$3,743	$26,084,042	4.5%
12			Texas	$3,387	$73,198,935	12.6%
13			California	$3,101	$202,268,057	34.8%
14			US	$3,346	$581,573,391	100.0%

These changes predict remittance flows between the levels predicted from the optimistic and pessimistic models. The rest of this tab functions as the previous two.

ADVICE TO THE USER ON DESIGN AND USABILITY

Green means Go – Though not shown in the screenshots for legibility, all cells that can easily adjust to user input will be color-coded in light green. If a cell is light green, then a user can and should readily change it. If a cell is white, then it is tied to some other cell or series of cells and a user should understand the links before making a change.

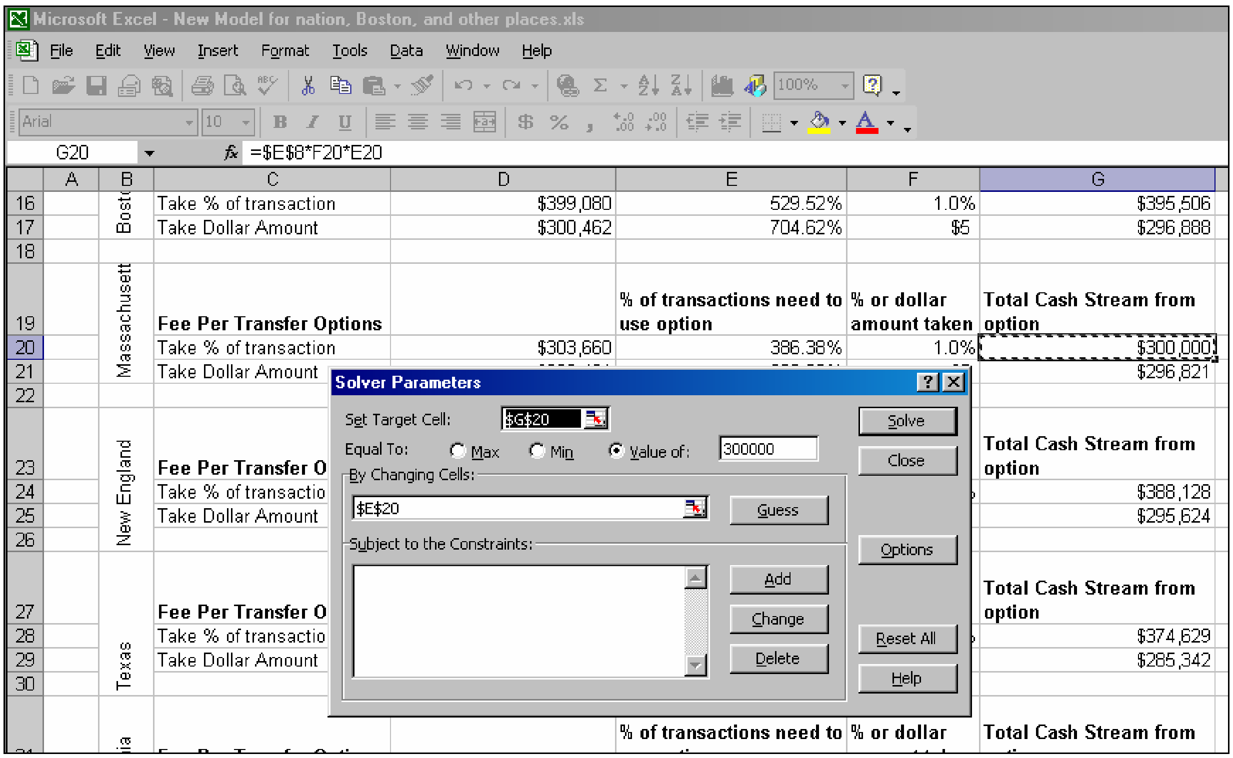
Census Data – This information shouldn't be changed, and cannot be easily replaced or deleted from the spreadsheet without losing functionality. The best way to replace or update data is to replace the data entirely and to re-link the calculation of "remittance per household" in the *model – op and pess* or *model – exp* tabs. The assumptions made about the variables can change, and will adjust the observed values.

Hiding Cells – Any cells within the worksheet can be hidden by selecting the columns or rows to be hidden, then right-clicking the mouse, and choosing hide from the drop down menu that is displayed. To unhide, select the columns or rows on either side of a range of hidden cells, then right click, and choose unhide from the drop-down menu that appears.

A NOTE ON SOLVER

This note will say how to use solver to determine the percentage of transactions that would need to send 1.0% of their transaction to VDF in order to generate 300,000 in annual VDF income. However, once solver is used to complete this simple task, it can be used for a variety of more complex things.

To pull-up the solver function, go to the Tools menu and select Solver from the pop-up screen (The Solver option may have to be turned on through Tools – Add-ins). With the solver menu open (see below) you set the value in Column G equal to 300,000 by changing the corresponding value in column E. The screenshot below will show how this is done for the value in cell G20.



This process can be repeated for every value shown in the "Total Cash Stream from option" column (G).

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