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# FS SERIES #3: SUPPORTING THE ESTABLISHMENT OF CREDIT BUREAUS SAMPLE BUSINESS PLAN

**NOVEMBER 2009**

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# FS SERIES #3: SUPPORTING THE ESTABLISHMENT OF CREDIT BUREAUS

**SAMPLE BUSINESS PLAN**

## INTRODUCTION

The United States Agency for International Development (USAID) Bureau for Economic Growth, Agriculture, and Trade (EGAT) created the Financial Sector Knowledge Sharing Project (FS Share) to collaborate with USAID missions to develop effective and efficient financial sector programs that increase access to financial services and develop well-functioning markets worldwide. USAID awarded Chemonics International the FS Share delivery order under the Financial Sector Blanket Purchase Agreement. The three-year period of performance for FS Share runs from July 2008 through July 2011.

Through the FS Share task order, USAID/EGAT and Chemonics proactively collaborate with missions to identify financial sector priorities and develop strategies and programs to grow the financial sector. FS Share identifies financial sector best practices and aggregates them through technical briefs, model scopes of work, diagnostic tools, best practice case analyses, and other tools. These technical deliverables are disseminated to USAID missions to integrate into financial sector programming. On a case-by-case basis, FS Share can assist with implementation and connect mission staff to external resources on best practices. In response to mission demand, FS Share delivers presentations and other knowledge-sharing endeavors.

### Objective of this FS Series

This FS Series provides a comprehensive review of three models to support the establishment of credit bureaus: a public sector registry, a private credit bureau, and a hybrid model that supports transitioning existing public registries to potential privatization. The FS Series includes a primer and three model scopes of work and diagnostic checklists, designed to be blueprints for U.S. government program designers who are implementing financial sector development projects aimed at establishing or enhancing existing credit information bureaus. The series also provides illustrative laws used to establish private credit bureaus in India, Kazakhstan, and Ukraine, and a business plan for establishing a best practice credit bureau in Ukraine. **This is the sample business plan.**

The FS Series was prepared by Jim Aziz of Baja Group Consultants and Cassandra Cooper for Chemonics International.

### FS Share Rapid Response Hotline

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## **SECTION I: SAMPLE BUSINESS PLAN**

After the passage of the Law of Ukraine # 2704-IV, “On Organization of Formation and Circulation of Credit Histories,” in June 2005, USAID’s Access to Credit Initiative finalized this detailed business plan for the development of a best practice private credit bureau in Ukraine. Developed in cooperation with counterpart the Association of Ukrainian Banks (AUB) and others, the plan includes a feasibility study, business case, marketing plan, and financial projections for the establishment of a private credit bureau. The plan was presented to the AUB in August 2005 and serves as a tool for potential investors and technical advisors.



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# CREDIT BUREAU BUSINESS PLAN

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## UKRAINE

### **Developed by:**

**Access to Credit Initiative Project  
USAID/Ukraine**

### **In cooperation with:**

**Association of Ukrainian Banks**

**August 9, 2005  
Kiev, Ukraine**

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## EXECUTIVE SUMMARY

### Statement of Purpose

This Business Case was prepared by USAID/The Pragma Corporation's **Access to Credit Initiative**, in cooperation with the Association of Ukrainian Banks (AUB) and many others in Ukraine, and is primarily intended for potential investors<sup>1</sup> and technical advisors. It sets out in detail the requirements and challenges to develop over the medium term a best practice private credit bureau in Ukraine, and represents several months of in-country research. This Business Case outlines market conditions, sets out six-years of expected financial costs and expenses, reviews the legal framework and technical requirements, and illustrates product offering options.

Ukraine is currently experiencing significant growth in retail, small businesses, and mortgage lending, primarily due to a fast growing demand for credit from the population, the rapid development of the banking sector and improved macroeconomic conditions within the country. The National Bank of Ukraine ("NBU") and the Ministry of Finance of Ukraine recognize Ukraine's need for and strongly supports the formation of a private Credit Bureau.

The establishment of a credit bureau in Ukraine has broad support among private banks, the Association of Ukrainian Banks, the Association of Credit Unions, the League of Insurance Organizations, Ukrainian Association of Leasing, the retail sector and small business enterprises (SME). In this respect, there are several independent initiatives underway amongst these various groups. All understand that credit bureaus a) directly contribute to economic development; b) increase consumer and small business access to credit; c) improve bank risk management; d) lead to asset diversification and new banking products, and e) are good business propositions if organized and managed appropriately.

### Methodology

The research and conclusions in the report are based on quantitative and qualitative information gathered in Ukraine and abroad. Sources include: a) extensive interviews with major domestic financial institutions and businesses, and b) quantitative data from banks, publicly available macro-economic and banking data from the NBU and Ministry of Economy of Ukraine (MEU). This report was prepared with the assistance of international credit bureau experts<sup>2</sup>.

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<sup>1</sup> Prior to making investment decisions, prospective investors should carefully consider, along with other matters referred to in this Business Case, all political, legal and economic risks. Prospective investors should pay particular attention to the fact that a Credit Bureau would be governed by a legal and regulatory environment in Ukraine, which in some respects may differ from that prevailing in other countries.

<sup>2</sup> Mr. Javier M. Piedra, Senior Advisor, The Pragma Corporation; Mr. Jim Aziz, Baja Consulting, Canada, and Mr. Norm Masters, Consultant, Canada.

## National Bank of Ukraine

The National Bank of Ukraine supports the establishment of a private credit bureau that is consistent with international best practice. The NBU operates a “Registry of Loans” that is primarily designed to assist the regulatory authorities to monitor the health of the banking sector and avoid lending to previously unreliable clients. The Registry’s functions are limited; its database is small and contains only negative information. The NBU credit registry would not compete with a private bureau.

## Legal Framework

In June 2005, Ukraine’s Parliament passed the Credit Bureau law: *“On Organization, Formation and Circulation of Credit Histories”*<sup>3</sup>. This Law is consistent with European Data Protection legislation (EU Directive 95/46). The Law states that the private sector may share information with a credit bureau provided a) there exists a prior permissible purpose to do so, and b) the consumer gives his/her written consent to transfer such confidential data to a third party that is authorized by law to process such data.

The Law establishes a qualitative framework for data processing, defines credit reference bureau and codifies the rights and obligations of all parties affected by the establishment of a credit reporting system in Ukraine. The Law is designed to accomplish three primary goals: a) to protect first and foremost the confidentiality of private information and the rights of the citizens of Ukraine; b) to define a credit bureau and its functions, obligations, and rights under the laws of Ukraine; and c) to set out the basic rules and conditions for data sharing, i.e. data access, management and dissemination.

The law includes the following key features: a) a credit bureau can be 100% private<sup>4</sup>; b) data sharing of both positive and negative data is permissible; c) a credit bureau can collect and process consumer and SME data at a single location (thus avoiding data fragmentation) and d) non-financial institutions can participate in a data sharing credit bureau system.

The law removes strictly legal concerns in the market regarding data sharing and data processing, i.e., the collection, management and distribution to third parties of confidential data. Even though the Credit Bureau Law has been passed by Parliament and signed by the President of Ukraine, it will be a significant challenge for creditors and public record holders to share positive and negative data with a credit bureau.

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<sup>3</sup> The Law was signed by the President of Ukraine in July 2005.

<sup>4</sup> There is no prohibition in the law with respect to the number of credit bureaus that the private sector can establish. The law establishes the framework for a competitive system, i.e. credit bureaus can compete with respect to price, data quality, products, coverage rates and scoring services. The law requires a data processor to be licensed by the supervisory/regulatory authorities.

## Challenges and Opportunities

Based on our research and interviews in Ukraine and experience elsewhere, a best practice credit bureau can be established in Ukraine. The task, however, will be challenging, as has been the experience in markets around the world. To develop a “state-of-the-art” credit bureau that contains credit related data from *the majority* of the lending community in Ukraine will require a considerable amount of effort and time. For this reason, the ownership of any credit bureau must be prepared to sustain losses over a period of several years. Data collection from a wide variety of sources will be based on the efforts of the credit bureau management and owners given the voluntary nature of data collection as envisioned under Ukrainian legislation.

In 2003 and 2004, there were several independent attempts to launch credit bureaus in Ukraine. Those efforts failed primarily because of technical difficulties and an absence of clear enabling legislation. Reluctance amongst certain groups of lenders to share information was a limiting factor at the time; the current assumption amongst some market participants that financial institutions will share data, given enabling legislation, needs to be tested in the market going forward, particularly with regard to the sharing of positive information.

Below follow a number of key observations that will affect the development of a credit bureau in Ukraine:

1. Expert international technical and managerial assistance from one of the major credit bureau operators will be necessary to develop and operate a credit bureau; any operator must have a proven track record. This view is consistent with international experience and our findings in Ukraine. *Any attempt to build a credit bureau without such assistance is extremely risky and a blueprint for serious problems.*

Senior Management of a credit bureau must possess the highest level of managerial, financial and marketing skills in order to operate and manage the company’s daily business activities. It is recommended that the chief executive officer of the credit bureau have experience in managing complex private companies in a highly competitive environment.

2. While data sharing in the broader financial sector is expected to be a challenge, we believe that a *critical mass* of the market will in fact share data – subject to point 1 above and agreement on an ownership structure that is satisfactory to the largest holders of proprietary data in both the financial and non-financial sectors. This conviction arises from direct interviews with senior management of private banks, credit unions, insurance companies, representatives of the leasing industry, and other

creditors. Some banks, however, have indicated that they will only share negative information with a credit bureau at this time.

3. Under Ukrainian legislation, written consumer consent is required before a financial institution can transfer confidential data to a credit bureau or to any third party. This is consistent with international best practice in continental Western Europe. However, while the lending community understands the need for including “data sharing” consent language on credit applications, the practice of actually getting customer consent is still not widely practiced. The continuing absence of consent language on most credit application forms will affect the speed with which the credit bureau can collect, populate and build the database. Every effort must be made to encourage the entire lending community to include “consent language” in their application forms. It is also not clear that consumers in all instances will in fact provide their consent, another factor that will affect the speed of data collection.
4. International experience has proven that the most effective and successful way to construct a “state-of-the-art” credit reporting database is proper data “layering”<sup>5</sup>. The consequence of improperly or poorly “layering” data is the creation of a database with incorrectly placed information that becomes either irretrievable or subject to massive errors. If such a situation would arise, the database would need to be either deleted and reconstructed or rebuilt – all previous work would have been of little or no value. This type of error could cost the shareholders of the company hundreds of thousands of dollars, delay credit report issuance by at least one year, and extend the financial breakeven point well beyond the time frame that would be otherwise expected under normal business conditions under a full or even partial database.
5. We believe that it will be a challenge to access government databases that contain key identifiers. The credit bureau should develop a strategy immediately to discuss this issue with the proper high level government authorities. The Ukrainian Passport Number (PN) and Taxation Identification Number (TIN) numbers were determined to be the most reliable and stable identifiers of individuals.

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<sup>5</sup> Layering means that the database should be built and populated with data in a specific order. The first layer of a data base is the demographic data. Key search identifiers such as passport numbers, taxation codes or other text data (name/address date of birth) are entered into the database with the subject’s demographic information (name, address, date of birth etc). The more accurate this data is, the stronger the first layer will be. Ideally the best source of consumer demographic data is government databases of tax data and/or passport data.

## Competition

Ukraine's Credit Bureau Law allows for the establishment of multiple credit bureaus within a free market oriented economic system. Because of this, and given the size of Ukraine's credit markets and population, the first Ukrainian credit bureau that was established<sup>6</sup> in June 2005 is expected to experience competition over the short to medium term<sup>7</sup>.

Competition should intensify as the major credit bureau operators (such as the Creditinfo Group, CRIF/ TransUnion, D&B, Experian, and Schufa) enter the market and team-up with local banks, credit unions and other financial organizations. Each credit bureau must develop products and services that its clients will use over time. If these products and services are of poor quality, the credit bureau's clients will migrate to another credit bureau. In addition, if a credit bureau does not adequately address data security concerns, the credit bureau's clients will likewise transfer their data to another bureau.

Competition could lead to a credit bureau's poorer than expected financial performance and, in the worst-case scenario, to bankruptcy – particularly if it does not enter into a joint venture or other arrangement with an international credit bureau operator. The effect of competition is reflected in the financial section of this business plan.

## Management and Ownership

With respect to management and ownership, we make the following observations: a) a major international credit bureau operator should help manage the credit bureau in Ukraine and not simply provide technical assistance “from a distance”; b) the owners of the Ukrainian credit bureau should have some form of foreign investment; and c); non-banks (leasing companies, credit unions, insurance companies, amongst others) should not be prohibited from owning equity shares in a credit bureau, assuming such ownership arrangements would encourage data sharing.

It is our opinion that ownership could be spread amongst proprietary data providers in accordance with a formula acceptable to the market, *after* a large percentage of shares have been allocated to an international credit bureau operator<sup>8</sup>. We note that there are

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<sup>6</sup> To “establish” or start a credit bureau is a term used to describe the simple registration of a company. The word “develop” as herein used has a much broader meaning: a process in which something passes by degrees to a different, more advanced, mature and self-sufficient stage. The point is that to “establish” a credit bureau may take a short period of time; to “develop” a credit bureau will take at a minimum several years and is a long process as evidenced by international experience. These differences must be clearly understood.

<sup>7</sup> The Association of Ukrainian Banks established in June 2005 a company that is intended to function as a credit bureau. The company has 30 shareholders, 27 of which are private banks. In mid-July 2005, Privatbank announced that it established a credit bureau. Credit Unions and others are developing strategies to either establish their own proprietary databases or join with one that is already established.

<sup>8</sup> Some international operators have indicated a willingness to own a majority of the shares of a credit bureau. This option has precedent in other countries and could facilitate the process of data sharing. There is no need in principle for Ukrainian financial institutions to own a majority of credit bureau shares.

different shareholder arrangements – such as dividing shares as close as possible to the proportion of data contribution to the credit bureau database<sup>9</sup>.

It is expected that disagreement over a credit bureau's ownership and management structure (amongst the different, or within, the major market sectors) will pose significant problems in developing a “full service” credit bureau in Ukraine. If this tendency crystallizes, as is expected, a system of credit bureaus will operate in a fragmented market<sup>10</sup> and will limit a credit bureau's financial performance.

The management of the credit bureau should put in place a system that a) determines and implements the overall strategy and daily functions of the company, b) maintains appropriate checks and balances regarding strategic, financial or policy decisions<sup>11</sup>, and c) ensures a robust internal security system backed by a highly qualified technical team. The owners of the credit bureau must convince their clients that the information in the database is secure and that corporate management and employees are bound to keep that information confidential.

The owners of the credit bureau must make every effort to earn the trust and confidence of its clients (data providers and users), and should not assume that such an effort will be easy. The credit bureau must conduct its business in an impartial manner at all times. The most important commodity of a credit bureau, besides its data content, is its reputation for fairness, integrity and data security.

It is recommended that the credit bureau proceed in a manner consistent with the 3 Phase strategy outlined in this Business Plan. It may be preferable during the start-up period for the credit bureau to be registered as a limited liability company rather than as a joint stock company for practical and financial reasons.

### **Data Management: On-shore vs. Off-Shore**

Ukrainian credit bureau legislation does not *strictly* prohibit data from being managed either “on-shore” or “off-shore”. Where a Ukrainian credit bureau decides to manage its database is a decision that the owners of the credit bureau must make themselves. In principle, countries have different approaches to this issue<sup>12</sup>. The fundamental question that a credit bureau must answer is the trade-off between perceived “data security” and costs. Generally, a database that is managed “off-shore” rather than “on-shore” will be less expensive to operate than one that is created and developed exclusively in country. We take no position as to which alternative is better for Ukraine.

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<sup>9</sup> A credit bureau could also adopt a pricing strategy to facilitate some data suppliers to provide their data.

<sup>10</sup> Data fragmentation arises as a result of closed user groups holding their proprietary information in discrete databases closed to other users.

<sup>11</sup> It is recommended that the credit bureau have regular shareholder meetings; an independent supervisory council; management board; and internal audit committee.

<sup>12</sup> For example, data processors in the Czech Republic, Spain, and Bulgaria manage information off-shore. Conversely, Poland, Kazakhstan, and Italy manage their data on-shore.

### **Technical Overview**

From a technical perspective, a Credit Bureau in Ukraine can be developed. The banking sector in Ukraine is in a stage of rapid development and possesses a high level of technical sophistication as evidenced by the deployment of their satellite communications infrastructures. Most required data from the largest banks is maintained in standard relational database management systems and data warehouses in an electronic format.

As of 1st quarter 2005, most of the major commercial banks have migrated to single, centralized databases. These bank databases are extensive and contain the most comprehensive source of credit history and basic demographic information in the country outside of government entities. However, this is not the case throughout the financial sector.

Many smaller financial institutions, whether banks, credit unions or leasing companies, have not yet migrated to single, centralized databases. While these institutions, taken together, do not form a significant size of the overall market, the number of accounts is large enough to slow the development of a “full service multiple market” credit bureau.

Non-financial institution data is available, albeit in different conditions, pursuant to a broad sampling of other potential proprietary information suppliers. Extensive public record data exists but it is not clear that it is generally available nor “easily” assessable from a technical point of view in electronic form.

Access to Credit Bureau products in Ukraine would be possible through a variety of media: system-to-system, electronically (Internet) or in written form (via fax). Telephone access should be limited for security reasons. The existing system of I.D. numbers in Ukraine, some of which are more stable and reliable than others, such as the Passport Number and Taxation Identification Number, can be used to identify individual credit profiles. When Passport Numbers are not available, sophisticated computer logic can be used to match data.

Technical assistance from a recognized Credit Bureau operator with international experience, in our opinion, will be necessary and would bring greater credibility and acceptance to a credit bureau developed in Ukraine. The process of designing new software and of properly “layering” the data into the Credit Bureau will have to be studied carefully to avoid “bureau construction” errors.

### **Operational Logistics**

A full design and implementation schedule is outlined in the Technical Section of the report. This business plan outlines a methodology for a credit bureau that is expected to serve the entire country and have an independently hired General Manager.

Day-to-day operations will include the collection of data, the gathering of public record information, data maintenance, credit profile delivery, and protection of confidentiality (security). To handle these functions, appropriate hardware and a powerful software program will be needed to automate the procedures, and training will be necessary. *It is not possible to simply buy a “pre-prepared” of-the-shelf software package and install it into a computer hardware system.*

### **Data Base Security**

The confidentiality and security of information must be a top priority and will remain a central issue for the Credit Bureau over the long term. Security is a general term that applies to every function of the Credit Bureau. In Ukraine, as in other countries, security is necessary to ensure the success and to protect the integrity and reputation of the Credit Bureau. Measures to restrict unauthorized use are critical. The trade-off between security (which is too onerous and which would in turn not be user friendly) and the need to install the “right” levels of security needs to be carefully weighed. Weighting needs to lean toward a higher than average level of security, and is reflected in the body of this Business Plan.

Steps must be taken to ensure that:

- permissible purposes for requesting credit reports are followed
- the access allowed into the database is carefully monitored
- the database is secure from outside internet invaders
- proper authority levels are issued to the administrators who access the information
- requesting parties are actually who they claim to be
- management of the credit bureau selects the highest quality employees

Every function involved in the day-to-day operations of the Credit Bureau will contain its own individualized security issues that must be addressed. Security must include an impregnable security system with multiple firewalls to allow internet access by clients. Firewalls are at the centre of the security system.

Security extends beyond technical security to protect assets and data confidentiality. The hiring practices must be studied carefully and the regular monitoring of all credit bureau staff, at every level, is required.

### **Public Awareness and Education**

The concept of a Credit Bureau is familiar in general to the financial and merchant community in Ukraine. Nevertheless, to facilitate data collection and sharing among different sectors of the financial community and with the public-at-large, a marketing campaign should be designed and implemented prior to and during the operational stages of the project. Well-designed and sustained public awareness and education will be

indispensable for the long-term success of the credit bureau. In the opinion of some observers, there will need to be a “mentality” change amongst the public-at-large to secure customer consent on application forms.

### **Financial Overview**<sup>13</sup>

This report presents six years of business activity and various financial scenarios that set out alternative profitability and break-even points given different costs and pricing structures<sup>14</sup>, product offerings and growth expectations. The scenarios range from the conservative to more optimistic. Our analysis concludes that a Credit Bureau will be profitable within approximately a three-year period, assuming the potential data providers, within and beyond the financial sector, transfer quality data in sufficient quantities to the credit bureau within a reasonable period of time from “start date”.

Moreover, this business plan outlines different breakeven scenarios given that data will most likely be fragmented and split among several data processors or operators. As a starting point, however, we estimate breakeven for a single credit bureau, i.e., no data fragmentation, and, then estimate breakeven arising from fragmented databases. The timing of financial breakeven depends on market growth, penetration and pricing assumptions for each scenario.

Income generated by the Credit Bureau will come from information sold to participating institutions, subscription fees and software installation fees. In addition, the credit bureau’s financials reflect surcharges for additional product offering that arise from a variety of different services or product enhancements. As a credit bureau develops, it is critical to generate income as early as possible. In this respect, there are several options that a credit bureau should immediately consider, including the development of client identification confirmation, alert messages, fraud detection services, and/or the “flagging” of borrowers with poor repayment histories.

The main product set of the Credit Bureau would include credit profiles with varying degrees of detail, as well as profiles tailored to the specific needs of subscribers in certain industries, such as insurance companies, mortgage lenders and the leasing industry.

Costs assumptions are conservative and reflect a *fully operational* Credit Bureau, except in the early years. Expenses begin immediately and are front-loaded. No financial

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<sup>13</sup> Economic, financial or demographic data in Ukraine is not as comprehensive as it is in many other countries with mature market economies. Thus statistical and other information generally makes the assessment of cash flows, including equity valuation, more difficult. Investors in emerging markets such as Ukraine should be aware that these markets are subject to greater risk than more developed markets, and may include in some cases significant legal, financial and political risks.

<sup>14</sup> Pricing, as herein used, is indicative. We understand that pricing may vary and each credit bureau will have a different opinion as to pricing. For example, during the first year of operations (sales), management may offer credit reports to some of its clients for free. Alternatively, management may offer tiered pricing, various types of volume related discounts or rebates.

scenario reflects financial support from a donor institution<sup>15</sup>. Estimates for technical assistance represent one of the highest costs for the credit bureau in the early years. Corporate income tax and V.A.T. are estimated<sup>16</sup>.

We did not attempt to determine the present value of shareholders equity. Potential investors can apply discount rates and adjust cash flows pursuant to their own assessment of risks given market conditions and specific investor hurdle rates.

No effort is made to estimate dividends to individual shareholders. The sum of the cash flows received from equity, discounted at appropriate rates, gives the value that can be obtained for an investor<sup>17</sup>. On-going enterprise value must be factored into the calculations for equity valuation. We do not attempt to estimate transfer or other forms of sovereign risk.

Total required capitalization is projected to be at or below **US\$ 2.4 million** over approximately 3 years to reach financial breakeven, depending on assumptions.

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<sup>15</sup> The World Bank has indicated that it may make a US 1-2 million dollar loan, through the Ministry of Finance of Ukraine, available to a credit bureau. The terms and conditions of such a loan as of this writing are not clear. Based on preliminary discussions, however, the loan would appear to have a tenor of 20 years with 5 years grace. Pricing would most likely reflect sovereign lending rates applied to Ukraine. While it is not possible at this time to estimate financial costs to the credit bureau arising from debt, administrative costs related to preparing reports could be considerable in terms of management time and resources.

<sup>16</sup> Each investor must independently assess taxes.

<sup>17</sup> It is recommended that an investor use the discounted cash flow method using free cash flow each year plus a perpetuity value at the end of the forecast horizon. The sum of these values is assumed to be the Credit Bureau's total value. The Credit Bureau's value can be increased by the amount of any residual (excess) cash and by the market value of non-operating assets, assuming there are any in the future. The current market value of any debt assumed and other miscellaneous items can reduce the net amount. The final result generates the value of equity capital.

## **BACKGROUND**

### **Overview: USAID's Access to Credit Initiative**

The objective of USAID/The Pragma Corporation's Access to Credit Initiative (ATCI) is to assist government policy makers and the private sector in making key investments in Ukraine's legal, administrative, and financial infrastructure in order to develop the conditions for stable and sustainable long term economic growth. A basic underlying principle of the ATCI is to give Ukraine increased options for its citizens to access credit while at the same time develop sound financing, risk assessment and development strategies that help protect the economy from external shock. The ATCI is a 5 year project that ends in 2009<sup>18</sup>.

A Credit Information Bureau or Credit Bureau is the fourth component of ATCI. A Credit Bureau will serve as a primary tool to increase consumer access to financing, improve bank portfolio management, and lead to asset diversification and new banking products. Given the absence in Ukraine of a mechanism to link credit demand with supply, it became apparent that the creation of a Credit Bureau was essential for stimulating growth in the SME and consumer (mortgage, credit cards, micro-lending, car loans, etc) sectors. It is well known that the establishment of a Credit Bureau in most developing countries has had a profound impact on the financial sector and a positive impact on the economy.

### **Global Credit Bureau Growth**

Technological innovation and the liberalization of financial markets have greatly increased the growth of the credit reporting industry in developing countries. Furthermore, financial sector crises have also encouraged some countries to establish or strengthen credit registries.

Credit reporting systems vary greatly around the world; these differences generally arise as a result of government-imposed restrictions on the use of personal data, underdeveloped legal frameworks or technological infrastructure, or from competitive market forces. Successful credit bureaus around the world are all owned and operated by the private sector.

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<sup>18</sup> ATCI is broken out into the following components: a) The Mortgage Lending Component lays a sound foundation for efficient real estate and mortgage markets, and takes initial steps toward developing a credit bureau, rating agency capacity and a secondary mortgage market; b) The Municipal Bond Component addresses the critical issue of financing municipal infrastructure development at longer term; c) The Leasing Component will focus primarily on small and medium-size enterprises (SMEs) and agricultural entities. Leasing introduces asset-specific finance to a much broader segment of the economy than currently has access to it. Both the Mortgage Lending and the Leasing components make specific efforts to bring modern forms of finance to farmers and small and medium-size rural businesses.

Most European data processing legislation – which governs the collection, storage, management and distribution of personal data – recognizes that information flows are an essential condition to stimulate long-term economic growth or, to put it differently, to reduce adverse economic selection effects, oligopolistic tendencies and credit rationing. It is in part for this reason that Parliaments throughout Europe and elsewhere encourage information exchange and have not passed legislation which micro manages data processors at the operational level. Rather legislation reflects high-level principles as embodied in the 1995 European Union’s Data Protection Directive (95/46)<sup>19</sup>. Legislation in the European Union is also designed to remove barriers (mainly regulatory mismatches between member states) that hinder the establishment of a single internal European market.

Credit Bureaus fundamentally serve to minimize asymmetric information between lender and borrower, which hinders the more effective allocation of scarce financial resources. Generally, public registries operate to assist the regulatory authorities to monitor and supervise the financial sector, while private Credit Bureaus are established to meet specific needs of private sector credit grantors. Credit Bureaus lessen the perceived risks in lending to businesses and consumers, and, consequently, such information would significantly contribute to the expansion of credit in Ukraine.

### **Credit Bureau – Engine for Economic Growth and the Importance of Data Sharing**

The most mature credit bureaus in the world are located in the United States and Canada. These U.S. and Canadian credit bureaus, which saw their beginnings in the early 1900s, have become the single most important component towards the availability of retail credit, to individuals and SMEs, in both countries. The availability of retail credit is the engine that drives economic growth. This credit allows individuals and SMEs to purchase goods and services on a large scale and with relative ease.

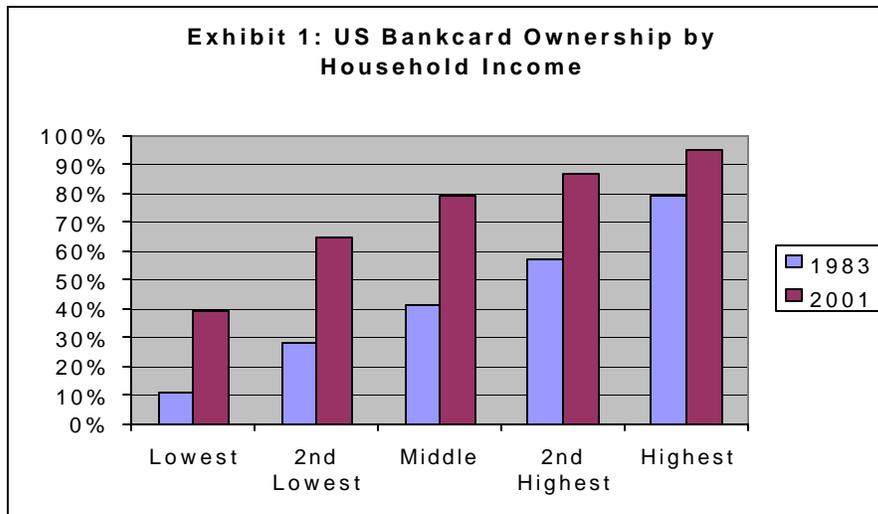
Since the 1980’s, the academic community in both Europe and the United States has produced considerable empirical research concerning the interplay between privacy and information flows. In expert testimony before the U.S. Congress on May 8, 2003, Dr. Michael Staten, one of the world’s foremost experts on data reporting systems, reports that “[t]he macroeconomic benefits from smoothly functioning credit markets can be linked back to the establishment of a comprehensive system for sharing consumer borrowing and payment histories”. Credit Bureaus have served to expand opportunities for the poor, and, in the final analysis, “[have] had a literally transforming effect on the lives of less well-off individuals, young adults, and those located in small towns and rural areas. ‘Democratization’ describes a broad and beneficial effect, but the greatest measure

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<sup>19</sup> The full title of the legislative document is “Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals and with regard to the processing of personal data and the free movement of such data”

of the impact of robust, national credit reporting is measured in the millions of individual lives improved<sup>20</sup>.”

This conclusion is also supported by the recent work of Drs. Tullio Jappelli and Marco Pagano in “*Information Sharing, Lending and Defaults: Cross-country Evidence*”<sup>21</sup>. They showed that aggregate bank lending in 43 countries (scaled by country GNP) with established information exchange systems is larger than in countries where there is no credit reporting. Significantly, as lending increased, default rates also declined because of credit reporting.



Source: U.S. Federal Reserve Board, Survey of Consumer Finance

In countries where data flows are most restricted, credit card ownership, for example, is the lowest, and concentration in the banking sector is the highest. The growth in credit cards by household income is a very striking statistic – in the U.S., access to credit by the most underprivileged in society expanded by nearly 250% over the past 20 years. See Exhibits 1 and 2.

Moreover, mortgage rates in the U.S. have been a full 200 basis points lower than in Europe because of mortgage securitisation – the effectiveness of the U.S. credit reporting system make this possible, and translates into US\$ 120 billion in savings a year to the

<sup>20</sup> Dr. Staten’s testimony is largely based on 20 years of research devoted to the economics of consumer and mortgage credit markets. His recent publications relevant to credit reporting include: “*The Value of Comprehensive Credit Reports: Lessons from the U.S. Experience*”, Dr. J. M. Barron, Dept. of Economics, Purdue University, and Dr. Michael Staten, Credit Research Center, Georgetown University; *Credit Reporting Systems and the International Economy*, edited by Margaret Miller, MIT Press, spring 2003, and “*Financial Privacy, Consumer Prosperity and the Public Good: Maintaining the Balance*,” F. Cate, R. Litan, M. Staten and P. Wallison, AEI-Brookings Joint Center for Regulatory Studies, April, 2003.

<sup>21</sup> Jappelli, Tullio, and Pagano Marco, “*Information Sharing, Lending and Defaults: Cross-Country Evidence*,” (2002), *Journal of Banking and Finance*, Vol. 26, pp 2017-2045. This study is particularly relevant with respect to the impact of information flows to the small and medium size enterprise sector.

consumer<sup>22</sup>. While the U.S. model is not suited for Ukraine, it does serve as a benchmark, and stands in stark contrast to those countries that severely restrict information exchange.

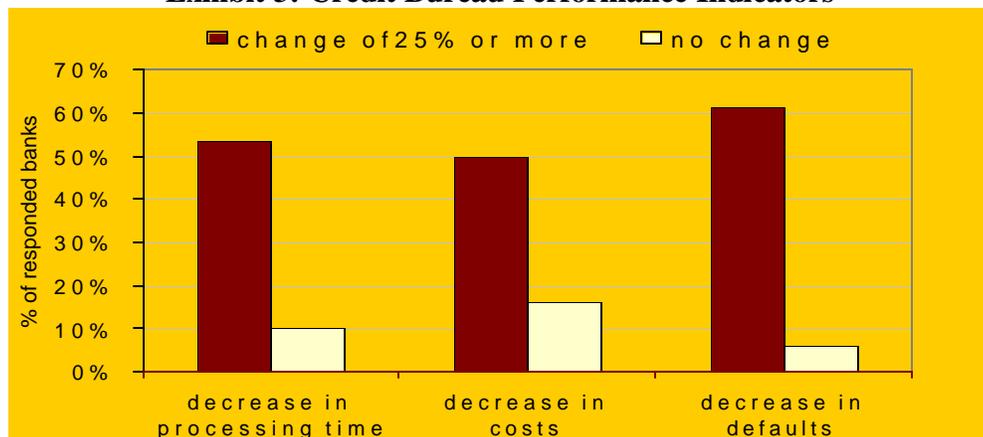
**Exhibit 2:**  
**Credit Card Ownership, 1997 (per 1000 people in population)**

Country	Superpremium +			Total
	Premium	Corporate	Standard	
United States	650,4	20,9	945,0	1616,3
U.K.	91,3	22,5	546,7	660,5
Belgium	53,0	6,9	197,4	257,3
Netherlands	38,3	9,4	195,9	243,6
Spain	26,5	4,3	212,0	242,8
Sweden	44,2	46,4	85,8	176,4
Germany	39,7	4,6	127,8	172,1
Italy	18,2	9,7	109,1	137,0
France	25,1	3,1	68,3	96,5

Source: Lyn C. Thomas, D. B. Edelman, and J. N. Crook, Credit Scoring and its applications, Society for Industrial and Applied Mathematics, Philadelphia, 2002

According to Visa International, the growth of credit cards in South Africa, much of Eastern Europe and the middle east (UAE and Saudi Arabia, for example) over the past few years has been accompanied by improved product design, business modeling, and fraud detection. – in a word, superior bank portfolios and greater access to credit to a larger segment of the population.

**Exhibit 3: Credit Bureau Performance Indicators**



<sup>22</sup> Tower Group study as reported by Dr. Staten in testimony before the U.S. Congress on May 8, 2003

According to a 2001 - 2002 World Bank survey of financial institutions around the world (See Exhibit 3), more than 70 banks found that credit bureaus provided value-added services in the face of information “black holes” about potential borrowers. About 90% of all banks surveyed relied on credit reports to better evaluate credit risks before extending credit to SMEs, retailers and homebuyers.

In the same World Bank study, banks used credit reports to screen borrowers requesting mortgages in approximately 95% of the cases. Credit bureaus help explain how the quality of bank consumer portfolios has improved despite rapid growth. In some Latin American countries, periodic banking crisis, while mainly attributed to macroeconomic problems, can be partly linked to ineffective credit reporting environments.

Credit Bureaus develop products and services that are tailored to their clients. In Poland, for example, the financial sector relies heavily on the services that the Biuro Informacji Kredytowej (BIK) provides. In 2001, BIK sold half a million credit reports – its first year of operation. In 2003, BIK has sold over 4 million reports. The service must be useful or else the banks would not freely pay for it. Likewise, in the Czech Republic, the bureau received, it is estimated, 1 million requests for credit reports in 2004. It is clear from recent academic research that information exchange that is underpinned by good legislation stimulated economic growth, increases access to credit and improves overall portfolio management.

## Ukraine Economy and Banking Sector

This section briefly reviews the state of the Ukrainian economy because of the link between a credit bureau's performance and a country's economic activity both at the micro and macro levels. Since the Ukrainian economic crisis of 1998, macroeconomic conditions within the country have not only stabilized but improved. If fiscal and monetary management of the economy remain on track, growth in the retail, mortgage, leasing and SME sectors should continue to accelerate in line with major economic indicators (See Exhibit 4).

### Ukraine: Selected Economic Indicators

### Exhibit 4

	2000	2001	2002	2003 Est.	2004 Proj. 1/	2005 Proj. 2/
(Percent change, unless indicated otherwise)						
Production and prices						
Nominal GDP (in billions of hryvnia)	170.1	204.2	225.8	264.2	332.0	387.1
Real GDP growth	5.9	9.2	5.2	9.4	12.5	6.0
Consumer price index (period average)	28.2	12.0	0.8	5.2	8.8	9.5
Consumer price index (end of period)	25.8	6.1	-0.6	8.2	11.0	7.0
(In percent of GDP)						
Public finance						
Consolidated government budget balance, cash basis	-1.3	-1.6	0.5	-0.7	-4.6	-1.8
Primary balance	1.8	0.4	1.8	0.3	-3.6	-0.9
Revenue	33.4	33.5	36.0	37.0	35.6	35.7
Expenditure	34.7	35.1	35.5	37.7	40.2	37.5
Public debt and arrears (in percent of GDP)	47.0	38.6	35.7	30.3	26.9	21.8
(Percent change, unless indicated otherwise)						
Money and credit						
Base money	40.1	37.4	33.6	30.1	50.5	21.4
Broad money	45.5	41.9	41.8	46.5	45.3	27.5
Credit to nongovernment	61.3	40.5	47.3	63.4	31.3	28.4
Velocity (annual GDP divided by end of period broad money)	5.3	4.5	3.5	2.8	2.4	2.2
External sector						
Current account balance (in percent of GDP)	4.7	3.7	7.5	5.8	10.2	4.1
External public debt (in percent of GDP)	33.1	26.6	24.0	21.9	19.0	15.1
Debt service (in percent of exports of goods and services)	10.4	8.7	5.7	6.3	4.8	5.2
Terms of trade (annual change in percent)	-8.2	1.3	1.6	8.6	13.0	-6.1
Gross reserves (end of period, in months of next year's imports of goods and services)	0.9	1.7	1.9	2.4	3.8	3.9

Sources: Ukrainian authorities; and IMF Staff estimates and projections. 1/ Fiscal deficit assumes pension increase and execution of the amended budget. 2/ Assumes a fiscal deficit limited to that envisaged under the draft budget submitted to parliament in September.

Ukraine has shown an impressive growth in GDP over the past several years, with average growth between 2000 and 2004 of approximately 8.4%. The IMF projects 2005 growth to be in the range of 6%. Public debt to GDP ratio decreased from 48% in 2000 to 27% at year-end 2004. Ukraine continues to have a positive balance of foreign trade, amounting to USD 3.2 billion. Foreign net direct investment exceeded US\$ 1 billion in 2004, a significant gain from the previous year-to-end figures<sup>23</sup>. The financial sector continues to expand significantly, with particularly strong growth in the retail sector.

The Government of Ukraine and National Bank of Ukraine view the maintenance of an attractive investment climate and the continued growth of the national financial sector as key to sustaining the current GDP growth levels. Although unemployment remains high at approximately 9%, according to International Labor Organization's definitions, wages continue to grow strongly. In June 2004, the average nominal monthly wages for the entire economy was 26.3 percent above its level the previous year. Average wages remain less than half Russia's wages. Competitiveness remains strong. In the 12 months to June 2004, the real effective exchange rate depreciated by four percent, reflecting mainly Ukraine's low inflation vis-à-vis Russia, and the strengthening euro<sup>24</sup>.

The banking sector in Ukraine has undergone significant structural changes during the past 10 years. After independence, many new banks were established. Many of these banks were insufficiently capitalized, poorly managed and operating almost exclusively as financing arms of parent enterprises. A period of consolidation and privatization followed as the National Bank addressed the problems of weak and insolvent banks.

Despite the National Bank of Ukraine's ongoing steps to strengthen prudential regulation and banking supervision, credit expansion and credit quality remain a concern – particularly because of an absence of a credit bureau in Ukraine. The credit-to-GDP ratio stands at 29.5 percent compared to 12.4 percent in 2000. While credit expansion has decelerated since early 2004, loans have increased to about two-thirds of bank assets. Non-performing loans classified by past due criteria are estimated at eight percent of total loans. In part for these reasons, the NBU strongly supports the establishment of a best practice credit bureau in Ukraine.

The Government of Ukraine has announced a number of reforms within the financial sector that are expected to lead to a continuing strengthening of the economy and of the financial sector. In addition, the Government has announced efforts to decrease interest rates, expand the SME sector, strength transparency and implement measure for further economic integration into the EU. These factors, taken together, are all positive for the development of a private credit bureau in Ukraine.

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<sup>23</sup> IMF Executive Board Concludes 2004 Article IV Consultation with Ukraine, January 2005. <http://www.imf.org/external/np/sec/pn/2005/pn0507.htm>

<sup>24</sup> Ibid

## **BUSINESS CONCEPT**

### **Concept Overview**

A properly structured and managed credit bureau – in accordance with international best practice – will not only be a profitable business, based on experience in other countries, but will strengthen the primary mortgage, leasing, auto, retail, and credit card markets. It will accelerate the securitization of consumer receivables. From a developmental perspective, it will help empower the middle class with greater mobility, greater opportunity, and, in the long run, provide greater resiliency to economic shocks. It will assist the regulatory authorities to preserve trust in the financial system.

The establishment of a credit bureau in Ukraine has broad support among the private banks, credit unions, the Association of Ukrainian Banks, the retail sector and small business enterprises (SME). These groups all understand that credit bureaus a) directly contribute to economic development, b) increase consumer access to credit, c) improve bank risk management, and d) lead to asset diversification and new banking products.

A private credit bureau is established first and foremost to provide the lending community and others with three types of basic data to improve the credit decision: a) consumer I.D. confirmation; b) consumer and small business credit risk assessment (using both positive and negative information) which reflects an individual's willingness, capacity, ability and past history in honoring their obligations; and c) fraud identification capabilities. The market will simply not accept inefficiencies in data access and delivery, poorly designed and outdated products, and limited services.

### **Emerging Market Experience and Ukraine**

There are a number of common challenges encountered in emerging markets when initiating the formation of a Credit Bureau. In Ukraine, those challenges are not significantly different and include the following:

1. Credit Bureaus must commence from a base of zero information. Data must be identified, analyzed for usefulness, and loaded into the credit bureau, starting with identification data. The less information available, the longer and more costly it will take to build the bureau. In Ukraine, it has been established that individual demographic information (public record data) exists, although its availability to the bureau is not clear at this time.
2. Many developing markets are essentially 'cash based' with little availability or usage of retail credit or unsecured lending, indicating the need to develop a "credit culture". Building a credit culture process must be aimed at individuals, potential suppliers of retail credit information and enterprises that are or could participate as lenders in the retail, leasing, mortgage and SME credit markets. The Ukrainian banking community

has identified retail lending as a valuable profit center and has made commitments to steer growth efforts in this direction. Ukraine, as of 2005, is clearly moving from a cash to a credit-based society.

3. In many emerging markets, legislation governing Credit Bureaus does not unambiguously support the disclosure of some types of personal data (credit or demographic) to make a credit bureau a profitable enterprise. Legislation and/or conflicting legislation governing the dissemination of personal credit information tends to be restrictive, which is an impediment to building a central and comprehensive database. Since Ukraine's Parliament passed a Credit Bureau Law in June 2005, Ukraine does not fall into this category. Privacy and confidentiality of data are key issues that Ukraine's legislation addresses.
4. Members of the banking community, for competitive reasons, often mistrust the concept of credit bureaus. They have concerns that if they share their proprietary information on their retail and SME loan customers with the Credit Bureau, competing banks will have access to this information. That access will result in other banks selectively attempting to convince another bank's retail loan customers to switch their business, thus having a potentially negative impact on profitability. This attitude impedes data sharing, which is a fundamental principle underpinning the construction of a credit bureau data base. Data sharing will be a significant challenge in Ukraine over the next several years.
5. The marketplace has no experience with Credit Bureaus. There is no thorough understanding of the total benefits to the economy of the country and to the public. The ownership of a Credit Bureau must be patient as the database is being constructed and must have available funds to offset operating losses that will occur, for an extended period time, until Credit Bureau products have been tested and deemed appropriate for sale in the marketplace.
6. Technical issues are significant challenges in the development phase of a credit bureau. Both data supply and efficient and secure access mechanisms must be tested and designed. In Ukraine, these issues will be challenges although technical expertise and data management capabilities among banks are extremely advanced, facilitating data uploading, transfer and access issues.
7. In many markets around the world, the financial sector is often reluctant to entrust its proprietary data to foreigner credit bureau operators. This is not seen to be a problem in Ukraine.

### **Competition**

Ukraine's Credit Bureau Law allows for the establishment of multiple credit bureaus within a free market oriented economic system. Because of this, and given the size of Ukraine's credit markets and population, the first Ukrainian credit bureau that was

established<sup>25</sup> in June 2005 is expected to experience competition over the short to medium term<sup>26</sup>.

Competition should intensify as the major credit bureau operators (such as the Creditinfo Group, CRIF/ TransUnion, D&B, Experian, and Schufa) enter the market and team-up with local banks, credit unions and other financial organizations. Each credit bureau must develop products and services that its clients will use over time. If these products and services are of poor quality, the credit bureau's clients will migrate to another credit bureau. In addition, if a credit bureau does not adequately address data security concerns, the credit bureau's clients will likewise transfer their data to another bureau.

Competition could lead to a credit bureau's poorer than expected financial performance and, in the worst-case scenario, to bankruptcy – particularly if it does not enter into a joint venture or other arrangement with an international credit bureau operator. The effect of competition is reflected in the financial section of this business plan.

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<sup>25</sup> To "establish" or start a credit bureau is a term used to describe the simple registration of a company. The word "develop" as herein used has a much broader meaning: a process in which something passes by degrees to a different, more advanced, mature and self-sufficient stage. The point is that to "establish" a credit bureau may take a short period of time; to "develop" a credit bureau will take at a minimum several years and is a long process as evidenced by international experience. These differences must be clearly understood.

<sup>26</sup> The Association of Ukrainian Banks established in June 2005 a company that is intended to function as a credit bureau. The company has 30 shareholders, 27 of which are private banks. In mid-July 2005, Privatbank announced that it established a credit bureau. Credit Unions and others are developing strategies to either establish their own proprietary databases or join with one that is already established.

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### Demographics and Selected Wage Indices

Ukraine is essentially a 'cash society' with a total population as of June 1<sup>st</sup>, 2005 of approximately 47.2 million people<sup>29</sup>. The official employed population as of 2003 was 21.5 million. See Exhibit 5.

#### Ukraine: Population, Labor Force, and Employment, 1998–2003

Exhibit 5

(In thousands of persons)

	1998	1999	2000	2001 <sup>30</sup> /	2002	2003
Population <sup>31</sup>	49545	49115	48644	48241	47787	47442
Outside active age	21672	21193	20647	20256	19653	19124
Active age	27873	27922	28016	27985	28135	28228
Total employment <sup>32</sup>	21824	21269	21016	21379	21449	
State sector	35.5	34.5	34.2	33.4	31.1	
Collective and cooperative sector	38.7	36.1	32.0			
Private sector	25.8	29.5	23.0			

Source: Ukrainian State Statistics Committee.

The official average monthly salary as of year-end 2003 for the working population was approximately UAH 500. Exhibit 6 sets out average wage by type of economic activity:

#### Ukraine: Average Wage by Type of Economic Activity, 2000-03<sup>33</sup>

Exhibit 6	2000	2001	2002	2003
Total (In hryvnias)	230.13	311.08	376.38	462.27
Agriculture, hunting, and forestry	113.89	154.42	182.90	219.15
Fishery	145.39	203.62	241.58	290.61
Industry	302.41	405.77	485.01	591.15
Mining industry	393.89	516.71	609.94	701.25
Manufacturing industry	270.67	368.27	441.25	552.85
Production and distribution of electricity, gas and water	403.99	475.93	562.13	651.27
Construction	260.00	362.33	427.49	546.29
Wholesale and retail trade	225.49	283.50	330.42	393.66
Hotels and Restaurants	177.57	234.77	286.12	339.56
Transport	335.32	459.92	572.50	685.00
Finance	559.25	833.03	976.14	1051.15

<sup>29</sup> State Statistics Committee of Ukraine indicates a population in the Ukraine of 47,242.9 million as of February 1, 2005.

<sup>30</sup> As per All-Ukrainian Census data as December 5, 2002.

<sup>31</sup> Beginning of period.

<sup>32</sup> Annually-reported information (average).

<sup>33</sup> Source: Ukrainian State Statistics Committee

Real estate operations, renting out and related business services	277.01	372.74	437.13	526.81
Public administration	336.52	396.30	495.03	576.91
Education	156.46	224.13	267.41	340.45
Health and social protection	138.71	182.72	223.46	278.98
Collective and individual services	162.69	210.22	246.52	298.74

Exhibit 7 sets out average wages and prices from 1999 to 2004. While wages have fluctuated since 1999, there has been a slight up tick in real terms since that time.

<b>Ukraine: Wages and Prices, 1999–2004</b>					
<b>Exhibit 7</b>	Average Wages		Consumer Price Index	Real Wage	
	(In UAH, per month)	(Monthly % change)		(Index, 1991=1)	(Monthly % change)
1999					
December	218.9	15.0	4.1	0.2	10.3
2000					
December	296.3	15.0	1.6	0.3	12.2
2001					
December	378.5	13.2	1.6	0.3	11.2
2002					
December	442.9	11.9	1.4	0.3	9.7
2003					
January	400.6	-9.6	1.5	0.3	-10.2
February	391.2	-2.3	1.1	0.3	-3.4
March	415.5	6.2	1.1	0.3	4.3
April	422.6	1.7	0.7	0.3	1.0
May	439.3	3.9	0.0	0.3	3.9
June	476.2	8.4	0.1	0.3	8.6
July	489.5	2.8	-0.1	0.4	2.6
August	479.2	-2.1	-1.7	0.3	-0.4
September	498.3	4.0	0.6	0.4	2.9
October	498.3	0.0	1.3	0.4	-1.4
November	489.5	-1.8	1.9	0.3	-3.6
December	550.9	12.5	1.5	0.4	10.6
2004					
January	499.7	-9.3	1.4	0.4	-3.9
February	510.1	2.1	0.4	0.4	1.6
March	545.1	6.9	0.4	0.4	5.9
April	547.9	0.5	0.7	0.4	-0.2
May	555.0	1.3	0.7	0.4	0.3
June	601.5	8.4	0.7		
July	608.0	1.1	0.0		
August	604.2	-0.6	-0.1		
Source: Ukrainian State Statistics Committee.					

As real wages and bank deposits increase and as the economy stabilizes, financial institutions tend to have greater confidence in extending credit. These factors are positive signs for a credit bureau's business perspective.

Exhibit 8 sets out average wages by region and is indicative of the level of cash flow available to individuals for repayment of interest and principle on a credit.

<b>Average salary by regions in 2005<sup>34</sup></b>			
<b>(per one hired employee, UAH)</b>			<b>Exhibit 8</b>
	<b>January</b>	<b>February</b>	<b>March</b>
<b>Ukraine</b>	<b>640,86</b>	<b>666,76</b>	<b>722,01</b>
Crimea	575,97	582,9	647,62
Vinnytska	456,4	478,09	525,58
Volynska	450,13	462,26	503,64
Dnipropetrovska	771,09	736,82	823,75
Donetska	784,69	801,01	908,91
Zhytomyrska	460,78	486,52	530,82
Zalarpatska	502,16	534,71	594,62
Zaporizhska	721,51	735,01	795,78
Ivano-Frankivska	555,46	601,63	644,07
Yyivska	651,7	675,1	719,28
Kirovohradska	488,34	501,38	539,44
Luhanska	642,87	670,49	741,59
Lvivska	548,39	601,86	641,76
Mykolayvska	612,47	636,76	680,59
Odeska	640,02	647,75	688,24
Poltavska	606,92	672,34	663,26
Rivnenska	561,07	585,71	630,97
Sumska	507,4	533,21	595,33
Ternopil'ska	414,87	447,72	478,31
Kharkiv'ska	596,08	650,06	671
Kherson'ska	476,36	502,3	541,92
Khmeln'ytska	454,21	473,53	507,72
Cherkaska	486,32	507,77	561,57
Chernivetska	476,82	494,23	540,84
Chernihiv'ska	454,65	478,98	532,84
City of Kyiv	1024,76	1099,85	1142,5
City of Sevastopol	630,85	689,21	711,04
UAH (Urban Avg.)	576,01	603,23	650,48
US\$ (5 UAH/US\$1)	115,20	120,65	130,10

### **Select Statistics**

<sup>34</sup> Note: The above information does not take into account hired employees of statistically small enterprises and employees working for individuals -entrepreneurs.

Total permanent rural population as of April 1, 2005 was 15,286,418 persons. The number of agricultural and related service employees (as of April 1, 2005) was 934,700 persons. Of these, approximately 550,538 persons earned the minimum wage.

## **THE MARKET**

### **General Overview and Main Sources of Demand for Credit Bureau Products**

Our research indicates that there is currently sufficient demand for Credit Bureau services in the Ukraine despite challenges arising from potential competition, doubts about information quality and about data sharing within the overall financial community (private banks, credit unions and other lenders). While local banks, credit unions, merchants, other potential users and key economic leaders, in direct interviews, support the idea of a Credit Bureau, it is not certain that the entire financial community will share the full range of information necessary to maximize the credit bureau's potential over the short term.

Other potential market participants, from insurance policy and credit card issuers to automotive dealers and telecommunications providers, recognize the benefits of a Credit Bureau as well. Despite their support for the establishment of a credit bureau, there will need to be a marketing/educational campaign developed to convince the range of data providers to become participants in the credit bureau system because of the voluntary nature of participation and the need to negotiate and sign data sharing contracts between the credit bureau and the Data Provider.

The National Bank of Ukraine supports the idea of establishing a Credit Bureau. The Government of Ukraine, through a number of different policies and stimuli packages, continues to encourage the development of credit markets. Personal income levels within the country are a limiting factor to the rapid growth of the credit bureau. The impact of this factor on the development of the credit bureau is reflected in the financial section of this report.

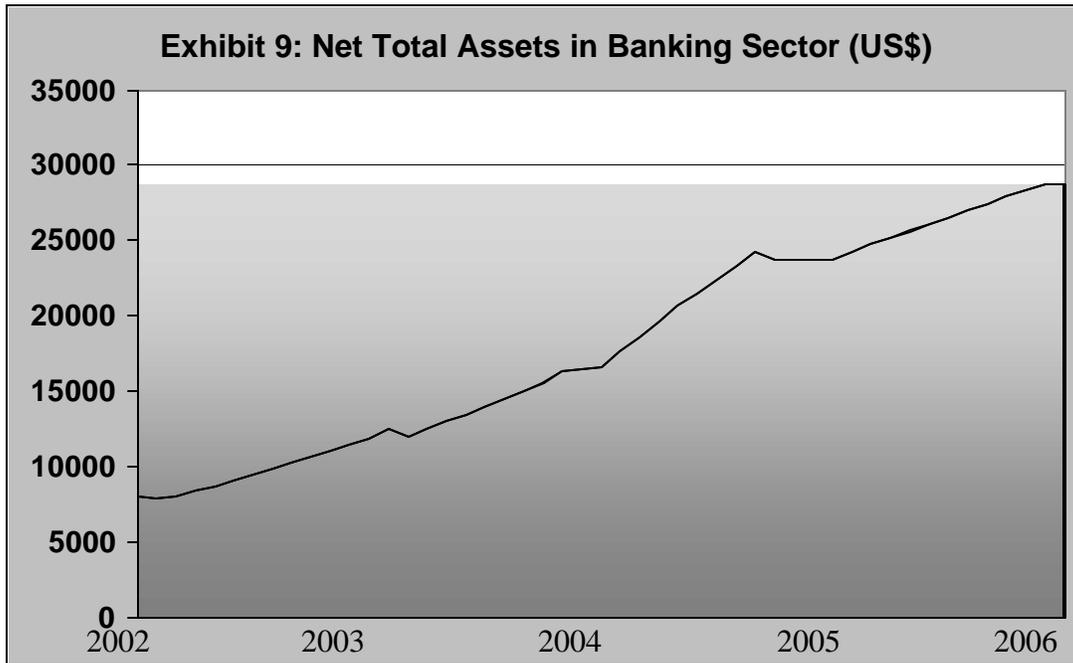
Assuming that the major data providers will share their proprietary data, the banking sector, credit unions and retail sector, including telecommunications are expected to be the major source of demand in Ukraine for credit bureau services over the short term – which has been the experience in other countries around the world. Banks, who typically create the largest demand for Credit Bureau reports and other product offerings, have indicated a strong interest in moving their business focus from commercial lending to retail and SME lending. They view the retail/consumer lending and SME arena as one of strong profit returns. In order to properly develop the marketplace for this type of business, creditors need the ability to view the consolidated consumer credit information that would populate a Credit Bureau database.

### **Commercial Banking Sector**

As of January 1, 2005, there were 182 banks in Ukraine, of which 162 received licenses from the National Bank. The 10 largest bank's share of total banking assets represented approximately 53% of total banking assets; their share of total assets in the banking sector remained stable. The largest 25 banks hold approximately 75% of banking assets

as of year end 2004. While the overall banking sector has matured since the early 1990's, there are a number of banks which are considered inadequately capitalized, unfocused on the retail sector, and probably unable to meet NBU minimum capital requirements.

Exhibit 9 sets out the growth in the banking sector between 2002 and 2006<sup>35</sup>. Most



National Bank of Ukraine; Forecast "Ukrsotsbank"

observers expect that there will be continued growth in the banking sector for several more years, excluding any significant externalities which could negatively impact the macro-economic landscape of Ukraine.

<sup>35</sup> Forecast: Ukrsotsbank – Ukraine Economy, Financial Markets and Banking System (March 2005)

**Breakdown of Banking Assets in the Ukrainian Economy follow:**

Exhibit 10 sets out the breakdown of banking assets amongst the 15 largest banks in the economy.

<b>Private Banks in Ukraine (Exhibit 10)</b>				
<b>As of Jan 1, 2005</b>	<b>Total Assets ('000)</b>			
<b>Name</b>	<b>UAH, mln</b>	<b>US\$, mln</b>	<b>%</b>	<b>Cum %</b>
PrivatBank	14713.6	2776.1	11.0%	11.0%
AVAL	11859.4	2237.6	8.8%	19.8%
Prominvest	10602.7	2000.5	7.9%	27.7%
UkrsotsBank	7068.3	1333.6	5.3%	32.9%
UkrsibBank	5680.8	1071.8	4.2%	37.2%
UkrEximbank	5296.4	999.3	3.9%	41.1%
Oschadbank	5071.1	956.8	3.8%	44.9%
Reiffeisenbank	4407.3	831.6	3.3%	48.2%
Nadra	3888.5	733.7	2.9%	51.1%
Brokbusinessbank	2768.8	522.4	2.1%	53.1%
Ukrprombank	2378.7	448.8	1.8%	54.9%
Finansy ta Kredyt	2284.1	431.0	1.7%	56.6%
Express-Bank	2149.8	405.6	1.6%	58.2%
PUMB	1976.4	372.9	1.5%	59.7%
Kreschatyk	1873.9	353.6	1.4%	61.1%
Subtotal	82019.7	15475.4	61.1%	
Other	52328.2	9873.2	38.9%	
Total	134347.9	25348.7	100.0%	

Total assets of the top 10 banks fell 0.4% relative to the share of assets in the entire banking system. Ukraine commercial banks posted net profits of a combined UAH 1262.8 million USD as of year end 2004. Ukraine's 10 largest commercial banks, the largest being PrivatBank, AVAL, Prominvest, UkrsotsBank, and UkrsibBank, reported the bulk of the profits ( UAH 581.9 mln).

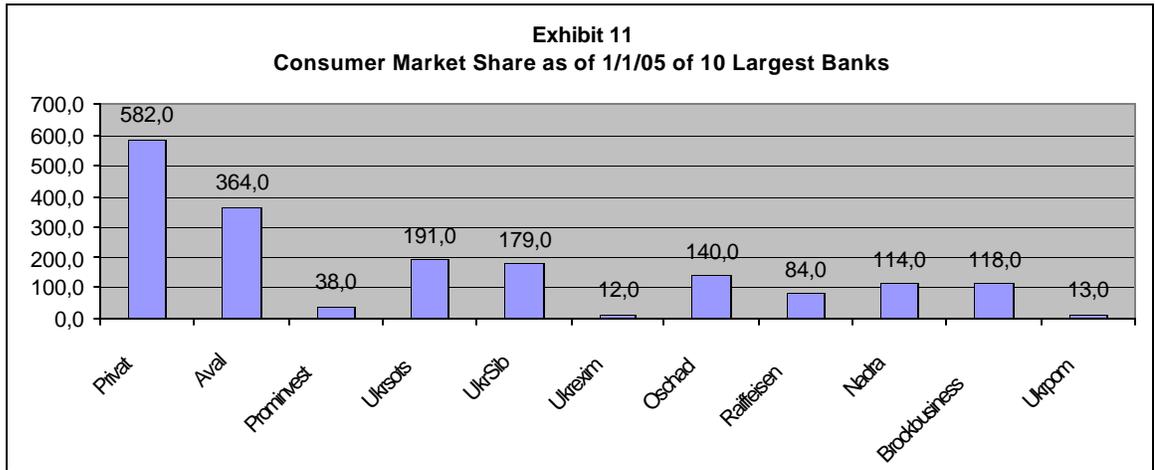
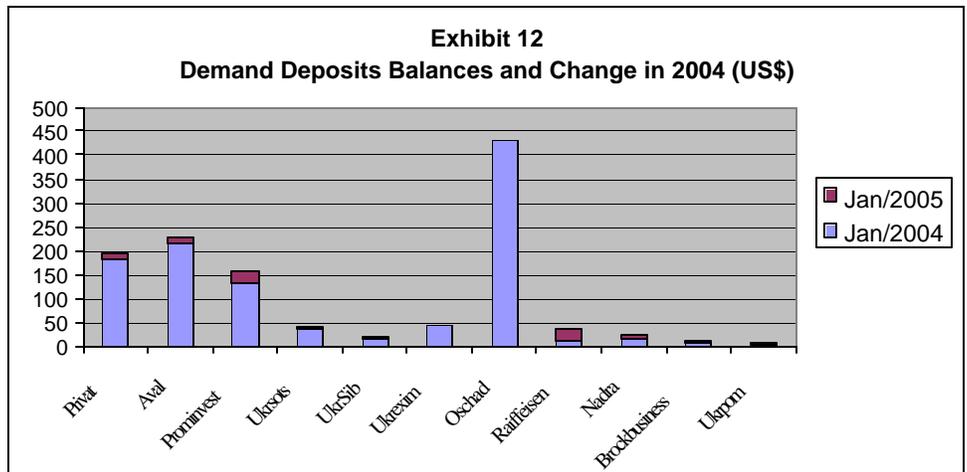


Exhibit 11 shows the largest banks share of the retail market as of January 1, 2005. Privatbank and Prominvestbank posted the fastest growth in assets compared to its major competitors with Ukraine.

Among commercial banks, Private bank controls approximately 21% of the consumer market. Aval follows with 13%. Prominvest, UkrSotsbank, and UkrSibank together have a market share of 14%. The rest of the market holds 51%. These banks would provide that largest source of demand for a credit bureau.

Since 1<sup>st</sup> quarter 2004, demand deposit and time deposits in the banking sector have increased as indicated in the Exhibit 12; this is another indication of increased confidence among the population in the banking sector.



In summary, both the Ukrainian economy and the banking sector – including credit unions – are sufficiently robust and stable to continue to develop products and services for clients in the retails and SME sectors of the economy. A credit bureau will have, in our opinion, sufficient demand from its primarily sources of revenue – which is the lending community.

### Overview of Lending Practices

Despite explosive growth in lending over the past several years, bank lending in Ukraine is still relatively scarce as compared with lending in Western Europe and the size of Ukraine's population. In relative terms, a mid to large-sized European bank's total assets are greater than the total assets of the entire Ukrainian banking sector

Loan terms vary depending on the client's ability to repay, prior relationship with a bank or credit union, availability and liquidity of collateral, personal references and other factors. Loans tend to be short term and carry high rates of interest – which makes it difficult to impossible for some clients to take out a loan; often monthly payments exceed the ability of the person to repay the loan with existing cash flows. The absence of credit histories has complicated the entire process of lending on an unsecured basis. Banks generally extend credit for short periods of time ranging from one (1) to three (3) years. Given the generally short maturities and relatively high interest rates, the large monthly payments are very often beyond an individual's ability to pay. Since many individuals are unable to meet these conditions, they are unable to borrow.

The availability of collateral and the assessment of its value and liquidity play a critical role in a bank's decision to extent credit to an individual. Secondary source of repayment often becomes the basis for extending credit rather than the primary source – which is cash flow.

Loan underwriting procedures in the retail sector are substantially similar for banks and credit unions. In principle, a client fills out an application and submits the standard set of documents: passport number, driver's license, employment certificate (indicating income), as well as other identification and personal data.

Credit Unions have flexible underwriting requirements and tend to rely on interviews with a prospective client. Some credit unions charge interest up to 100% to compensate for a lack of knowledge about a client and competition within and beyond the sector.

Over the past year, competition in the automotive and mortgage markets has significantly intensified. Depending on the bank product, on average, from “application” to “sale”, the entire underwriting process can take from 1 day to 5 days. As of 1<sup>st</sup> quarter 2005, Privatbank seems to have the quickest underwriting procedures as evidenced by their popular product “Autoloan in 30 minutes”. Other banks active in the auto market include Index Bank, Bank Aval, Pravex-bank, Ukrsibbank and Nadra.

Fraud, like in many other countries, is not insignificant in Ukraine. While there are many forms of fraud, identification fraud (passport forgery or use of stolen passports and forgery of certificates on salary) seems to be the most widespread at this time. One of the major functions of the credit bureau will be to provide products and services that help the financial sector prevent various different kinds of fraud.

## Credit Cards

The number of debit/settlement/overdraft "credit" cards in circulation as of 1<sup>st</sup> quarter 2005 is approximately 18.6 million (See Exhibit 13<sup>36</sup>); less than 1% of the total 18.6 million are true credit cards and approximately 1.1 million are settlement/overdraft cards.

Ukrainian Card Market																				
4/1/2005	Maestro	MasterCard Credit Product	MasterCard & Maestro today	Last month (+/-)	VISA Electron	VISA Credit Product	VISA today	Last month (+/-)	Total	Last month (+/-)	%MasterCard to the total quantity of Issued MasterCard cards	% VISA to the total quantity of Issued VISA cards	% In total result	ATMs	Last month (+/-)	Merchant terminals	Last month (+/-)	Cash advance POS terminals	Last month (+/-)	
1	PPIVATBANK	2726 443	58 443	2 734 886	33 910	2 975 565	756 952	3 732 517	30 418	6 517 403	73 328	31,59%	38,23%	35,08%	2 237,00	22,00	15 852	443	3 931	0
2	AVAILBANK	1 368 175	44 140	1 412 315	28 399	717 284	554 413	1 271 697	29 420	2 684 012	56 828	18,02%	13,03%	14,45%	1 196,00	0,00	2 730	0	3 160	0
3	HAD RA BANK	821 367	102 446	923 813	10 537	658 438	807 401	1 465 839	114 900	2 380 652	134 427	10,43%	15,01%	12,86%	479,00	16,00	1 841	118	421	18
4	PROMINVESTBANK	939 060	50 377	989 437	507	207 332	52 349	269 181	33 830	1 240 618	34 427	11,22%	2,67%	6,73%	772,00	15,00	523	16	695	21
5	UKRSOTS BANK	278 139	10 679	288 818	12 662	523 423	30 126	553 549	20 585	842 367	33 247	3,28%	5,67%	4,53%	250,00	0,00	0	0	488	1
6	PRAVEYBANK	170 023	4 961	174 984	5 727	521 412	66 477	587 889	13 525	763 873	19 252	1,98%	6,02%	4,11%	267,00	2,00	145	8	332	10
7	UKRSIBBANK	262 151	14 231	276 382	673	449 667	17 285	466 952	10 703	743 334	11 376	3,13%	4,78%	4,00%	309,00	10,00	38	4	539	43
8	OSCHADNY BANK	401 912	38 370	440 282	42 469	89 654	41 352	131 006	107	571 788	51 576	5,00%	1,34%	3,08%	404,00	50,00	7	0	1 216	30
9	FUIB	276 202	3 034	279 236	532	125 484	51 310	176 794	1 870	456 030	2 402	3,17%	1,81%	2,45%	194,00	1,00	605	16	66	0
10	UKREXIMBANK	159 840	12 325	172 165	4 001	146 644	14 284	160 928	2 052	333 093	7 043	1,95%	1,65%	1,79%	233,00	1,00	522	2	172	2
11	UKRPROMBANK	148 915	47 678	196 593	11 734	70 563	0	70 563	4 421	267 150	16 155	2,23%	0,72%	1,44%	124,00	8,00	0	0	216	2
12	UKRINBANK	51 197	10 249	61 446	898	107 830	78 491	186 321	13	247 767	1 811	0,70%	1,91%	1,33%	39,00	0,00	169	0	70	0
13	UKRGAZBANK	76 586	3 187	79 773	0	124 044	3 343	127 387	8 358	207 160	8 358	0,90%	1,30%	1,12%	272,00	12,00	63	0	304	11
14	FINANCES CREDIT	37 033	10 327	47 360	994	71 705	76 462	148 167	1 760	196 027	2 754	0,54%	1,52%	1,06%	130,00	0,00	753	0	352	0
15	BROKBUSINESSBANK	96 658	10 979	107 637	2 163	12 106	555	12 661	1 203	120 298	3 366	1,22%	0,13%	0,65%	77,00	2,00	29	0	75	5
16	VABANK	21 992	3 675	25 667	164	69 054	17 837	86 891	2 277	112 548	2 441	0,29%	0,39%	0,61%	86,00	-2,00	85	11	51	0
17	KREDITPROMBANK	68 429	11 396	80 325	1 517	17 359	857	18 216	2 917	90 541	4 434	0,91%	0,19%	0,53%	85,00	5,00	11	6	44	18
18	DOMGORBANK	93 064	520	93 584	2 374	0	0	0	0	93 584	2 374	1,06%	0,00%	0,50%	53,00	1,00	26	0	22	1
19	KREDIT BANK (UKRAINE)	47 441	2 776	50 217	3 226	37 691	0	37 691	990	87 908	4 216	0,57%	0,39%	0,47%	77,00	4,00	13	0	68	0
20	INDUSTRIAL BANK	83 860	197	84 057	2 093	0	0	0	0	84 057	2 093	0,95%	0,00%	0,45%	37,00	0,00	7	0	26	0
21	CREDIT-ONEPR BANK	13 403	309	13 712	-89	43 032	439	43 471	860	57 183	774	0,16%	0,45%	0,31%	49,00	0,00	20	0	32	0
22	INDEX BANK	3	4	7	0	47 147	521	47 668	2 142	47 675	2 142	0,00%	0,49%	0,26%	39,00	0,00	0	0	149	4
23	PETROCOMMERCEBANK	0	0	0	0	37 209	918	38 127	1 011	38 127	1 011	0,00%	0,39%	0,21%	27,00	0,00	20	0	20	0
24	KHRESCHATYK BANK	27 677	568	28 245	1 283	6 761	493	7 254	1 803	35 499	3 086	0,32%	0,07%	0,19%	76,00	0,00	5	0	41	-1
25	MRYIA BANK	31 112	2 032	33 144	3 734	0	983	983	147	34 127	3 881	0,38%	0,01%	0,18%	28,00	6,00	0	0	45	-1
26	RAIFFEISEN BANK	0	0	0	0	30 819	0	0	0	30 819	0	0,35%	0,00%	0,17%	22,00	0,00	0	0	31	0
27	ENERGObANK	0	0	0	0	29 398	183	29 581	246	29 335	246	0,00%	0,30%	0,16%	26,00	0,00	0	0	0	0
28	BASIS BANK	21 005	1 171	22 176	1 193	0	0	0	0	22 176	1 193	0,25%	0,00%	0,12%	13,00	0,00	0	0	20	0
29	PIVDENNY BANK	11 077	1 322	12 399	434	8 034	838	8 872	2 206	21 771	2 640	0,15%	0,09%	0,12%	59,00	0,00	315	22	53	2
30	KYV BANK	0	0	0	0	15 418	931	16 349	1 140	16 300	1 151	0,00%	0,17%	0,09%	45,00	2,00	0	0	25	0
31	IKAR BANK	13 110	859	13 969	152	0	0	0	0	13 969	152	0,16%	0,00%	0,08%	8,00	1,00	12	-1	7	0
32	PRO-CREDIT BANK	0	0	0	0	11 156	1 432	12 583	778	12 588	778	0,00%	0,13%	0,07%	29,00	3,00	67	-4	29	0
33	IMEX BANK	9 582	1 301	10 883	1 010	0	0	0	0	10 883	1 010	0,12%	0,00%	0,06%	43,00	1,00	37	1	106	3
34	COM. INDUSTRIAL BANK	474	126	600	42	6 883	3 353	10 236	10	10 775	61	0,01%	0,10%	0,06%	2,00	0,00	0	0	1	0
35	AGROBANK	2 459	7 327	9 786	1 520	4	19	23	3	9 809	1 523	0,11%	0,00%	0,05%	15,00	1,00	0	0	17	0
36	UBDP	4 949	388	5 337	0	3 212	1 001	4 213	155	9 550	155	0,06%	0,04%	0,05%	22,00	1,00	0	0	22	0
37	MT-BANK	4 393	4 183	8 576	173	0	0	0	0	8 576	173	0,10%	0,00%	0,05%	53,00	1,00	1	0	16	1
38	FORUM BANK	2 564	1 865	4 429	0	2 897	925	3 822	0	8 251	0	0,05%	0,04%	0,04%	54,00	0,00	0	0	1	0
39	TRANSBANK	7 877	393	8 270	148	0	0	0	0	7 825	148	0,09%	0,00%	0,04%	9,00	0,00	0	0	20	0
40	LEGBANK	0	0	7 205	0	0	0	0	0	7 205	0	0,03%	0,00%	0,04%	4,00	0,00	14	0	18	0
41	ALFA-BANK	0	0	0	0	3 730	3 453	7 188	145	7 188	145	0,00%	0,07%	0,04%	8,00	0,00	0	0	6	0
42	AGGIO BANK	6 547	443	6 990	307	0	0	0	0	6 990	307	0,03%	0,00%	0,04%	13,00	0,00	0	0	13	0
43	MORTANSBANK	5 464	1 355	6 819	127	0	0	0	0	6 819	127	0,08%	0,00%	0,04%	52,00	0,00	0	0	21	0
44	FACTORIAL BANK	141	43	184	0	1 384	4 926	6 310	-14	6 494	-9	0,00%	0,06%	0,03%	2,00	0,00	0	0	28	1
45	DIAMANTBANK	3 396	409	3 805	106	2 153	249	2 402	189	6 207	295	0,04%	0,02%	0,03%	15,00	0,00	0	0	9	1
46	RODOVIDBANK	465	804	1 269	52	4 553	0	4 553	579	5 822	631	0,01%	0,05%	0,03%	15,00	1,00	0	0	8	1
47	BIG ENERGY BANK	5 296	474	5 770	359	0	0	0	0	5 770	359	0,07%	0,00%	0,03%	9,00	0,00	0	0	24	0
48	FIRST INVESTMENT BANK	0	51	51	4	938	4 342	5 280	100	5 331	104	0,00%	0,05%	0,03%	13,00	0,00	2	0	9	0
49	KLIRINGOVYI DOM	0	0	0	0	4 838	64	4 902	282	4 902	282	0,00%	0,05%	0,03%	7,00	2,00	0	0	2	0
50	STAROKIEVSKY BANK	0	0	0	0	4 426	187	4 613	0	4 613	0	0,00%	0,05%	0,02%	28,00	0,00	0	0	2	0
51	REALBANK	0	0	0	0	3 019	488	3 507	0	3 507	0	0,00%	0,04%	0,02%	5,00	0,00	0	0	3	0
52	ukbusinessbank	2 971	31	3 002	461	0	0	0	0	3 002	461	0,03%	0,00%	0,02%	2,00	0,00	0	0	13	0
53	KAPITAL BANK	0	0	0	0	2 800	161	2 961	47	2 961	47	0,00%	0,03%	0,02%	5,00	1,00	5	1	7	2
54	NOVYI BANK	1 414	58	1 472	68	368	517	885	1	2 357	69	0,02%	0,01%	0,01%	6,00	0,00	3	1	10	0
55	ING BANI UKRAINE	931	1 061	1 992	208	0	0	0	0	1 992	208	0,02%	0,00%	0,01%	0,00	0,00	0	0	3	2
56	ZOLOTIE VOROTA	1 123	464	1 587	292	0	0	0	0	1 587	292	0,02%	0,00%	0,01%	5,00	1,00	0	0	9	1
57	MCTOBANK	0	0	0	0	1 197	369	1 566	173	1 566	173	0,00%	0,02%	0,01%	3,00	1,00	3			

The card market continues to actively develop and continued growth is expected over the next several years. Credit cards are a key bank product which a credit bureau services.

Credit card applications are expected to be a large source of business for the credit bureau. Over 90% of the cards are currently guaranteed by the enterprises at which these individuals are employed or are cash collateralized. In most cases, salaries are directly deposited to their bank accounts. Debit cards serve as the vehicle to withdraw deposited monies. Privatbank, Aval, Nadra<sup>37</sup> and Prominvestbank are the largest players in the card market. It is expected that in 2005 UkrSotsbank and UkrSibbank and, probably, PraveksBank will join banks that have issued over 1 million cards. A credit bureau will enable banks to begin the process of converting debit cards and debt cards with overdraft rights into true credit cards.

### Mortgages

As of 2<sup>nd</sup> quarter 2005, a major part of the housing construction market is financed primarily through personal savings; investors bare both financial and construction risks. According to official statistics, 1.4 million households need to improve their housing situation. Over 75% of Ukraine's housing requires either capital repair or needs to be demolished over the next 10 years (69% of houses were built before 1970). In Ukraine, the mortgage market (loans) is less than 1% of GDP as compared to approximately 40% of GDP in most developed economies (EU countries – 34%, USA – 53%). As viewed by experts, currently only 6% of Ukrainian citizens can afford housing mortgage loans or approximately 2.8 million individuals.

Between 2002 and 2004, mortgage lending has seen rapid growth. Portfolio growth rates are as follows (loans secured by mortgages or housing construction loans): 2002 – 86.5%, 2003 – 84.1%, and 2004 – 84.4%. However, despite the more than 9 fold increase of Ukraine's aggregate mortgage portfolio over this period (from UAH 0.3 to 2.95 billion. or about US\$ 0.6 billion.), the total mortgage portfolio still remains insignificant when measured against the total population, comparative rates in developing countries and the demand for new housing. As of January 2005, housing loans and mortgage loans constituted 3.37% of the banking sectors total loan portfolios.

1. Total number of outstanding loans as of year end 2004 – 63,500,
2. Average loan amount (as of 01.01.05.) – UAH 51,000 (\$ 10 000)<sup>38</sup>

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<sup>37</sup> According to NADRA, the bank has emitted over one million VISA credit cards of the Classic, Gold and Business series, which makes it one of Ukraine's leading emitter of credit cards. The NADRA operates 430 ATMs, over 350 cashing terminals and over 1,500 supermarket terminals. Official Press Release at [www.kmu.gov.ua](http://www.kmu.gov.ua) (Jan. 2005)

<sup>38</sup> Average loan amount based on a analysis of 35 banks throughout Ukraine. Average loan amount of an individual bank might differ significantly from that of the overall market average. For example, UkrSibBank's average mortgage loan is approximately US\$ 25 000 – 30 000.

Over the last three years housing prices in Kyiv and in other metropolitan areas increased by more than 250%. Housing prices in Kyiv tend to be indicative for the period 2003 – 2004 since Kyiv market accounted for 75% of Ukraine’s primary housing market. Average Kyiv housing/apartment prices in the primary market are relatively high and tend to limit the ability of most individuals to access financing<sup>39</sup> given the level of interest rates and wages. Prices in the secondary market are similar<sup>40</sup>. The Ukraine’s State Committee on Construction and Architecture estimates that 41.1 million sq. m. of housing will be available over the next 5 years. It is further estimated that approximately 28,934,600 sq. m. (70.4%) will be financed from personal savings and approximately 5,131,600 sq. meters (12.5%) through mortgage lending.

While mortgage underwriting lags behind both economic capacity and social needs, Ukraine’s “Mortgage Law” has had a significant positive impact on the development of the mortgage market since its passage. Until the government puts in place a mortgage securities law, however, it is anticipated that the market will remain thin. Nevertheless, the government continues to address issues in the housing market. Recently, the Cabinet of Ministers of Ukraine approved a package of draft laws to stimulate large scale mortgage lending, and envisages promoting a more affordable mortgage lending market so that the population can borrow under more favorable conditions, i.e., at rates between 2-6% over 10-30 years. In addition, the government plans to improve the operations of the State Mortgage Institution as a means to increase mortgage lending by attracting approximately US \$ 2 billion in loans against government guarantees.

### Automobile Market

As with other sectors of the Ukrainian economy, a major part of the automobile market is financed directly out of personal savings, i.e., without receiving funds from a bank, credit union or leasing company. According to official statistics, there are an estimated 5.6 million automobiles in Ukraine as of year-end 2004. In 2004, a total of 212,000 new automobiles were purchased in Ukraine. In the opinion of experts, currently 10-12% of Ukrainian citizens can afford car loans or approximately 5 million individuals. Amongst the major Ukrainian banks, car loans generally range from US\$ 4,000 to US\$ 14,000. The average monthly payment of a car loan is approximately US\$ 200<sup>41</sup>.

From a select group of private Ukrainian banks, the number of car loans at these banks increased in 2004 from 20% to over 200%. However, the overall automobile market still remains small when measured against the total population and the demand for new cars, particularly in non-urban areas.

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<sup>39</sup> Downtown – UAH 8 000 (\$ 1 600) per 1 sq.m; City outskirts – UAH 4000 (\$ 800) per 1 sq.m.

<sup>40</sup> Downtown – UAH 9 000 (\$ 1 800) per 1 sq.m. City outskirts – UAH 4 500 (\$ 900) per 1 sq.m.

<sup>41</sup> Some car dealers indicate that monthly payments can vary from \$ 50 to \$ 300. As a rule, banks require at least 10% down payment. There is a special program for Russian cars (VAZ, GAZ, etc.) where no down payment is required. Loan tenor up to 6 years; interest rate - 13% in foreign currency, and 22% in UAH.

According to current estimates, there is every expectation based on historical data that the banking sector and leasing industry will continue to increase their automobile portfolios. In addition, insurance companies will require the establishment of a database to ensure that persons do not have similar policies with other companies and/or to determine if a similar accident/theft claim has been filed with another company.

### Credit Unions

Credit Unions as an industry support data sharing and the creation of a credit bureau. There are a total of 619 Credit Unions in Ukraine of which 600 are licensed as of end of third quarter 2004. The National Associations Credit Unions of Ukraine (NACUU) has approximately 140 members who, collectively, account for over 50% of this market. While it is not clear how many loans all credit unions collectively make on a monthly basis, the number of applications is in the thousands each day and their business has doubled over the past two years.

According to the NACUU, total assets of its membership stand at UAH 261.6 million as of 3<sup>rd</sup> quarter 2004. See Exhibit 14. Over the first 9 months of 2004, the total assets of its membership increased by UAH 88.3. Credit unions focus their business at the retail level – and often tends to be seasonal i.e., linked to harvests and to holiday periods.

The NACUU does not have a central loan database although its members granted over 500,000 loans in 2004 with an average loan size of approximately 2000 Hrv. Credit unions largely depend on deposits from its membership to fund their portfolios. During this period, over 45% of the credit union's membership received loans. Credit Union membership is approaching 785,000 as of 1<sup>st</sup> quarter 2005.

<b>Exhibit 14</b>						
<b>Structure of Assets of NACUU as of 3rd Quarter 2004</b>						
<b>HVR</b>	<b>No. of Credit Unions</b>	<b>% of Total No. of Credit Unions</b>	<b>Total Assets</b>	<b>% of total assets</b>	<b>No. of Credit Union Members</b>	<b>% of Total No. of Members</b>
<b>&lt; 100000</b>	12	8,8%	688 650	0,3%	2388	0,7%
<b>100,000 - 500,000</b>	42	30,9%	12 826 101	4,9%	26715	7,3%
<b>500,000 - 1,000,000</b>	31	22,8%	22 037 553	8,4%	31384	8,6%
<b>1 - 2, 000,000</b>	14	10,3%	20 016 415	7,7%	27050	7,4%
<b>2 - 5,000,000</b>	26	19,1%	73 902 236	28,3%	96842	26,6%
<b>&gt; 5,000,000</b>	11	8,1%	132 124 600	50,5%	179893	49,4%
	136	100,0%	261 595 555	100%	364 272	100,0%

Exhibit 15 sets out asset distribution of NACUU members by sector of the economy. It is clear from the below statistics that lending in the retail, housing and agricultural sectors dominate the lending strategies of credit unions.

<b>Exhibit 15</b>							
<b>Asset Distribution by Sector and Size of Loans as of 3<sup>rd</sup> Quarter 2004</b>							
	Total	HRV 100000	< HRV 100,000 500,000	HRV 500,000 - 1,000,000	HRV 1 2,000,000	HRV 2 5,000,000	HRV > 5,000,000
<b>Credit Portfolio including:</b>	230948127	537181	11802559	20136365	16960033	65671804	115840184
<b>Total SME</b>	27783243	13100	1666792	3868134	3219734	10946473	8069010
<b>Percentage</b>	<b>12,0%</b>	<b>2,4%</b>	<b>14,1%</b>	<b>19,2%</b>	<b>19,0%</b>	<b>16,7%</b>	<b>7,0%</b>
<b>Agriculture</b>	6821777	0	405646	1542400	939869	3467008	466853
<b>Percentage</b>	<b>3,0%</b>	<b>0,0%</b>	<b>3,4%</b>	<b>7,7%</b>	<b>5,5%</b>	<b>5,3%</b>	<b>0,4%</b>
<b>Villagers</b>	5444815	5012	339650	1100152	322851	3361539	315612
<b>Percentage</b>	<b>2,4%</b>	<b>0,9%</b>	<b>2,9%</b>	<b>5,5%</b>	<b>1,9%</b>	<b>5,1%</b>	<b>0,3%</b>
<b>Housing</b>	12204921	52037	1124995	1658355	1718267	4222154	3429113
<b>Percentage</b>	<b>5,3%</b>	<b>9,7%</b>	<b>9,5%</b>	<b>8,2%</b>	<b>10,1%</b>	<b>6,4%</b>	<b>3,0%</b>
<b>Consumer</b>	147844547	445986	6068850	8341093	8096983	26051766	98839871
<b>Percentage</b>	<b>64,0%</b>	<b>83,0%</b>	<b>51,4%</b>	<b>41,4%</b>	<b>47,7%</b>	<b>39,7%</b>	<b>85,3%</b>
<b>Other</b>	30848823	21046	2196628	3626232	2662329	17622864	4719724
<b>Percentage</b>	<b>13,4%</b>	<b>3,9%</b>	<b>18,6%</b>	<b>18,0%</b>	<b>15,7%</b>	<b>26,8%</b>	<b>4,1%</b>
<b>Total</b>	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Three Credit Unions (total assets exceed 200 million Hrv) are not members of the Ukrainian National Associations of Savings and Credit Unions. They represent approximately 40 % of the total market. Credit Unions directly compete for business with commercial banks engaged in retail lending.

The following additional points are useful in assessing the importance of credit unions within Ukraine and to the business strategy of a credit bureau:

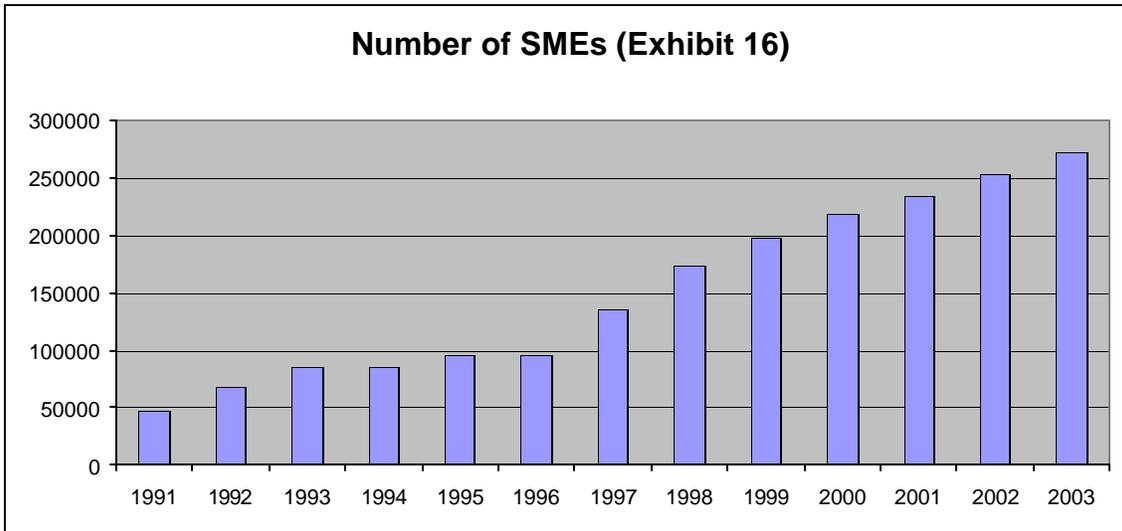
- a) Membership in Credit Unions continues to grow rapidly.
- b) Product lines include: mortgages, various micro, retail , social and agricultural loans.
- c) 50 % of all loans are made in rural areas.
- d) Many loans are based on the applicant's salary. Many other loans add tangible security and/or guarantors.
- e) Loan investigation includes checking the applicant's previous borrowing history. The credit unions will verify employment by reviewing employment record books and/or directly with an employer. Most lending is on a secured basis.

- f) An unknown number of credit unions have databases in which individuals have given their consent (signed) to have their personal information shared.
- g) Credit unions have proprietary databases of their own that could be converted to a standard format and ultimately provided to a credit bureau. Many credit unions maintain historical information in these databases

The senior management of the NACUU has indicated that many of its members would be interested in being shareholders of a credit bureau. It is not yet clear that credit unions would share information with non-credit unions.

**Micro-Finance and Small Business**

Demand for credit bureau services is expected to be considerable from the SME sector – particularly given both the Government and banking sector’s focus on small business development. Micro loans constitute a significant percentage of bank lending and have increased dramatically over the past several years. See Exhibits 16 and 17.



Micro-Finance and small business enterprises are seeking a source of information that would enable them to better determine if applicants for loans have had experience with other Micro-Finance enterprises. Credit Unions and banks compete extensively for in the micro lending and small business areas.

Interviews with SME advisors in Ukraine have indicated that local business leaders support the idea of a credit bureau.

## SME Indicators<sup>42</sup> (17)

	Number of SMEs	Number of SMEs per 10000 of population	Average Employment (includes owners/family members), '000	Year average number of outside employment, thousands	SME employment as % of corporate employment	SME Output as % of total Economy (No VAT and excise taxes)
1991	47084	9	...	1192,4	...	...
1992	67739	13	...	1248,0	...	...
1993	84780	16	...	1231,7	...	...
1994	85799	17	...	1104,3	...	...
1995	96019	19	...	1124,9	...	...
1996	96270	19	...	1178,1	...	...
1997	136238	27	...	1395,5	...	...
1998	173404	35	1585,9	1559,9	12,9	11,3
1999	197127	40	1687,9	1677,5	14,1	11,1
2000	217930	44	1730,4	1709,8	15,1	6,9
2001	233607	48	1818,7	1807,6	17,1	7,3
2002	253791	53	1932,1	1918,5	18,9	7,3
2003	272741	57	2052,2	2034,2	20,9	7,7

As of October 1, 2004, the total of 271,600 small enterprises (excluding agricultural enterprises and banks) operated in Ukraine. Over the period of Jan-Sept.2004, small enterprises employed 1,973,000 persons. Over the same period they sold products, performed works and rendered services for the total amount of UAH 59,724, 200, 000.

### Certain Indicators Related to the Operations of Small Enterprises in Ukraine

	Number of small enterprises	Average number of employees	Volume of sold products (works, services) in currently effective prices (VAT and excise duty excluded), UAH
<b>Total with the economy<sup>43</sup></b>	<b>271,573</b>	<b>1,973,000</b>	<b>59,724,200,000</b>
Industry	45138	467,2	8626,4
Construction	25126	244,8	5909,4
Wholesale and retail trade	106969	488,1	30351,4
Hotels and restaurants	9709	80,6	1075,1
Transport	13469	117,0	2729,4
Transactions with real estate, renting services, and services to the users	51250	383,6	7057,6
Collective, social and personal services	10313	110,8	1104,5

<sup>42</sup> Source: Ukrstat

<sup>43</sup> excludes agricultural enterprises and banks

## Insurance Industry<sup>44</sup>

Major insurance companies interviewed support the establishment of a Credit Bureau. Insurance companies have proprietary databases of their policy holders, however, there is no consolidated database for the industry. The absence of an insurance database allows an individual, who carries a comprehensive automobile policy, for example, the opportunity of having similar policies with a number of different companies at the same time, which creates the possibility of filing multiple claims. The Motor Transport Authority (set up and operated by the Insurance industry) has begun to establish a database that will list names of “fraudsters” along with facts of each fraud.

The insurance industry is undergoing consolidation similar to that which has been occurring in the banking sector over the past few years. Of the 380 insurance companies in Ukraine, it is estimated that more than 50 will not be able to reach the minimum capital requirements imposed by the financial authorities. A small number of companies dominate the market. Despite continued consolidation, the number of policies in the market grew over 200% over the past several years. There are currently over 20 million insurance policies of different kinds in the market, according the League of Insurance Organization. These numbers are expected to continue to increase (along with fraud).

Insurance policies	2003	2004 (e)	2005(e)
Number of policies under mandatory insurance	1583865	2059024,5	3600000
Number of policies under voluntary insurance (including life insurance)	10447689	13149149,1	17000000
Total	12031554	15208173,6	20600000

The League of Insurance Organizations (LIO), as of 1<sup>st</sup> quarter 2005, has 120 members, which together control approximately 80% of the Ukrainian insurance market. The LIO works closely with the Motor Transport Bureau to combat fraud; perhaps up to 15% of all auto insurance expenses are due to fraud. It does not appear that insurance companies can share information without the consent of the consumer; consent clauses are currently not included on insurance applications. Because the potential demand for credit bureau services from this sector of the economy, this business plan lays out 4 major products.

Ukraine requires mandatory insurance to drive a car. The respective Law of Ukraine “On Mandatory Civil Liability Insurance of Car Owners” came into force as of Jan. 1, 2005.

Limits of liability for the inflicted damage are as follows:

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<sup>44</sup> Source: interviews with insurance companies, the LIO, and publically available statistics and other information.

1. damage to the life and health of the third parties - UAH 51,000 per one affected person
2. damage to the property of the third parties – 25,500 per one affected person

Basic insurance payment under mandatory insurance agreement is UAH 291.5. Depending on the type of car, driving record and experience of a driver (as well as other factors) this basic payment can either increased or decreased. According to the opinion of experts the average price for a mandatory insurance policy is UAH 230 – 250. As of April 2005, 73 insurance companies had a respective license to offer this type of mandatory insurance.

Non-mandatory insurance for car owners is KASKO. The full KASKO package includes insurance for the following: a) car accident; b) natural disaster; c) fire, explosion, and spontaneous combustion; d) theft, attempted theft, robbery etc. Car owner can choose either full or partial KASKO coverage. Banks that extend car loans require full KASKO coverage. Some banks also require life insurance as a condition for extension of a loan.

Representatives of the insurance industry have confirmed that members of the LIO would be interested in taking an equity position in a credit bureau. The LIO believes a credit bureau should contain three databases: a) one that contains a record of all policies issued by all insurance companies in Ukraine, b) one for fraud and c) one for accident occurrences.

From growth and performance figures over the past several years, it is expected that the insurance industry will continue to grow. Accumulated premiums in the insurance industry totaled HRV 19,431.4 million in 2004, 2.1 times (HRV 10,295.8 million) more compared to 2003<sup>45</sup>. Net insurance premiums (without regard to domestic reinsurance) increased by 40.2% to HRV 9 664.5 million.

In 2004, for the first time in the last 10 years, the share of domestic reinsurance in gross insurance premiums exceeded the share of non-resident reinsurance – 50.3% and 9.8% respectively in 2004 (in 2003 - 24,5% and 34,8%, respectively).

The increase in the difference between gross and net insurance premiums indicated two positive trends: an increase in the domestic reinsurance market and a decrease in the volumes of foreign sourced reinsurance. The share of gross insurance premiums in the country's GDP amounted to 5.62% in 2004 (in 2003 - 3,42%); on a net basis premiums amounted to 2.79% (in 2003 - 2,58%) over the same period.

### Communications

Demand for credit bureau services is expected to arise from two main sources: a) new post-paid accounts, and b) conversion of pre-pay to post-pay. Cell phone business continues to expand in the Ukraine as well, with competition mostly between two companies Kyivstar and UMC (MTS). As of year end 2004, UMC and KievStar had 7,370,000 and 6,252,000

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<sup>45</sup> State Commission for Regulation of Financial Services Markets

subscribers respectively. Over 80% of mobile phones are pre-pay. The below chart sets out basic data with respect to KievStar and UMC.

<b>Operator</b>	<b>Revenues, \$ mln</b>	<b>Growth compared to the same period of 2003, %</b>	<b>Net Profit, \$ mln</b>	<b>Growth compared to the same period of 2003, %</b>
KievStar	675.7	72.3	329	65
UMC	832	111	232	244

For competitive reasons and because of the history of credit in this sector of the economy, the telecommunications industry is expected to be both a user and provider of data, as has been the experience of credit bureaus in other markets. Internet services and subscribers continue to grow as well.

The communications industry is expanding rapidly throughout Ukraine as evidenced by the increase in investments and subscribers over the past 3 years. UkraineTelecom is the principal telephone company in Ukraine and essentially has a monopoly of the home fixed-line market.

#### Retailers

Retail business is booming in Ukraine and has expanded on average 40% over the past two years. Growth at similar levels is expected over the short term.

Retailers do not, or very rarely, provide credit directly to customers at this time in Ukraine; retailers have relationships with banks which assume the lending risk (not the retailer). Retailers clearly prefer to have a more efficient way of handling their consumer requests. As of 1<sup>st</sup> quarter 2005, retailers have indicated a noticeable increase in requests from customers for loans, and have been forwarding such requests directly to banks and/or credit unions. Some retailers are beginning to provide credit although at a very low level. No statistical evidence is available at this time.

The retail sector is expected to be a large source of demand for credit bureau services in the coming years. According to a recently released report by A.T. Kearney, a consulting firm, the Ukrainian retail market in 2005 shot up on its Global Retail Development Index to the number 3 position, after India and Russian.

## *Customer Base*

### *Description of Credit Bureau Subscribers (Customers)*

Subscribers to a Ukrainian credit bureau are expected to be enterprises that carry out any of the following activities: lend monies to individuals and businesses; extend credit to individuals and businesses for the purchase of goods and/or services; provide insurance coverage to individuals and businesses; provide telecommunication or other utility services to individuals and businesses. The main Subscribers in the Ukraine will be the private banks, credit unions, insurance and leasing companies, and retail lenders and utilities, including telecommunications firms.

To utilize Credit Bureau services enterprises or individuals must become Subscribers to the Credit Bureau. An application to become a Subscriber must be completed. Then Credit Bureau personnel must complete a thorough investigation of the potential Subscriber in order to assess the proposed Subscriber's need for the services given the sensitivity of the information in the database. Following the registration and investigative process, signed contracts would govern the relationship between the Credit Bureau and data provider. The contract would outline the Subscriber's responsibilities towards the use of Credit Bureau information. Rules and clear access terms and condition would be included in the contract for use of information.

Data providers would also sign a contract with the credit bureau and would likewise set out the terms and condition of the relationship. The information they would provide would be related to their customers who have credit dealings with the Data provider. The information would include customer demographic information as well as the data provider's credit experience with customers. The data provider must ensure that personnel from their company are available to successfully handle any disputes regarding the accuracy of the information provided. The contract further would outline the data provider's responsibility in compensating the Credit Bureau for services rendered. In principle, subscribers would pay an annual fee to maintain a relationship with a Credit Bureau.

### *Needs of Credit Bureau Subscribers*

Subscribers in Ukraine need an efficient, prompt and reliable service that provides them with relevant information, regarding individual credit applicants and SMEs, to assist in determining if a consumer has a) the ability to make any form of monetary repayment for a specified period of time; b) proven/established the intention and responsibility of honoring previously agreed upon terms of repayment of one sort or another; c) assets to justify indebtedness; a consumer has a stable source of income that would extend through the term of any credit contract. These factors are the primary criteria used by subscribers in assessing credit applications from individuals. These criteria would generally apply to other subscribers who would need information for purposes other than granting credit, such as data relevant to insurance companies.

### *Why Subscribers Choose to Utilize the Services of the Credit Bureau*

The Ukraine Credit Bureau would need to develop a reputation for providing an accurate and easily accessible database of demographic and credit information regarding individual Data Subjects. The information would be contained in individual files for each individual and SME.

In order to accomplish this objective, the Credit Bureau would prove to Subscribers over time (based on extensive testing during the start-up phase) that its services would be relevant and assist processes to assess risks, save money and time and expand business.

The Credit Bureau would be in regular contact with its Subscribers as well as the market generally to identify changes in market conditions, how these changes could/would impact the Credit Bureau's business relative to market share and how the Credit Bureau would adjust to these changing market conditions with product enhancements or offerings to meet Subscriber needs.

Credit Bureau personnel would be in regular communication with its Subscribers through correspondence, telephone calls, email contact and 'personal' visits to ensure Subscribers understand that the Credit Bureau places great importance and value on the Subscriber/Credit Bureau relationship. Bureau personnel would emphasize their interest in knowing as much as possible regarding a Subscriber's business and how the Credit Bureau could further assist its Subscribers with product and service offerings. The Credit Bureau would have the flexibility to offer products and services in line with client needs.

Subscribers of the Credit Bureau would know they are appreciated as business partners in the sense of offering input relative to how the Credit Bureau conducts its business and the relevance of product and service offerings.

### *What Sets the Credit Bureau Apart from its Competition?*

Since the Ukrainian credit bureau will be a private business providing a needed service to paying clients, it must at all times maintain high standards of service and provide its clients with useful products. An ongoing quality control program to ensure that 'Best Practices' are established, maintained and updated as necessary will ensure Subscriber confidence and flow of business activity. These objectives will be the responsibility of the Credit Bureau's senior management and the technical advisors.

## CREDIT BUREAU

### Management and Ownership

With respect to management and ownership, we make the following observations: a) a major international credit bureau operator should help manage the credit bureau in Ukraine and not simply provide technical assistance “from a distance”; b) the owners of the Ukrainian credit bureau should be open to the idea of foreign investment; and c); non-banks (leasing companies, credit unions, insurance companies, amongst others) should not be prohibited from owning equity shares in a credit bureau.

The management of the credit bureau should put in place a system that a) determines and implements the overall strategy and daily functions of the company, b) maintains appropriate checks and balances regarding strategic, financial or policy decisions<sup>46</sup>, and c) ensures a robust internal security system backed by a highly qualified technical team. The owners of the credit bureau must convince their clients that the information in the database is secure and that corporate management and employees are bound to keep that information confidential.

The owners of the credit bureau must make every effort to earn the trust and confidence of its clients (data providers and users), and should not assume that such an effort will be easy. The credit bureau must conduct its business in an impartial manner at all times. The most important commodity of a credit bureau, besides its data content, is its reputation for fairness, integrity and data security.

It is recommended that the credit bureau proceed in a manner consistent with the 3 Phase strategy outlined in this Business Plan. It may be preferable during the start-up period for the credit bureau to be registered as a limited liability company rather than as a joint stock company for practical and financial reasons

Credit reporting is an industry that continues to evolve worldwide and is not a passive, bureaucratic enterprise. One of its mandates is to meet the needs of its clients by providing quality products and services, at a reasonable price. As such, management must be constantly aware of changes in the industry and be aware of international best practices to ensure both clients and individuals are well served. Management should ensure they become part of a network that keeps them apprised of these changes through attendance at conferences, dialogue with credit bureau operators in other countries and through the application of other strategies they find useful. Management must maintain regular dialogue with their client base to ensure they are meeting their needs and, generally, some of these needs may arise from the client’s knowledge of industry changes/enhancements in other jurisdictions.

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<sup>46</sup> It is recommended that the credit bureau have regular shareholder meetings; an independent supervisory council; management board; internal audit committee, and management contract with foreign operator.

### *Purpose of a Credit Bureau*

The practical definition of a Credit Bureau, for design and implementation purposes in Ukraine, is an impartial entity that will store all past and present credit transactions a particular company or individual entered into, indicate the manner in which the subject of the credit profile repaid the obligation to the respective creditors, contain demographic information about the subject to ensure proper identification, include pertinent information relating to the creditworthiness and ability of an applicant to repay newly established credit, such as public record information or other inquiring parties, and provide an avenue for verification or validation of any information which may be questioned or disputed by the subject of the credit profile.

The willingness of an applicant to repay a loan is a self-evident factor in credit extension. A person or company's past performance in repayment of former transactions, and more importantly their recent trend, is a good way to gauge the predictably that they will respond within terms of new transactions. A Credit Bureau serves both parties in a credit transaction and is an excellent tool to facilitate and accelerate the approval process.

In Ukraine, the following benefits to lenders have been identified:

- Broadening the potential lending base
- Prompt determination of potential borrower's credit worthiness
- Streamlined credit investigation process
- Boost lending to the agricultural sector
- Ability to tier lending rates based upon payment indicators
- More timely repayment due to public awareness of reporting back to bureaus
- Reduction of losses

Advantages that borrowers with records of prompt payment enjoy will include:

- Increased purchasing power
- Increased availability of credit
- Lower borrowing costs
- Incentive to build a credit history
- More prudent consumer borrowing habits

The Credit Bureau will be designed to function as a "repository" of information held by an independent third party enjoying no benefit from any transaction being conducted by the two primary parties. This will assure accuracy and integrity in the data being furnished to the clients of the Credit Bureau. The bureau will permit any legal entity with credit granting potential (bank, leasing company, merchant, utility company, etc.) and a permissible purpose (in accordance with legislation) the opportunity to become a client with the ability to access available information in exchange for a fee and an agreement to provide the credit histories of their existing portfolio to a credit bureau (Principle of

Reciprocity). Data transfer to third parties, according to Ukrainian Law, is predicated on the prior receipt of written consent from an individual.

A credit bureau does not pass judgment relative to any information housed in its database. It does not make any decisions relative to credit applications. It does provide the opportunity for individuals to view their personal credit files and to provide those individuals the vehicle by which they may challenge any information, in their files, that they believe to be inaccurate. In case of dispute, the bureau will verify the accuracy/inaccuracy of the information with the source of the data. It does so in an impartial manner and does not favor one side or the other.

For a credit bureau to be successful it must be focused on, and committed to, its ongoing impartiality and integrity. It must source and collect as much relevant credit and identifying demographic information as possible, in the marketplace. The ultimate success of a credit bureau is the amount and accuracy of both credit and demographic information that is contained in its database. Management, in consultation with its clients, data providers and the marketplace generally, must be aware of any and all information that could be used by its clients in fulfilling the purposes for which the client uses the services of a credit bureau.

### **General Overview of Ukrainian Credit Bureau**

The Ukraine Credit Bureau will operate by selling information to potential lenders, safeguarding the information for the borrowers, and verifying and updating information. Individual products and services are set out in this Business Case.

While needs vary from market-to-market, the basic IT components needed to maintain such credit information by a credit bureau are the following<sup>47</sup>:

- Database – A data storing program houses demographic information of potential borrowers, past loan experience of borrowers, current loan experience, existing balances, information of public record, and inquiries of other potential system users. The negative data is determined to be obsolete in accordance with status of limitation laws<sup>48</sup>.
- Input Module – This module allows the clients of the credit bureau to input the demographic information of a particular potential borrower to obtain a credit profile on the individual or company. The input (inquiry) module also allows input of certain information to update or amend any existing information in certain fields such as address or employment. The input module is constructed in a user-friendly “information field” setup. Certain information must be entered to correctly identify the credit applicant. Once this input information is determined to be a correct match for data being held in the database, a credit profile report is returned.

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<sup>47</sup> Specific details are provided in the Technical Section of this report.

<sup>48</sup> This varies from country to country.

- Output Module – This is a report-generating tool. The appropriate data, requested by the clients of the credit bureau, will be accessed by the output module from the database and arranged in data fields for an organized and uniform credit profile.
- Maintenance Module – An internal program is needed by the staff of the credit bureau to access the information in the database. Manual changes to the data are an ongoing part of the service that the credit bureau provides and is a necessary function to maintain the integrity of the data.
- Data Transfer System – Because clients of the credit bureau maintain their information in different formats and use different software programs (particularly in the non-banking sectors of Ukraine), an automated way to upload the information into the database, in a uniform format, is necessary. The data transfer system must allow for computer-to-computer transfer, external media transfer, and manual entry of data.

### **Credit Bureau Operations**

The purpose of the Credit Bureau is to amass and maintain, and then make available, pursuant to contracts with customers, all pertinent credit related information, including demographic data, pertaining to all companies and people in Ukraine. With that end in mind, there are numerous daily operational functions that are identical with any other business, anywhere. Credit bureaus undertake the following functions:

#### **Data Collection**

The collection and “layering” of both demographic and credit data is the most important component in the creation of a database. The entire credit bureau concept centers on the collection, storage, and dissemination of credit-related payment history and demographic information. The information contained in the active trade references being reported will be current and normally be updated at least once every 30 days. Different clients will report the data in different formats, different time cycles, and in “information bundles” containing different data. In Ukraine, this will be especially true in the non-banking sectors. A process will be developed to gather the data from direct lenders, standardize the information, translate the information, and store it appropriately in the database.

The cornerstone of the data collection process will be a “data acquisition” module described in detail in the technical section of this report. This module will be custom built to accept electronic transmissions, upload information from external media, and permit manual entry of data from the data-contributing customers of the credit bureau. The credit bureau will translate all of the information submitted by new customers into a uniform and consistent format to be uploaded into the database. After the initial upload, a monthly update to the information will be conducted, through the same module, to keep the information current. The monthly transmissions of data will all be retained for the purpose

of indicating historical payment performance as well as information verification in the dispute process. The construction of this part of the database program will be the most complex and time consuming due to the logic that must be used to properly accumulate, sort, accept, and store the data.

The module will be built in the formation stages of the credit bureau, but the data collection process will continue on a daily basis.

There are two primary functions in the data collection process that will be performed by staff members of the credit bureau. The first is the routine technical maintenance (e.g. trouble-shooting, user assistance, and program monitoring) to be carried out by a “program technician (s),” which will be a full time staff member (s). The second is the manual data-entry function to be handled by a “credit administrator,” who will also be a full time staff member.

### Data Maintenance

The control and manipulation of the data contained in the credit bureau’s database is the most time consuming and labor intensive function in the entire scope of operations. The accuracy, integrity, and relevance of the data dictate the value of the core product (the credit profile) offered to the customer base and are the central focus of all of the other office functions. A full time staff person, whose primary duty is to record, validate, process, and handle relations with customers and data subjects, will administer the data maintenance function. Proper maintenance will help to make possible prompt and efficient service.

An in-house operating program, or “maintenance module,” will be written to allow user interface from the credit administration staff of the credit bureau. This program will allow administrative text changes to be made to the data being kept by the credit bureau. The program will also have an adequate internal security system to ensure that only authorized users are able to access the database.

### Consumer Relations

An integral part of the day-to-day operational functions of the credit bureau is the customer relations component. Customer relations applies to individual subjects (either companies or individuals Ukrainians) of credit profiles. The customer relations function would include the following duties:

- Answering questions for subjects of credit profiles
- Instructing subjects of credit profiles and existing customers about how to proceed in cases of disputed or inaccurate information
- Researching disputes between lenders and subjects of credit profiles
- Amending or supplementing trade line information, when appropriate.

The data “maintenance module,” for Ukraine is detailed in the technical section as well. The customer service reps will have “read only” access – the system must be designed to show their access with internal notes on files.

Communication between the credit profile subjects and the customer service staff of the credit bureau is critical to a properly functioning credit bureau. The education of the entire lending community is the most labor-intensive part of the entire operation, so it is essential that staffing resources be allocated in a manner in which the cost versus benefit ratio is maximized. “Boiler plate” letters and responses will be developed to cover the most common questions and sources of dispute.

### Credit Profile Generation

The credit data contained in the database is also the end product, when properly arranged into a pre-formatted report. The data will be sent back to the customers in a standard, easy to read format agreed upon by the management of the credit bureau and the technology experts<sup>49</sup>.

There are two distinct steps in the generation of credit profiles. The first is the actual querying function of the database. This function selects the information from the database, pertaining to a specific subject, and consolidates it into a unique reporting of all pertinent credit data existing in the subject’s file. The primary sorting criteria will be the identification number field, followed by the name field.

The second step of the profile-generation process is the actual delivery of the credit profile to the customer. Just as there will be numerous ways in which data must be collected, there will also exist a number of ways to return the final product to the customers of the credit bureau. The most efficient method will be secure electronic transmission<sup>50</sup>.

The “credit administrators” will be responsible for contact with the customer base regarding the “manual” generation and the delivery of the credit profiles. Since the most predominant method of delivery will be “automatic,” the “program technician” will be responsible for overseeing the operation of the connections between the customers and the credit bureau. The automatic deliveries should be seamless to the customers, so it is imperative that the connections between the customers and the database are carefully monitored and kept in technologically sound condition.

### Software and Hardware Maintenance

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<sup>49</sup> The creation of a standard credit report format will be a significant challenge and will require considerable technical assistance expenses. An estimate of these expenses is outlined in the financial section of this report.

<sup>50</sup> Alternate methods are outlined in the Technical Section.

Technical analysts will be the backbone of the software system's operational efficiency. There should be two staff members, initially, to administer to the network and the custom-built software application used to contain the data. The staff members should be local residents of Ukraine so they are aware of and proficient in the use of local technological and communications tools, and are familiar with available "IT" resources. They will be cross-trained and possess an intimate knowledge of the database and all other maintenance and transfer modules. Ideally, they should be involved in the creation of the program to be used by the credit bureau. Their duties will include the following:

- Technical assistance to all components of the hardware and network equipment of the company
- Technical assistance to all components of the software program used in data manipulation
- Supervision of all uploads and data transfers to and from customers
- Assist in new product development and enhancements of existing credit bureau products
- Trouble shooting for inner-office purposes
- Installation and on-site instruction for customers of the credit bureau
- Needs assessment and recommendations for potential customers
- Trouble shooting and customer support for existing customers

### Compliance

The credit bureau will be the first entity of its kind in Ukraine. Management will ensure the following:

- Legal statutes are adhered to when establishing both internal and external policies and procedures
- All policies and procedures are adhered to
- Internal audits are conducted to ensure the compliance to policies by the staff

The compliance function will be an internally controlled operation. The general manager of the bureau will regulate the function. A regular schedule and program will be established, at least on a quarterly basis, to check that:

- Customers have permissible purposes to inquire into credit files
- Customers have authorized signatures to inquire into credit files
- Authorized users (customers) of automated technology are properly licensed
- Credit bureau staff is following proper procedures in investigating, correcting, and amending credit profiles
- Borrower inquiries or disputes are being handled appropriately

### Additional Audit Function.

While it is impossible to audit each individual item of data that is provided to the credit bureau, to ensure it is placed in the correct file, there are tests that can be completed to verify the accuracy of placement. Logic for the placement of information in files must be developed with a small tolerance. A set of audit criteria should be developed and perhaps, 80% (as example) of the criteria should be met before an item is placed on a file. The criteria would probably include: name, address, and date of birth, passport #and other relevant demographic information, for trade line information being placed in a file for the first time. Subsequent placements of that trade line would then include the proprietary account number of the trade line, with the data provider. If the tolerance percentage is not met then the trade item would be rejected and placed in a 'reject database' for individual review by a credit bureau staff member.

In accordance with the Law, the public can look at their own credit files. This is in fact a type of second audit. A second audit is conducted by individuals who view their personal files. The Credit Bureau would

- Provide prompt access to the Credit Bureau system in an efficient and low cost manner.
- Provide access, to individuals, who wish to view their own credit files and to provide a mechanism by which these individuals are able to dispute incorrect information that may be present in their file.
- Hire and retain knowledgeable staff in order to develop the confidence of the public that their disputes will be dealt with in an efficient manner, within a reasonable time frame, and that corrections will be promptly made.
- Provide educational awareness programs for Credit Bureau users and the public at large.

### Policies and Procedures

The Credit Bureau must adhere to policies and procedures regarding access by anyone to the database. To accomplish this, a "Standard Operating Procedures" manual must be prepared and published covering all of the daily and routine functions (in both data manipulation and all other office functions) and procedures. It must be designed to anticipate as many potential circumstances as possible.

### Public Record Investigation<sup>51</sup>

Tracking and storing public record data may require employing some credit investigators because not all data is in automated form or centralized. With respect to court records, there is no uniform reporting method in Ukraine so the Credit Bureau must devise its own investigation and collection procedures. In these cases, the basic operational format would be to employ "credit investigators". They can, depending on priorities, visit, personally,

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<sup>51</sup> Public Record information, in some instances, is not available at this time; access may require an amendment to existing laws.

locations where certain types of public record information are housed. Although civil judgments and liens are not entirely centralized, records exist in some of the major cities.

### Staffing

Upon completion of the Credit Bureau's software system and initial data acquisition, the credit bureau is expected to begin selling reports within 18-24 months from "start date" if not sooner under more optimistic scenarios. Early selection of a General Manager and Office Manager is recommended. These staff members must be involved in the development of the system for familiarization, training, and coordination purposes.

This section, the costs of which are reflected in the financial section, outlines the positions needed, suggested responsibilities, and the number of such positions over time<sup>52</sup> :

- CEO<sup>53</sup> (1 position)
  - Reports to the owners of the Credit Bureau
  - Implements the overall strategy of the company,
  - Maintains appropriate checks and balances regarding strategic, financial or policy decisions
  - Ensures a robust internal security system backed by a highly qualified technical team.
  - Interfaces with government, political and other authorities
  
- Chief Operating Officer (1 position)
  - Responsible for budget and company profit & loss
  - Responsible for sales figures and new client establishment
  - Responsible for product pricing and needs analyses
  - Responsible for potential new product development
  - Oversees sales staff
  - Oversees outside investigative staff
  - Development of basic marketing literature for use by sales staff
  - Oversees the maintenance of the Credit Bureau software program
  - Oversees technical staff
  - Locating office and overseeing all leasehold improvements
  - Furnishing office
  - Maintaining all communications lines and systems
  - Ultimate decision in staffing
  - Ensuring all licensing and governmental requirements are met
  - Purchase of all equipment and standard office software packages
  - Hiring and retaining all outside professional services needed

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<sup>52</sup> This is a fully operational Credit Bureau. All of these positions are not needed immediately.

<sup>53</sup> It is recommended that the chief executive officer of the credit bureau have experience in managing complex private companies in a highly competitive environment

- Setting up banking relationship
- Should be fluent in Russian and English
- Lawyer (1 position)
  - Responsible for dealing with all and any legal issues related to Credit Bureau operations
- Office Manager (1 position)
  - Reports to General Manager and assists GM in all necessary duties
  - Acts as second in charge to General Manager
  - Oversees immediate clerical and administrative office staff
  - Responsible for all office correspondence
  - Responsible for all administrative rules and regulations of Credit Bureau
  - Responsible for all laws pertaining to operation of Credit Bureau
  - Should have familiarity with general office accounting
  - Oversees maintenance and necessary upkeep of office
  - Should be fluent in Russian and English
- Accountant (1 position)
  - Reports to Office Manager
  - Responsible for all tax regulation and compliance
  - Responsible for all employee regulations and compliance
  - Completion of all day-to-day bookkeeping responsibilities
  - Coordinate payroll and appropriate reporting and remitting
- Program Technician (1 position)
  - Responsible for all maintenance, upkeep, updates, and changes to Credit Bureau software program
  - Responsible for all office software in use
  - Responsible for all compliance and ownership requirements pertaining to all software in use
  - Responsible for all trouble shooting
  - Responsible for all client calls pertaining to program malfunction
  - Should be involved in creation and implementation of software program
  - Must cross-train with System Technician
- System Technician (1 position)
  - Responsible for all maintenance, upkeep, updates, and changes to all equipment in use
  - Responsible for all communications, network, security, and hardware maintenance and upkeep
  - Responsible for all ownership registration requirements pertaining to all hardware in use
  - Responsible for design and upkeep of company web site

- Should be involved in creation and implementation of software program
- Must cross-train with Program Technician
- Tape Librarian (1 position)
  - Responsible for establishing uniform formats for the transmission of automated data information from data suppliers
  - Maintain binders containing details of formats from individual data suppliers that will allow for accurate interpretation of the data
  - Establish relationship with designated contact person for each data supplier and maintain details in data supplier binders
  - Track quality of data supplied to the credit bureau as it relates to acceptance and reject rates of the data, each month.
  - Follow up with data suppliers, whose data is seen to be a problem when placed in the database, to determine reasons for problems and establish program for correction. Visit the suppliers, as necessary, to assist with the correction of data placement problems
  - Establish process and frequency for transmission and acceptance of automated data
- Sales Associate (1 position)
  - Responsible for new client development and enrollment
  - Responsible for prospecting for new clients for credit bureau services
  - Responsible for handling all potential client inquiries
  - Responsible for carrying out marketing program
  - Responsible for obtaining all necessary contract and membership information required from clients and potential clients
  - Responsible for investigating client complaints
  - Liaison between clients and credit bureau
- Credit Administrator (5 positions)
  - Processing of data obtained from all sources
  - Reviewing all information for accuracy and legitimacy
  - Handling and directing all incoming client support calls
  - Answering client questions pertaining to the administration of data
  - Answering consumer and commercial inquiries into the accuracy of files
  - Completing all necessary disclosures, inquiries, and verifications required by law
  - Conducting all verifications for any “enhanced products” offered
  - All other duties deemed administrative and appropriate in nature assigned by Office Manager
- System operator (3 positions)
  - Processing of data obtained from all sources
  - Reviewing all information for accuracy and legitimacy
  - Handling and directing all incoming client support calls
  - Answering client questions pertaining to the administration of data

- Answering consumer and commercial inquiries into the accuracy of files
  - Completing all necessary disclosures, inquiries, and verifications required by law
  - Conducting all verifications for any “enhanced products” offered
  - All other duties deemed administrative and appropriate in nature assigned by Office Manager
- Credit Investigator (1 position)
    - Records and reports all appropriate public record information to bureau office for inclusion in credit profiles
    - Responsible for performing post audits of proper borrower authorization on existing clients
- Receptionist (1 position)
    - Directing all incoming telephone calls
    - Performing any necessary typing, mailing, or other necessary manual activities
    - Setting up appointments for General Manager or Sales Reps
    - Keeping calendar of General Manager and Office Manager
    - Acting as office liaison and tracking the whereabouts of Credit Investigator and all other outside employees
    - Directing and allocating company driver
    - Greeting and accommodating all visitors
- File Clerk (1 position)
    - File and retain all necessary written information per any retention laws
    - Oversee storage facility and ensure orderly and easily accessible backup records for archived material
    - Assist in typing, mailing, or other necessary manual activities
    - Fill in for receptionist in absence

### Locations

The Ukraine Credit Bureau is expected to serve the entire country. At the outset, one office in Kyiv would be the most effective location to start operations for logistical and cost control reasons. Moreover, a majority of the initial target population of credit data resides in Kyiv.

## PRODUCTS AND PRICING OFFERINGS IN UKRAINE

This sections details suggested product and pricing options for the Credit Bureau in Ukraine. The recommendations are the result of on-the-ground research and interviews with prospective clients and data providers.

### PRIMARY PRODUCTS

#### *Consumer Credit Profile*

##### *Definition*

The “consumer credit profile” will be the core product offered by the Credit Bureau to its clients, or “subscribers.” This product is simply a report, furnished to clients, divulging any or all of the pertinent demographic and credit data contained in the main database, for the purpose of helping creditors to determine the credit-worthiness of a particular applicant for credit. The available data to be furnished in a consumer credit profile, most of which is available would include the following:

- Identification Number
- Name and any variations
- Current and prior address information
- Current and prior employment Information
- Individual loan information containing the following
  - Name of creditor
  - Relationship of subject profile to transaction (e.g. individual loan, joint loan, co-signer, etc.)
  - Account or loan number<sup>54</sup>
  - Type of loan (e.g. revolving credit, automobile loan, mortgage, etc.)
  - Original date of loan or date account opened
  - Original amount of loan or amount of credit line
  - High credit attained (for revolving accounts)
  - Term of loan (e.g. 12 month, revolving, on demand, etc.)
  - Term amount of loan (periodic payment amount)
  - Balance of loan
  - Past due amount
  - Date information reported (month and year)
  - Manner of Payment (MOP): Current status of loan (e.g. 1=current, 2=1-30 days past terms, 3=30-60 days past terms, 4=61-90 days past terms, 5=91+ days past terms, 9=default account).
  - Date last paid

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<sup>54</sup> Generally not necessary, especially for credit cards. In some markets, the only time an account number is returned is when the inquiry is from the company that issued the number – otherwise fraud may occur.

- Historical pay history of loan (recap in column form of number of times 1-30, 31-60, 61-90, etc.)
- Number of months reported in historical pay history
- Field for comments (e.g. last 3 dates loan was paid past terms, special agreements for specific loans, etc.)
- Public Record information pertaining to past or present credit transactions including the following
  - Name of authority reporting record
  - Type of record being reported (e.g. civil judgment, mortgage, etc.)
  - Plaintiff or lien issuing party (e.g. tax municipality, creditor, etc.)
  - Date judgment or lien granted
  - Amount of judgment or lien
  - Current status of judgment or lien (active or satisfied)
  - Field for comments
  - Payment pattern report that shows monthly ratings back for two years
- Other inquiring parties indicating
  - Date of inquiry
  - Name of inquiring party
  - Type of lender (e.g. bank, retail merchant, etc.)
  - Phone number or Subscriber code

### *Background*

In Ukraine, products and services that are related to the actual consumer credit profile would not be available for the marketplace until the Credit Bureau database is “mature” and “full.” Mature means consumer files containing trade lines with history exceeding one year, while full means the volume content of most consumer files in the database would be sufficient to satisfy and service subscribers.

### *Pricing*

Full pricing scenarios are outlined in the financial section of this report. The median price to be targeted, and the price used in the profit and loss forecasts, ranges from US\$ 1.50 to \$5.00 (U.S.) per credit profile<sup>55</sup>. Based upon pricing in other parts of the world, lack of similar existing products in Ukraine, value-added effectiveness to current procedures, and potential savings by clients, a price closer to US\$ 3 could be obtainable.

Pricing is expected to be structured and tiered based upon three primary criteria:

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<sup>55</sup> Proposals have been made for pricing greater than US\$ 5.00 per report. We feel such pricing at this time would not be appropriate.

- Data Provider Status – Subscribers contributing proprietary information will receive lower pricing. If certain subscribers are instructed to transfer data, pricing becomes less clear<sup>56</sup>
- Technology status - Subscribers who contribute and access data in an automated format will receive lower pricing than those who use hard copy format
- Volume - Higher volumes will dictate lower pricing

Pricing for shareholder who are also users of the credit bureaus products and services will depend on other factors.

Incentives should be structured so that a high-volume client contributing data in an automated format could earn pricing as low as \$1.00 (U.S.) per file, while a non-contributing, smaller-sized client (such as a local merchant, who stands to gain the most through streamlined procedures and increased sales, and has nothing to contribute) could pay considerably higher rates per file. We did not attempt to figure tiered pricing into the financials presented herein.

### **SME/Micro-Finance Credit Profile (Commercial)**

#### *Background*

Presently SME/Microfinance Enterprises, and banks that provide SME/Microfinance loans, have no central database, which they can access. The purpose of the access of a central database would be to determine if an applicant for a SME/Microfinance loan has an existing commercial loan and the manner in which it is currently being repaid. The purpose is also to determine if the applicant has ever been granted a SME/Microfinance loan. If the applicant has been granted a commercial loan in the past the SME/Microfinance enterprises and banks have no source to access to determine efficiently payment history. This information would indicate the applicant's willingness and probable repayment capacity. Contacts made with these SME/Microfinance Enterprises and Banks indicate they want and would support the creation of a central database where information on present and past Microfinance loans would be stored. The information would include demographic information as well as information on the history of repayment of these loans.

#### *Function*

All SME/Microfinance loans, paid and currently with a balance, would be placed in a sub database of the main Credit Bureau database. These accounts would have a special identifier or flag that would set them apart from other information in the main database.

The information on these loans would include demographic information, the name of the enterprise that granted the loan and a record of the repayment of each loan. The report should contain information on related companies, name of owners and founders, and the

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<sup>56</sup> It could be free for a trial period.

type of collateral, if any, and if available. The record of repayment would include: date loan was granted; dollar amount of the loan; dollar amount of agreed upon monthly payment of the loan; current dollar balance outstanding; dollar amount overdue (if any); and the current payment status (rating) of the account<sup>57</sup>.

Applicants for a SME/Microfinance loan would have their name matched against this database. The matching would only be against the accounts that were flagged as Microfinance. If there were a match, the Credit Bureau system would present to the requestor of the information all the demographic information relative to the match as well as the history of repayment of the matched account and the name of the grantor of the matched SME/Microfinance loan.

This attempt at matching a name would take place in seconds, assuming the request was completed over the Internet or via proprietary software on a PC.

This would be a significantly more efficient method than the current practice and would provide vital information as to the repayment history of the loan that is presently unavailable.

### *Pricing*

The pricing in the financial section is structured and tiered similarly to that of the consumer credit profile. In principle, however, there would be one of 2 prices attached to the request for a match:

1. The lowest price would be to a grantor of SME/Microfinance loans who shares their proprietary information, for the Credit Bureau database, in an automated format.
2. The middle price would be to a grantor of SME/Microfinance loans who shares their proprietary information, for the Credit Bureau database, in a hard copy format.

### **Agricultural Credit Profile**

#### *Background*

Agriculture has always been a key sector of the Ukrainian economy. Most banks do not have long-term agricultural sector strategies, and as such, do not have separate agricultural credit departments. Credit grantors extending credit to the agricultural sector have indicated they require additional information, separate from a normal credit report, on an individual,

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<sup>57</sup> Rating is defined as follows: #1 rating is an account that is being repaid as agreed; #2 rating is an account that has a monthly payment that is 30 days past due; #3 rating is an account that has one or more monthly payments that are 60 days past due; #4 rating is an account that has one or more monthly payments that are 90 days past due; #5 rating is an account that has one or more monthly payments that are 120 days or more past due; #7 is an account that has had the security repossessed by the loan grantor; #9 rating is an account that has been deemed uncollectible or a bad debt. There are other methodologies.

that provides additional and specific information as it relates to the credit applicant's farming operation. The same would apply to company farming operations.

The credit grantors have advised in their experience, when contacting other creditors for information on their credit applicant that incorrect information would be provided so that the source of the information would minimize the risk of losing that individual's business to the company seeking to obtain the information. There seems to be minimal trust amongst credit grantors. Their view, though, is that a credit bureau would be able to obtain accurate information, as a third party, which would validate the accuracy of information and thus improve the credit granting process.

Currently the majority of farming/agricultural credits are extended to individual farmers and, as such, the basic individual credit report would be requested and an enhanced report would provide information that would focus on issues as defined by the agricultural credit granting community.

### *Definition*

Farming/agricultural credit applications require specific and in-depth investigation as it relates to the farming operation of the applicant. This tends to be a time consuming and costly exercise, particularly given the need to double check and verify information. The additional, and reliable, information would ensure a better informed credit decision.

The agrarian credit report would be an enhancement of the basic individual credit report and would include information specific to an individual's farming operation and business relations.

The report, which will need to be developed in close cooperation with the agricultural lending institutions and credit unions, would contain information such as the State Tax I.D. number, names of founders and owners of the company/farm<sup>58</sup>, the location of the farm or fields when the credit is obtained for farm production purposes, identity of other business associates/entities of the borrower<sup>59</sup>, and information on collateral<sup>60</sup>.

The report would contain the following, additional information, provided it could be obtained from credit grantors and other sources:

- Specific location of the farm of the credit applicant along with any fields and the size of the acreage.

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<sup>58</sup> This information is important as there is a practice to register a new company if the credit is misused or the farm became unprofitable.

<sup>59</sup> Some borrowers have a tendency to move funds between companies for a variety of reasons.

<sup>60</sup> Currently, a credit officer goes to the state registry of collateral items (which cost time and money). For reasons of efficiency, some banks would like to have data on collateral in the same database.

- Should there be a record on non-payments, these non payments would be expanded as to reasons that could be caused by poor paying habits or, specific non payment reasons associated with the credit applicants farming operation. This would be done by specific non-payment codes that would indicate if the reason was due crop loss caused by adverse weather, failure of insurance company to honor claims for crop loss, government direction to destroy crops in a controlled market, animal loss for any reason etc.
- Principals of the company and its management.
- The specific state tax ID # of the principals and of the company itself if it is a company versus an individual's farm operation.
- Cross reference to any companies linked or associated with the credit applicant company/individual.
- Comprehensive information on livestock or other assets that belong to the credit applicant's farming operation.
- Any further information that could be obtained by credit bureau personnel that would be of value to the credit grantor.

### *Pricing*

Pricing would be of the same concept as the enhanced credit profile product described below.

### **Products for the Insurance Market**

#### *Background*

The Ukraine Insurance industry offers automobile collision and comprehensive insurance, life insurance, loan insurance and accident and disability insurance.

The industry has significant concerns in all areas and it relates primarily to fraud.

It is estimated the annual fraud is in the range of 25 million HRV (\$5 million USD). It is focused on:

- a) staged accidents where the driver has several policies on the same vehicle and files a claim with each. In addition, the accident may not have even happened.
- b) when an accident does occur, and there are multiple policies with different companies, the policyholder may not file a claim with all companies in order to maintain preferential premiums.
- c) where a policyholder has an accident and because the driver was intoxicated, the police would misrepresent the date of the accident to a date when the driver was sober.
- d) where a policyholder lies about his vehicle being stolen and, again, files claims with several companies.

- e) insurance company employees who accept a full year's insurance premium from policyholders yet only report the policy and premium for a brief period, pocket the difference, and hope there are no claims against the policy during the one year period.
- f) policy applicants misrepresent the fact they have not had any accidents which means they receive a premium reduction – Insurance companies check the Police accident database and applicant may have had his accident record expunged, in return for money.
- g) falsified green cards (green cards provide history of an individual's driving record – this information is maintained a central European database) are prevalent. Offenders are being prosecuted and these individuals are exposed publicly via a public awareness of the guilty parties. As a result fraudulent green card experience is on the decline.
- h) Bank collusion on insured loans. As example, a Bank would indicate a loan would granted to purchase an automobile when, in fact, it was used for another purpose and the insurance company has no security when the credit is in default.
- i) misrepresentation of medical conditions. Applicants for life insurance for friends or relatives fail to advise of existing medical conditions such as cancer. Applicants for critical illness or disability insurance fail to notify company about existing illnesses. There are few ways to verify statements of applicants.
- j) Individuals obtain policies with a number of companies and then file claims will all of them for the same occurrence. There is no central database to be checked to determine if other policies are in force or for duplicate claims.
- k) Some applicants fail to disclose assets. This would indicate the applicant has undeclared income and the question arises as to what other subjects are they misrepresenting.

The industries difficulties stem from the fact they do not have a central database in which policy information and policyholder experience, from the insurance industry, is stored and could be accessed, at will, by the industry.

As a result there are three products that would be developed for the use of the Insurance industry to allow them to reduce or perhaps eliminate this fraud.

The products are:

1. A central database of all insurance policies issued in Ukraine, by insurance companies. - Insurance Companies would be able to access the database for all policy applicants to ensure persons do not have similar policies with other companies. After the population of this database, each company's policyholders would be matched against the database and if policyholders were found to have similar policies with other companies, a report would be prepared, providing this information to the affected Insurance Companies. This information would be contained in a sub database of the credit bureau that could be accessed by insurance

companies. For each access (search) the Insurance company would be charged a fee attached to it as a revenue generator for the credit bureau.

2. A central database that lists accident/theft claims, both past and present. - When an accident or theft claim is filed with any insurance company that insurance company, by checking with the credit bureau, would be able to determine if a similar accident/theft claim has been filed with another company against the same occurrence. They would further provide details of that claim, to the credit bureau database, for the benefit of other companies who may also be checking on a similar claim. This procedure is designed to eliminate fraud that occurs when a person files more than one claim on a particular accident or particular automobile theft.
3. A similar database, to #2, that would list claims for disability and life insurance. The same procedure would be followed as #2.
4. A central database that lists names and details of individuals who have or have attempted to commit fraud on any insurance company in Ukraine. When an accident occurs, and a claim is filed, the detailed information would be checked with the database to determine if there has been any fraud conducted in the past by the individual filing the claim. When a fraud is committed, that information is filed with the database.

The information to be used in all databases would also include: the Passport number, the tax number (if issued) demographic information from all insurance companies on their policyholders, accident and automobile theft information and any other information that may be deemed relevant to the databases.

At the end of 2004, there were approximately 5 million outstanding automobile insurance policies in Ukraine and approximately 180000 life and disability policies. It is known that the insurance companies are actively looking for a source that would provide them with an independent database where proprietary information could be placed for easy access and without fear of losing customers to competition. The credit bureau would be that third party and all individuals interviewed, in the insurance industry, confirm they would be accepting of the credit bureau providing these products.

### *Pricing*

The Credit Bureau will have the ability to segment the products requested by the insurance companies. Data from different sections of the insurance database should be sold separately. The structure below is suggested:

- The procedure of checking whether or not a person has multiple insurance policies (a “policy search”) should be the first product priced in the range of \$2.00 (U.S.) or 10 HRV.

- Checking on persons who are filing claims for automobile accidents or automobile thefts (a “claim search”) constitutes a second separate product. Pricing in the range of \$2.00 (U.S.) or 10 HRV, is suggested.
- An enhancement in the form of details regarding a “hit” (a search reporting a positive finding that the subject had filed other claims), assuming that Credit Bureau personnel would have to manually furnish this information, should be an additional charge of at least \$1.00 (U.S.) or 5 HRV.
- A special bulk price, “Batch Reports”, could be established for a company to check its complete proprietary database against the Credit Bureau database; this report would be provided in automated format to check for any duplication in policies with other insurance companies. This product could be priced at between 10% and 50% of the price of an individual “policy search,” providing that it is requested in bulk and in automated format. No activity at the moment.

It is expected that insurance companies would want to check most of their outstanding policies to see if there is duplication – for this reason a special Insurance “Batch” product is included in the cash flows. When the insurance product becomes available, insurance company verifications in the first period could exceed 50% of the number of outstanding policies. It is expected that the first round of users will probably be “Batch” requests where the Credit Bureau could negotiate a “fixed or percentage of total accounts requested” charge. The financials reflect a fixed fee of US\$ 5,000 per request (25000 HRV) for reference.

### **Other Products and Services**

The products indicated in the “Other Products and Services” section could be developed while the Credit Bureau database is being built and matures. The section outlines one ‘first generation product’ and two, “second generation products”. The second generation products can be added to the core products, after the database is fully developed, in order to offer “value-added” enhancement features.

### **Application Processing- First Generation Product**

#### *Definition*

Many credit grantors, when faced with large volumes of credit card applications choose to have a third party company handle the processing of these applications from the retrieval of the applications from a secure lock box to the initial input of the application into a secure system, to completing the credit investigation process and credit decision and the authorizing or declining of the credit that is requested. Credit reporting agencies, will offer this service, given the primary investigation tool will be the credit report.

The product will also include the sharing of proprietary account information with the credit grantor, written communication with the applicant, on behalf of the credit grantor, and the requesting of a credit card with the card processing center.

### *Background*

In countries that are on the cusp of significant credit card growth, the volumes of credit card applications that are generated are such that the credit grantor who issues the credit card for which an applicant is applying, are unable to predict volumes and, as a result, are unable to ensure that there is sufficient staffing to handle these credit card requests in a timely manner. As a business it is important for the credit grantor to control their staffing and not to overstaff, in anticipation of business that may or may not occur. As a result these credit grantors prefer to outsource this business that companies who are interested in handling this business and do so for a variety of credit grantors. The concept especially applies to the retail sector, which has grown on average 40% over the past two years.

These large volumes of credit card applications are defined as ‘mass credit’ and are reflective of what is projected to occur in Ukraine. As example, one credit card association has indicated their anticipation that the number of credit cards issued, by their member banks, is anticipated to grow by 300% annually over the next five years. This growth is only possible through mass credit and the credit applicants that are generated could be processed by the credit bureau under an application processing product.

### *Activity Process*

The process is as follows:

- Credit card applications are retrieved from a lock box at a postal station where the applications have been sent.
- The applications are delivered to the credit bureau application processing center.
- The envelopes containing the applications are unsealed and the information on the application is input into a customized screen that matches that of the credit card application.
- Once the information is input, the application is then ‘credit scored’ (assuming the credit grantor has provided criteria to evaluate the demographics of the application).
- Once the score is determined the application would then proceed to the next step, assuming it is a score that is equal to or higher than a score that is established by the credit grantor.
- If the score is less than the established score, the application is declined and a letter is generated to the applicant, advising of the decline and the details provided to the credit grantor.
- If the score is equal to or higher than the established score then a credit report is requested, through the credit bureau application processing system.
- The application is then rescored and based on that score, matched against a minimum score that is established by the credit grantor.

- If the minimum score is not achieved then the application is declined and a letter is generated to the applicant, advising of the decline and the details provided to the credit grantor.
- If the minimum score is achieved then, based on criteria as established by the credit grantor, it may be that employment must be verified or simply that the application is approved.
- The credit limit to be set for the approval is normally based on the score.
- Once the approval has been finalized then the credit card processing center will prepare automated information to be forwarded to the credit grantor for distribution to the card manufacturer for creation of the credit card.
- The successful credit applicant's information is input into the credit grantor's system and becomes a component of their credit card portfolio.
- The documentation is normally stored electronically with the credit grantor or it may stay with the credit bureau application processing center depending on the preference of the credit grantor.

There may be other services provided by the credit bureau application processing center as determined in discussions with the credit grantor depending on the ability of the credit bureau to handle these services.

### *Pricing*

Pricing will be established on a per (application handled) unit basis, as a minimum, and further charges will be added if the credit application proceeds through all the steps noted above and is issued a credit card.

There also may be other charges incurred that could include document storage, back up data record keeping, etc.

The cost for application processing will be handled differently from credit reports and depends on specific negotiations with those who deem this service useful. Attached to the service should be the cost of a credit report along with the cost of a credit score that would be attached to the credit report – subject to legislation. Application processing, depending on various factors, could cost up to US\$ 20 per application handled.

### **Enhanced Credit Profile**

#### *Definition*

Certain credits, especially mortgages, require much greater and in-depth investigative procedures on the part of credit grantors. In many cases this is a time consuming process for them and they would be interested in out sourcing this type of activity. For an additional cost the Credit Bureau staff would produce and return, to the client, a credit profile that contains the following value-added features:

- Verified employment information
- Verified current residence information
- Verified salary
- All current balances updated
- Mortgage liens checked

When a financial institution is considering lending a higher than usual amount to a consumer or commercial entity, it would be desirable to obtain more than the information furnished in the standard credit profile. The Credit Bureau would service requests for updated and enhanced information for high-dollar and specialized loans, such as mortgages. The mortgage market in Ukraine is on the verge of significant growth and with that growth will come the need and resultant demand for this type of enhancement to the credit report, especially in the early times of an expanding mortgage market. The growth in the mortgage market will feature the development of new types of mortgage product, adding further demand for Credit Bureau services.

A variety of custom created formats could be used. A special form would be submitted to the Credit Bureau containing an applicant's express authority to conduct such an investigation, and a report that contains the normal credit profile would be returned with additional sections containing specific information pertaining to salary, employment, residence, etc. The completed report would be delivered to the client upon completion of the additional investigation. The estimated time for this type of product varies, dependant upon the requested party's response time. The general turn-around time should average between three to five days.

### *Background*

Currently, in Ukraine, credit investigations are conducted by staff specifically employed to conduct these investigations. Bank credit investigators work through a "contact network" which is costly and time-inefficient.

While research suggests that there is demand for Enhanced Credit Profiles, it is unclear how costly this product would be to develop and to gain market acceptance. Logistically, the Credit Bureau will already have a staff in place that handles a form of the enhancement proposed, by updating and verifying profile subject disputes. Certain staffers of the Credit Bureau could be trained to effectively research the needed additional information. If, on the other hand, this product is rolled out in year three, and well received by the market, product sales would cover the possible need to add specialized staff.

### *Pricing*

Costs of producing an enhanced report could vary, depending upon the services called for by the requesting party. In principle, because of the somewhat ambiguous process of gathering some types of credit related information, the Credit Bureau would charge a fee

higher than for standard credit profiles. For Enhanced Profiles, it would be recommended to charge the customer between \$10.00 (U.S.) (50 HRV) and \$15.00 (U.S.) (75 HRV) per verification. A discount should be offered to a party who needs verification of all items offered in the “definition” section. Such a complete “enhanced” report should cost between \$20.00 (U.S.) (100 HRV) and \$30.00 (U.S.) (150 HRV). The financial section of this report reflects an average price of US \$20 (100 HRV) beginning in the third year.

### **Generic Risk-Based Scoring Model**

#### *Definition*

An increasingly popular tool in the credit card, mortgage, banking, leasing and credit granting industries is “risk-based scoring.” This is the process whereby a numeric score/value is assigned to the credit profile, of a credit applicant, indicating the likelihood of that applicant defaulting on a new loan, within a specific period of time. A custom-designed computer matrix generates the score. The existing data in a credit profile is run through the computer matrix, giving different weights to elements in that file (e.g. ratio of balances to high credit; number of times late within the past 12 months; number of existing revolving balances; etc.). The score that is produced, based upon a pre-set scale (average consumer), factors in loan history, current activity, recent trends, and borrowing patterns of the particular applicant and measure it against the average consumer profiled in the database.

#### *Background*

In a number of markets, risk-based scoring is the basis on which a number of bank and mortgage “automated approval systems” have been developed in order to remove much of the time and effort involved in issuing approval to applicants<sup>61</sup>. Assuming the score reflects the probability of default or an applicant’s repayment capacity, the credit approval and pricing process is simplified, saving, in the long run, both time and financial resources.

In Ukraine, the credit bureau management team, most likely, would need to design and build a country specific model. The financial section anticipates the use of a simple model with low penetration.

#### *Pricing*

Financial section reflects a price of US\$ 0.50 per score. Given the fact that the database would need time to build historical information and the fact that credit scoring relies on historical information, it is anticipated that sales would begin in the 4<sup>th</sup> year of the existence of the credit bureau.

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<sup>61</sup> Most banks use their own ‘custom scorecard’ as the first step and after credit report is accessed, then the ‘generic scorecard’ is used as the second step.

### *Comment*

*A credit score, however, should never replace the independent risk assessment of the borrower by the lender rather a credit score is a valuable tool in the credit decision.*

### **Alert Message**

This is a product that would be an optional component of a consumer credit report and could be priced at 10 or 15 cents per search. Once activated, the service would apply to all credit report requests, without exception.

This automatic system provides a message to alert subscribers to the credit bureau system as to heavy inquiry activity, as well as mismatches between input information and information on file. Credit grantors may receive multiple messages on a given application.

The concept is that information that is input to request a credit report, should it differ from that of the file on that consumer that is in the credit bureau database, would be identified as such to the file requestor in a text message.

As example, if the input that identifies the current address differs from the current address that is in the consumer's file in the database, then a message would be returned 'address information is different'. This text message would apply to birth date, identification number, telephone number etc.

This would normally be used as a fraud detection tool by subscribers' to the credit bureau's reporting service.

### **Address Verification**

This is a product that would be offered separately from a credit report. There would be a transaction fee for each request, regardless of the result.

This service is a fraud detection product that will allow retail subscribers to verify the billing name and address of natural persons who wish to pay for purchases with a credit or debit card. These purchases would occur when goods or services are purchased by phone, by mail or via the internet.

The concept is that should either of the name or address of the natural person purchasing the good or service, in the manner noted above, be different from that shown on the natural person's credit file, then the retail subscriber would be notified before the transaction is completed. The methods of purchase are ones that are open to fraud given the retailer never come into direct contact with the retail subscriber.

### **Inquiry Notification**

This product would be offered separately from a credit report and transaction charges would occur when information is provided to a subscriber to the service.

Subscribers may have a customer account where they do not have current information, especially in regards to the address, and are unable to locate the customer. They would register this customer's information with the credit bureau and whenever an inquiry is received on that consumer's credit file, because the file is 'flagged', a message would be generated and automatically sent to the subscriber. The message would be that an inquiry has been registered on the file. The subscriber would normally react by immediately requesting a copy of the consumer's credit report (they would already have a blanket authorization to check the file) and looking for new information that would assist them in locating the customer.

The subscriber would be charged \$2 or \$3 dollars when a message is sent and they would normally follow up with a credit report request.

### **Derogatory Information Notification**

This service is optional for subscribers to the credit bureau and would include all credit files where a consumer owes money to that subscriber.

Subscribers would want to know when one of their customers has derogatory information placed on their file – the derogatory information could be a legal suit, a collection or deterioration in another trade account belonging to the consumer.

The system would be programmed with logic that would identify any of the subscriber's customers who have new information placed on their credit report that would be described as derogatory. When this occurs a message would be sent to the subscriber that would advise them of this occurrence.

The subscriber would be charged \$2 or \$3 dollars when a message is sent.

### **Address and Telephone Discrepancy Notification**

This is a product that would be an optional component of a consumer credit report and could be priced at 10 or 15 cents per search. A subscriber would normally request this service on new applications on which he was completing a credit report request. Once a subscriber had been activated for this service, the request for this service field, that is part of the input screen, would be activated allowing for their request.

To offer this product the credit bureau would have to obtain a listing of addresses for all of Ukraine. They would also have to obtain, from the telephone companies, the ranges of telephone numbers that would be assigned to certain regions of Ukraine. The two databases would then be merged together so it would be a simple matter to distinguish the regions (and by extension addresses) to which specific telephone numbers (and the telephone number ranges) would be assigned.

When a credit report request is received, this merged database would be checked and if the telephone number and address, provided in the input information, does not coincide with the assignment of telephone numbers to addresses, then the subscriber would be notified via a message that would be a part of the credit report.

An occurrence like this has proven to be an indicator of potential fraud, unless there has been an input error on the information used to request the credit report.

## **Business, Marketing, Building a Credit Bureau**

### *Goals and Data Layering Process*

From the commencement of the creation of a Ukrainian Credit Bureau, the main goal of the First Phase is to obtain basic identification and demographic information. This information would form the initial layer of the Credit Bureau Database. Once the information has been placed in the Credit Bureau Database, the Phase Two campaign will commence. That Phase will encompass the obtaining of additional and proprietary credit information to be placed atop the initial information. Efforts in Phase One and Phase Two will probably overlap. The Phase One campaign would normally take approximately several months at a minimum. Phase Two would follow this effort or could, possibly, be commenced during Phase One.

International experience has proven that the most effective and successful way to construct a good credit reporting database is proper **Layering**. **Layering** means that the database should be built and populated with data in a specific order.

The first layer is the demographic data. Key search identifiers such as passport numbers, taxation codes or other text data (name/address date of birth) are entered into the database with the subjects demographic information (name, address, date of birth etc). The more accurate this data is, the stronger the first layer will be. Ideally the best source of consumer demographic data is government databases of tax data and/or passport data.

The second layer is the addition of proprietary credit information from one financial institution at a time. The number of files created compared to the number of records supplied would begin to establish how well the algorithms in the **Search engine** (the logic by which information is distributed to the correct files) differentiate individuals. File fragmentation (different files for same individuals with slightly different demographic data) must be kept to a minimum as each layer is added by making any changes to the search engine that is required.

After the data from the first financial institution is loaded, data from the second financial institution would be loaded to the database. The number of new files created as the second financial institution information is processed would begin to determine if search is exhaustive enough to locate the correct subject. The process repeats until all layers have been added.

The consequence of improper or poor layering is the creation of a database with incorrectly placed information and provides no way of differentiating correctly placed data from incorrectly placed data. This would mean the database would need to be deleted and restarted from a zero base, implying that all previous work was of little or no value. *This improper or poor layering could cost the shareholders of the company tens of thousands of dollars, delay credit report issuance by at least one year, and extend the breakeven point, for the profitability of the credit bureau, well beyond the time frame that would be otherwise expected under normal business conditions.*

Therefore, the Credit Bureau Data Base must be constructed correctly: data needs to be understood, organized, captured, and layered (or Phased) into the Credit Bureau's computer systems in the proper order. Products cannot be made available before the database is "ready".

*However, with proper technical assistance, Phase Two could be commenced during efforts that would be underway in Phase One. In fact, given the decision making process that would occur during client contact in Phase One, those decisions might be slow in coming. Rather than waiting, Phase Two could be commenced after the initial Phase One contacts have been completed.*

### **Phase One**

It is mandatory that the information in Phase One be obtained in 'automated' format. It may be received on the following media: CD-R, CD-RW, magnetic tape, diskette, cassette, on-line real time or 'email'. Some of the information sources noted below have electronic databases that would allow for automated transmission of information<sup>62</sup>.

The Ukrainian **Passport Number** (PN) and **Taxation Identification Number** (TIN) numbers were determined to be the most reliable and stable identifiers of Individuals. Application for a Passport must be made when an individual turns the age of sixteen (16). Business is conducted upon presentation of the Passport as identification. The Passport also contains the individual's address, their marital status, name of spouse, names of children (if any), place and date of birth and date Passport issued. TIN data is stored in regional data bases connected to a unified network. The database includes data on persons and businesses which have paid taxes.

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<sup>62</sup> State Committee on Regulatory Policy and Entrepreneurship (in process), State Tax Administration of Ukraine and Ministry of Internal Affairs have electronic data bases which allow automated data transfer. Therefore, it is possible to receive and update information in the automated format (electronic information carrier).

List of Existing Public Registries: The first 4 databases are the most important for the credit bureau.

Priority of placement in CB	Principle Source of information	Nature of information	Number of entries
<b>First Level Priority</b> <sup>63</sup>			
1	Ministry of Internal Affairs	Passport (or certificate) number (PN)	Over 30 mln.
2	State Tax Administration of Ukraine	Identification number of tax payer (TIN)	Over 20 mln.
3	Ministry of Internal Affairs	Driver licenses of individuals, automobile registration/ car theft registration	Over 10 mln.
4	State Committee on Regulatory Policy and Entrepreneurship	Unified state registry of legal entities and individuals — subjects of entrepreneurial activities	Files being converted into electronic format. number of accounts not confirmed.
<b>Second Level (other available public record data to be uploaded when and/or if appropriate)</b>			
5.	National Bank of Ukraine	Registry of creditors	
6	Ministry of Justice	List of information from the registries of the Ministry of Justice item 1 -8*	
7.	Ministry of Internal Affairs	Data on registration of violations/investigations	
8.	State Executive Service	Information on public auctions on sale of confiscated property	
9.	Subsidiary “Judicial Information Center”	Bankruptcy DB <sup>64</sup>	
10.	National Bank of Ukraine	Registry of borrowers <sup>65</sup>	

The above priority sources represent the location of data information to be collected in the first phase. When transferring this data to the credit bureau database, each of the noted databases has nuances which must be fully understood prior to transfer. Given the sum of the above databases, there will be sufficient ‘unique identifiers’ (identifiers that are unique

<sup>63</sup> Legislation must be thoroughly analyzed to determine the condition for accessing such data.

<sup>64</sup> Registry of SE Judicial Information Center DB “Bankruptcy”. The DB exists but there are no normative acts on its existence, and there are no opinions on its representation. The indicated information does not exist in hard copies. It is published according to the court decision in the official mass media.

<sup>65</sup> Registry of NBU borrowers. The banks which concluded a contract with the NBU (Registry of Borrowers) are connected to this system. A bank submits to the Registry of Borrowers information on overdue or bad debt borrowers in local and foreign currency. The database is for debtors with loans in excess of UAH 10,000. Commercial banks independently transfer data from their local (internal) data bases to the Registry of Borrowers data base. Use of the NBU database is voluntary.

to an individual) that can be attached to individual credit files to enable the Credit Bureau search logic to locate the correct consumer credit file as requested by Subscribers.

### *General Commentary*<sup>66</sup>

#### 1. Unified state registry of legal entities and individuals — subjects of entrepreneurial activities

Contains data on a legal entity: full name of a legal entity; identification code of a legal entity; form of ownership; organizational and legal form; location of a legal entity; list of the founders (participants) of a legal entity, main types of activities; full name of a person who has the right to take legal actions on behalf of a legal entity without the power of attorney; data on the statutory fund amount, as well as the amount of paid-in statutory capital as of the date of conducting the state registration and the date of completion of its formation; date and number of entry on conducting the state registration of a legal entity; series and number of the certificate on state registration, date of issuance or replacement of the certificate on state registration; data on the statutory documents, date and number of entries on making amendments to them; data on the date of registration and end of registration in the statistical bodies, state tax authorities, Pension Fund of Ukraine, social insurance funds; data on location of a legal entity in the process of termination, in particular, the date of registration of the decision of founders (participants) or bodies authorized by them on termination of a legal entity, data on the termination commission (liquidator, liquidation commission etc.); date and number of the entry on the state registration of legal entity termination, grounds for such entry.

The Unified state registry contains the following data on an individual – entrepreneur: name of an individual; identification number of an individual – tax payer; residence; main types of activities; date and number of the entry on conducting state registration; data on the date of the beginning of registration and date of the end of registration in the statistical bodies, state tax authorities, Pension Fund of Ukraine, social insurance funds; data on location of an individual - entrepreneur in the process of termination of entrepreneurial activities, date and number of the entry on state registration of termination of entrepreneurial activities by an individual - entrepreneur, as well as the grounds for such entry.

#### List of registries of the Ministry of Justice:

1. Registry of Rights to real estate ownership:
  - a) The following have the right to receive extracts from the registry: Owner (owners), his heirs and successors of legal entities, authorized persons. The court,

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<sup>66</sup> Databases in process of studying: *Registry of the registered securities owners – Order of the Securities and Stock Market State Commission # 60 dated 05/26/98*  
*Registry of the state corporate Rights – Resolution # 72 dated 05/14/99*

bodies of internal affairs, prosecutor's offices, state tax authorities, state executors, notaries, bodies of the State Security Service of Ukraine and other state bodies (officials) if the request is made in connection with exercising by them of powers defined by the effective Ukrainian legislation, receive information from the Registry of Rights on the form of the corresponding Bureau of technical inventory (BTI). Should the required data not be available in the Registry of Rights, paper-form data are used.

2. State registry of mortgages

- a) Any individual or legal entity has the right to receive an extract from the registry with respect to the following: the existence or non-existence of an entry in the Registry on encumbrance and changes in the terms for encumbrance of real estate with mortgage, cession of rights under the mortgage contract, transfer, issuance of a copy of mortgage certificate and issuance of a new mortgage certificate, issuance of the certificate on state registration of estate encumbrance with mortgage.

3. State Registry of movable property encumbrance

- a) An individual or legal entity may use the Registry through the unified computer data base connection which is managed by the Registry administrator (on the basis of a contract concluded with it).

4. State registry of transactions (certain civil and legal contracts)

- a) The following transactions are subject to the state registration: purchase and sale contract, exchange contract on land parcel, estate complex, residential house (apartment) or other real estate; contract on transfer of real estate against rent payment; perpetual maintenance contract according to which the acquirer receives real estate in ownership; contract on rent of the building or another capital building (their separate part) concluded for the term not less than 1 year; contracts on movable property; other transactions related to state registration that is envisaged by the law.
- b) An extract is issued at the request of the party to the transaction or persons authorized by it. A request should be supplemented with a document on payment for issuance of the extract. The courts, prosecutor's offices, bodies of internal affairs, state tax authorities, security service and other state organs receive the extracts if a request was made in connection with their powers defined by the law.

5. State registry of real estate encumbrance

The following have the right to receive extracts on the existence or non-existence of impounded assets:

- a) State notary offices and private notaries; Upon written request - judges, arbitration courts, prosecutor's office, investigation bodies - in connection with criminal, civil or business cases in their proceedings, as well as bodies of the state executive service - in connection with opening of executive proceedings. On written request from the bureau of technical inventory - in connection with conducting by them of registration of ownership to real estate - extracts on non-existence of arrests of real estate objects.

To receive an extract, a fee is collected from the person who applied to get something notarized, and the amount of the fee is established by the Ministry of Justice of Ukraine.

- b) In order for the credit bureau to access this information, the Cabinet of Ministers should adopt respective regulation that would govern these issues.

#### 6. State registry of Executive Actions

- a) Information from the Unified registry is given in the form of extracts. Individuals and legal entities have the right to receive extracts from the Unified registry on the debtor and arrested property through direct access to the Unified registry on the basis of the corresponding contracts with the Administrator or according to written request to the Administrator.

7. Unified registry of testaments and succession cases
8. Unified registry of authorizations certified by the notaries
9. Unified registry of notaries of Ukraine
10. Unified registry of protection signs and special forms of notarial documents
11. Unified state registry of the associations of citizens and charitable organizations
12. State registry of the certified judicial experts of the state and business structures and citizens
13. Unified state registry of the normative and legal acts

The state enterprise Information Center of the Ministry of Justice of Ukraine (hereinafter – SE Information Center) established by the Ministry of Justice of Ukraine in 1997. Organizational structure of SE Information Center: central office and 24 regional offices in the regional centers of Ukraine and Autonomous Republic of Crimea. The enterprise works on a self-supporting basis. The main task of the SE Information Center is to design and implement computer technologies in the departments of justice in Ukraine, establishment of the computer network of the Ministry of Justice and organization of inter-ministerial information exchange. Other main directions of enterprise activities include informatization of the Ukrainian notariate, judicial activities and bodies of civil registration.

Extract from the Resolution of the Cabinet of Ministers of Ukraine “On the State Enterprise Information Center of the Ministry of Justice of Ukraine”: To establish that the Ministry of Justice shall define tariffs for inclusion in the registries and for providing the relevant information from the registries, for use of this information and other services rendered by the registry administrator to individuals and legal entities.

Technical issues: separate registries of the state enterprise Information Center have two types of access: on-line access with non-standard exchange protocol and off-line access also with non-standard protocol TCP-FOSS which is conducted on technology of the National Bank of Ukraine network. In the process of establishment, there is the unified on-line access based on Internet technology. This will provide a possibility to create more reliable and accessible technology for access to the registry. The registry data base will be created with use of RDBMS Oracle Server Enterprise Edition. The software for registrars is designed for application on computers with Windows XP operation system. To ensure easier access of users, it is planned to design a Web-interface.

#### *General Overview of Data Collection: Process*

A component of the information gathering effort that was made to determine the feasibility of a Credit Bureau in Ukraine included a large number of contacts made with Banks, Credit Unions, Insurance Companies and Government sources to gain an understanding of the proprietary information they had in their databases and the quality and content of that information.

As you embark on the construction of the database appointments should be made, and confirmed on the date of the contact, to visit potential government information suppliers. These calls should be completed ‘in person’ by the CEO and/or the General Manager of the credit bureau. This approach is essential to obtain greater credibility and ultimately success in building relationships with individuals and businesses. It is further recommended that an individual who has experience relative to information procurement for a Credit Bureau accompany either or both of them on these visits.

Once the information supplier reaches a verbal agreement, with the Credit Bureau regarding the sharing of information, an authorized representative of the supplier and an authorized representative of the Credit Bureau should sign a ‘Tape Data Agreement’. Technical details of information transmission should be identified on a standard form. Then ‘Subscriber Data Processing Files’ should be set up, for each information supplier, in individual binders and maintained by the Tape Manager of the credit bureau. The information in the binders would include the ‘Tape Data Agreement’, the technical details of information to be transmitted and a file layout of the information to be transmitted. Follow-up should be established, by the tape data department, to ensure information is initially received and a system set up to ensure updated information is received ongoing, preferably every thirty days.

#### *Strategies for Success*

Individuals making contacts with other potential suppliers of demographic information for a credit bureau's database should have proven themselves in the sales and marketing area. Theoretical skills are important but it is the practical application of their knowledge and experience that will determine success.

The individual(s) making these contacts must be empowered and have the authority to make the best transaction possible with the ultimate goal being to obtain the information to be used in the construction of the Credit Bureau. It takes intuition, foresight and flexibility to make changes to strategies and to game plans when success is not initially achieved. Having the ability to be nimble and change your approach and emphasis during one of these contact meetings, as well as knowing how to 'close' the transaction are additional traits in the individual making the contacts.

Proprietary non-Government information may be obtained using a variety of strategies, and must be carefully considered.

As it relates to the successful procurement of information for a credit bureau database, the most important component of any strategy is to know the credit bureau products and services and how, by a potential information supplier supplying their information, it would be to the advantage of these potential information suppliers to share their information with the Credit Bureau. It is also important to enunciate the benefits of sharing information. It is important for the credit bureau's sales and marketing personnel to understand the 'Big Picture' in the true value of a Credit Bureau and to ensure the prospective information suppliers understand that providing their information would be of significant value to the growth and prosperity of Ukraine and, for suppliers of proprietary information, to the benefit of their clientele and their own enterprises.

## **Phase Two**

### *Goals of this Campaign*

Following agreement for transfer of personal identification data, which is generally contained in government records, to the Credit Bureau database, the next phase of the campaign covers two components:

1. to obtain agreement from proprietary information sources. The Credit Bureau will have to negotiate specific contracts with each potential suppliers of proprietary data information in order to enhance data quality and correctly prepare and layer information into systems.
2. to convince enterprises to become subscribers to the Credit Bureau and to use the products and services offered by the Credit Bureau.

The businesses that will be approached to supply information in this part of the campaign, will generally, as this report indicates, have their information available in “automated format” – prioritization will be necessary. The value of automated information is that it is simpler to handle and requires less involvement by staff. Any information that is obtained in ‘hard copy’ format requires manual entry into the database. For purposes of efficiency and accuracy, the preference is for ‘automated format’ information.

In this phase, the potential suppliers of proprietary information should be pursued for their total account receivable information that would include positive and negative information from accounts that are open and paid. Also included should be a request for bad debt information. Interviews conducted with the priority enterprises noted below all have the capability to transmit proprietary information in an automated format.

The primary focus of Phase Two is to obtain “quality and volume” proprietary information to be used in the construction of the Credit Bureau database. This focus should not preclude supplementary efforts to interest these potential suppliers in using the products and services as may be offered by the Credit Bureau after the start-up phase. Records of these contacts should be made for reference purposes for Phase Three of this campaign, which outlines Credit Bureau products and services.

As part of Phase Two, there are primary contacts that should be made to potential proprietary information suppliers and potential users of Credit Bureau products and services. Data suppliers, including the banks, credit unions and insurance companies, have responded positively to supplying their proprietary information to a Credit Bureau.

#### *Primary Sources of Data*

In order of priority, based on information gathered, below is the sequence of importance that should be followed in attempting contact and subsequently complete calls to data suppliers of proprietary information. The proprietary information of the enterprises shown below is valuable to the construction of the Credit Bureau database.

Note:

- Financial institutions, Insurance companies and credit unions capture normal demographic information, on individuals, as well as the Ukrainian Passport number and taxation number. Databases of retailers, mobile companies, and others, may vary in quality and structure, although that information is unknown at this juncture and needs to be determined. Financial institutions have been found to maintain in-depth information on the histories of individual credit extensions, present and past.
- Where Banks issue plastic cards to individuals, the predominant majority are debit cards guaranteed by the individuals’ employers.

### *List of Priority Accounts (Proprietary Information)*

A list of priority accounts follows and only represents a cross-section of potential information sources.

#### *Financial Institutions*<sup>67</sup>

- 1) Major Ukrainian Banks including PrivatBank, AVAL, Prominvest, UkrosotsBank, UkrSibBank and all other major banks.
- 2) National Associations Credit Unions of Ukraine (NACUU) <sup>68</sup>– This Association has 130 Credit Union members which collectively account for over 50% of loans issued by credit unions. Three major Credit Unions are not members of the UNASC, and represent 40 % of the market. There are 619 Credit Unions in Ukraine of which 600 are licensed.

#### *Insurance Companies*

- 3) League of Insurance Organizations – The LIO over 100 members. There are different types of insurance policies in Ukraine – and based on interviews, 20 % of payments in the auto insurance sector, for example, are fraudulent. The quality of databases will require considerable work to integrate into the credit bureau as a “sub-database”.
- 4) Major Ukrainian Insurance Companies include Garant Insurance Group and Aska Life Insurance – two of the largest companies in the market.

#### *Non-Banking Enterprises/Utility Companies*

Non-banking enterprises in Ukraine, both public and private, that could participate at the outset in the Credit Bureau include the following:

1. Ukraine Telephone Company - Kyivstar and UMC (MTS), including Ukraine Telecom
2. Utility Companies – Information from the utilities companies is not a priority at this time, although as this market sector matures, it is likely that many companies would be willing to exchange data with the credit bureau.

#### *National Bank of Ukraine Database*

1. National Bank of Ukraine Database – negative database only. Currently there are approximately 6,400 accounts in the database. Reporting is voluntary and selective

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<sup>67</sup> The data was primarily gathered from interviews with the financial institutions, and as such, we rely on the figures provided.

<sup>68</sup> Source: Ukrainian National Associations of Savings and Credit Unions

amongst reporting banks of which there are approximately 100. Information is transmitted to the National Bank electronically. The minimum amount to be reported is \$10,000 UAH. When an account is paid in full, the information is deleted from the database. While this information may be of value to a credit bureau, the reliability and detail of the information is inconsistent.

### *Leasing Industry*

The major leasing companies. The leasing industry has expressed an interest in participating in the credit bureau – both as data suppliers and data users.

### *Merchants*

Once the primary contacts, noted above, have been made, Credit Bureau personnel should approach other financial institutions, retailers and other enterprises that may have proprietary credit information. It is anticipated these companies would, in principle, welcome the use of credit bureau services as providers of goods and services move from a “cash” basis to a credit basis.

### **Process for securing information from a potential data provider**

#### *Financial Institutions and Companies Already Contacted*

Arrange an appointment with the key contact person, or designate, of the enterprise. The purpose is to conduct follow up meetings with key personnel already interviewed and to arrange their participation as a proprietary information supplier and/or subscriber to the Credit Bureau. Companies previously contacted are aware of the proposed establishment of a Credit Bureau in Ukraine. Continued support at the senior management level should be pursued: a detailed status report on progress since last contact should be made. Senior managements should inform their respective IT or account management departments of the Credit Bureau’s activities.

#### *New Business Contacts*

First time interviews should be conducted utilizing the ‘survey-sell’ marketing approach. This means when you commence the interview you explain you are conducting a survey to determine expansion opportunities for your business and need to gain a comprehensive understanding of the market and market opportunities before you commit to investment and increased staffing. You proceed to provide a definition of a Credit Bureau, background on the project to date and the value of a Credit Bureau to the enterprise in particular and the economy generally. Then engage the contact person in discussion to determine their knowledge regarding Credit Bureaus. If they are conversant about Credit Bureaus determine the depth of their knowledge. The person interviewed should be encouraged to ask questions at any time.

In a conversational manner complete a questionnaire to develop an understanding of the needs of the enterprise and how the Credit Bureau might assist in meeting those needs. Completing the questionnaire allows the Bureau representative the opportunity to determine details of any consumer information the enterprise may have and whether that information is automated or available in 'hard copy'. The questionnaire should be developed by the sales and marketing department. The answers to the questionnaire would allow the interviewer to gain knowledge of the interviewee's business that would then allow the interviewer to focus on relevant credit bureau products and services that could be sold to the interviewee as well as procuring an agreement to supply proprietary credit information, as applicable.

Determine the enterprise's interest in sharing their proprietary information with the Credit Bureau and their interest in utilizing any of the Credit Bureau's products or services, when they become available. Depending on the seriousness of the enterprise's interest in sharing their proprietary information (both positive and negative information) determine the process required to obtain this proprietary information for the Credit Bureau e.g. do they require approval from another individual or committee in order to share the information?. If yes, determine the details (e.g. how does the enterprise's Information Technology Department handle the sharing of this proprietary information? How available is any proprietary information that is in 'hard copy'?

It is not likely for an information sharing approval to be obtained during the initial interview. However, if an approval is received, be ready to commence the process of obtaining their proprietary information.

Seek out the contact's advice on what they feel would be the best advice they could offer as to the ways to achieve success for the Credit Bureau. Follow up by querying them on what factors would prompt that enterprise to participate as a proprietary information supplier and/or subscriber to the Credit Bureau.

Upon completion of the interview, arrange a follow-up date to have contact again as the next step in obtaining the enterprise's proprietary information (if available) in addition to becoming a Credit Bureau subscriber and user of products and services. Create a hard copy file that would contain a summary call report of the salient points of the interview, the completed questionnaire and suggested follow up steps. Further contact with the enterprise is focused on the procurement of their proprietary information and a commitment to become a subscriber of the Credit Bureau and to utilize the Credit Bureau's products and services.

When pricing is established for Credit Bureau products, specifically the individual credit report, there should be a three-tiered structure established. The purpose of this three-tiered pricing approach is to further "incentivize" companies to participate in the credit bureau system. Those enterprises providing their proprietary information in 'automated format' would pay the lowest price for credit reports, enterprises providing their proprietary information in 'hard copy' would pay the middle (second) price. Those enterprises that

don't, or are unable to, provide their proprietary information (assuming they have information to provide) would pay a higher price (third price). The higher pricing provides an incentive to enterprises that attract the higher price to find a way to provide their proprietary information in automated format and attract the lowest price for credit reports. Another option is to provide a specific number of 'free' reports, on a one-time basis, in return for regular transmission to the Credit Bureau of proprietary information from potential information sources.

The final strategy, which would work in tandem with the Credit Bureau marketing strategy, is to divulge the names of enterprises that are currently supplying their proprietary information to the Credit Bureau. *An agreement must be obtained to use the name of the company supplying their proprietary information.* Historically it has been proven that if you use the name of a company supplying proprietary information, the company to whom you are conveying this information will generally be conversant with someone at the company used as a reference. They will then confirm directly with the company purported to be supplying proprietary information to verify that fact. Under no circumstance should the name of a company be divulged to a third party without that company's prior express permission in writing.

#### *Additional Actions*

User groups should be established in individual business sectors such as electric power, agriculture, and retail sales, etc. with the following purposes:

- Becoming better acquainted with individuals and their enterprises.
- Obtaining feedback on how to develop business for the Credit Bureau.
- Obtaining feedback on how to procure proprietary information for the Credit Bureau database.
- Gathering opinions on the products and services of the Credit Bureau that would meet respective requirements.
- Develop partnerships to nurture the growth and success of the Credit Bureau
- Build camaraderie and a sense of belonging, relative to the Credit Bureau, in each of the individual business sectors.
- Breaking down the barriers of mistrust that may be present amongst competitors in individual industries.

Credit Bureau personnel on a periodic basis should host meetings of these user groups with specific agendas developed in conjunction with members of the user group. An important agenda item, at each meeting, should be an update on the progress of the Credit Bureau with special emphasis on recent successes that would include development of new proprietary information sources, new subscribers, technical enhancements etc.

Credit Bureau personnel should actively participate in any trade associations that have prospective Subscribers to the Credit Bureau. Examples would include the Chamber of

Commerce, Retail Merchants Association, and Banker's Association etc. This type of participation creates important networking opportunities and should be fully utilized.

The ownership of the Credit Bureau should consider providing financial incentive to Bureau personnel who wish to take educational courses in order to develop an improved understanding of the individual business sectors whose enterprises have potential to participate in the Credit Bureau.

Periodically, the Credit Bureau should prepare and distribute a newsletter about the Credit Bureau and recent events relating to the Credit Bureau. The distribution should be to existing subscribers and 'decision makers' of enterprises that are not as yet subscribers to the Credit Bureau. This letter is designed to ensure current and prospective subscribers to the Credit Bureau are fully aware of the Credit Bureau and its offerings.

Brochures and marketing materials should be developed and produced for distribution to new and potential subscribers. This material would provide basic information on the operation of the Credit Bureau and relevant information on the products and services offered by the Credit Bureau.

Occasional seminars should be conducted to educate the market as to the purpose and operation of the Credit Bureau. Attendees would include potential subscribers as well as consumers at large. Part of the seminar could be arranging guest speakers, on a variety of subjects that might be of interest to attendees.

Qualified Credit Bureau personnel should be available, as speakers, to service groups, consumer groups or business groups to spread the word about the Credit Bureau and its operations.

Credit Bureau personnel should be encouraged to constantly be aware of initiatives that would enhance the success of the Credit Bureau. They should be alert to any opportunities that would assist Credit Bureau growth.

### *Strategies for Success*

The strategy points, outlined in the Phase One section will apply to the Phase Two campaign. Additional strategies that focus on personnel and incentives follow.

### *Employee Goals*

Goals should be discussed and jointly agreed upon between management and employees. These goals would involve each employee who participates in the effort to obtain proprietary information and manage Credit Bureau accounts. The goals must be meaningful and achievable. In past construction of Credit Bureaus this type of goal setting has proven to be critical to the success of proprietary information procurement.

The goals should be related to employee success in procuring proprietary information on behalf of the Credit Bureau. The measurement applied to these goals includes the number of proprietary information accounts from each enterprise who agree to share their information with the Credit Bureau. An additional measurement component is the time period taken to obtain this proprietary information. An example would be: 'Employee is to successfully obtain agreement from four enterprises for their sharing of proprietary information with the Credit Bureau.

These agreements should be obtained over a fixed, yet reasonable, period of time such as sixty or ninety days. A visible tracking mechanism should be displayed at the Credit Bureau premises showing the employee goals and the success of the specific success of employee efforts in meeting these goals.

Employee compensation must have one component that recognizes the successful efforts, of employees, in the pursuit of proprietary information for the construction of the Credit Bureau. Further compensation must be focused on the employee's success in attracting new subscribers to the Credit Bureau and the use of Credit Bureau products and services by these new subscribers.

### *Training*

A thorough understanding of sales and marketing of the Credit Bureau and its products and services is essential. This understanding would be gleaned from an active training program. Foreign partners or foreign consultants should be invited to Ukraine to provide this training program. These partners/consultants would demonstrate successful methods of conducting interviews with potential proprietary data suppliers and prospective subscribers of Credit Bureau products and services. These partners/consultants would answer questions, during these interviews that will inevitably be asked on any future interviews.

A component of the training should include a list of questions that might be expected during these interviews and suggested responses to these questions. Before any actual 'live' interviews are conducted role-plays should occur, with those Credit Bureau personnel who will eventually have responsibility for conducting these interviews. The foreign partners/consultants should be active participants of these role-plays. The initial 'live' interviews should be conducted by the foreign partners/consultants with Credit Bureau personnel as observers. Then Credit Bureau personnel should conduct 'live' interviews with foreign partners/consultants as observers. Debriefing sessions should then occur in order to critique the interviews.

### **Phase Three**

#### *Goals of this Campaign*

Successful marketing and sales of Credit Bureau products and services is a goal of this campaign, as is the success of the continuing efforts in obtaining additional proprietary information and manage Credit Bureau database and emerging products/services.

This campaign commences at the point in time the Credit Bureau has developed products or services that are considered ready for sale to Subscribers. During the Phase Two campaign, seeds were planted with Credit Bureau Subscribers or potential Subscribers while efforts were underway to secure proprietary information. These seeds were for potential product and service offerings of the Credit Bureau. The campaign will be focused on 'in-person' interviews with Subscribers and potential Subscribers.

Phase Two normally be in progress when Phase Three commences. In fact, the effort to attract proprietary information for the Credit Bureau database is an ongoing project.

Phase Three success will commence revenue generation for the Credit Bureau. The skill set of the Credit Bureau's sales and marketing department's staff will determine the success of this campaign.

#### *Process*

Sales and marketing staff should utilize normal sales and marketing techniques while drawing on the background information that was developed as part of Phase Two. The information was related to Subscribers and potential Subscribers' needs and interests in Credit Bureau products and services. Credit Bureau personnel should make reference to this information and develop a plan of action in advance of interviews.

Credit Bureau personnel should seek out the opinions of Subscribers and potential Subscribers as to other enterprises who may need the services or products of the Credit Bureau. These enterprises should then be approached to determine potential to conduct business with the Credit Bureau.

Using member lists from organizations such as the local Chamber of Commerce should develop prospects that might use the services and products of the Credit Bureau. A mass market mailing campaign should be considered. This campaign would introduce the Credit Bureau and its products and services. It would further solicit questions as potential lead-ins to developing business for the Credit Bureau.

Prospective Subscribers should be asked questions, similar to the questionnaire noted in Phase Two. The answers to these questions would guide Credit Bureau personnel in identifying areas where product or service sales could be successfully completed. Further questioning would determine potential volumes of Credit Bureau products and services for these Prospective Subscribers.

#### *Strategies for Success*

The strategy points, outlined in the Phase One section will apply to the Phase Three campaign. Additional strategies that focus on personnel and incentives follow.

### *Employee Goals*

Goals should be discussed and agreed to between Management and staff of the Credit Bureau. These goals relate to signing and activation of new Subscribers and the dollar volume of sales of Credit Bureau product and services from all Subscribers.

A portion of employee compensation should be derived from success in the achievement of these goals. In effect, commissions should be paid on the sale of Credit Bureau products and services as well as new Subscriber signings and activations.

### Closing Comments

It must be noted and understood that, based on past international experience and comments from meetings in Ukraine, that the procurement of proprietary information is a challenging and difficult process. Expectations should be achievable and realistic. The necessity to have proactive Credit Bureau ownership actively involved in this process, in the early stages, is essential. Maintaining a motivated Credit Bureau staff will be a challenge that can be overcome with success in procuring proprietary information from enterprises.

Once appropriate legislation is in place, history has proven procurement of proprietary information as the most difficult component of constructing a Credit Bureau database. Phases Two and Three of the Credit Bureau marketing strategy will be an ongoing process.

## **FINANCIAL ANALYSIS: ASSUMPTIONS AND PROJECTIONS**

### ***Introduction***

The financial assumptions and projections section is designed to provide a better understanding of the sources and uses, quality, timing and magnitude of cash flows given several different financial scenarios. The scenarios reflect the 3 Phased Business/Marketing Strategy outlined in the previous section. The cash flow projections (sources and uses) serve as a benchmark and allow potential investors and operators to estimate profitability and rates of return given revenue/expense assumptions.

In addition, the cash flow scenarios are presented to help:

- anticipate financing needs, financial flexibility, and funding mix;
- weigh business risks and opportunity costs against strategic objectives;
- estimate management flexibility in pricing, product sales, discounts, or special offers to attract business and/or fight off competition;
- estimate long-term earning power and quality;
- plan for staffing and equipment over time given potential business expansion and competition.

Since there is no precedent for a Credit Bureau in Ukraine, there is no clear historical experience to help estimate the demand function for credit bureau services. Most financial organization in Ukraine do not track applications. Product offerings, their market entry, penetration, and proposed pricing are based on a combination of quantitative and qualitative data: interviews, statistical and economic data, credit processing costs, and an analysis of the consumer market as well as other research outlined throughout this report. We incorporated into our analysis the experience and practices of credit bureaus internationally for pricing, penetration and product offerings.

We used historical data on the demand for credit as a proxy and the starting point for estimating the overall demand for Credit Bureau services over the short term. This assumption, given that banks currently dominate the credit markets, is reasonable, and provides an excellent benchmark for estimating non-bank sources of demand. Surveys of both banks and credit unions served as a basis for a number of key assumptions used in this report. In addition we analyzed key demographic data, wage and income levels, and some other economic indicators in estimating demand. Our analysis quantifies and qualifies all available loan data as of year-end 2004: types, amounts, volumes, number, and sources. The data was obtained from various sources including the National Bank of Ukraine, Ministry of Economy and the International Monetary Fund, private banks, credit unions, insurance companies, and the leasing industry. Information sources included a mixture of published material and interviews. To our basic benchmark bank demand numbers from financial institutions, demand from mobile phone, insurance and utility companies strengthened the Credit Bureaus revenue stream.

Because of the lack of quantitative data to estimate demand from “non-traditional” Credit Bureau users in Ukraine, we did not attempt to calculate application rates from landowners, collection agencies, and employment agencies. Credit Bureaus in other markets, however, experience some demand from these sources.

### ***Presentation of Financials***

The financial statements are in constant U.S. dollars. All figures reflect cash activity and are incurred in the year they appear; we do not adjust cash flow for potential non-cash activity or “accounting revenue/expenses” even though the financials reserve per year 20% of the original cost of equipment for replacement in the seventh year<sup>69</sup>. Short-term receivables or payables are not shown as all would be expected to be settled within 3-6 months. Taxes are considered, including VAT<sup>70</sup>.

### **Cash Flow Estimation and Scenarios**

Three basic financial scenarios set out alternative profitability and break-even points given different pricing structures<sup>71</sup>, sales and growth expectations for the entire or different sectors of the Ukrainian market<sup>72</sup>. The Base Case scenario is for the total Ukrainian market. The scenarios range from the conservative to optimistic and are as follows:

- a) Scenario A for Base Case/Option 1 – Conservative Economic Growth /Conservative Pricing
- b) Scenario B for Base Case/Option 1 – Continued Conservative Economic Growth / Aggressive Pricing
- c) Scenario C for Base Case/Option 1 – More aggressive growth and pricing than in Scenario A

Because it is highly probable that there will be more than one credit bureau in Ukraine – and therefore data fragmentation -, we shrink the size of the data base in the Base Case and lay out several different alternatives.

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<sup>69</sup> This assumption is aggressive and is maintained in all 5 scenarios.

<sup>70</sup> Taxes must be assessed independently. The investor must be aware that the tax regime in Ukraine is subject to change as in any sovereign jurisdiction.

<sup>71</sup> Pricing, as herein used, is indicative. We understand that pricing may vary and each credit bureau will have a different opinion as to pricing. For example, during the first year of operations (sales), management may offer credit reports to some of its clients for free. Alternatively, management may offer tiered pricing, various types of volume related discounts or rebates.

<sup>72</sup> During the interview process and while reviewing existing published documents, opinions on market sector growth rates varied. For example, some observers believe that credit unions (as an industry) will continue to grow at current rates of growth. Other observers believe that credit unions will not be able to compete effectively against the major banks, and that, as a result, business activity will decline over the medium term. Each analyst must perform his own “due diligence” of market conditions over the next 6 years.

- d) Option 2 provides P/L for a fragmented market. In Option 2 we subtract from the Base Case (Scenario A/Option 1) a large portion of the banking sector.
- e) In Option 3, in addition to a large portion of the banking sector, we further subtract the activity arising from Credit Unions.
- f) In Option 4, in addition to Option 3, we further subtract 1 mobile phone operator, insurance and utilities.

Moreover, given that a credit bureau cannot build a database all at once or even over the short term<sup>73</sup>, the business plan estimates data transfer rates when estimating revenue. There is no scientific or statistical way of estimating data transfer rates – particularly given the absence of “consent” clauses on most credit application forms. The “Hit Rate”, as used in the market demand analysis and necessary for estimating revenues, is expected to be nil in the first year in all scenarios, irrespective of data fragmentation, and extremely low in year 2. It rapidly increases in year 3 and beyond.

In Scenarios A and B, we make conservative assumptions about economic growth; prices vary. For comparative purposes, we present an alternative option in Scenario C, where changes in expected economic growth and pricing would be expected to have a direct effect on revenue streams.

Revenue arises from two main sources: a) product offerings and b) services. Products and services generate income depending on price, timing and rate of market growth and penetration. No scenario takes into account expected volume discounts or “special offers.” Pricing options, which are only indicative, are extremely flexible. There is no attempt to capture all options or reflect a standard price because there is no such standard.

Revenue from product sales begins in the 2<sup>nd</sup> year from the “starting date” for all scenarios. The major sources of revenue arise from 4 major sectors: a) retail or consumer lending<sup>74</sup>, b) credit cards, c) automobile and mortgage loans and d) mobile phone operators (applications to open post-paid accounts).

Product prices vary depending on the scenario and range from US\$ 1.00 to US\$ 3.00<sup>75</sup>. As a credit bureau develops, moreover, it is critical to generate income as early as possible. In this respect, there are several options that a credit bureau should immediately consider, including the development of client identification confirmation, alert messages, fraud

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<sup>73</sup> A financial institution cannot transfer any confidential data to a credit bureau without the written consent of the borrower; likewise, historical information is limited. Currently, most banks do not include consent clauses in credit application forms. Moreover, there are technical reasons why a bank cannot simply transfer all its account data to the credit bureau. Short term means in this context at least 6 - 12 months.

<sup>74</sup> According to a July 2005 study by A.T. Kearney, Ukraine’s retail market has grown by 40% on average over the past two years – well ahead of the rest of the economy.

<sup>75</sup> In Ukraine, some analysts have suggested that prices for products could be as high as US\$ 10. We believe this is high and did not apply those prices in this business plan.

detection services, and/or the “flagging” of borrowers with poor repayment histories<sup>76</sup>. Some of these services, including “Batch requests” are reflected in the financials. Surcharges can range from US\$ 0.20 cents to 0.50 cents. As mentioned, these additional charges are only indicative, serve as benchmarks and will vary.

The assumption that revenue begins before the 2<sup>nd</sup> year differs from the normal experience in many developing markets. Most newly established credit bureaus do not begin to generate credit reporting until at least the third year of operations since it takes time for the database to mature and produce a valuable product. The reasons for reflecting this basic assumption in the various financial scenarios are the following:

1. Major credit bureau operators have already developed software in the CIS market. This makes its “customization” and application in Ukraine easier, in terms of time and effort, than just 5 years ago<sup>77</sup>.
2. The relatively high technical/computer sophistication of the banking sector allows for streamlined and upgraded data transfer
3. There are multiple modern available means of access to a Credit Bureau including system-to-system, P.C., Internet and letter/fax

Expenses begin immediately, are front-loaded and are conservative. Costs reflect a fully functional and staffed Credit Bureau: a cutback in expenses would directly affect the bottom line and the amount of capital that the owners of a credit bureau will require. Costs are fundamentally fixed in all scenarios except for staffing, rented facilities, communications, miscellaneous expenses and for a few other cost items as reflected in the financial section. Telephone expenses are a percentage of sales but capped in each year so as not to exceed US\$ 25,000 per annum. Cost estimates were made in the 2<sup>nd</sup> quarter 2005 and reflect expenses in Ukraine.

We assume that inflation will not affect computer hardware and software: it is for this reason that replacement of computer systems and other credit bureau equipment in the 6<sup>th</sup> year is the same as in year 1.

Some credit bureau operators charge royalty fees. Royalty fees could range from 1% to 5% for each credit report sold<sup>78</sup>. However, we do not reflect this potential charge to the credit bureau as it is assumed that such expenses would be passed on to the client, and therefore, would be netted from the P/L.

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<sup>76</sup> Specific product descriptions are included elsewhere in the body of this report.

<sup>77</sup> Software must be customized as stressed in other parts of this business plan. A credit bureau can not simply buy software “off-the-shelf”.

<sup>78</sup> Different formulas may be applied – such as scaled (increasing or declining) fee structures. In some cases, there may be no royalty fees.

### ***Return on Investment and Value of Equity***

We did not attempt to determine the present value of shareholders equity. Potential investors can apply discount rates and adjust cash flows pursuant to their own assessment of risks given market conditions, specific investor hurdle rates and tax rates.

Likewise, no effort is made to estimate dividends to individual shareholders. The sum of the cash flows received from equity, discounted at appropriate rates, gives the value that can be obtained for an investor<sup>79</sup>. On-going enterprise value must be factored into the calculations for equity valuation. We do not attempt to estimate transfer or other forms of sovereign risk.

### ***Pricing Assumptions***

Pricing options outlined in this section reflect the following:

1. The general range of prices that Credit Bureaus offer for similar products in various emerging markets<sup>80</sup>;
2. An assessment of costs in Ukraine for processing one loan application.
3. Estimated market demand for a new product
4. The Credit Bureau's market position and competition.

### ***Financials of Ukraine Credit Bureau***

#### *General Pricing Assumptions:*

1. Membership fees priced at \$250.00 (U.S.) per year
  - a) Membership fees waived during first two years.
2. Service Installation priced at \$150.00 (U.S.) per customer, one time fee
3. Enhanced Reports priced at \$20.00 (U.S.) per report
  - a) Not available in any scenario until year 4
  - b) Little development cost involved; can be implemented with existing staff
4. Risk Based Score priced at \$0.50 (U.S.)
  - a) Future product development does not begin until year 3

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<sup>79</sup> It is recommended that an investor use the discounted cash flow method using free cash flow each year plus a perpetuity value at the end of the forecast horizon. The sum of these values is assumed to be the Credit Bureau's total value. The Credit Bureau's value can be increased by the amount of any residual (excess) cash and by the market value of non-operating assets, assuming there are any in the future. The current market value of any debt assumed and other miscellaneous items can reduce the net amount. The final result generates the value of equity capital.

<sup>80</sup> Prices for standard Credit Reports vary depending on service, amount of detail, demand, and other factors. As of 2003, for example, in Canada, the average price for ordinary users was C\$ 5 or more yet for high volume, system users, prices range from C\$1.5 to 3.00. In the United States and the U.K, prices averaged approximately US\$ 1.00, in Italy, US\$ 2, in Poland, Euro 1.00-2.00, in the Czech Republic, Euro 1.75, and in Argentina, more than US\$ 3.00 for local credit bureaus.

- b) Expected lengthy process development and testing period, even if purchasing existing system
- 5. Consumer and Commercial Profile prices vary by scenario. Prices can range from US\$ 1.00 to US\$ 3.00.
- 6. Insurance product pricing begin no sooner than year 3 for all scenarios. Low activity.

*General Market Assumptions:*

1. Real GDP growth projections over the next 5 years are based on IMF and Ukraine Government statistics<sup>81</sup>: Year 2: 5%; Year 3: 5%; Year 4: 5%; Year 5: 5%; Year 6: 5%. Depending on the market and products (mortgages, credit cards, consumer lending etc.), we alter the growth rate assumptions because of the specific growth dynamics in each of the markets analyzed herein.
2. As of 1<sup>st</sup> quarter 2005, Ukraine's total population was approximately 47.2 million: The number of employees/workers who actually worked 50% of the time or more was 10,656,900 (March 2005)<sup>82</sup>. Workers whose wages exceed UAH 500 (US\$ 100<sup>83</sup>) accounted for 52.3% (5,573,558 persons) of 10.6 million<sup>84</sup> or 11.8% of the total population.<sup>85</sup> We assume US\$ 100/month as the minimum monthly personal income<sup>86</sup> that a bank would require from a person applying for a consumer or retail loan<sup>87</sup>. We assume that the number of people in Ukraine who earned at least US\$ 100 per month would grow at the rate of the overall economy throughout the projection period unless otherwise noted. .
3. Since the 1998 financial crisis, the number of SMEs has grown on average over each of the past 6 years by 8.8% each. Based on official statistics and taking into account the above growth rate, we assumed that there were approximately 295,471 SME's in Ukraine as of January 2005<sup>88</sup>. We assume that SME growth will continue over the forecast period at a rate of the overall economy, unless otherwise noted.
4. By year end 2005, the number of debit/settlement/overdraft "credit" cards in circulation is expected to be about 15 000 000. About 1% (150 000) of the total 15 000 000 cards are true credit cards<sup>89</sup>. We assumed that overall growth in the number of true credit

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<sup>81</sup> IMF Country Report No. 05/15, January 2005. IMF and Ukraine Government authorities agree that 2004 growth rates will not be repeated over the next several years. IMF projects growth in 2005 at 6% and at around 5% in the outer years.

<sup>82</sup> Ukrainian State Statistics Committee

<sup>83</sup> For year 1, exchange rate is UAH 5/ US\$ 1.

<sup>84</sup> Ukrainian State Statistic Committee

<sup>85</sup> For the purposes of Business plan financial calculations we assumed that actual number of persons who earn \$ 100 per month is at least double the official statistics and totals 11 147 116 persons.

<sup>86</sup> Minimal monthly wage per person as of July 1, 2005 is UAH 310 or approximately US\$ 62. As of the 1<sup>st</sup> of September 2005 it will be increased to UAH 332 or US\$ 66. The government approved an increase in the minimum monthly pension from UAH 130 (US\$ 25) to UAH 284.5 (US\$ 54), effective retroactively, September 1, 2004.

<sup>87</sup> In fact, there is a variety of products and services offered by banks, which are not directly tied to salary minimums.

<sup>88</sup> Ukrainian State Statistic Committee

<sup>89</sup> Interviews with banks in Ukraine and data from the Association of Ukrainian Banks, EMA and card issuers.

cards would be at the level of at least 150% in 2006 with gradual decrease of the growth rate in subsequent years. According to our assumptions, growth in credit card applications would also include a significant increase resulting from expected conversions of debit cards to credit cards.

5. It is estimated that 6% of Ukrainian families can afford housing mortgage loans<sup>90</sup>. Assuming the average size of a Ukrainian family is 3 persons, the total number of families eligible for a mortgage loan is approximately 944,000. As of year end 2004 the number of outstanding mortgages totalled approximately 63,500. Average loan amount as of year end 2004 was UAH 51,000 (\$10, 000). 18 040 mortgages were registered during the first quarter of 2005 (growth rates in the number of registered mortgages during the first quarter were 62% and 36% accordingly)<sup>91</sup>. Based on the above we assume that the total estimated number of mortgage loan applications in 2005 will be about 80 000.
6. As of year end 2004, UMC and KievStar had over 7,370,000 and 6,252,000 subscribers respectively<sup>92</sup>. The combined total of subscribers from these two companies represents over 95% of the mobile phone market and should remain as such over the next few years. We estimate that approximately 2.3 million mobile phones are post-paid arrangements<sup>93</sup>. We assumed that overall applications for post paid accounts would grow slightly higher than the growth rate of the economy from a base of 2,300,000 accounts. Further, based on interviews with mobile phone operators, approximately 100,000 prepaid customers apply for postpaid status annually<sup>94</sup>.
7. There are an estimated 5.6 million automobiles in Ukraine as of year-end 2004<sup>95</sup>. Approximately 10-12% of Ukrainian citizens can afford car loans or approximately 5 million individuals<sup>96</sup>. In 2004, a total of 212,000 new automobiles were purchased in Ukraine. The average monthly payment for a car loan is approximately US\$ 200<sup>97</sup>. Despite certain negative tendencies in the automobile market that resulted in sales fluctuations, we assume that auto purchases in 2005 will be at the same level as in 2004.
8. There were 15,208,174 automobile insurance policies outstanding in Ukraine as of year-end 2004<sup>98</sup>. It is estimated that there will be approximately 20,600,000 auto insurance policies at year end 2005<sup>99</sup>: 17.5% are expected to be of a mandatory type and

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<sup>90</sup> Ukrainian National Mortgage Association

<sup>91</sup> Ukrainian National Mortgage Association

<sup>92</sup> Newspapers, other published material and interviews with companies.

<sup>93</sup> Estimates based on consolidation of information from newspapers, other published material and interviews with companies.

<sup>94</sup> These are already existing accounts with mobile phone providers and are average numbers.

<sup>95</sup> Interviews with car dealers, government statistics and other published material.

<sup>96</sup> Source: This assumption is based on the percentage of middle class population in Ukraine.

<sup>97</sup> Some car dealers indicate that monthly payments can vary from \$ 50 to \$ 300. Banks require at least 10% down payment. There is a special program for Russian cars (VAZ, GAZ, etc.) where no down payment is required (from time to time car dealer announce similar short term promotional programs). Loan tenor up to 6 years; interest rate - 13% in foreign currency, and 18% in UAH.

<sup>98</sup> League of Insurance Organizations

<sup>99</sup> League of Insurance Organizations

- 82.5% are expected to be of a voluntary type<sup>100</sup>. We assume that the growth of insurance policies will be at the level of economic growth over the next several years.
9. We assumed that enhanced credit reports<sup>101</sup> for both mortgages and the agricultural sector would come on line no sooner than in the 3<sup>rd</sup> year.

We did not attempt to estimate or separate out expected lending application volumes by region although it is expected that demand for credit bureau services is expected to increase faster in “under banked” cities than in Kyiv. This has been the tendency throughout the CIS. Beyond Kyiv, the list of the largest Ukrainian cities includes Kharkiv, Donetsk, Lviv, Dnipropetrovsk, Zaporizhzhya and Odessa. In addition, Sevastopol, Kremenchug, Chernivtsi, and Ivanofrankivsk, amongst others, are experiencing significant economic growth<sup>102</sup>.

### *System Development and Consulting Services<sup>103</sup>*

It is assumed that in all scenarios the cost of system development and consulting services will be as follows: Year 1 - \$350,000; Year 2 - \$250,000; Year 3 - \$200,000; Year 4 - \$150,000; Year 5 - \$100,000, Year 6 - \$75,000. These amounts are only benchmarks and will vary depending on the level of software sophistication and requirements, “on-shore”/“off-shore” considerations, condition of data structures amongst data providers, etc. In addition, the above amounts do not take into account unanticipated extraordinary events that could arise in the course of develop the software and systems for Ukraine.

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<sup>100</sup> Based on the data provided by the League of Insurance Organizations (includes life insurance linked to automobile insurance).

<sup>101</sup> “Enhanced” credit reports contain considerable more information about a client than the “normal” credit report product.

<sup>102</sup> The analyst could add a slight premium to the financials. In fact, this premium is reflected in Base Case Scenario C.

<sup>103</sup> The financials do not reflect research and development costs that USAID/The Pragma Corporation and others have spent over the past year.

**Scenario A for Base Case/Option 1 – Conservative Economic Growth /Conservative Pricing**

	US\$ for credit report	1,00	US\$ for risk scoring (in addition to credit report), for additional insurance products	0,50	Membership fee	250,00
<b>6 YEAR PROFIT AND LOSS FORECAST</b>						
<b>Scenario A - Option 1</b>	US\$ for one agricultural credit report	10,00	% of number of risk-scoring reports	20,00%	Price for enhanced report	20,00
<b>Ukraine (project)</b>	US\$ for service installation	150,00	US\$ for additional products	0,20		
<b>All figures provided in US dollars</b>	Tax payments	25%	VAT	20,00%		
<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
MEMBER FEES (CLIENTS)	0	0	12 500	15 000	17 500	17 500
AGRI-LOAN REPORTS	0	0	0	29 600	65 200	107 400
CREDIT REPORTS ON INDIVIDUALS	0	319 010	1 508 751	4 045 420	6 390 026	8 157 685
CORPORATE CLIENTS	0	4 075	19 360	51 750	164 040	95 640
ENHANCED REPORTS (US\$ 20/REPORT)	0	0	0	417 300	1 001 400	1 787 400
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0	31 901	145 434	391 532	620 512	796 068
INSURANCE COMPANIES	0	0	114 838	241 165	379 830	531 760
ADDITIONAL PRODUCTS	0	0	30 200	126 400	260 600	412 800
SERVICE INSTALLATION	4 500	1 500	1 500	1 500	1 500	1 500
<b>TOTAL INCOME</b>	<b>4 500</b>	<b>356 486</b>	<b>1 832 583</b>	<b>5 319 668</b>	<b>8 900 607</b>	<b>11 907 753</b>
VAT	750	59 414	305 430	886 611	1 483 435	1 984 625
<i>Sales volume growth</i>		0,0%	414,1%	190,3%	67,3%	33,8%
<b>COSTS</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	238 200	339 960	356 640	374 760	393 960	413 400
INCOME TAXES AND PAYMENTS	48 723	77 216	77 623	78 030	78 437	78 844
LEASE	52 500	111 000	117 000	123 000	129 000	135 000
UTILITIES	7 500	16 500	18 300	20 100	22 200	24 300
OFFICE EQUIPMENT	6 000	3 000	3 000	3 000	3 000	3 000
OFFICE STATIONERY	6 000	6 000	6 000	6 000	6 000	6 000
TELEPHONE COMMUNICATION SERVICES	3 240	20 559	25 000	25 000	25 000	25 000
INTERNET	6 000	12 000	12 000	12 000	12 000	12 000
POSTAL COSTS AND DELIVERY	3 000	6 000	6 000	6 000	6 000	6 000
TRAVEL COSTS	8 400	16 800	16 800	16 800	16 800	16 800
ENTERTAINMENT	4 200	8 400	8 400	8 400	8 400	8 400
AUDIT SERVICES	12 500	25 000	25 000	25 000	25 000	25 000
INSURANCE	7 000	22 000	22 000	22 000	22 000	22 000
Other expenses	2 858	4 250	8 916	9 369	9 849	10 335
<b>Total operational expenses</b>	<b>406 121</b>	<b>668 685</b>	<b>702 679</b>	<b>729 459</b>	<b>757 646</b>	<b>786 079</b>
<i>% of total costs</i>	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	50 000	0	0	0	0	0
OFFICE FURNITURE	18 000	2 000	1 000	1 000	1 000	1 000
TELEPHONE EQUIPMENT	5 700	0	0	0	0	5 700
CONSTRUCTION OF COMPUTER ROOM	25 500	0	0	0	0	12 750
BACK-UP GENERATOR	10 000	0	0	0	0	5 000
<b>Total physical plant</b>	<b>109 200</b>	<b>2 000</b>	<b>1 000</b>	<b>1 000</b>	<b>1 000</b>	<b>24 450</b>
<i>% of total costs</i>	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	92 650	18 531	18 531	18 531	18 531	18 531
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	48 750	9 750	9 750	9 750	9 750	9 750
OFFICE AUTOMATED WORKSTATIONS	79 800	15 960	15 960	15 960	15 960	15 960
NETWORK	41 700	8 340	8 340	8 340	8 340	8 340
PRINTERS	4 200	840	840	840	840	840
FAX MACHINES	2 500	500	500	500	500	500
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	125 000	25 000	25 000	25 000	25 000	25 000
TECHNICAL MAINTENANCE	25 000	25 000	25 000	25 000	25 000	25 000
Other expenses	5 000	5 000	5 000	5 000	5 000	5 000
<b>Total hardware and software</b>	<b>419 600</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>
<i>% of total costs</i>	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT AND CONSULTING SERVICES	350 000	250 000	200 000	150 000	100 000	75 000
TRAINING AND MARKETING	80 000	50 000	50 000	45 000	45 000	45 000
<i>% of total costs</i>	31,50%	27,92%	23,64%	18,94%	14,39%	11,80%
<b>TOTAL COSTS</b>	<b>1 364 921</b>	<b>1 074 606</b>	<b>1 057 600</b>	<b>1 029 380</b>	<b>1 007 567</b>	<b>1 034 450</b>
<i>% of change</i>		-21,27%	-1,58%	-2,67%	-2,12%	2,67%
<b>PROFIT BEFORE INTEREST AND TAXES</b>	<b>-1 361 171</b>	<b>-777 534</b>	<b>444 386</b>	<b>3 298 343</b>	<b>6 192 439</b>	<b>8 544 677</b>
Loan interest	0	0	0	0	0	50 000
Profit tax	0	0	111 096	824 586	1 548 110	2 123 669
<b>NET PROFIT</b>	<b>-1 361 171</b>	<b>-777 534</b>	<b>333 289</b>	<b>2 473 757</b>	<b>4 644 329</b>	<b>6 371 008</b>
<b>TOTAL DEFICIT</b>	<b>-1 361 171</b>	<b>-2 138 705</b>	<b>-1 805 416</b>	<b>668 342</b>	<b>5 312 671</b>	<b>11 683 679</b>

Income Items - Number of Requested Credit Reports						
Estimated Demand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>General economic growth (Source: IMF)</b>	6%	5,0%	5,0%	5,0%	5,0%	5,0%
<b>Bank Mortgage Loans - Enhanced Reports</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of households that can afford mortgage loan	944 000	1 034 000	1 127 000	1 228 000	1 339 000	1 446 000
Growth in the number of households that can afford mortgage loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	8,5%	10,2%	12,3%	14,7%	17,7%	21,1%
Expected number of mortgage loan application (for each year)	80 200	96 600	115 900	139 100	166 900	198 600
Growth in the expected number of mortgage loan applications for each year		20,5%	20,0%	20,0%	20,0%	19,0%
Hit rate	0%	0,0%	0,0%	15,0%	30,0%	45,0%
<b>Total number of requested reports</b>	0	0	0	20 865	50 070	89 370
<b>Bank Mortgage Loans - Credit Reports on Individuals</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of households that can afford a mortgage loan	944 000	1 034 000	1 127 000	1 228 000	1 339 000	1 446 000
Growth in expected households that can afford mortgage loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	8,5%	10,2%	12,3%	14,7%	17,7%	21,1%
Expected number of mortgage loan applications in each year	80 200	96 600	115 900	139 100	166 900	198 600
Growth in expected number of mortgage loan applications in each year		20,5%	20,0%	20,0%	20,0%	19,0%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	4 830	23 180	62 595	100 140	119 160
<b>Consumer Loans/Goods on Credit: Credit Bureau Group Banks</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of citizens who can take a consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	25,05%	24,63%	24,18%	23,75%	23,31%	23,09%
Expected number of loan applications	2 793 000	3 006 000	3 218 000	3 444 000	3 685 000	3 943 000
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	150 300	643 600	1 549 800	2 211 000	2 365 800
<b>Consumer Loans/Goods on Credit: Non-Credit Bureau Group Banks</b>	Additional sector growth	5%	4%	4%	4%	3%
Number of citizens eligible for consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Expected number of loan applications	1 764 000	1 932 000	2 106 000	2 296 000	2 503 000	2 703 000
Growth in number of applications (%)		10%	9%	9%	9%	8%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	96 600	421 200	1 033 200	1 501 800	1 621 800
<b>Consumer Loans/Goods on Credit: Issuance of Loans by Credit Unions</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of citizens who can take a consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Expected number of loan applications	513 000	567 000	635 000	693 000	744 000	789 000
Growth in number of applications (%)		9,5%	9,0%	9,0%	9,0%	8,0%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	28 350	107 000	221 850	264 000	221 400
<b>Credit Reports on Corporate Clients (SMEs)</b>	Additional sector growth	5%	4%	4%	4%	3%
Total number of SMEs	295 500	323 600	352 700	384 400	419 000	452 500
Growth in total number of SMEs		10%	9%	9%	9%	8%
Market penetration	23%	25%	27%	30%	33%	35%
Expected number of loan applications	68 000	81 500	96 800	115 000	136 700	159 400
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	4 075	19 360	51 750	82 020	95 640
<b>Bank Credit Cards</b>	Additional sector growth	20%	15%	10%	10%	5%
Total number of all types of cards	15 000 000	18 750 000	22 500 000	25 875 000	29 756 000	32 732 000
Market penetration - % "credit" cards	1,00%	2,00%	3,00%	4,50%	6,00%	8,00%
Number of credit cards on the market	150 000	375 000	675 000	1 164 400	1 785 400	2 618 600
Growth in the number of credit cards		150%	80%	73%	53%	47%
Number of applications on credit cards	225 000	562 500	1 012 500	1 746 600	2 678 100	3 927 900
Conversion factor from debit cards to credit cards	1%	2,2%	3,2%	4,2%	6,0%	12,0%
Number of debit cards converted into credit cards	150 000	412 500	720 000	1 086 800	1 785 400	3 927 800
Total number of applications on credit cards	255 000	645 000	1 156 500	2 181 320	3 392 260	5 891 800
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	32 250	231 300	981 594	2 035 356	3 535 060

Income Items - Number of Requested Reports Estimated Demand						
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<b>Automobile Loans</b>	Additional sector growth	0,0%	0,0%	0,0%	0,0%	0,0%
Total Expected number of automobiles	5 664 000	5 947 000	6 244 000	6 556 000	6 884 000	7 228 000
Total expected automobiles growth		5%	5%	5%	5%	5%
New automobile sales expectation, 2005	212 000	222 600	233 700	245 400	257 700	270 600
Growth in automobile loan applications		5%	5%	5%	5%	5%
Number of automobile loan applications for each year	127 200	133 600	140 300	147 300	154 700	162 400
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	6 680	28 060	66 285	92 820	97 440
<b>Utility Companies</b>	Additional sector growth	0%	0%	0%	0%	0%
Total Applications	1 000	1 050	1 100	1 160	1 220	1 280
Application Growth Rate		5%	5%	5%	5%	5%
Market Penetration	0%	0%	5%	10%	15%	20%
Growth Rate of Market Penetration		50%	50%	50%	50%	50%
Hit rate	0%	0%	20%	40%	60%	80%
<b>Total number of requested reports</b>	0	0	11	46	110	205
<b>Telephone Companies</b>	Additional sector growth	1,5%	1,5%	1,5%	1,5%	1,5%
Total number of mobile subscribers	15 271 000	16 264 000	17 321 000	18 447 000	19 646 000	20 923 000
% post paid subscribers	15%	15%	15%	15%	15%	15%
Estimated number of post paid subscribers	2 279 000	2 427 000	2 585 000	2 753 000	2 932 000	3 123 000
Post paid subscribers growth, (%)		6%	7%	6%	7%	7%
New post paid subscribers	139 000	148 000	158 000	168 000	179 000	191 000
Subscribers' conversion from pre-paid to post paid scheme	0,82%	0,77%	0,77%	0,77%	0,77%	0,77%
Subscribers converted to post paid scheme	107 000	107 000	114 000	121 000	129 000	137 000
Hit rate	0%	0,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	0	54 400	130 050	184 800	196 800
<b>Agricultural Sector</b>	Additional sector growth	0%	0%	0%	0%	0%
Number of farms and agricultural enterprises	55 000	57 800	60 700	63 700	66 900	70 200
Growth in the number of farms and agricultural enterprises		5%	5%	5%	5%	5%
Number of new agricultural enterprises		2 800	2 900	3 000	3 200	3 300
Market penetration	20,0%	21%	22%	23%	24%	26%
Increase in market penetration		5%	5%	5%	5%	5%
Number of credit applications	11 000	12 100	13 400	14 800	16 300	17 900
Hit rate	0%	0,0%	0,0%	20,0%	40,0%	60,0%
<b>Total number of requested reports</b>	0	0	0	2 960	6 520	10 740
<b>Insurance Companies</b>	Additional sector growth	0%	0%	0%	0%	0%
Total number of insurance policies	20 600 000	21 630 000	22 712 000	23 848 000	25 040 000	26 292 000
Growth in the number of insurance policies (%)		5%	5%	5%	5%	5%
Market penetration		10%	10%	10%	10%	10%
Number of inquiries to CB regarding insurance policies		2 163 000	2 271 200	2 384 800	2 504 000	2 629 200
Hit rate	0%	0,0%	5,0%	10,0%	15,0%	20,0%
<b>Total number of requested reports</b>	0	0	113 560	238 480	375 600	525 840
<b>Insurance Companies: Other Products</b>	Additional sector growth	0%	0%	0%	0%	0%
Total number of fraud checks and indemnity claims	464 000	487 000	511 000	537 000	564 000	592 000
Growth in the number of fraud checks and indemnity claims (%)		5%	5%	5%	5%	5%
Market penetration		10%	10%	10%	10%	10%
Number of inquiries to CB		48 700	51 100	53 700	56 400	59 200
Hit rate	0%	0,0%	5,0%	10,0%	15,0%	20,0%
<b>Total number of requested reports</b>	0	0	2 555	5 370	8 460	11 840
<b>ADDITIONAL PRODUCTS</b>	0	0	151 000	632 000	1 303 000	2 064 000
<b>Total number of requested reports (ADD. PRODUCTS EXCL.)</b>	0	323 085	1 644 226	4 364 845	6 912 696	8 891 115
<b>Total number of requested reports (ADD. PRODUCTS INCL.)</b>	0	323 085	1 795 226	4 996 845	8 215 696	10 955 115

<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
<b>% of income</b>						
MEMBER FEES (CLIENTS)	0,00%	0,00%	0,68%	0,28%	0,20%	0,15%
AGRI-LOAN REPORTS	0,00%	0,00%	0,00%	0,56%	0,73%	0,90%
CREDIT REPORTS ON INDIVIDUALS	0,00%	89,49%	82,33%	76,05%	71,79%	68,51%
CORPORATE CLIENTS	0,00%	1,14%	1,06%	0,97%	1,84%	0,80%
ENHANCED REPORTS (US\$ 20/REPORT)	0,00%	0,00%	0,00%	7,84%	11,25%	15,01%
RISK SCORING AT 20% OF REQUESTS (US\$ 0.50)	0,00%	8,95%	7,94%	7,36%	6,97%	6,69%
INSURANCE COMPANIES	0,00%	0,00%	6,27%	4,53%	4,27%	4,47%
ADDITIONAL PRODUCTS	0,00%	0,00%	1,65%	2,38%	2,93%	3,47%
SERVICE INSTALLATION	100,00%	0,42%	0,08%	0,03%	0,02%	0,01%
<b>TOTAL INCOME</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>
<b>COSTS</b>						
<b>% of costs</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	17,45%	31,64%	33,72%	36,41%	39,10%	39,96%
INCOME TAXES AND PAYMENTS	3,57%	7,19%	7,34%	7,58%	7,78%	7,62%
LEASE	3,85%	10,33%	11,06%	11,95%	12,80%	13,05%
UTILITIES	0,55%	1,54%	1,73%	1,95%	2,20%	2,35%
OFFICE EQUIPMENT	0,44%	0,28%	0,28%	0,29%	0,30%	0,29%
OFFICE STATIONERY	0,44%	0,56%	0,57%	0,58%	0,60%	0,58%
TELEPHONE COMMUNICATION SERVICES	0,24%	1,91%	2,36%	2,43%	2,48%	2,42%
INTERNET	0,44%	1,12%	1,13%	1,17%	1,19%	1,16%
POSTAL COSTS AND DELIVERY	0,22%	0,56%	0,57%	0,58%	0,60%	0,58%
TRAVEL COSTS	0,62%	1,56%	1,59%	1,63%	1,67%	1,62%
ENTERTAINMENT	0,31%	0,78%	0,79%	0,82%	0,83%	0,81%
AUDIT SERVICES	0,92%	2,33%	2,36%	2,43%	2,48%	2,42%
INSURANCE	0,51%	2,05%	2,08%	2,14%	2,18%	2,13%
Other expenses	0,21%	0,40%	0,84%	0,91%	0,98%	1,00%
Total operating costs	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	3,66%	0,00%	0,00%	0,00%	0,00%	0,00%
OFFICE FURNITURE	1,32%	0,19%	0,09%	0,10%	0,10%	0,10%
TELEPHONE EQUIPMENT	0,42%	0,00%	0,00%	0,00%	0,00%	0,55%
CONSTRUCTION OF COMPUTER ROOM	1,87%	0,00%	0,00%	0,00%	0,00%	1,23%
BACK-UP GENERATOR	0,73%	0,00%	0,00%	0,00%	0,00%	0,48%
Total physical plant	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	6,79%	1,72%	1,75%	1,80%	1,84%	1,79%
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	3,57%	0,91%	0,92%	0,95%	0,97%	0,94%
OFFICE AUTOMATED WORKSTATIONS	5,85%	1,49%	1,51%	1,55%	1,58%	1,54%
NETWORK	3,06%	0,78%	0,79%	0,81%	0,83%	0,81%
PRINTERS	0,31%	0,08%	0,08%	0,08%	0,08%	0,08%
FAX MACHINES	0,18%	0,05%	0,05%	0,05%	0,05%	0,05%
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	9,16%	2,33%	2,36%	2,43%	2,48%	2,42%
TECHNICAL MAINTENANCE	1,83%	2,33%	2,36%	2,43%	2,48%	2,42%
Other expenses	0,37%	0,47%	0,47%	0,49%	0,50%	0,48%
Total hardware and software	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
<b>SYSTEM DEVELOPMENT</b>						
SYSTEM DEVELOPMENT	25,64%	23,26%	18,91%	14,57%	9,92%	7,25%
<b>TRAINING AND MARKETING</b>						
TRAINING AND MARKETING	5,86%	4,65%	4,73%	4,37%	4,47%	4,35%
<b>TOTAL COSTS</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>

**Scenario B for Base Case/Option 1 – Continued Conservative Economic Growth / Aggressive Pricing**

	US\$ for credit report	3,00	US\$ for risk scoring (in addition to credit report), for additional insurance products	0,50	Membership fee	250
<b>6 YEAR PROFIT AND LOSS FORECAST</b>						
<b>Scenario B - Option 1</b>	US\$ for one agricultural credit report	10,00	% of number of risk-scoring reports	20%	Price for enhanced report	20,00
<b>Ukraine (project)</b>	US\$ for service installation	150,00	US\$ for additional products	0,20		
<b>All figures provided in US dollars</b>	Tax payments	25%	VAT	20,00%		
<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
MEMBER FEES (CLIENTS)	0	0	12 500	15 000	17 500	17 500
AGRI-LOAN REPORTS	0	0	0	29 600	65 200	107 400
CREDIT REPORTS ON INDIVIDUALS	0	957 030	4 526 263	12 136 261	19 170 077	24 473 054
CORPORATE CLIENTS	0	12 225	58 080	155 250	492 120	286 920
ENHANCED REPORTS (US\$ 20/REPORT)	0	0	0	417 300	1 001 400	1 787 400
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0	31 901	145 434	391 532	620 512	796 068
INSURANCE COMPANIES	0	0	341 958	718 125	1 131 030	1 583 440
ADDITIONAL PRODUCTS	0	0	30 200	126 400	260 600	412 800
SERVICE INSTALLATION	4 500	1 500	1 500	1 500	1 500	1 500
<b>TOTAL INCOME</b>	<b>4 500</b>	<b>1 002 656</b>	<b>5 115 925</b>	<b>13 990 969</b>	<b>22 759 939</b>	<b>29 466 082</b>
VAT	750	167 109	852 654	2 331 828	3 793 323	4 911 014
<i>Sales volume growth</i>		0,0%	410,2%	173,5%	62,7%	29,5%
<b>COSTS</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	238 200	339 960	356 640	374 760	393 960	413 400
INCOME TAXES AND PAYMENTS	48 723	77 216	77 623	78 030	78 437	78 844
LEASE	52 500	111 000	117 000	123 000	129 000	135 000
UTILITIES	7 500	16 500	18 300	20 100	22 200	24 300
OFFICE EQUIPMENT	6 000	3 000	3 000	3 000	3 000	3 000
OFFICE STATIONERY	6 000	6 000	6 000	6 000	6 000	6 000
TELEPHONE COMMUNICATION SERVICES	3 240	25 000	25 000	25 000	25 000	25 000
INTERNET	6 000	12 000	12 000	12 000	12 000	12 000
POSTAL COSTS AND DELIVERY	3 000	6 000	6 000	6 000	6 000	6 000
TRAVEL COSTS	8 400	16 800	16 800	16 800	16 800	16 800
ENTERTAINMENT	4 200	8 400	8 400	8 400	8 400	8 400
AUDIT SERVICES	12 500	25 000	25 000	25 000	25 000	25 000
INSURANCE	7 000	22 000	22 000	22 000	22 000	22 000
Other expenses	2 858	4 250	8 916	9 369	9 849	10 335
<b>Total operational expenses</b>	<b>406 121</b>	<b>673 125</b>	<b>702 679</b>	<b>729 459</b>	<b>757 646</b>	<b>786 079</b>
<i>% of total costs</i>	29,75%	62,38%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	50 000	0	0	0	0	0
OFFICE FURNITURE	18 000	2 000	1 000	1 000	1 000	1 000
TELEPHONE EQUIPMENT	5 700	0	0	0	0	5 700
CONSTRUCTION OF COMPUTER ROOM	25 500	0	0	0	0	12 750
BACK-UP GENERATOR	10 000	0	0	0	0	5 000
<b>Total physical plant</b>	<b>109 200</b>	<b>2 000</b>	<b>1 000</b>	<b>1 000</b>	<b>1 000</b>	<b>24 450</b>
<i>% of total costs</i>	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	92 650	18 531	18 531	18 531	18 531	18 531
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	48 750	9 750	9 750	9 750	9 750	9 750
OFFICE AUTOMATED WORKSTATIONS	79 800	15 960	15 960	15 960	15 960	15 960
NETWORK	41 700	8 340	8 340	8 340	8 340	8 340
PRINTERS	4 200	840	840	840	840	840
FAX MACHINES	2 500	500	500	500	500	500
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	125 000	25 000	25 000	25 000	25 000	25 000
TECHNICAL MAINTENANCE	25 000	25 000	25 000	25 000	25 000	25 000
Other expenses	5 000	5 000	5 000	5 000	5 000	5 000
<b>Total hardware and software</b>	<b>419 600</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>
<i>% of total costs</i>	30,74%	9,63%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT AND CONSULTING SERVICES	350 000	250 000	200 000	150 000	100 000	75 000
TRAINING AND MARKETING	80 000	50 000	50 000	45 000	45 000	45 000
<i>% of total costs</i>	31,50%	27,80%	23,64%	18,94%	14,39%	11,80%
<b>TOTAL COSTS</b>	<b>1 364 921</b>	<b>1 079 046</b>	<b>1 057 600</b>	<b>1 029 380</b>	<b>1 007 567</b>	<b>1 034 450</b>
<i>% of change</i>		-20,94%	-1,99%	-2,67%	-2,12%	2,67%
<b>PROFIT BEFORE INTEREST AND TAXES</b>	<b>-1 361 171</b>	<b>-243 499</b>	<b>3 180 504</b>	<b>10 524 427</b>	<b>17 741 882</b>	<b>23 176 618</b>
Loan interest	0	0	0	0	0	50 000
Profit tax	0	0	795 126	2 631 107	4 435 470	5 781 655
<b>NET PROFIT</b>	<b>-1 361 171</b>	<b>-243 499</b>	<b>2 385 378</b>	<b>7 893 320</b>	<b>13 306 411</b>	<b>17 344 964</b>
<b>TOTAL DEFICIT</b>	<b>-1 361 171</b>	<b>-1 604 670</b>	<b>780 708</b>	<b>8 674 028</b>	<b>21 980 439</b>	<b>39 325 403</b>

Income Items - Number of Requested Credit Reports						
Estimated Demand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>General economic growth (Source: IMF)</b>	6%	5,0%	5,0%	5,0%	5,0%	5,0%
<b>Bank Mortgage Loans - Enhanced Reports</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of households that can afford mortgage loan	944 000	1 034 000	1 127 000	1 228 000	1 339 000	1 446 000
Growth in the number of households that can afford mortgage loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	8,5%	10,2%	12,3%	14,7%	17,7%	21,1%
Expected number of mortgage loan application (for each year)	80 200	96 600	115 900	139 100	166 900	198 600
Growth in the expected number of mortgage loan applications for each year		20,5%	20,0%	20,0%	20,0%	19,0%
Hit rate	0%	0,0%	0,0%	15,0%	30,0%	45,0%
<b>Total number of requested reports</b>	0	0	0	20 865	50 070	89 370
<b>Bank Mortgage Loans - Credit Reports on Individuals</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of households that can afford a mortgage loan	944 000	1 034 000	1 127 000	1 228 000	1 339 000	1 446 000
Growth in expected households that can afford mortgage loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	8,5%	10,2%	12,3%	14,7%	17,7%	21,1%
Expected number of mortgage loan applications in each year	80 200	96 600	115 900	139 100	166 900	198 600
Growth in expected number of mortgage loan applications in each year		20,5%	20,0%	20,0%	20,0%	19,0%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	4 830	23 180	62 595	100 140	119 160
<b>Consumer Loans/Goods on Credit: Credit Bureau Group Banks</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of citizens who can take a consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	25,05%	24,63%	24,18%	23,75%	23,31%	23,09%
Expected number of loan applications	2 793 000	3 006 000	3 218 000	3 444 000	3 685 000	3 943 000
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	150 300	643 600	1 549 800	2 211 000	2 365 800
<b>Consumer Loans/Goods on Credit: Non-Credit Bureau Group Banks</b>	Additional sector growth	5%	4%	4%	4%	3%
Number of citizens eligible for consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Expected number of loan applications	1 764 000	1 932 000	2 106 000	2 296 000	2 503 000	2 703 000
Growth in number of applications (%)		10%	9%	9%	9%	8%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	96 600	421 200	1 033 200	1 501 800	1 621 800
<b>Consumer Loans/Goods on Credit: Issuance of Loans by Credit Unions</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of citizens who can take a consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Expected number of loan applications	513 000	567 000	635 000	693 000	744 000	789 000
Growth in number of applications (%)		9,5%	9,0%	9,0%	9,0%	8,0%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	28 350	107 000	221 850	264 000	221 400
<b>Credit Reports on Corporate Clients (SMEs)</b>	Additional sector growth	5%	4%	4%	4%	3%
Total number of SMEs	295 500	323 600	352 700	384 400	419 000	452 500
Growth in total number of SMEs		10%	9%	9%	9%	8%
Market penetration	23%	25%	27%	30%	33%	35%
Expected number of loan applications	68 000	81 500	96 800	115 000	136 700	159 400
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	4 075	19 360	51 750	82 020	95 640
<b>Bank Credit Cards</b>	Additional sector growth	20%	15%	10%	10%	5%
Total number of all types of cards	15 000 000	18 750 000	22 500 000	25 875 000	29 756 000	32 732 000
Market penetration - % "credit" cards	1,00%	2,00%	3,00%	4,50%	6,00%	8,00%
Number of credit cards on the market	150 000	375 000	675 000	1 164 400	1 785 400	2 618 600
Growth in the number of credit cards		150%	80%	73%	53%	47%
Number of applications on credit cards	225 000	562 500	1 012 500	1 746 600	2 678 100	3 927 900
Conversion factor from debit cards to credit cards	1%	2,2%	3,2%	4,2%	6,0%	12,0%
Number of debit cards converted into credit cards	150 000	412 500	720 000	1 086 800	1 785 400	3 927 800
Total number of applications on credit cards	255 000	645 000	1 156 500	2 181 320	3 392 260	5 891 800
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	32 250	231 300	981 594	2 035 356	3 535 060

Income Items - Number of Requested Reports Estimated Demand						
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<b>Automobile Loans</b>	Additional sector growth	0,0%	0,0%	0,0%	0,0%	0,0%
Total Expected number of automobiles	5 664 000	5 947 000	6 244 000	6 556 000	6 884 000	7 228 000
Total expected automobiles growth		5%	5%	5%	5%	5%
New automobile sales expectation, 2005	212 000	222 600	233 700	245 400	257 700	270 600
Growth in automobile loan applications		5%	5%	5%	5%	5%
Number of automobile loan applications for each year	127 200	133 600	140 300	147 300	154 700	162 400
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	6 680	28 060	66 285	92 820	97 440
<b>Utility Companies</b>	Additional sector growth	0%	0%	0%	0%	0%
Total Applications	1 000	1 050	1 100	1 160	1 220	1 280
Application Growth Rate		5%	5%	5%	5%	5%
Market Penetration	0%	0%	5%	10%	15%	20%
Growth Rate of Market Penetration		50%	50%	50%	50%	50%
Hit rate	0%	0%	20%	40%	60%	80%
<b>Total number of requested reports</b>	0	0	11	46	110	205
<b>Telephone Companies</b>	Additional sector growth	1,5%	1,5%	1,5%	1,5%	1,5%
Total number of mobile subscribers	15 271 000	16 264 000	17 321 000	18 447 000	19 646 000	20 923 000
% post paid subscribers	15%	15%	15%	15%	15%	15%
Estimated number of post paid subscribers	2 279 000	2 427 000	2 585 000	2 753 000	2 932 000	3 123 000
Post paid subscribers growth, (%)		6%	7%	6%	7%	7%
New post paid subscribers	139 000	148 000	158 000	168 000	179 000	191 000
Subscribers' conversion from pre-paid to post paid scheme	0,82%	0,77%	0,77%	0,77%	0,77%	0,77%
Subscribers converted to post paid scheme	107 000	107 000	114 000	121 000	129 000	137 000
Hit rate	0%	0,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	0	54 400	130 050	184 800	196 800
<b>Agricultural Sector</b>	Additional sector growth	0%	0%	0%	0%	0%
Number of farms and agricultural enterprises	55 000	57 800	60 700	63 700	66 900	70 200
Growth in the number of farms and agricultural enterprises		5%	5%	5%	5%	5%
Number of new agricultural enterprises		2 800	2 900	3 000	3 200	3 300
Market penetration	20,0%	21%	22%	23%	24%	26%
Increase in market penetration		5%	5%	5%	5%	5%
Number of credit applications	11 000	12 100	13 400	14 800	16 300	17 900
Hit rate	0%	0,0%	0,0%	20,0%	40,0%	60,0%
<b>Total number of requested reports</b>	0	0	0	2 960	6 520	10 740
<b>Insurance Companies</b>	Additional sector growth	0%	0%	0%	0%	0%
Total number of insurance policies	20 600 000	21 630 000	22 712 000	23 848 000	25 040 000	26 292 000
Growth in the number of insurance policies (%)		5%	5%	5%	5%	5%
Market penetration		10%	10%	10%	10%	10%
Number of inquiries to CB regarding insurance policies		2 163 000	2 271 200	2 384 800	2 504 000	2 629 200
Hit rate	0%	0,0%	5,0%	10,0%	15,0%	20,0%
<b>Total number of requested reports</b>	0	0	113 560	238 480	375 600	525 840
<b>Insurance Companies: Other Products</b>	Additional sector growth	0%	0%	0%	0%	0%
Total number of fraud checks and indemnity claims	464 000	487 000	511 000	537 000	564 000	592 000
Growth in the number of fraud checks and indemnity claims (%)		5%	5%	5%	5%	5%
Market penetration		10%	10%	10%	10%	10%
Number of inquiries to CB		48 700	51 100	53 700	56 400	59 200
Hit rate	0%	0,0%	5,0%	10,0%	15,0%	20,0%
<b>Total number of requested reports</b>	0	0	2 555	5 370	8 460	11 840
<b>ADDITIONAL PRODUCTS</b>	0	0	151 000	632 000	1 303 000	2 064 000
<b>Total number of requested reports (ADD. PRODUCTS EXCL.)</b>	0	323 085	1 644 226	4 364 845	6 912 696	8 891 115
<b>Total number of requested reports (ADD. PRODUCTS INCL.)</b>	0	323 085	1 795 226	4 996 845	8 215 696	10 955 115

<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
<b>% of income</b>						
MEMBER FEES (CLIENTS)	0,00%	0,00%	0,24%	0,11%	0,08%	0,06%
AGRI-LOAN REPORTS	0,00%	0,00%	0,00%	0,21%	0,29%	0,36%
CREDIT REPORTS ON INDIVIDUALS	0,00%	95,45%	88,47%	86,74%	84,23%	83,05%
CORPORATE CLIENTS	0,00%	1,22%	1,14%	1,11%	2,16%	0,97%
ENHANCED REPORTS (US\$ 20/REPORT)	0,00%	0,00%	0,00%	2,98%	4,40%	6,07%
RISK SCORING AT 20% OF REQUESTS (US\$ 0.50)	0,00%	3,18%	2,84%	2,80%	2,73%	2,70%
INSURANCE COMPANIES	0,00%	0,00%	6,68%	5,13%	4,97%	5,37%
ADDITIONAL PRODUCTS	0,00%	0,00%	0,59%	0,90%	1,14%	1,40%
SERVICE INSTALLATION	100,00%	0,15%	0,03%	0,01%	0,01%	0,01%
<b>TOTAL INCOME</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>
<b>COSTS</b>						
<b>% of costs</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	17,45%	31,51%	33,72%	36,41%	39,10%	39,96%
INCOME TAXES AND PAYMENTS	3,57%	7,16%	7,34%	7,58%	7,78%	7,62%
LEASE	3,85%	10,29%	11,06%	11,95%	12,80%	13,05%
UTILITIES	0,55%	1,53%	1,73%	1,95%	2,20%	2,35%
OFFICE EQUIPMENT	0,44%	0,28%	0,28%	0,29%	0,30%	0,29%
OFFICE STATIONERY	0,44%	0,56%	0,57%	0,58%	0,60%	0,58%
TELEPHONE COMMUNICATION SERVICES	0,24%	2,32%	2,36%	2,43%	2,48%	2,42%
INTERNET	0,44%	1,11%	1,13%	1,17%	1,19%	1,16%
POSTAL COSTS AND DELIVERY	0,22%	0,56%	0,57%	0,58%	0,60%	0,58%
TRAVEL COSTS	0,62%	1,56%	1,59%	1,63%	1,67%	1,62%
ENTERTAINMENT	0,31%	0,78%	0,79%	0,82%	0,83%	0,81%
AUDIT SERVICES	0,92%	2,32%	2,36%	2,43%	2,48%	2,42%
INSURANCE	0,51%	2,04%	2,08%	2,14%	2,18%	2,13%
Other expenses	0,21%	0,39%	0,84%	0,91%	0,98%	1,00%
<b>Total operating costs</b>	<b>29,75%</b>	<b>62,38%</b>	<b>66,44%</b>	<b>70,86%</b>	<b>75,20%</b>	<b>75,99%</b>
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	3,66%	0,00%	0,00%	0,00%	0,00%	0,00%
OFFICE FURNITURE	1,32%	0,19%	0,09%	0,10%	0,10%	0,10%
TELEPHONE EQUIPMENT	0,42%	0,00%	0,00%	0,00%	0,00%	0,55%
CONSTRUCTION OF COMPUTER ROOM	1,87%	0,00%	0,00%	0,00%	0,00%	1,23%
BACK-UP GENERATOR	0,73%	0,00%	0,00%	0,00%	0,00%	0,48%
<b>Total physical plant</b>	<b>8,00%</b>	<b>0,19%</b>	<b>0,09%</b>	<b>0,10%</b>	<b>0,10%</b>	<b>2,36%</b>
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	6,79%	1,72%	1,75%	1,80%	1,84%	1,79%
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	3,57%	0,90%	0,92%	0,95%	0,97%	0,94%
OFFICE AUTOMATED WORKSTATIONS	5,85%	1,48%	1,51%	1,55%	1,58%	1,54%
NETWORK	3,06%	0,77%	0,79%	0,81%	0,83%	0,81%
PRINTERS	0,31%	0,08%	0,08%	0,08%	0,08%	0,08%
FAX MACHINES	0,18%	0,05%	0,05%	0,05%	0,05%	0,05%
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	9,16%	2,32%	2,36%	2,43%	2,48%	2,42%
TECHNICAL MAINTENANCE	1,83%	2,32%	2,36%	2,43%	2,48%	2,42%
Other expenses	0,37%	0,46%	0,47%	0,49%	0,50%	0,48%
<b>Total hardware and software</b>	<b>30,74%</b>	<b>9,63%</b>	<b>9,83%</b>	<b>10,10%</b>	<b>10,31%</b>	<b>10,05%</b>
SYSTEM DEVELOPMENT	25,64%	23,17%	18,91%	14,57%	9,92%	7,25%
TRAINING AND MARKETING	5,86%	4,63%	4,73%	4,37%	4,47%	4,35%
<b>TOTAL COSTS</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>

**Scenario C for Base Case/Option 1 – More aggressive growth and pricing than in Scenario A**

	US\$ for credit report	2,00	US\$ for risk scoring (in addition to credit report), for additional insurance products	0,50	Membership fee	250
<b>6 YEAR PROFIT AND LOSS FORECAST</b>						
<b>Scenario C - Option 1</b>	US\$ for one agricultural credit report	10,00	% of number of risk-scoring reports	20%	Price for enhanced report	20,00
<b>Ukraine (project)</b>	US\$ for service installation	150,00	US\$ for additional products	0,20		
<b>All figures provided in US dollars</b>	Tax payments	25%	VAT	20,00%		
<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
MEMBER FEES (CLIENTS)	0	0	12 500	15 000	17 500	17 500
AGRI-LOAN REPORTS	0	0	0	33 000	75 600	129 600
CREDIT REPORTS ON INDIVIDUALS	0	649 362	3 146 799	8 582 714	13 788 248	17 898 688
CORPORATE CLIENTS	0	8 450	41 640	115 470	379 200	229 440
ENHANCED REPORTS (US\$ 20/REPORT)	0	0	0	438 600	1 070 400	1 943 100
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0	32 468	150 699	412 931	665 941	869 472
INSURANCE COMPANIES	0	0	237 178	507 560	814 650	1 162 230
ADDITIONAL PRODUCTS	0	0	31 400	133 800	280 800	452 400
SERVICE INSTALLATION	4 500	1 500	1 500	1 500	1 500	1 500
<b>TOTAL INCOME</b>	<b>4 500</b>	<b>691 780</b>	<b>3 621 715</b>	<b>10 240 574</b>	<b>17 093 838</b>	<b>22 703 930</b>
VAT	750	115 297	603 619	1 706 762	2 848 973	3 783 988
<i>Sales volume growth</i>		0,0%	423,5%	182,8%	66,9%	32,8%
<b>COSTS</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	238 200	339 960	356 640	374 760	393 960	413 400
INCOME TAXES AND PAYMENTS	48 723	77 216	77 623	78 030	78 437	78 844
LEASE	52 500	111 000	117 000	123 000	129 000	135 000
UTILITIES	7 500	16 500	18 300	20 100	22 200	24 300
OFFICE EQUIPMENT	6 000	3 000	3 000	3 000	3 000	3 000
OFFICE STATIONERY	6 000	6 000	6 000	6 000	6 000	6 000
TELEPHONE COMMUNICATION SERVICES	3 240	25 000	25 000	25 000	25 000	25 000
INTERNET	6 000	12 000	12 000	12 000	12 000	12 000
POSTAL COSTS AND DELIVERY	3 000	6 000	6 000	6 000	6 000	6 000
TRAVEL COSTS	8 400	16 800	16 800	16 800	16 800	16 800
ENTERTAINMENT	4 200	8 400	8 400	8 400	8 400	8 400
AUDIT SERVICES	12 500	25 000	25 000	25 000	25 000	25 000
INSURANCE	7 000	22 000	22 000	22 000	22 000	22 000
Other expenses	2 858	4 250	8 916	9 369	9 849	10 335
<b>Total operational expenses</b>	<b>406 121</b>	<b>673 125</b>	<b>702 679</b>	<b>729 459</b>	<b>757 646</b>	<b>786 079</b>
<i>% of total costs</i>	29,75%	62,38%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	50 000	0	0	0	0	0
OFFICE FURNITURE	18 000	2 000	1 000	1 000	1 000	1 000
TELEPHONE EQUIPMENT	5 700	0	0	0	0	5 700
CONSTRUCTION OF COMPUTER ROOM	25 500	0	0	0	0	12 750
BACK-UP GENERATOR	10 000	0	0	0	0	5 000
<b>Total physical plant</b>	<b>109 200</b>	<b>2 000</b>	<b>1 000</b>	<b>1 000</b>	<b>1 000</b>	<b>24 450</b>
<i>% of total costs</i>	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	92 650	18 531	18 531	18 531	18 531	18 531
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	48 750	9 750	9 750	9 750	9 750	9 750
OFFICE AUTOMATED WORKSTATIONS	79 600	15 960	15 960	15 960	15 960	15 960
NETWORK	41 700	8 340	8 340	8 340	8 340	8 340
PRINTERS	4 200	840	840	840	840	840
FAX MACHINES	2 500	500	500	500	500	500
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	125 000	25 000	25 000	25 000	25 000	25 000
TECHNICAL MAINTENANCE	25 000	25 000	25 000	25 000	25 000	25 000
Other expenses	5 000	5 000	5 000	5 000	5 000	5 000
<b>Total hardware and software</b>	<b>419 600</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>
<i>% of total costs</i>	30,74%	9,63%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT AND CONSULTING SERVICES	350 000	250 000	200 000	150 000	100 000	75 000
TRAINING AND MARKETING	80 000	50 000	50 000	45 000	45 000	45 000
<i>% of total costs</i>	31,50%	27,80%	23,64%	18,94%	14,39%	11,60%
<b>TOTAL COSTS</b>	<b>1 364 921</b>	<b>1 079 046</b>	<b>1 057 600</b>	<b>1 029 380</b>	<b>1 007 567</b>	<b>1 034 450</b>
<i>% of change</i>		-20,94%	-1,99%	-2,67%	-2,12%	2,67%
<b>PROFIT BEFORE INTEREST AND TAXES</b>	<b>-1 361 171</b>	<b>-502 563</b>	<b>1 934 329</b>	<b>7 392 932</b>	<b>13 003 298</b>	<b>17 508 491</b>
Loan interest	0	0	0	0	0	50 000
Profit tax	0	0	483 582	1 848 233	3 250 825	4 364 623
<b>NET PROFIT</b>	<b>-1 361 171</b>	<b>-502 563</b>	<b>1 450 747</b>	<b>5 544 699</b>	<b>9 752 474</b>	<b>13 093 868</b>
<b>TOTAL DEFICIT</b>	<b>-1 361 171</b>	<b>-1 863 734</b>	<b>-412 987</b>	<b>5 131 712</b>	<b>14 884 186</b>	<b>27 978 055</b>

Income Items - Number of Requested Credit Reports						
Estimated Demand						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>General economic growth (Source: IMF)</b>	6%	5,0%	5,0%	5,0%	5,0%	5,0%
<b>Bank Mortgage Loans - Enhanced Reports</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of households that can afford mortgage loan	944 000	1 034 000	1 127 000	1 228 000	1 339 000	1 446 000
Growth in the number of households that can afford mortgage loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	8,5%	10,2%	12,3%	14,7%	17,7%	21,1%
Expected number of mortgage loan application (for each year)	80 200	96 600	115 900	139 100	166 900	198 600
Growth in the expected number of mortgage loan applications for each year		20,5%	20,0%	20,0%	20,0%	19,0%
Hit rate	0%	0,0%	0,0%	15,0%	30,0%	45,0%
<b>Total number of requested reports</b>	0	0	0	20 865	50 070	89 370
<b>Bank Mortgage Loans - Credit Reports on Individuals</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of households that can afford a mortgage loan	944 000	1 034 000	1 127 000	1 228 000	1 339 000	1 446 000
Growth in expected households that can afford mortgage loan		9,50%	9,00%	9,00%	9,00%	8,00%
Market penetration	8,5%	10,2%	12,3%	14,7%	17,7%	21,1%
Expected number of mortgage loan applications in each year	80 200	96 600	115 900	139 100	166 900	198 600
Growth in expected number of mortgage loan applications in each year		20,5%	20,0%	20,0%	20,0%	19,0%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	4 830	23 180	62 595	100 140	119 160
<b>Consumer Loans/Goods on Credit: Credit Bureau Group Banks</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of citizens who can take a consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Market penetration	25,05%	24,63%	24,18%	23,75%	23,31%	23,09%
Expected number of loan applications	2 793 000	3 006 000	3 218 000	3 444 000	3 685 000	3 943 000
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	150 300	643 600	1 549 800	2 211 000	2 365 800
<b>Consumer Loans/Goods on Credit: Non-Credit Bureau Group Banks</b>	Additional sector growth	5%	4%	4%	4%	3%
Number of citizens eligible for consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Expected number of loan applications	1 764 000	1 932 000	2 106 000	2 296 000	2 503 000	2 703 000
Growth in number of applications (%)		10%	9%	9%	9%	8%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	96 600	421 200	1 033 200	1 501 800	1 621 800
<b>Consumer Loans/Goods on Credit: Issuance of Loans by Credit Unions</b>	Additional sector growth	4,5%	4,0%	4,0%	4,0%	3,0%
Number of citizens who can take a consumer loan	11 148 000	12 207 000	13 306 000	14 504 000	15 809 000	17 074 000
Growth in number of citizens who can take a consumer loan		9,5%	9,0%	9,0%	9,0%	8,0%
Expected number of loan applications	513 000	567 000	535 000	493 000	440 000	369 000
Growth in number of applications (%)		9,5%	9,0%	9,0%	9,0%	8,0%
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	28 350	107 000	221 850	264 000	221 400
<b>Credit Reports on Corporate Clients (SMEs)</b>	Additional sector growth	5%	4%	4%	4%	3%
Total number of SMEs	295 500	323 600	352 700	384 400	419 000	452 500
Growth in total number of SMEs		10%	9%	9%	9%	8%
Market penetration	23%	25%	27%	30%	33%	35%
Expected number of loan applications	68 000	81 500	96 800	115 000	136 700	159 400
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	4 075	19 360	51 750	82 020	95 640
<b>Bank Credit Cards</b>	Additional sector growth	20%	15%	10%	10%	5%
Total number of all types of cards	15 000 000	18 750 000	22 500 000	25 875 000	29 756 000	32 732 000
Market penetration - % "credit" cards	1,00%	2,00%	3,00%	4,50%	6,00%	8,00%
Number of credit cards on the market	150 000	375 000	675 000	1 164 400	1 785 400	2 618 600
Growth in the number of credit cards		150%	80%	73%	53%	47%
Number of applications on credit cards	225 000	562 500	1 012 500	1 746 600	2 678 100	3 927 900
Conversion factor from debit cards to credit cards	1%	2,2%	3,2%	4,2%	6,0%	12,0%
Number of debit cards converted into credit cards	150 000	412 500	720 000	1 086 800	1 785 400	3 927 800
Total number of applications on credit cards	255 000	645 000	1 156 500	2 181 320	3 392 260	5 891 800
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%
<b>Total number of requested reports</b>	0	32 250	231 300	981 594	2 035 356	3 535 080

Income Items - Number of Requested Reports							
Estimated Demand							
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	
<b>Automobile Loans</b>							
	Additional sector growth	0,0%	0,0%	0,0%	0,0%	0,0%	
Total Expected number of automobiles	5 664 000	5 947 000	6 244 000	6 556 000	6 884 000	7 228 000	
Total expected automobiles growth		5%	5%	5%	5%	5%	
New automobile sales expectation, 2005	212 000	222 600	233 700	245 400	257 700	270 600	
Growth in automobile loan applications		5%	5%	5%	5%	5%	
Number of automobile loan applications for each year	127 200	133 600	140 300	147 300	154 700	162 400	
Hit rate	0%	5,0%	20,0%	45,0%	60,0%	60,0%	
<b>Total number of requested reports</b>	0	6 680	28 060	66 285	92 820	97 440	
<b>Utility Companies</b>							
	Additional sector growth	0%	0%	0%	0%	0%	
Total Applications	1 000	1 050	1 100	1 160	1 220	1 280	
Application Growth Rate		5%	5%	5%	5%	5%	
Market Penetration	0%	0%	5%	10%	15%	20%	
Growth Rate of Market Penetration		50%	50%	50%	50%	50%	
Hit rate	0%	0%	20%	40%	60%	80%	
<b>Total number of requested reports</b>	0	0	11	46	110	205	
<b>Telephone Companies</b>							
	Additional sector growth	1,5%	1,5%	1,5%	1,5%	1,5%	
Total number of mobile subscribers	15 271 000	16 264 000	17 321 000	18 447 000	19 646 000	20 923 000	
% post paid subscribers	15%	15%	15%	15%	15%	15%	
Estimated number of post paid subscribers	2 279 000	2 427 000	2 585 000	2 753 000	2 932 000	3 123 000	
Post paid subscribers growth, (%)		6%	7%	6%	7%	7%	
New post paid subscribers	139 000	148 000	158 000	168 000	179 000	191 000	
Subscribers' conversion from pre-paid to post paid scheme	0,82%	0,77%	0,77%	0,77%	0,77%	0,77%	
Subscribers converted to post paid scheme	107 000	107 000	114 000	121 000	129 000	137 000	
Hit rate	0%	0,0%	20,0%	45,0%	60,0%	60,0%	
<b>Total number of requested reports</b>	0	0	54 400	130 050	184 800	196 800	
<b>Agricultural Sector</b>							
	Additional sector growth	0%	0%	0%	0%	0%	
Number of farms and agricultural enterprises	55 000	57 800	60 700	63 700	66 900	70 200	
Growth in the number of farms and agricultural enterprises		5%	5%	5%	5%	5%	
Number of new agricultural enterprises		2 800	2 900	3 000	3 200	3 300	
Market penetration	20,0%	21%	22%	23%	24%	26%	
Increase in market penetration		5%	5%	5%	5%	5%	
Number of credit applications	11 000	12 100	13 400	14 800	16 300	17 900	
Hit rate	0%	0,0%	0,0%	20,0%	40,0%	60,0%	
<b>Total number of requested reports</b>	0	0	0	2 960	6 520	10 740	
<b>Insurance Companies</b>							
	Additional sector growth	0%	0%	0%	0%	0%	
Total number of insurance policies	20 600 000	21 630 000	22 712 000	23 848 000	25 040 000	26 292 000	
Growth in the number of insurance policies (%)		5%	5%	5%	5%	5%	
Market penetration		10%	10%	10%	10%	10%	
Number of inquiries to CB regarding insurance policies		2 163 000	2 271 200	2 384 800	2 504 000	2 629 200	
Hit rate	0%	0,0%	5,0%	10,0%	15,0%	20,0%	
<b>Total number of requested reports</b>	0	0	113 560	238 480	375 600	525 840	
<b>Insurance Companies: Other Products</b>							
	Additional sector growth	0%	0%	0%	0%	0%	
Total number of fraud checks and indemnity claims	464 000	487 000	511 000	537 000	564 000	592 000	
Growth in the number of fraud checks and indemnity claims (%)		5%	5%	5%	5%	5%	
Market penetration		10%	10%	10%	10%	10%	
Number of inquiries to CB		48 700	51 100	53 700	56 400	59 200	
Hit rate	0%	0,0%	5,0%	10,0%	15,0%	20,0%	
<b>Total number of requested reports</b>	0	0	2 555	5 370	8 460	11 840	
<b>ADDITIONAL PRODUCTS</b>	0	0	151 000	632 000	1 303 000	2 064 000	
<b>Total number of requested reports (ADD. PRODUCTS EXCL.)</b>	0	323 085	1 644 226	4 364 845	6 912 696	8 891 115	
<b>Total number of requested reports (ADD. PRODUCTS INCL.)</b>	0	323 085	1 795 226	4 996 845	8 215 696	10 955 115	

<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
<b>% of income</b>						
MEMBER FEES (CLIENTS)	0,00%	0,00%	0,35%	0,15%	0,10%	0,08%
AGRI-LOAN REPORTS	0,00%	0,00%	0,00%	0,32%	0,44%	0,57%
CREDIT REPORTS ON INDIVIDUALS	0,00%	93,87%	86,89%	83,81%	80,66%	78,84%
CORPORATE CLIENTS	0,00%	1,22%	1,15%	1,13%	2,22%	1,01%
ENHANCED REPORTS (US\$ 20/REPORT)	0,00%	0,00%	0,00%	4,28%	6,26%	8,56%
RISK SCORING AT 20% OF REQUESTS (US\$ 0.50)	0,00%	4,69%	4,16%	4,03%	3,90%	3,83%
INSURANCE COMPANIES	0,00%	0,00%	6,55%	4,96%	4,77%	5,12%
ADDITIONAL PRODUCTS	0,00%	0,00%	0,87%	1,31%	1,64%	1,99%
SERVICE INSTALLATION	100,00%	0,22%	0,04%	0,01%	0,01%	0,01%
<b>TOTAL INCOME</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>
<b>COSTS</b>						
<b>% of costs</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	17,45%	31,51%	33,72%	36,41%	39,10%	39,96%
INCOME TAXES AND PAYMENTS	3,57%	7,16%	7,34%	7,58%	7,78%	7,62%
LEASE	3,85%	10,29%	11,06%	11,95%	12,80%	13,05%
UTILITIES	0,55%	1,53%	1,73%	1,95%	2,20%	2,35%
OFFICE EQUIPMENT	0,44%	0,28%	0,28%	0,29%	0,30%	0,29%
OFFICE STATIONERY	0,44%	0,56%	0,57%	0,58%	0,60%	0,58%
TELEPHONE COMMUNICATION SERVICES	0,24%	2,32%	2,36%	2,43%	2,48%	2,42%
INTERNET	0,44%	1,11%	1,13%	1,17%	1,19%	1,16%
POSTAL COSTS AND DELIVERY	0,22%	0,56%	0,57%	0,58%	0,60%	0,58%
TRAVEL COSTS	0,62%	1,56%	1,59%	1,63%	1,67%	1,62%
ENTERTAINMENT	0,31%	0,78%	0,79%	0,82%	0,83%	0,81%
AUDIT SERVICES	0,92%	2,32%	2,36%	2,43%	2,48%	2,42%
INSURANCE	0,51%	2,04%	2,08%	2,14%	2,18%	2,13%
Other expenses	0,21%	0,39%	0,84%	0,91%	0,98%	1,00%
<b>Total operating costs</b>	<b>29,75%</b>	<b>62,38%</b>	<b>66,44%</b>	<b>70,86%</b>	<b>75,20%</b>	<b>75,99%</b>
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	3,66%	0,00%	0,00%	0,00%	0,00%	0,00%
OFFICE FURNITURE	1,32%	0,19%	0,09%	0,10%	0,10%	0,10%
TELEPHONE EQUIPMENT	0,42%	0,00%	0,00%	0,00%	0,00%	0,55%
CONSTRUCTION OF COMPUTER ROOM	1,87%	0,00%	0,00%	0,00%	0,00%	1,23%
BACK-UP GENERATOR	0,73%	0,00%	0,00%	0,00%	0,00%	0,48%
<b>Total physical plant</b>	<b>8,00%</b>	<b>0,19%</b>	<b>0,09%</b>	<b>0,10%</b>	<b>0,10%</b>	<b>2,36%</b>
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	6,79%	1,72%	1,75%	1,80%	1,84%	1,79%
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	3,57%	0,90%	0,92%	0,95%	0,97%	0,94%
OFFICE AUTOMATED WORKSTATIONS	5,85%	1,48%	1,51%	1,55%	1,58%	1,54%
NETWORK	3,06%	0,77%	0,79%	0,81%	0,83%	0,81%
PRINTERS	0,31%	0,08%	0,08%	0,08%	0,08%	0,08%
FAX MACHINES	0,18%	0,05%	0,05%	0,05%	0,05%	0,05%
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	9,16%	2,32%	2,36%	2,43%	2,48%	2,42%
TECHNICAL MAINTENANCE	1,83%	2,32%	2,36%	2,43%	2,48%	2,42%
Other expenses	0,37%	0,46%	0,47%	0,49%	0,50%	0,48%
<b>Total hardware and software</b>	<b>30,74%</b>	<b>9,63%</b>	<b>9,83%</b>	<b>10,10%</b>	<b>10,31%</b>	<b>10,05%</b>
SYSTEM DEVELOPMENT	25,64%	23,17%	18,91%	14,57%	9,92%	7,25%
TRAINING AND MARKETING	5,86%	4,63%	4,73%	4,37%	4,47%	4,35%
<b>TOTAL COSTS</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>

## Option 2

provides P/L for a fragmented market. In Option 2 we subtract from the Base Case (Scenario A/Option 1) a large portion of the banking sector.

	US\$ for credit report	1,00	US\$ for risk scoring (in addition to credit report), for additional insurance products	0,50	Membership fee	250,00
<b>6 YEAR PROFIT AND LOSS FORECAST</b>						
<b>Scenario A - Option 2 (Minus other commercial banks)</b>	US\$ for one agricultural credit report	10,00	% of number of risk-scoring reports	20,00%	Price for enhanced report	20,00
<b>Ukraine (project)</b>	US\$ for service installation	150,00	US\$ for additional products	0,20		
<b>All figures provided in US dollars</b>	Tax payments	25%	VAT	20,00%		
<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
MEMBER FEES (CLIENTS)	0	0	12 500	15 000	17 500	17 500
AGRI-LOAN REPORTS	0	0	0	19 240	42 360	69 810
CREDIT REPORTS ON INDIVIDUALS	0	204 440	974 500	2 566 901	3 993 272	4 998 883
CORPORATE CLIENTS	0	1 834	8 712	23 288	73 818	43 038
ENHANCED REPORTS (US\$ 20/REPORT)	0	0	0	229 515	550 770	983 070
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0	31 901	145 434	391 532	620 512	796 068
INSURANCE COMPANIES	0	0	74 644	156 757	246 890	345 644
ADDITIONAL PRODUCTS	0	0	19 506	80 203	162 855	252 956
SERVICE INSTALLATION	4 500	1 500	1 500	1 500	1 500	1 500
<b>TOTAL INCOME</b>	<b>4 500</b>	<b>239 675</b>	<b>1 236 797</b>	<b>3 483 936</b>	<b>5 709 496</b>	<b>7 508 469</b>
VAT	750	39 946	206 133	580 656	951 583	1 251 412
<i>Sales volume growth</i>		0,0%	416,0%	181,7%	63,9%	31,5%
<b>COSTS</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	238 200	339 960	356 640	374 760	393 960	413 400
INCOME TAXES AND PAYMENTS	48 723	77 216	77 623	78 030	78 437	78 844
LEASE	52 500	111 000	117 000	123 000	129 000	135 000
UTILITIES	7 500	16 500	18 300	20 100	22 200	24 300
OFFICE EQUIPMENT	6 000	3 000	3 000	3 000	3 000	3 000
OFFICE STATIONERY	6 000	6 000	6 000	6 000	6 000	6 000
TELEPHONE COMMUNICATION SERVICES	3 240	20 559	25 000	25 000	25 000	25 000
INTERNET	6 000	12 000	12 000	12 000	12 000	12 000
POSTAL COSTS AND DELIVERY	3 000	6 000	6 000	6 000	6 000	6 000
TRAVEL COSTS	8 400	16 800	16 800	16 800	16 800	16 800
ENTERTAINMENT	4 200	8 400	8 400	8 400	8 400	8 400
AUDIT SERVICES	12 500	25 000	25 000	25 000	25 000	25 000
INSURANCE	7 000	22 000	22 000	22 000	22 000	22 000
Other expenses	2 858	4 250	8 916	9 369	9 849	10 335
<b>Total operational expenses</b>	<b>406 121</b>	<b>668 685</b>	<b>702 679</b>	<b>729 459</b>	<b>757 646</b>	<b>786 079</b>
<i>% of total costs</i>	<i>29,75%</i>	<i>62,23%</i>	<i>66,44%</i>	<i>70,86%</i>	<i>75,20%</i>	<i>75,99%</i>
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	50 000	0	0	0	0	0
OFFICE FURNITURE	18 000	2 000	1 000	1 000	1 000	1 000
TELEPHONE EQUIPMENT	5 700	0	0	0	0	5 700
CONSTRUCTION OF COMPUTER ROOM	25 500	0	0	0	0	12 750
BACK-UP GENERATOR	10 000	0	0	0	0	5 000
<b>Total physical plant</b>	<b>109 200</b>	<b>2 000</b>	<b>1 000</b>	<b>1 000</b>	<b>1 000</b>	<b>24 450</b>
<i>% of total costs</i>	<i>8,00%</i>	<i>0,19%</i>	<i>0,09%</i>	<i>0,10%</i>	<i>0,10%</i>	<i>2,36%</i>
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	92 650	18 531	18 531	18 531	18 531	18 531
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	48 750	9 750	9 750	9 750	9 750	9 750
OFFICE AUTOMATED WORKSTATIONS	79 800	15 960	15 960	15 960	15 960	15 960
NETWORK	41 700	8 340	8 340	8 340	8 340	8 340
PRINTERS	4 200	840	840	840	840	840
FAX MACHINES	2 500	500	500	500	500	500
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	125 000	25 000	25 000	25 000	25 000	25 000
TECHNICAL MAINTENANCE	25 000	25 000	25 000	25 000	25 000	25 000
Other expenses	5 000	5 000	5 000	5 000	5 000	5 000
<b>Total hardware and software</b>	<b>419 600</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>
<i>% of total costs</i>	<i>30,74%</i>	<i>9,67%</i>	<i>9,83%</i>	<i>10,10%</i>	<i>10,31%</i>	<i>10,05%</i>
SYSTEM DEVELOPMENT AND CONSULTING SERVICES	350 000	250 000	200 000	150 000	100 000	75 000
TRAINING AND MARKETING	80 000	50 000	50 000	45 000	45 000	45 000
<i>% of total costs</i>	<i>31,50%</i>	<i>27,92%</i>	<i>23,64%</i>	<i>18,94%</i>	<i>14,39%</i>	<i>11,60%</i>
<b>TOTAL COSTS</b>	<b>1 364 921</b>	<b>1 074 606</b>	<b>1 057 600</b>	<b>1 029 380</b>	<b>1 007 567</b>	<b>1 034 450</b>
<i>% of change</i>		<i>-21,27%</i>	<i>-1,58%</i>	<i>-2,67%</i>	<i>-2,12%</i>	<i>2,67%</i>
<b>PROFIT BEFORE INTEREST AND TAXES</b>	<b>-1 360 421</b>	<b>-834 930</b>	<b>179 197</b>	<b>2 454 556</b>	<b>4 701 929</b>	<b>6 474 019</b>
Loan interest	0	0	0	0	0	50 000
Profit tax	0	0	44 799	613 639	1 175 482	1 606 005
<b>NET PROFIT</b>	<b>-1 360 421</b>	<b>-834 930</b>	<b>134 398</b>	<b>1 840 917</b>	<b>3 526 447</b>	<b>4 818 014</b>
<b>TOTAL DEFICIT</b>	<b>-1 360 421</b>	<b>-2 195 351</b>	<b>-2 060 954</b>	<b>-220 036</b>	<b>3 306 410</b>	<b>8 124 425</b>

<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
<b>% of income</b>						
MEMBER FEES (CLIENTS)	0,00%	0,00%	1,01%	0,43%	0,31%	0,23%
AGRI-LOAN REPORTS	0,00%	0,00%	0,00%	0,55%	0,74%	0,93%
CREDIT REPORTS ON INDIVIDUALS	0,00%	85,30%	78,79%	73,68%	69,94%	66,58%
CORPORATE CLIENTS	0,00%	0,77%	0,70%	0,67%	1,29%	0,57%
ENHANCED REPORTS (US\$ 20/REPORT)	0,00%	0,00%	0,00%	6,59%	9,65%	13,09%
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0,00%	13,31%	11,76%	11,24%	10,87%	10,60%
INSURANCE COMPANIES	0,00%	0,00%	6,04%	4,50%	4,32%	4,60%
ADDITIONAL PRODUCTS	0,00%	0,00%	1,58%	2,30%	2,85%	3,37%
SERVICE INSTALLATION	100,00%	0,63%	0,12%	0,04%	0,03%	0,02%
<b>TOTAL INCOME</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>
<b>COSTS</b>						
<b>% of costs</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	17,45%	31,64%	33,72%	36,41%	39,10%	39,96%
INCOME TAXES AND PAYMENTS	3,57%	7,19%	7,34%	7,58%	7,78%	7,62%
LEASE	3,85%	10,33%	11,06%	11,95%	12,80%	13,05%
UTILITIES	0,55%	1,54%	1,73%	1,95%	2,20%	2,35%
OFFICE EQUIPMENT	0,44%	0,28%	0,28%	0,29%	0,30%	0,29%
OFFICE STATIONERY	0,44%	0,56%	0,57%	0,58%	0,60%	0,58%
TELEPHONE COMMUNICATION SERVICES	0,24%	1,91%	2,36%	2,43%	2,48%	2,42%
INTERNET	0,44%	1,12%	1,13%	1,17%	1,19%	1,16%
POSTAL COSTS AND DELIVERY	0,22%	0,56%	0,57%	0,58%	0,60%	0,58%
TRAVEL COSTS	0,62%	1,56%	1,59%	1,63%	1,67%	1,62%
ENTERTAINMENT	0,31%	0,78%	0,79%	0,82%	0,83%	0,81%
AUDIT SERVICES	0,92%	2,33%	2,36%	2,43%	2,48%	2,42%
INSURANCE	0,51%	2,05%	2,08%	2,14%	2,18%	2,13%
Other expenses	0,21%	0,40%	0,84%	0,91%	0,98%	1,00%
Total operating costs	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	3,66%	0,00%	0,00%	0,00%	0,00%	0,00%
OFFICE FURNITURE	1,32%	0,19%	0,09%	0,10%	0,10%	0,10%
TELEPHONE EQUIPMENT	0,42%	0,00%	0,00%	0,00%	0,00%	0,55%
CONSTRUCTION OF COMPUTER ROOM	1,87%	0,00%	0,00%	0,00%	0,00%	1,23%
BACK-UP GENERATOR	0,73%	0,00%	0,00%	0,00%	0,00%	0,48%
Total physical plant	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	6,79%	1,72%	1,75%	1,80%	1,84%	1,79%
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	3,57%	0,91%	0,92%	0,95%	0,97%	0,94%
OFFICE AUTOMATED WORKSTATIONS	5,85%	1,49%	1,51%	1,55%	1,58%	1,54%
NETWORK	3,06%	0,78%	0,79%	0,81%	0,83%	0,81%
PRINTERS	0,31%	0,08%	0,08%	0,08%	0,08%	0,08%
FAX MACHINES	0,18%	0,05%	0,05%	0,05%	0,05%	0,05%
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	9,16%	2,33%	2,36%	2,43%	2,48%	2,42%
TECHNICAL MAINTENANCE	1,83%	2,33%	2,36%	2,43%	2,48%	2,42%
Other expenses	0,37%	0,47%	0,47%	0,49%	0,50%	0,48%
Total hardware and software	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT	<b>25,64%</b>	<b>23,26%</b>	<b>18,91%</b>	<b>14,57%</b>	<b>9,92%</b>	<b>7,25%</b>
TRAINING AND MARKETING	5,86%	4,65%	4,73%	4,37%	4,47%	4,35%
<b>TOTAL COSTS</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>

### Option 3

in addition to a large portion of the banking sector, we further subtract the activity arising from Credit Unions.

	US\$ for credit report	1,00	US\$ for risk scoring (in addition to credit report), for additional insurance products	0,50	Membership fee	250,00
<b>6 YEAR PROFIT AND LOSS FORECAST</b>						
<b>Scenario A - Option 3 (Minus other commercial banks and CUs)</b>	US\$ for one agricultural credit report	10,00	% of number of risk-scoring reports	20,00%	Price for enhanced report	20,00
<b>Ukraine (project)</b>	US\$ for service installation	150,00	US\$ for additional products	0,20		
<b>All figures provided in US dollars</b>	Tax payments	25%	VAT	20,00%		
<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
MEMBER FEES (CLIENTS)	0	0	12 500	15 000	17 500	17 500
AGRI-LOAN REPORTS	0	0	0	19 240	42 380	69 810
CREDIT REPORTS ON INDIVIDUALS	0	175 762	865 473	2 339 057	3 719 756	4 768 039
CORPORATE CLIENTS	0	1 793	8 518	22 770	72 178	42 082
ENHANCED REPORTS (US\$ 20/REPORT)	0	0	0	227 429	545 763	974 133
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0	31 901	145 434	391 532	620 512	796 068
INSURANCE COMPANIES	0	0	71 199	149 522	235 495	329 691
ADDITIONAL PRODUCTS	0	0	17 324	73 084	151 700	241 275
SERVICE INSTALLATION	4 500	1 500	1 500	1 500	1 500	1 500
<b>TOTAL INCOME</b>	<b>4 500</b>	<b>210 956</b>	<b>1 121 949</b>	<b>3 239 135</b>	<b>5 406 783</b>	<b>7 240 098</b>
VAT	750	35 159	186 991	539 856	901 130	1 206 683
<i>Sales volume growth</i>		0,0%	431,8%	188,7%	66,9%	33,9%
<b>COSTS</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	238 200	339 960	356 640	374 760	393 960	413 400
INCOME TAXES AND PAYMENTS	48 723	77 216	77 623	78 030	78 437	78 844
LEASE	52 500	111 000	117 000	123 000	129 000	135 000
UTILITIES	7 500	16 500	18 300	20 100	22 200	24 300
OFFICE EQUIPMENT	6 000	3 000	3 000	3 000	3 000	3 000
OFFICE STATIONERY	6 000	6 000	6 000	6 000	6 000	6 000
TELEPHONE COMMUNICATION SERVICES	3 240	20 559	25 000	25 000	25 000	25 000
INTERNET	6 000	12 000	12 000	12 000	12 000	12 000
POSTAL COSTS AND DELIVERY	3 000	6 000	6 000	6 000	6 000	6 000
TRAVEL COSTS	8 400	16 800	16 800	16 800	16 800	16 800
ENTERTAINMENT	4 200	8 400	8 400	8 400	8 400	8 400
AUDIT SERVICES	12 500	25 000	25 000	25 000	25 000	25 000
INSURANCE	7 000	22 000	22 000	22 000	22 000	22 000
Other expenses	2 858	4 250	8 916	9 369	9 849	10 335
<b>Total operational expenses</b>	<b>406 121</b>	<b>668 685</b>	<b>702 679</b>	<b>729 459</b>	<b>757 646</b>	<b>786 079</b>
<i>% of total costs</i>	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	50 000	0	0	0	0	0
OFFICE FURNITURE	18 000	2 000	1 000	1 000	1 000	1 000
TELEPHONE EQUIPMENT	5 700	0	0	0	0	5 700
CONSTRUCTION OF COMPUTER ROOM	25 500	0	0	0	0	12 750
BACK-UP GENERATOR	10 000	0	0	0	0	5 000
<b>Total physical plant</b>	<b>109 200</b>	<b>2 000</b>	<b>1 000</b>	<b>1 000</b>	<b>1 000</b>	<b>24 450</b>
<i>% of total costs</i>	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	92 650	18 531	18 531	18 531	18 531	18 531
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	48 750	9 750	9 750	9 750	9 750	9 750
OFFICE AUTOMATED WORKSTATIONS	79 800	15 960	15 960	15 960	15 960	15 960
NETWORK	41 700	8 340	8 340	8 340	8 340	8 340
PRINTERS	4 200	840	840	840	840	840
FAX MACHINES	2 500	500	500	500	500	500
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	125 000	25 000	25 000	25 000	25 000	25 000
TECHNICAL MAINTENANCE	25 000	25 000	25 000	25 000	25 000	25 000
Other expenses	5 000	5 000	5 000	5 000	5 000	5 000
<b>Total hardware and software</b>	<b>419 600</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>
<i>% of total costs</i>	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT AND CONSULTING SERVICES	350 000	250 000	200 000	150 000	100 000	75 000
TRAINING AND MARKETING	80 000	50 000	50 000	45 000	45 000	45 000
<i>% of total costs</i>	31,50%	27,92%	23,64%	18,94%	14,39%	11,60%
<b>TOTAL COSTS</b>	<b>1 364 921</b>	<b>1 074 606</b>	<b>1 057 600</b>	<b>1 029 380</b>	<b>1 007 567</b>	<b>1 034 450</b>
<i>% of change</i>		-21,27%	-1,58%	-2,67%	-2,12%	2,67%
<b>PROFIT BEFORE INTEREST AND TAXES</b>	<b>-1 360 421</b>	<b>-863 650</b>	<b>64 349</b>	<b>2 209 755</b>	<b>4 399 216</b>	<b>6 205 648</b>
Loan interest	0	0	0	0	0	50 000
Profit tax	0	0	16 087	552 439	1 099 804	1 538 912
<b>NET PROFIT</b>	<b>-1 360 421</b>	<b>-863 650</b>	<b>48 262</b>	<b>1 657 316</b>	<b>3 299 412</b>	<b>4 616 736</b>
<b>TOTAL DEFICIT</b>	<b>-1 360 421</b>	<b>-2 224 071</b>	<b>-2 175 809</b>	<b>-518 493</b>	<b>2 780 918</b>	<b>7 397 654</b>

<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
<b>% of income</b>						
MEMBER FEES (CLIENTS)	0,00%	0,00%	1,11%	0,46%	0,32%	0,24%
AGRI-LOAN REPORTS	0,00%	0,00%	0,00%	0,59%	0,78%	0,96%
CREDIT REPORTS ON INDIVIDUALS	0,00%	83,32%	77,14%	72,21%	68,80%	65,86%
CORPORATE CLIENTS	0,00%	0,85%	0,76%	0,70%	1,33%	0,58%
ENHANCED REPORTS (US\$ 20/REPORT)	0,00%	0,00%	0,00%	7,02%	10,09%	13,45%
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0,00%	15,12%	12,96%	12,09%	11,48%	11,00%
INSURANCE COMPANIES	0,00%	0,00%	6,35%	4,62%	4,36%	4,55%
ADDITIONAL PRODUCTS	0,00%	0,00%	1,54%	2,26%	2,81%	3,33%
SERVICE INSTALLATION	100,00%	0,71%	0,13%	0,05%	0,03%	0,02%
<b>TOTAL INCOME</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>
<b>COSTS</b>						
<b>% of costs</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	17,45%	31,64%	33,72%	36,41%	39,10%	39,96%
INCOME TAXES AND PAYMENTS	3,57%	7,19%	7,34%	7,58%	7,78%	7,62%
LEASE	3,85%	10,33%	11,06%	11,95%	12,80%	13,05%
UTILITIES	0,55%	1,54%	1,73%	1,95%	2,20%	2,35%
OFFICE EQUIPMENT	0,44%	0,28%	0,28%	0,29%	0,30%	0,29%
OFFICE STATIONERY	0,44%	0,56%	0,57%	0,58%	0,60%	0,58%
TELEPHONE COMMUNICATION SERVICES	0,24%	1,91%	2,36%	2,43%	2,48%	2,42%
INTERNET	0,44%	1,12%	1,13%	1,17%	1,19%	1,16%
POSTAL COSTS AND DELIVERY	0,22%	0,56%	0,57%	0,58%	0,60%	0,58%
TRAVEL COSTS	0,62%	1,56%	1,59%	1,63%	1,67%	1,62%
ENTERTAINMENT	0,31%	0,78%	0,79%	0,82%	0,83%	0,81%
AUDIT SERVICES	0,92%	2,33%	2,36%	2,43%	2,48%	2,42%
INSURANCE	0,51%	2,05%	2,08%	2,14%	2,18%	2,13%
Other expenses	0,21%	0,40%	0,84%	0,91%	0,98%	1,00%
Total operating costs	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	3,66%	0,00%	0,00%	0,00%	0,00%	0,00%
OFFICE FURNITURE	1,32%	0,19%	0,09%	0,10%	0,10%	0,10%
TELEPHONE EQUIPMENT	0,42%	0,00%	0,00%	0,00%	0,00%	0,55%
CONSTRUCTION OF COMPUTER ROOM	1,87%	0,00%	0,00%	0,00%	0,00%	1,23%
BACK-UP GENERATOR	0,73%	0,00%	0,00%	0,00%	0,00%	0,48%
Total physical plant	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	6,79%	1,72%	1,75%	1,80%	1,84%	1,79%
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	3,57%	0,91%	0,92%	0,95%	0,97%	0,94%
OFFICE AUTOMATED WORKSTATIONS	5,85%	1,49%	1,51%	1,55%	1,58%	1,54%
NETWORK	3,06%	0,78%	0,79%	0,81%	0,83%	0,81%
PRINTERS	0,31%	0,08%	0,08%	0,08%	0,08%	0,08%
FAX MACHINES	0,18%	0,05%	0,05%	0,05%	0,05%	0,05%
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	9,16%	2,33%	2,36%	2,43%	2,48%	2,42%
TECHNICAL MAINTENANCE	1,83%	2,33%	2,36%	2,43%	2,48%	2,42%
Other expenses	0,37%	0,47%	0,47%	0,49%	0,50%	0,48%
Total hardware and software	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT	<b>25,64%</b>	<b>23,26%</b>	<b>18,91%</b>	<b>14,57%</b>	<b>9,92%</b>	<b>7,25%</b>
TRAINING AND MARKETING	5,86%	4,65%	4,73%	4,37%	4,47%	4,35%
<b>TOTAL COSTS</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>

## Option 4

in addition to Option 3, we further subtract 1 mobile phone operator, insurance and utilities.

	US\$ for credit report	1,00	US\$ for risk scoring (in addition to credit report), for additional insurance products	0,50	Membership fee	250,00
<b>6 YEAR PROFIT AND LOSS FORECAST</b>						
<b>Scenario A - Option 4 (Minus other commercial banks, credit unions, insurance companies and 1 mobile phone)</b>	US\$ for one agricultural credit report	10,00	% of number of risk-scoring reports	20,00%	Price for enhanced report	20,00
<b>Ukraine (project)</b>	US\$ for service installation	150,00	US\$ for additional products	0,20		
<b>All figures provided in US dollars</b>	Tax payments	25%	VAT	20,00%		
<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
MEMBER FEES (CLIENTS)	0	0	12 500	15 000	17 500	17 500
AGRI-LOAN REPORTS	0	0	0	19 240	42 380	69 810
CREDIT REPORTS ON INDIVIDUALS	0	175 762	838 266	2 274 002	3 627 284	4 669 506
CORPORATE CLIENTS	0	1 793	8 518	22 770	72 178	42 082
ENHANCED REPORTS (US\$ 20/REPORT)	0	0	0	227 429	545 763	974 133
RISK SCORRING AT 20% OF REQUESTS (US\$ 0.50)	0	31 901	145 434	391 532	620 512	796 068
INSURANCE COMPANIES	0	0	0	0	0	0
ADDITIONAL PRODUCTS	0	0	16 779	71 052	147 929	236 289
SERVICE INSTALLATION	4 500	1 500	1 500	1 500	1 500	1 500
<b>TOTAL INCOME</b>	<b>4 500</b>	<b>210 966</b>	<b>1 022 998</b>	<b>3 022 625</b>	<b>5 075 046</b>	<b>6 806 887</b>
VAT	750	35 159	170 500	503 754	845 841	1 134 481
<i>Sales volume growth</i>		0,0%	384,9%	195,5%	67,9%	34,1%
<b>COSTS</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	238 200	339 960	356 640	374 760	393 960	413 400
INCOME TAXES AND PAYMENTS	48 723	77 216	77 623	78 030	78 437	78 844
LEASE	52 500	111 000	117 000	123 000	129 000	135 000
UTILITIES	7 500	16 500	18 300	20 100	22 200	24 300
OFFICE EQUIPMENT	6 000	3 000	3 000	3 000	3 000	3 000
OFFICE STATIONERY	6 000	6 000	6 000	6 000	6 000	6 000
TELEPHONE COMMUNICATION SERVICES	3 240	20 559	25 000	25 000	25 000	25 000
INTERNET	6 000	12 000	12 000	12 000	12 000	12 000
POSTAL COSTS AND DELIVERY	3 000	6 000	6 000	6 000	6 000	6 000
TRAVEL COSTS	8 400	16 800	16 800	16 800	16 800	16 800
ENTERTAINMENT	4 200	8 400	8 400	8 400	8 400	8 400
AUDIT SERVICES	12 500	25 000	25 000	25 000	25 000	25 000
INSURANCE	7 000	22 000	22 000	22 000	22 000	22 000
Other expenses	2 858	4 250	8 916	9 369	9 849	10 335
<b>Total operational expenses</b>	<b>406 121</b>	<b>668 685</b>	<b>702 679</b>	<b>729 459</b>	<b>757 646</b>	<b>786 079</b>
<i>% of total costs</i>	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	50 000	0	0	0	0	0
OFFICE FURNITURE	18 000	2 000	1 000	1 000	1 000	1 000
TELEPHONE EQUIPMENT	5 700	0	0	0	0	5 700
CONSTRUCTION OF COMPUTER ROOM	25 500	0	0	0	0	12 750
BACK-UP GENERATOR	10 000	0	0	0	0	5 000
<b>Total physical plant</b>	<b>109 200</b>	<b>2 000</b>	<b>1 000</b>	<b>1 000</b>	<b>1 000</b>	<b>24 450</b>
<i>% of total costs</i>	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	92 650	18 531	18 531	18 531	18 531	18 531
NETWORK SERVERS AND OTHER SERVER EQUIPMENT	48 750	9 750	9 750	9 750	9 750	9 750
OFFICE AUTOMATED WORKSTATIONS	79 800	15 960	15 960	15 960	15 960	15 960
NETWORK	41 700	8 340	8 340	8 340	8 340	8 340
PRINTERS	4 200	840	840	840	840	840
FAX MACHINES	2 500	500	500	500	500	500
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	125 000	25 000	25 000	25 000	25 000	25 000
TECHNICAL MAINTENANCE	25 000	25 000	25 000	25 000	25 000	25 000
Other expenses	5 000	5 000	5 000	5 000	5 000	5 000
<b>Total hardware and software</b>	<b>419 600</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>	<b>103 921</b>
<i>% of total costs</i>	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT AND CONSULTING SERVICES	350 000	250 000	200 000	150 000	100 000	75 000
TRAINING AND MARKETING	80 000	50 000	50 000	45 000	45 000	45 000
<i>% of total costs</i>	31,50%	27,92%	23,64%	18,94%	14,39%	11,60%
<b>TOTAL COSTS</b>	<b>1 364 921</b>	<b>1 074 606</b>	<b>1 057 600</b>	<b>1 029 380</b>	<b>1 007 567</b>	<b>1 034 450</b>
<i>% of change</i>		-21,27%	-1,58%	-2,67%	-2,12%	2,67%
<b>PROFIT BEFORE INTEREST AND TAXES</b>	<b>-1 360 421</b>	<b>-863 650</b>	<b>-34 602</b>	<b>1 993 145</b>	<b>4 067 478</b>	<b>5 772 437</b>
Loan interest	0	0	0	0	0	50 000
Profit tax	0	0	0	498 286	1 016 870	1 430 609
<b>NET PROFIT</b>	<b>-1 360 421</b>	<b>-863 650</b>	<b>-34 602</b>	<b>1 494 858</b>	<b>3 050 609</b>	<b>4 291 828</b>
<b>TOTAL DEFICIT</b>	<b>-1 360 421</b>	<b>-2 224 071</b>	<b>-2 258 673</b>	<b>-763 815</b>	<b>2 286 794</b>	<b>6 578 622</b>

<b>INCOME</b>	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
<b>% of income</b>						
MEMBER FEES (CLIENTS)	0,00%	0,00%	1,22%	0,50%	0,34%	0,26%
AGRI-LOAN REPORTS	0,00%	0,00%	0,00%	0,64%	0,84%	1,03%
CREDIT REPORTS ON INDIVIDUALS	0,00%	83,32%	81,94%	75,24%	71,47%	68,60%
CORPORATE CLIENTS	0,00%	0,85%	0,83%	0,75%	1,42%	0,62%
ENHANCED REPORTS (US\$ 20/REPORT)	0,00%	0,00%	0,00%	7,52%	10,75%	14,31%
RISK SCORING AT 20% OF REQUESTS (US\$ 0.50)	0,00%	15,12%	14,22%	12,95%	12,23%	11,70%
INSURANCE COMPANIES	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
ADDITIONAL PRODUCTS	0,00%	0,00%	1,64%	2,35%	2,91%	3,47%
SERVICE INSTALLATION	100,00%	0,71%	0,15%	0,05%	0,03%	0,02%
<b>TOTAL INCOME</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>
<b>COSTS</b>						
<b>% of costs</b>						
<b>OPERATING COSTS</b>						
PERSONNEL PAYROLL (except for international technical assistance)	17,45%	31,64%	33,72%	36,41%	39,10%	39,96%
INCOME TAXES AND PAYMENTS	3,57%	7,19%	7,34%	7,58%	7,78%	7,62%
LEASE	3,85%	10,33%	11,06%	11,95%	12,80%	13,05%
UTILITIES	0,55%	1,54%	1,73%	1,95%	2,20%	2,35%
OFFICE EQUIPMENT	0,44%	0,28%	0,28%	0,29%	0,30%	0,29%
OFFICE STATIONERY	0,44%	0,56%	0,57%	0,58%	0,60%	0,58%
TELEPHONE COMMUNICATION SERVICES	0,24%	1,91%	2,36%	2,43%	2,48%	2,42%
INTERNET	0,44%	1,12%	1,13%	1,17%	1,19%	1,16%
POSTAL COSTS AND DELIVERY	0,22%	0,56%	0,57%	0,58%	0,60%	0,58%
TRAVEL COSTS	0,62%	1,56%	1,59%	1,63%	1,67%	1,62%
ENTERTAINMENT	0,31%	0,78%	0,79%	0,82%	0,83%	0,81%
AUDIT SERVICES	0,92%	2,33%	2,36%	2,43%	2,48%	2,42%
INSURANCE	0,51%	2,05%	2,08%	2,14%	2,18%	2,13%
Other expenses	0,21%	0,40%	0,84%	0,91%	0,98%	1,00%
Total operating costs	29,75%	62,23%	66,44%	70,86%	75,20%	75,99%
<b>PHYSICAL PLANT</b>						
LEASEHOLD IMPROVEMENTS	3,66%	0,00%	0,00%	0,00%	0,00%	0,00%
OFFICE FURNITURE	1,32%	0,19%	0,09%	0,10%	0,10%	0,10%
TELEPHONE EQUIPMENT	0,42%	0,00%	0,00%	0,00%	0,00%	0,55%
CONSTRUCTION OF COMPUTER ROOM	1,87%	0,00%	0,00%	0,00%	0,00%	1,23%
BACK-UP GENERATOR	0,73%	0,00%	0,00%	0,00%	0,00%	0,48%
Total physical plant	8,00%	0,19%	0,09%	0,10%	0,10%	2,36%
<b>HARDWARE AND SOFTWARE</b>						
DATABASE SERVER EQUIPMENT	6,79%	1,72%	1,75%	1,80%	1,84%	1,79%
NETWORK SERVERS AND OTHER SERVER EQUIPME	3,57%	0,91%	0,92%	0,95%	0,97%	0,94%
OFFICE AUTOMATED WORKSTATIONS	5,86%	1,49%	1,51%	1,55%	1,58%	1,54%
NETWORK	3,06%	0,78%	0,79%	0,81%	0,83%	0,81%
PRINTERS	0,31%	0,08%	0,08%	0,08%	0,08%	0,08%
FAX MACHINES	0,18%	0,05%	0,05%	0,05%	0,05%	0,05%
SOFTWARE FOR OPERATIONAL ACTIVITIES AND APPLIED SOFTWARE	9,16%	2,33%	2,36%	2,43%	2,48%	2,42%
TECHNICAL MAINTENANCE	1,83%	2,33%	2,36%	2,43%	2,48%	2,42%
Other expenses	0,37%	0,47%	0,47%	0,49%	0,50%	0,48%
Total hardware and software	30,74%	9,67%	9,83%	10,10%	10,31%	10,05%
SYSTEM DEVELOPMENT	25,64%	23,26%	18,91%	14,57%	9,92%	7,25%
TRAINING AND MARKETING	5,86%	4,65%	4,73%	4,37%	4,47%	4,35%
<b>TOTAL COSTS</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>	<b>100,00%</b>

## TECHNICAL SUMMARY

### Technical Background

Credit reporting information is sensitive data. The issues of accuracy, completeness of information, fairness to consumers and security are not just a concern of the consumer reporting agencies; credit grantor participation is also required. Laws regulate certain aspects of credit reporting. Both credit grantors and consumers depend heavily on consumer reporting systems to acquire and maintain accurate credit histories. This can only be accomplished if the provider of consumer data understands the tools that are available and adheres to the standards for credit reporting. Unless there is adequate time, patience, expertise and experience the likelihood of failure will increase.

The systems of the largest banks employ sophisticated client server architectures, primarily windows based. Most systems were either originally developed, and/or are currently supported, by in house bank IT programming staff. A number of banks are already in the process of moving to “next generation” banking system software (MISYS and TEMENOS are two examples) as they have outgrown the initial systems implemented. These technologies, as well as the former technologies, have enabled banks to build electronic databases from day one using world class Relationship Database Management Systems (RDMS) such as Oracle, Microsoft SQL Server and DB2. In addition to the levels of technical experience available, the newest and best data warehousing technologies have enabled banks to upgrade their systems while enabling them to retain historical data. Early in the evolution of the new systems many banks distributed the databases to their branches or discrete geographic locations (Regions).

While there may be a mixture of de-centralized databases, centralized databases and a combination of both in the smaller banks, the larger banks have all implemented various versions of either data replication to maintain consolidated files at the head office or data warehouses. The Regions in turn disseminate the data to the local branches.

The Ukraine is leading the way and breaking new ground with satellite communication implementations supporting the overall depth of knowledge available in the region. Most banks are linked to the National Bank by the unified protected communication network with card processing centers.

The process of designing new software and of properly “*layering*” the data into the Credit Bureau will have to be studied carefully to avoid bureau construction errors. ***It is not possible to simply buy a pre-prepared off-the-shelf software package and install it into a computer hardware system.*** The credit reporting system must be a custom, locally adapted solution. The technical infrastructure and the back-up development expertise exist within the country to undertake the project. The above conclusions are based on the following:

- Interviews with the technical staff and IT departments at the major banks

- A series of interviews with NBU
- Discussions and collaboration with the technical consultant from the Association of Ukrainian Banks (AUB)
- The review of all written research prepared from questions posed as well as all correspondence related to the research
- An analysis of the Market Research/Background Survey Relative to the establishment of a Credit Bureau in Ukraine dated May 2003
- Recommendations for proceeding to the establishment of a Credit Information System in Ukraine dated October 2003
- The experience of the international experts who worked in developing this business plan.

### **Technical Assistance/Consulting**

A foreign technical resource is recommended for the technical planning and implementation of a Credit Bureau system. This will likely require the signing of a technical management contract. While the purpose of this technical report is to build a roadmap for a successful credit bureau system implementation, it will be the implementation expert who will drive and deliver the ultimate success.

While Ukraine has well trained computer programmers and IT specialists, Credit Bureaus require unique knowledge and experience to successfully operate because of their complexity. Technical expertise should include an arrangement with one of the major reporting agencies. The risk of proceeding without the proper skilled and experienced resources is high which is clearly supported by the recent failures in Ukraine of previous credit bureau initiatives.

#### *Qualifications required for a technical resource individual:*

- participated for at least ten years in the building, operation and maintenance of an existing Credit Bureau.
- experience and technical expertise in system design
- aware of the pitfalls that could occur in the building of a Credit Bureau database
- experienced in the expansion of a Credit Bureau database
- experienced in data retrieval
- aware of logic required in building a database
- knowledgeable in adding information to a database
- knowledgeable in how to lay the foundation (layering) of a Credit Bureau database.

The foreign consultant should have been involved in the design and development of at least one other credit reporting system similar in size and scope to the one being proposed for

Ukraine. They should provide direction on the overall structure to the system and its operation.

### **The National Bank of Ukraine's Existing Registry of Bank Loans**

The National Bank of Ukraine database was set up in 2001 and is made up of bad debt credits. Currently there are approximately 6,400 accounts in the database. Reporting is voluntary and selective amongst reporting banks of which there are 99 of the total of 124 banks in Ukraine. Information is transmitted electronically. The minimum amount to be reported is \$10,000 UAH (\$2,000 USD). When an account is paid in full, the information is deleted from the database. From a technical perspective, the difference between the existing Registry of Bank Loans and a complete credit reporting system as contemplated in this document is:

- Completeness of the database
- Dissemination of information

#### *Completeness of the database*

The Registry of Bank Loans database is incomplete. Only private banks, subject to NBU regulatory authority, report loans to the Registry of Bank Loans and reporting is done on a voluntary basis. A Credit Bureau database normally includes data from all lending institutions and includes non-bank credit grantors such as credit unions, retailers, utilities, credit card, and telephone companies, as well as public records such as liens filed, bankruptcies, and court actions. The banks report only loans over a specific loan balance. A Credit Bureau file normally includes all loans, all amounts.

#### *Dissemination of information*

Currently, inquiries are handled using proprietary software (on line) to determine if the applicant has a delinquent account showing in the database. If a delinquent loan is located, the demographic information of the natural person, the name of the bank, the amount of the loan, the date the loan was opened and the amount past due are provided.

A Credit Report in the recommended bureau – as well as other products outlined herein – would be available<sup>104</sup> instantly, on line, to all Credit Bureau members for all loans reported. Credit Reports would be complete and comprehensive and would also be subject to compliance of all legal and contractual obligations and consents. Credit Reports include historical payment data not simply current loans balances.

### **Summary of Technical Options**

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<sup>104</sup> Reports would be made available instantly, subject to compliance with laws and regulations, including terms and conditions stipulated in contacts between a Data Supplier, Data User and the Credit Bureau.

The entire credit bureau concept centers on the data collection, storage, and dissemination of credit-related payment history and demographic information. The cornerstone of the data collection process will be a “data acquisition” module. This module will be custom built to accept electronic transmissions from the data-contributing customers of the credit bureau. Additional modules including the search, input and output modules will also be custom built to disseminate the data to the credit bureau customers.

The model for credit reporting systems can be used in other industries including mortgage, leasing and insurance. In Ukraine the business plan provides for the establishment of an insurance reporting product.

The report is focused on two individual technical components:

- Credit Reporting
- Insurance Reporting

### *Credit Reporting*

Technically, the expansion of the Registry of Bank Loans data collection model is an option to provide data needed for the credit reporting system. Banks have already formatted transfer files, have processes in place for file creation and validation and have a communication network established to transfer the data. In some cases, using an existing model can be the most cost effective. However, after consideration, there are no re-usable components of the existing registration and reporting of loans to the National Bank of Ukraine than can be used as a mechanism to launch the Credit Bureau

The NBU database is deemed to be unreliable and of little value for the purpose of using it as the beginning building block of a credit reporting database.

It is recommended that the Credit Bureau database be built from a zero base following a well planned and managed “layering” methodology as outlined within this report. Product development and delivery would follow the construction period.

### *Insurance Registry*

Insurance companies have proprietary databases of their policy holders. The technical component on the business plan must address the construction of an insurance reporting database to include:

- A database of all policies issued by all insurance companies
- A database of all accident occurrences
- A database of life and disability claims
- A database of all fraud transactions and fraud customers

While there are some re-usable components of the credit reporting system that can be used for the insurance reporting system, some of the insurance modules will require an effort similar in magnitude to that of the credit reporting system. By employing the same “layering” methodology, the insurance databases can be built to maturity.

## INFRASTRUCTURE

### *Network Infrastructure Design*

The Credit Bureau network infrastructure must address:

- Security
- Availability
- Scalability
- Manageability

#### *Security*

Security is a general term that applies to every function of the Credit Bureau. In Ukraine, as in other countries, security must be an extremely high priority to ensure the success and to protect the integrity and reputation of the Credit Bureau. Measures to restrict unauthorized use are critical. The trade off between a) security which is too onerous and which would in turn derogate user friendliness and speed of the system, and b) the need for finding the “right” levels of security need to be carefully weighed. Weighting needs to lean toward a higher than average level of security.

Steps must be taken to ensure that:

- permissible purposes for requesting credit reports are followed
- the access allowed into the database is carefully monitored
- the database is secure from outside internet invaders
- proper authority levels are issued to the administrators who access the information
- requesting parties are actually who they claim to be
- management of the credit bureau selects the highest quality employees

Every function involved in the day-to-day operations of the Credit Bureau will contain its own individualized security issues that must be addressed.

Security must include an impregnable security system with multiple firewalls to allow Internet access by clients. In Ukraine a special security system is being proposed. The firewall is at the centre of the security system. All communications and access will be routed through an advanced double firewall. This firewall will ensure only transactions specified by the firewall rules will be permitted. Before a client with a valid transaction is permitted through the firewall, the Credit Bureau authentication server must identify the client. It is recommended that user name and user password is the minimum identification required.

Credit Bureau customer access to data of any kind must be studied carefully. Security extends beyond technical security to protect the assets and confidentiality. The hiring practices and the regular monitoring of all credit bureau staff, at every level, are required.

### *Availability*

A top priority in any server-hosting environment is to ensure availability of the applications themselves. Server load balancing (SLB) provides the key to IP connection load distribution while simultaneously providing the highest availability. Through many sophisticated features and algorithms, the server load balancing solutions from Cisco ensures connection load is fairly distributed. Enhanced availability is provided by Cisco technology and its ability to provide stateful fail-over and no loss of connection should an SLB path fail.

### *Scalability*

Cisco offers a variety of router and switch platforms to meet the need for network expansion. The database servers are scaled in such a way as to enable additional disk storage to be added as required. An internal archiving procedure will need to accompany the need for additional physical storage.

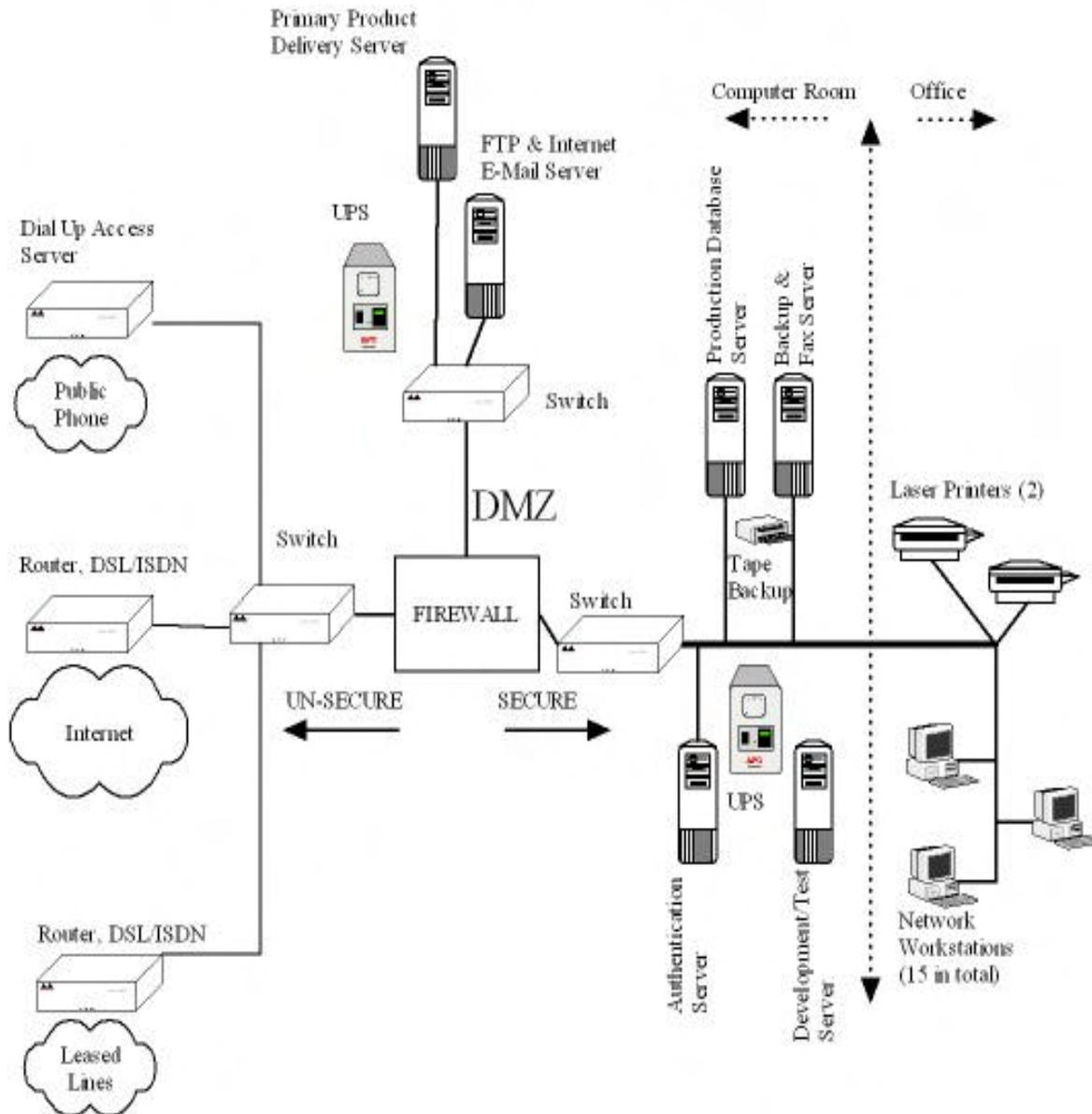
### *Manageability*

Any network must be managed for load balancing and system failures. This plan calls for specialized network management software.

The proposed network diagram on the following page takes each of the above requirements into consideration. The page following the diagram further explains the purpose of each network component.

Network Design

## Local Area Network, Computer Systems and Communication Structure



## *Network Design Components*

The following comments about hardware and overall systems have been for the most part researched in Ukraine in connection with the establishment of a proposed modern Credit Bureau. The estimated costs of much of the equipment outlined below are reflected in the financial section of this report.

### *Firewall Router*

At the centre of the design for a Credit Bureau in Ukraine is the firewall. The most highly sensitive and valuable data is housed on back-end database and application servers. Information must all be secured from potential malicious activity at all costs. To address such a security concern, stateful firewall services are used to secure connections from front-end to back-end database servers.

Cisco offers a set of high performance stateful firewalls in their PIX Firewall series, tailored to accommodate extensive load while maintaining high availability. The PIX firewall offers stateful session inspection, user authentication and authorization, and technology to allow for stateful fail-over should a path in the network fail. High availability in conjunction with the fastest performance of any firewall on the market makes Cisco's PIX firewall a perfect fit.

### *Communications (Modems and Routers and Switches)*

The Credit Bureau should standardize on the TCP/IP communication protocol. This has become the industry standard and it is widely supported. Access via the Internet should be provided as the preferred mode of communication. A well-designed user-friendly web site is required. With the assistance of technical advisors, Ukraine possesses the expertise to design such a web site.

In Ukraine, it will be necessary to provide additional access to the Credit Bureau by dial-up access bearing in mind security measures. The communication router should handle both asynchronous and ISDN access. A single ISDN link should provide adequate communication bandwidth for clients.

Large volume clients, who are anticipated in the case of some of the larger banks and utilities, may decide to use leased lines for increased performance. For these clients, the first choice would be to have them provide their own equipment for both ends of their line. This would give them total control over the configuration and security of the line. The second option for leased lines would be for the Credit Bureau to install a router with the appropriate interface cards. While this should eliminate the need for the client to provide equipment, the Credit Bureau becomes jointly responsible for the configuration and security of the client's line.

It is recommended that Cisco 2900 series switches be acquired. There is a need for at least one 24-port switch to handle the connections to the secured office network. Requires specific discussion with the banks.

#### *Primary Product Delivery Server*

Once clients have been authenticated, it is recommended that they be connected to a primary product delivery server installed in what is called the DMZ (Demilitarized Zone). A DMZ is a separate network connected only to the firewall. Clients will transmit their requests to product server. In turn the product server will connect to the database server, through the firewall, to fulfill the request. Using a DMZ, clients will never have direct access to the internal network of the Bureau

#### *FTP and Internet E-Mail Server*

It is recommended that a separate Internet and E-Mail server be installed in the DMZ.

#### *Database Server(s)*

It is recommended that from the beginning of development that the database server is implemented as a dual system with one primary server and a secondary server shadowing the primary. All of the design, development and procedures will have redundancy as a basic principle of operation.

The backup strategy should be considered an integral part of the database operations. Automated backup procedures should be established to insure that all of the Credit Bureau's databases are backed up each day. A DLT (Digital Linear Tape) device should be used for backup as this media has significantly higher capacity and reliability.

As the Credit Bureau system matures, it will become important to be able to access data from different time periods. These archives will be used as data sources for the development and testing of new products. They can also be used to provide "what-if" analysis on portfolios for both existing and potential new clients.

#### *Development / Test Server*

A separate development and test database server should be acquired once the creation of the production database (with "live" data) has started. The development server should be sized to handle the entire production database so that backup of the "live" database can be used to test the effect of any major changes to any part of the system.

### *Internal Office Network Workstations and Printers*

There will need to be one workstation for each Credit Bureau employee. They can be a combination of desktops or laptops. There should be a workstation for each of the following tasks.

1. One management workstation that will be used to configure and monitor the operation of the overall system.
2. One data acquisition workstation to manage processing of client information. Although this task could be allocated to another workstation, the separation of this function on its own workstation may be more efficient, especially as the amount of data being processed increases.
3. One “accounting” workstation for all of the accounting software.
4. There are 15 other workstations required. See staffing section of the report for the name and function of each workstation.

Two laser printers to be shared by all of the workstations listed.

Only the workstations and the printers are physically located in the less secure office. All other equipment should be housed in a secure computer room.

### *Computer Room*

The computer room is used to house the computer server hardware and communication equipment. The computer room should be at least 40 square meters and should include<sup>105</sup>:

1. Fire rated walls that go to roof deck of building if possible
2. Dropped ceiling with fire rated ceiling tiles
3. Energy efficient lighting
4. No outside windows, if any exist, must be sealed and secured
5. Fire rated door
6. Keypad or card security access system for entry
7. Security motion sensors, heat sensors and security monitoring
8. Raised floor
9. Independent and separate electrical system with fuse box in computer room
10. Integrated electrical distribution and power outlet system
11. Fire rated cable and cable organization system or patch panel
12. Adequate fire extinguishers
13. Dual air conditioning systems with automatic fail over and an integrated environmental control to manage the systems

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<sup>105</sup> Some of these potential costs may not be reflected in the financial section of this report.

14. Un-interruptible power supply (UPS) for conditioning the power supply with a minimum 30 minute battery power supply
15. Mandatory - Auxiliary power supply for generating adequate power for the computer equipment and one of the air conditioners. Serious consideration must be given to additional source of power in the event of a disruption. The disaster recovery plan will need to balance the need to continue to provide service in the event of a power disruption to the cost associated. Must run a parallel system.

## SYSTEM DESIGN

A System Requirements Specification document (SRS) is a formal detailed and documented plan that spells out the very specific requirements of the end user (customers of the credit bureau) to the technical programmers who will specify and build (write the program code) for the system. The collection of requirements that constitutes the specification and its representation acts as the *bridge* between the two groups and must be understandable by both the end user and the technical programmers . A task force or steering committee should be composed of key stakeholders from the customer group, the credit bureau group and the technical group to assist with the completion of the SRS.

The SRS must include the following:

- Data Model
- Functional requirements
- Interface Requirements
- Operational Requirements
- User Acceptance Testing Requirements (UAT)
- Documentation Requirements
- Security Requirements
- Performance Requirements

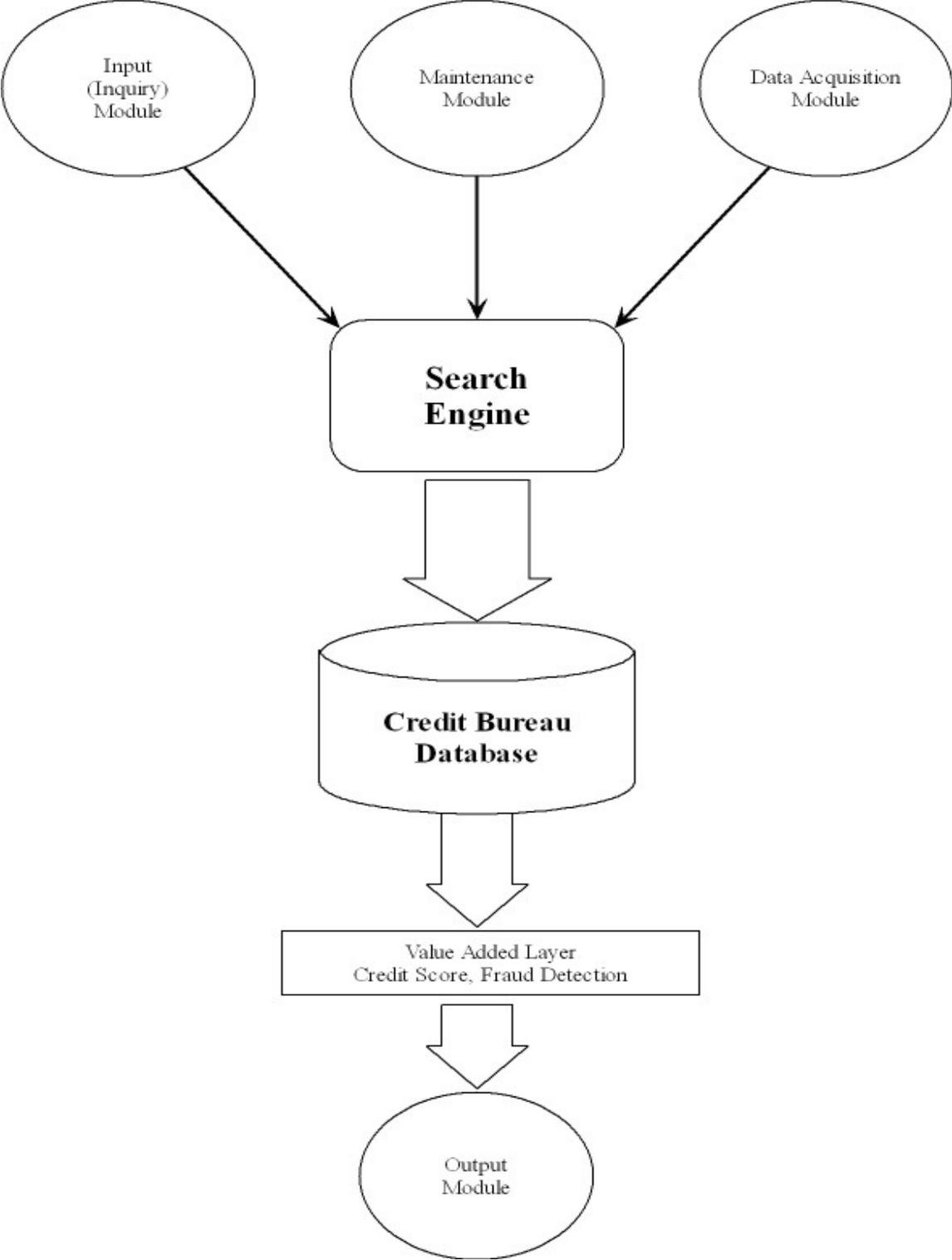
### System Components

In Ukraine, it is recommended that a series of program modules that performs a specific function (functional requirements) surround the database. The following diagram demonstrates the function of each module and how it interacts with the core database:

- Data Acquisition Module
- Inquiry (Input) Module
- Maintenance Module
- Search Engine
- Output Module
- Billing Module

Between the Credit Bureau Database and the Output module, the design must consider future enhancements to the credit bureau software application such as a credit score. In order to design and implement a Credit Score application, the Credit Bureau database will need to mature to a level where there is enough reliable data to generate a meaningful credit score.

# System Software Design



## **System Components**

### *Data Acquisition Module*

The preferred method of receiving data is electronic transmission<sup>106</sup>. As non-bank customers become clients of the Credit Bureau, it will be necessary to accept data on media such as DVD's, CDs, diskettes, magnetic tape or other portable data storage devices. Data provided by the Internet will be encrypted to insure the security of the information. The preferred media for data will be DVD's and CDs. There are a wide variety of magnetic tape media and formats. Only media able to be read with Credit Bureau equipment should be accepted.

The key to any functional database is the quality and quantity of the data collected and the effort required to physically collect it. In many other Credit Bureaus, multiple interfaces are required to address files received from different institutions in different file formats. Each different format requires a new interface.

From a technical perspective, it will be necessary to create a *single standard file format* which would be provided to financial institutions (conformity) for the following reasons:

- Provides one standard computer layout to be used for reporting accurate, complete and timely consumer credit information.
- Meets all legislative requirements for fair credit reporting and disclosure
- Allows for reporting information at both the account and consumer levels.
- Reduces the number of interfaces required at the Credit Bureau
- Distributes the responsibility for complete and accurate file creation to those most knowledgeable of their own internal database and best equipped to handle it – the IT department of the financial institution

In Ukraine it will be necessary to create a *standard computer file format* and layout.

In order to create a standard file layout, it will be necessary to have complete agreement from banks and other data suppliers as to exactly what data the credit bureau will have. The outcome of the business decision regarding what data is to be reported will dictate how the database is built to accept the data agreed upon.

Normally credit bureau information can be categorized into:

- Institution Data (the lenders branch information)
- Identification data (Passport and Taxation Identification data)

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<sup>106</sup> During the start-up phase of the credit bureau, electronic transmission is mandatory as recommended in other sections of this business plan.

- Demographic data (the borrower’s personal data such as name and address)
- Financial Data (the loan or other credit details)
- Status (a credit rating in accordance with internationally accepted Manner of Payment – MOP – standards or codes)

After determining a complete list of fields required, standards need to be set and agreed upon. The standards need to address the “validity” of the data as well as the type and length of the data. For example the *Region code* must be one of the exact descriptions of the 26 regions in the Ukraine or it is invalid. Following internationally accepted standards, *similar in principal*, to the METRO 2<sup>107</sup> format, the standard layout will require modification to meet local requirements as identified in the SRS above.

The task of formatting the bank’s *database extract* to a standard file as defined in the new credit bureau format can be an onerous one. Comprehensive user manuals, training and information sessions as well as a strong network of support are mandatory while each bank builds their own file for submission to the credit bureau. Those banks which share the same on-line transaction processing and loan administration software (for example MISYS and TEMENOS) may choose to share among themselves. Based on the analysis, most banks appear to have the technical ability to meet the standard.

Smaller banks, credit unions and other retail data supplying customers will NOT have the skill or resources to conform to a standard format. In these cases, it will be necessary for the management of the credit bureau to analyze the manual effort required to properly format the data relative to the amount of data being provided before building a host of “one off or individual” interfaces to the credit bureau database. There will always be a need for manual entry and in some cases a manual process may be the most logical.

The collection of all data should be requested on a monthly basis, no more, no less. Schedules need to be set up in order to distribute volumes. It is critical that data be refreshed on a timely and consistent basis.

Once data has been received from the client, it will be transferred to the data acquisition workstation where it will be converted into the bureau’s internal processing format if required. All files will then be validated for conformity to the standard format, data will be checked to insure that all required fields have been provided and that there is valid information in each field. Output from this step will be a file containing the (re)formatted client’s data, a reject file containing all records with errors, and statistics to track the data provided.

Although Credit Bureau members should be encouraged to provide data electronically or on computer media, it may be necessary to process information that can only be supplied manually. A manual input function will be required for data entry staff to process this

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<sup>107</sup> Copyright 2000 © Credit Data Industry Association, Inc.

information. Each submission of data will be loaded into a single file where it will be processed by the data acquisition system. The manual input routine will perform all of the necessary data edits and output the information in the internal processing format.

### *Search Engine*

The formatted data will be posted to the credit-reporting database using the *search engine* to locate the proper subject. The search engine is the most complex component of the system design. The algorithms used for locating specific records will require extensive validation. The set of rules used to locate records must be flexible, while at the same time reliable.

In Ukraine the Passport Number and Taxation Identification Number (TIN) will be the primary keys. Some residents do not have a TIN. In Ukraine the Taxation Identification Number holds the individual's date of birth with an embedded algorithm. When the first five digits of the TIN number are added to the date of Jan 1, 1900 - the individual's date of birth is derived. Whatever is used, the person's identification details must be found and must be accurate.

After locating the correct profile, based on multiple validation processes, the system will perform one of the following functions:

- update an *existing* piece of information
- add a *new record* to an existing credit file
- create a *new credit file* from the client's database

Additional statistics indicating how the clients' information has been processed will be added to the data acquisition statistics. At the end of the month, the statistical information will be used to track the progress of building the database. Individual reports would be generated for each contributor for data quality feedback.

### *Database Maintenance Module*

An internal program is needed by the staff of the Credit Bureau to access the information in the database. Manual changes to the data are an ongoing part of the service that the Credit Bureau provides and is a necessary function to maintain the integrity of the data.

Although the majority of the database updating will be performed by the data acquisition functions, there will at times be a need for manual maintenance of the credit-reporting database. This could include finding and viewing the contents of a credit file or

updating/fixing information that has been supplied incorrectly by a data supplier in response to a consumer inquiry<sup>108</sup>.

The maintenance program would use the search engine in most situations to locate the credit file. The maintenance program should implement a number of direct index search methods to deal with situations where the exact identification information is not known. When the credit file is located, the operator's security level will determine which information can be displayed. As the credit file is updated, all of the changes will be posted to the audit area of the database with a reason code for the changes. At the end of month or as required, reports on the volume and type of changes will be prepared.

### *Input (Inquiry) Module*

This module allows the clients of the Credit Bureau to input the demographic information of a particular potential individual or entity to obtain a credit profile on the individual or company (interface requirements). The input (inquiry) module also allows input of certain information to update or amend any existing information in certain fields such as address or employment. The input module is constructed in a user-friendly "information field" setup. Certain information must be entered to correctly identify the potential borrower. Once this input information is determined to be a correct match for data being held in the database, a credit profile report is returned.

### *Access*

The level of technological sophistication among the expected initial users of the system provides multiple ways to access the inquiry module. This provides the Credit Bureau with considerable flexibility in responding to client needs. As mentioned in other sections of this report, ***security must be a top priority for the Credit Bureau***. Access to the inquiry module can be done in a number of ways (interface requirements, security requirements, performance requirements).

Traditionally the distribution channels for requesting credit reporting products are:

- Dial Up access
- Internet access
- System to system access
- Batch file access
- Operator Handled manual calls

### *Dial Up Access*

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<sup>108</sup> Any manual changes to data in the Credit Bureau should, in principle, be made with the authorization and confirmation of the data supplier. In addition, access to the "core" of the database by internal staff will be highly controlled and restricted.

For dial-up access, the recommendation is to provide access to the Credit Bureau either via an "Internet" browser or via PC software.

For Internet browser access, the client would need to configure their browser to dial the bureau. Once connected to the bureau, the client would provide the necessary authentication information (user name, password, etc) to validate their access to the Credit Bureau. The user would be given a choice of product options based upon their agreement with the bureau. When an option is selected, the browser would display the appropriate input form. After the required information has been entered, the system would use the search engine to locate the correct file. The contents of the credit file would be formatted according to the product selected and transmitted to the browser for display and print out.

The system would generate a billing to record the request and post an inquiry to the database. Depending upon the service, a new file may be created by the request process if it is unable to locate the individual.

The PC software option should be made available for several reasons: Firstly, a software application can allow for 'off- line' batch processing (depending on design of proprietary software) for large volume users who do not have sufficient volumes to justify System to System access; Secondly information entered 'off line' allows for interruption and by entering information 'off line' as opposed to 'online' then it is possible to avoid being 'timed out' and losing connection; Thirdly, if the Internet is not available for whatever reason, the PC software offers a 'back up' scenario that would ensure the subscriber will be able to obtain their credit information.

#### *Internet Access*

Internet access is similar to dial up access. However, instead of dialing a number from the browser, the client would simply access a web page on the Credit Bureau Internet site. After authentication, the database would be accessible. In Ukraine, Internet access should be a preferred method of accessing Credit Bureau files.

All PCs come with at least one Internet browser and the necessary dial-up access software. The bureau staff can set up the member, provide the access numbers and training on how their browser is used to access the bureau's database.

#### *System to system*

Large volume clients typically implement system-to-system access. The client's computer system is connected to the bureau via a high-speed leased line. The entire interaction with the Credit Bureau is performed by the client's system.

#### *Batch Access*

Batch access provides clients with a cost-effective means of processing large volumes of requests. Requests delivered to the bureau via DVD, CD, tape or electronically are processed off-hours with a turn-around of 24 hours to 5 days depending upon the volume. This access method should also be offered but only under tightly controlled and secure circumstances<sup>109</sup>.

Both system-to-system and batch access should be included in the design of the credit reporting system. A common request-processing module available to all access methods will shorten developments times and minimize system maintenance.

#### *Operator Handled manual calls*

Operator handled manual calls is not recommended or minimum for both cost control and security reasons but this option requires additional study.

#### *Output Module*

The output module is primarily a reporting system function (operational requirements, functional requirements, security requirements, interface requirements ). The service code requested from the input module will dictate which database tables are accessed. Depending on the service request, the output will vary. Each service request requires a separate output format. For example, in Ukraine, the credit bureau plans to offer a *SME/Micro-Finance Credit Profile (Commercial)* product. The service code for this product would set up a flag as to what information is provided. It may be the names of other Microfinance lenders only, with no balance. Market demand for product offerings will drive the business requirements for the output design and the output report.

In addition to reports that are output, there will be a transaction file of service codes generated each day as inquiries are received. The output module will require a sub system of generating output to a billing or accounts receivable program.

#### **Database Design**

Upon completion of the SRS, the system design phase starts with the design of the database. In Ukraine, development of the standard file format will require significant effort and extensive collaboration with all stakeholders before moving to the database design phase.

A data storing program houses demographic information on borrowers, past loan experience of borrowers, current loan experience, existing balances, information of public record, and inquiries of other potential lenders. For insurance reporting the demographic

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<sup>109</sup> Prior to such access, the credit bureau client MUST prove strict compliance with terms and conditions in signed contracts and well as compliance with the laws of Ukraine.

files of individuals and entities will be shared with the credit reporting system. Additional insurance databases will be required as individual products, again with proper keys and relationships linking all tables and files.

A single database with multiple tables is recommended. Relationships between each table will be required. The detailed design will address the file layout, field characteristics, index keys, and relationships.

### *Data Model*

A data model is a conceptual representation of the data structures required by the Credit Bureau database. The data structures include the data objects, the associations between data objects, and the rules which govern operations on the objects. The data model focuses on what data is required and how it should be organized rather than what operations will be performed on the data.

A data model is a plan for building a database. The data model focuses on what data should be stored in the database while the functional model deals with how the data is processed. The data model is used to design the relational tables. The functional model is used to design the queries which will access and perform operations on those tables.

A data document that describes in detail the data objects, relationships, and rules required by the database is required. The data dictionary provides the detail required by the database developer to construct the physical database.

Data modeling is the most labor intensive and time consuming part of the development process. The goal of the data model is to make sure that the all data objects required by the database are completely and accurately represented. Because the data model uses easily understood notations and natural language , it can be reviewed and verified as correct by the end-users. The data model is also detailed enough to be used by the database developers to use as a "blueprint" for building the physical database. The information contained in the data model will be used to define the relational tables, primary and foreign keys, stored procedures, and triggers.

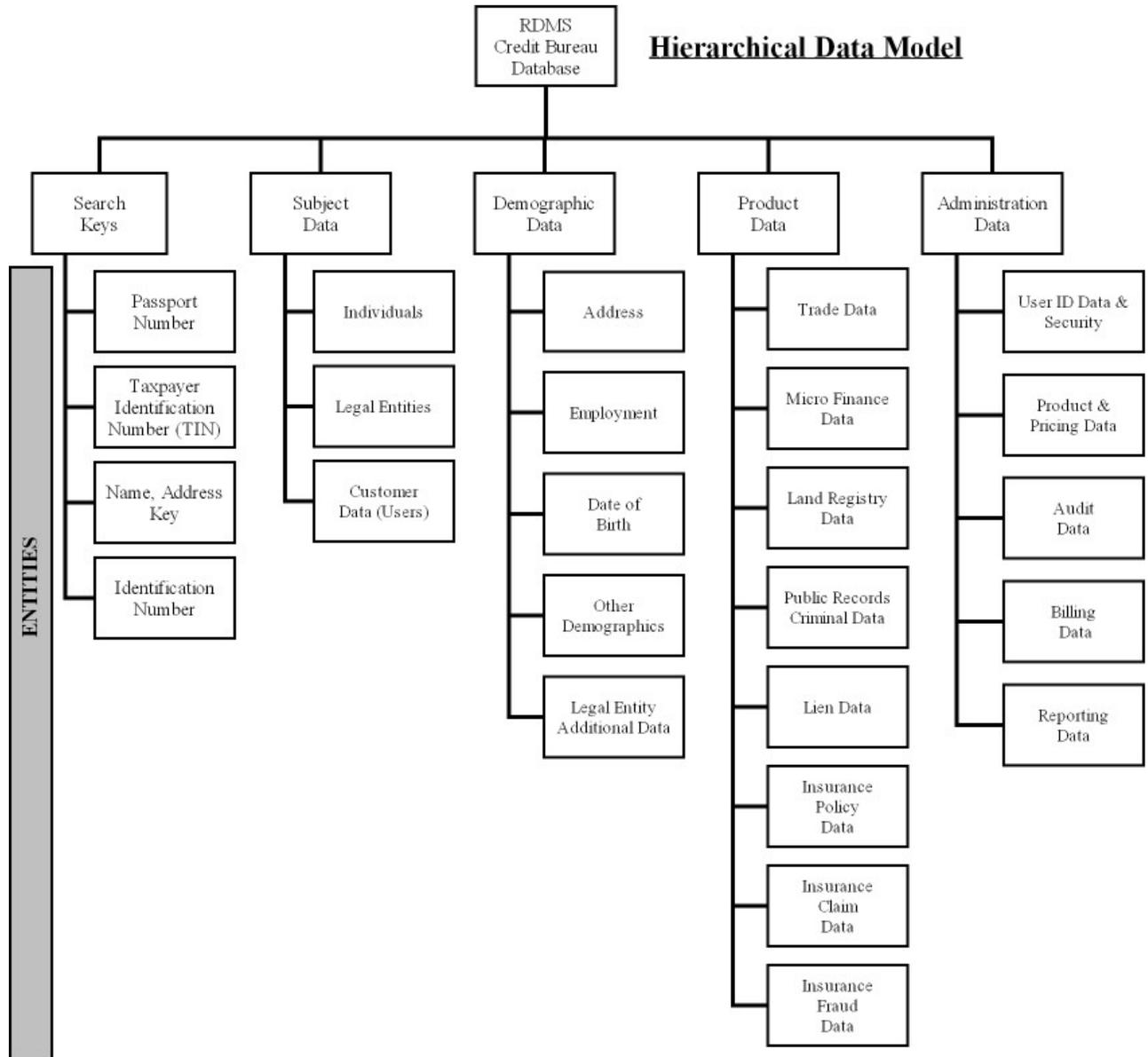
Typically, the entities and relationships are modeled first, followed by key attributes, and then the model is finished by adding non-key attributes. The sequence recommended is:

- Identification of data objects and relationships
- Drafting the initial diagram with entities and relationships
- Refining the diagram
- Add key attributes to the diagram
- Adding non-key attributes
- Diagramming Generalization Hierarchies
- Validating the model through normalization

- Adding business and integrity rules to the Model

The *primary key* is an attribute or a set of attributes that uniquely identify a specific instance of an entity. Every entity in the data model must have a primary key whose values uniquely identify instances of the entity.

The overall structure of the credit reporting database could be similar to that pictured below:



Each additional product may require a separate table to be managed by the database. The structure of the database should support the addition of new tables for information required by products not yet envisioned.

An identification section will be a common requirement for each Credit Bureau product.

Common identification tables would include the subject's name, passport number, taxpayer identification number (TIN), birth date, addresses, employment and search keys.

### *Insurance Database Schema*

There will be four databases for insurance products.

- Master insurance policies issued database
- Accident/theft claim database
- Disability and life insurance claim database
- Fraud Database

#### *Master insurance policies issued database*

A central database of all insurance policies issued in Ukraine, by insurance company. A *standard file format* similar to the credit reporting file format would be required. Those insurance companies with the skill sets required could prepare and submit in the standard file format. Those who can not meet the standard will require credit bureau staff to map data from the format it was received into the standard format before processing. A special program module can then be designed and implemented to identify multiple policies for similar policy holders on exact same property. The results would be reported back to the insurance companies for further investigation.

#### *Accident/theft claim database*

A central database that lists accident/theft claims. Unlike credit reporting, the collection of this information would need to be “as it occurred”.

A special update module would be required in order to enable insurance companies to identify the correct policy holder in the master database and then submit a “claim report”. As “each” claim were added to the database, a report of previous additions or claims would need to be generated to see if there are other claims for the same occurrence. The key would be the policy holder plus the vehicle identification key as occurrence dates can vary. It is expected that the master database of all policies issued would eventually eliminate the frequency of multiple claims. In addition, policy holders looking to change companies would have their history of claims available.

#### *Disability and life insurance claim database*

A similar database, to #2, that would list payments for disability and life insurance claims. The same procedure would be followed as #2.

### *Fraud Database*

A central database that lists names and details of individuals who have or have attempted to commit insurance fraud.

### *Relational Database Management System (RDMS)*

The RDMS is the main building block of any application. Selection of a RDMS must take into consideration the following criteria:

- Scalability, unlimited and can be achieved without any application changes required
- Security
- Data warehousing features, On line application processing (OLAP) and data mining
- Comprehensive, open access to Web services through SQL, Java, XML, and standard Web interfaces
- Internet content and files are easily managed
- Strong support
- Efficient management of terabytes of data with parallel processing of all operations
- Continuous availability despite system failures, data failures, and disasters, human errors, and planned maintenance
- Complete browser-based systems management for all features

Based on interviews with the banking IT community, Oracle RDMS is the most commonly used program. Access to Oracle expertise is readily available.

It is recommended that Oracle be selected<sup>110</sup>. Oracle meets all of the criteria above. Oracle Database Enterprise Edition is the most powerful database available for enterprise applications including Web sites, transaction processing, multimedia, content management, and decision support. Oracle Database Enterprise Edition delivers record-breaking performance and scalability with complete compatibility from single processor servers to the largest SMP servers to massive clusters and mainframes. Oracle Database Enterprise Edition also has unprecedented ease-of-use, availability, security, and price/performance. Oracle is the only database to have successfully completed 19 independent security evaluations.

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<sup>110</sup> Final decisions will depend on a combination of factors including solutions offered by various potential international credit bureau operators.

## Accounting Software Application

Based on the popularity and extensive deployment, the recommendation is to purchase accounting software - *1C: Buhgalteria*, which can then be customized, for the following accounts receivable functions:

- ? Produce invoices and monthly statements
- ? Process payments
- ? Process credits and adjustments
- ? Produce standard reports such as Trial Balance, Overdue Accounts, etc

### *Overview of "1C" Company*

Founded in 1991 "1C" specializes in development, publishing, support, and distribution of software and data bases. With a staff of 500 employees "1C" was voted the most popular company in Russian computer industry. For the development of "1C:Enterprise" 1C staff has received The Government of the Russian Federation Award in the field of science and technology.

At present 5300 dealers from 570 cities of the former USSR cooperate with "1C". More than 3000 teams in regions form the "1C:Franchising", which is the main channel of value-adding for "1C" products. Service-partners provide regular informational and technological support for the users of "1C" software. The network of more than 1200 authorized training centers is also important.

Among "1C" developed software the most important is "1C:Enterprise" (1C:Predpriyatie) - the system of company automation products. Famous with their flexibility, build with modern technology, scalable with single-user, file-server and client-server (on MS SQL) solutions those products are used together or separately in SOHO to medium companies with one or several locations. At the base of "1C:Enterprise" lies a powerful technological platform, the possibilities of which allow 1C, its franchise partners, independent developers and system integrators as well as the clients themselves to create the most diverse business applications. Over 550 software products made by 196 companies earned "Compatible! 1C:Enterprise" logo.

One of the "1C:Enterprise" system products - "1C:Buhgalteria" (accounting) is the most popular accounting software in the CIS. More than 700,000 enterprises as official users of "1C:Enterprise" get regular (quarterly, etc.) updates following the legislation changes. In accordance with legislation demands "1C:Buhgalteria" also includes tax accounting.

"1C" provides advanced service for official users of "1C:Enterprise" - the informational and technological support (ITS). The purpose of this service is to provide users with complete volume of "1C" software updates, accounting methodologies, office automation technologies, tutorials and new components for "1C:Enterprise" system, consultations from chartered accountants, up-to-date legislation on taxation and business regulations and much more. Every month "1C" publishes the set of ITS CDs with up-to-date information.

### *Accounting Interface - Billing*

A member validation and a matrix for applying the pricing will need to be developed for the billing records. This pricing module matrix will be based upon the following criteria:

- Type of member (example – a data contributor)
- Service requested.
- Tiered pricing model
- Volume discounts
- Special pricing
- Other pricing agreements

Each day, the pricing system will process the billing records created by product delivery modules. The "priced" records will be posted to the monthly invoice file. During the month, a billing adjustment module will allow the accounting staff to make corrections in a member's billing.

At month-end all of the priced records and adjustments will be combined into a single invoice, for each member, which is passed to the accounting package for the normal accounts receivable processing. Invoices and statements would be printed and the monthly management reports would be prepared. Customization for various sales reports will also be required. For example, a sales report to track the sales performance of the Bureau and prepare other marketing required reports.

## SYSTEM DEVELOPMENT

The development plan should reflect the order recommended in the Business/Marketing Strategy section as well as the output from the Systems Requirements Specifications (SRS) document gathered during the *System Design* phase. The initial database must be constructed (populated) within a framework of a well planned and organized approach.

The strength of the accuracy and completeness of the initial database constructs a solid foundation for a strong and effective credit reporting system. The credit report database should be developed in Ukrainian (and/or Russian) – this is a decision which the owners will make. The ambiguities that can take place when Russian or Ukrainian is translated into English could make the development of the search logic more difficult.

Phases required in the System Development:

1. Detailed Design
2. Development
3. Test Phase
4. Data Collection (layering)
5. Pilot Project
6. Implementation

### Detailed Design

The output from this phase will be:

- Overall system definition and game plan (clearly define scope, boundaries, stakeholders, responsibilities and who will sign off acceptance at each step)
- Detailed review of security measures and levels to be used
- Detailed definition and design of each of the development modules
  - Input, maintenance, acquisition, search engine, output
  - Functional description and system flow chart for each function (module)
  - Define access requirements
- Detailed definition and design of each product to be offered
  - Detailed end user product requirements - collection of information and analysis
  - Define access requirements, including security levels
  - Content of the report to be provided - the output expected by the end user
  - Functional description and system flow chart for each function (product)
- Detailed definition and design of each interface required
- Preliminary layouts for all input screens
- Preliminary layouts for all reports required.
- Detailed database design for credit reporting database (tables, files and fields)
- Detailed design for each supporting product databases (tables, files and fields)
- Selection of database (RDMS)

- Selection of rapid application development tools
- Selection of report writing software to be used
- Security policies
- Specifications for dial-up, internet and system-to-system access
- Detailed document defining the file standard file layout and parameters for credit reporting
- Detailed document defining the file standard file layout and parameters for insurance reporting
- Data acquisition document (user manual) which fully explains the standard file format above for credit data
- Data acquisition document (user manual) which fully explains the standard file format for insurance data

The initial Credit Bureau database will be designed to provide credit reporting products and insurance reporting products. In working through each of the deliverables list above in the design stage, it is important to start with the requirements as documented in the SRS and work the database design into those.

Additions to the product delivery system will be a collaborative effort between the technical, marketing and potential customers. Without the participation from potential clients, it is difficult to offer products that they will use. As stakeholders in the credit bureau, the clients need to play an active role in the product life cycle beginning with product definitions. Selected users groups to work closely with the system designers would be critical in delivering an end product that meets the need of the end user. Most of the large banks have the expertise and technical savvy to work closely with the Credit Bureau management. A small, but influential “user group”, should be formed as a steering committee.

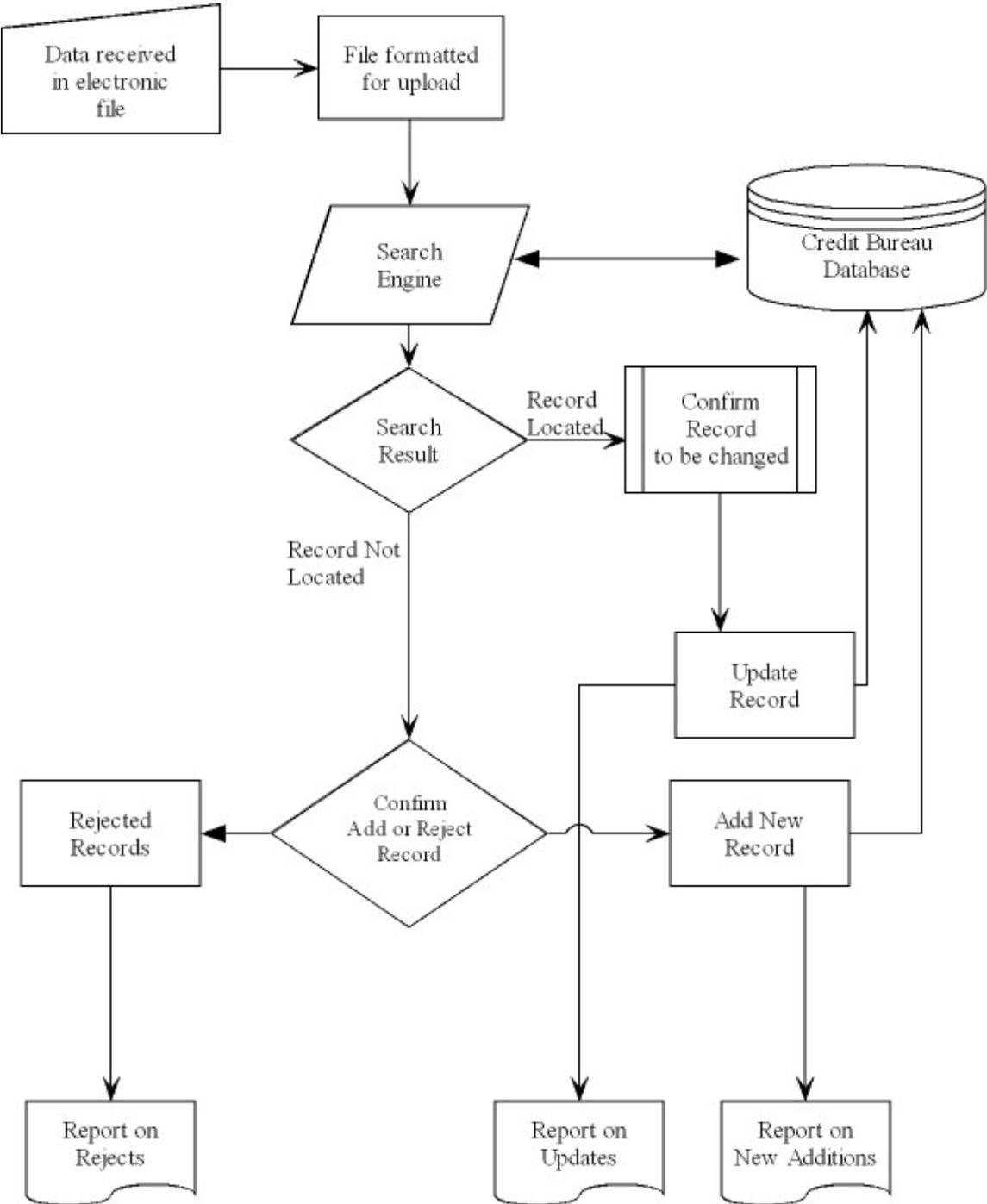
Significant work is required in the definition and acceptance of the standard file format. It must be completed *very early in the process* in order to make it available for the banks and insurance companies to use. Any delay in providing the standard format along with good user manuals will delay the availability of data from the banks. It should take banks and insurance companies approximately sixty to ninety days to create multiple copies of “sample” iterations of their files for testing and validation. It is common to find that the content of a field has been adjusted or modified manually to overcome a deficiency in the supplier's system. These need to be identified.

#### *Functional Model*

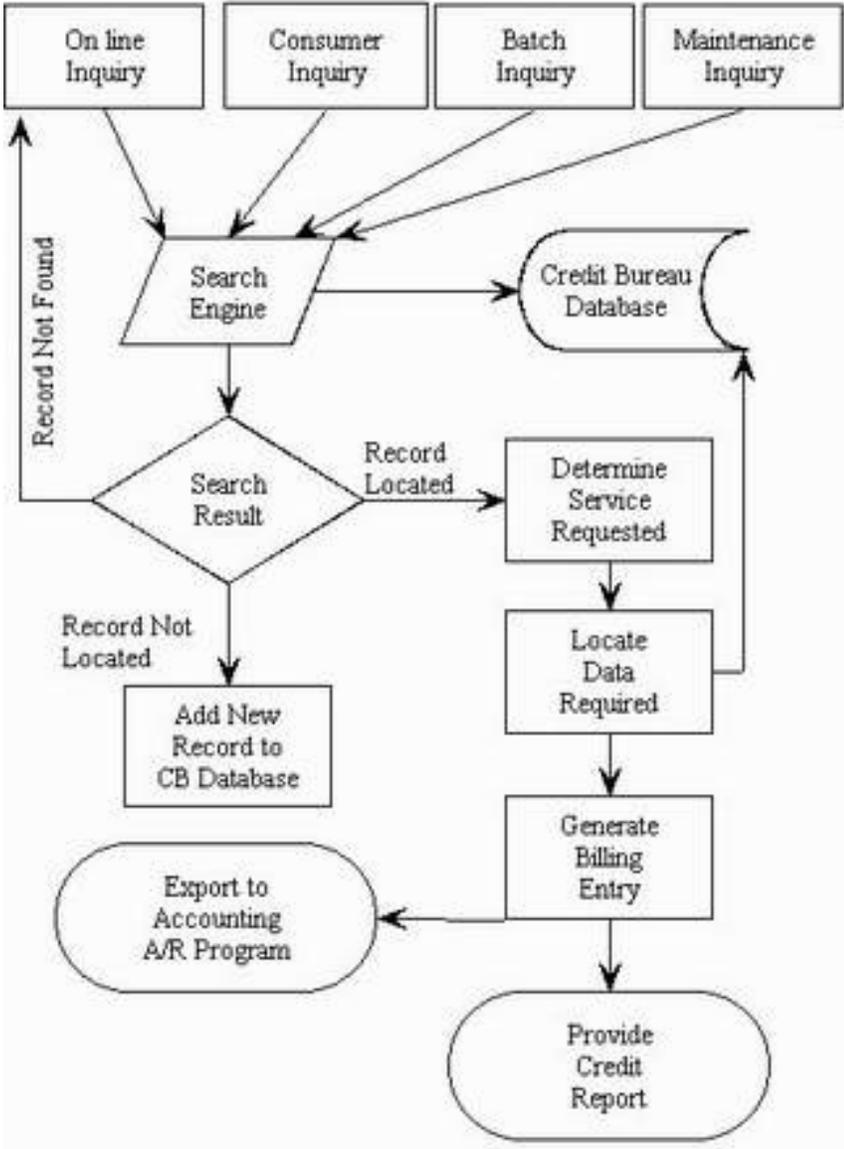
The function model deals with how the data is processed. The functional model is used to design the queries that will access and perform operations on those tables. The following is the functional model for the input and data acquisition modules.

Data Acquisition Module - Functional Model

**Credit Bureau Data Acquisition Processing**



Input (Inquiry) Module - Functional Model



## Development

The output from this stage will be:

- table definition and generate the initial database
- creation of screens for input inquiry module and maintenance module
- set up of security levels for database access and testing of same
- create all output defined in design stage - all reports
- build transaction processing output module for pricing, billing
- build and test extensively the search engine
- complete coding for each of the five modules and test
- acquire accounting software and set up accounts receivable
- test billing/accounts receivable interface
- build and test interface to passport database
- build and test interface to Taxation Identification Number (TIN) database
- install all communication hardware
- fully document all development
- selection of a series of pilot project partners

Once the detailed design has been completed and agreed to by the various stakeholders and depending upon the resources available, development could get started on each of the five modules at the same time. Where one module interacts with another, a basic interface simulation will be created for test purpose until the other module is available.

The single most important piece of software to be developed is the "search engine". It forms the basis of the data acquisition and product delivery system. In order to develop the search algorithms, "real" data is required.

## Test Phase

The test phase does not have a start and end point. It is on going and it overlaps each phase of the system development. The search algorithms will require exhaustive testing and validation. The analysis of the results of each test will be time consuming and tedious. As the tests progress ahead a set of *baseline test cases* will be accumulated.

The baseline set will not only include cases that have caused problems with previous tests but also a sample of cases where the outcome is certain. The baseline set will become an important resource since it is impossible to design a test scheme that will cover all possible situations. As Bureau activity increases, members will uncover problems that were not anticipated. Since the results of the baseline set will be known, changes can be tested to insure that they do not cause new problems. Any cases that generate new problems will be added to the baseline set.

Once the search engine has met the IT's design targets for hit rate and file fragmentation, it will be audited for accuracy. Once the audit has been completed, the acquisition of data from all sources can be escalated and the layering process for the creation of the production database can be started. Performance results from the search tests should provide a reasonable indication of when the database will be available for the initial pilot project.

While the production database is being built, unit testing of each sub-system and overall system testing will continue using the databases created during testing. A permanent test database will have to be created to allow members to test their access the Bureau. Members may establish their own baseline test sets in this database for testing changes that they make to their systems. This is especially true of any automated interface such as system-to-system.

In addition to the extensive testing required at the credit bureau, there will be a need to establish and define a set of testing standards for users of the credit bureau – User Acceptance Testing (UAT). This phase overlaps the pilot phase within the report.

### **Data Collection (Layering)**

The key to the success of the initial database will be the planning and organization used in the *layering process*. International experience has proven that the key to building a good credit reporting database is proper layering. Layering means to populate the database in a specific order from specific sources, to test and validate the output BEFORE moving to the next source of data being populated into the database.

The recommended order of data to be loaded into the initial start-up database (as outlined in Phase I of the Marketing Plan) is:

1. Ministry of Internal Affairs – Passport or Certificate Number
2. State Tax Administration of Ukraine - Taxation Identification Number (TIN)
3. State Committee on Regulatory Policy and Entrepreneurship - Unified state registry of legal entities and individuals, subjects of entrepreneurial activities
4. Ministry of Internal Affairs - Driver licenses of individuals, automobile registration/ car theft registration

Concurrent with Phase I above, Phase II proprietary sources of data upload should be commenced with the Major Ukrainian Banks including PrivatBank, AVAL, Prominvest, UkrosotsBank, and UkrsibBank in the following order<sup>111</sup>:

5. The major private Ukrainian Banks listed in earlier sections of this Business Plan.
6. Other banks<sup>112</sup>

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<sup>111</sup> Order of Banks will depend upon agreements reached with each bank and while the following is the preferred order (starting with largest bank) it can be modified to meet individual needs

7. Credit Unions starting with or including each of the three largest Credit Unions (one at a time)
8. Largest insurance companies
9. Other Key Insurance Companies (one at a time)

Other sources of data to be uploaded to the initial database include the following data sources in the following order:

10. Ministry of Justice - State Registry of movable property encumbrance and State registry of Executive Actions
11. Ministry of Internal Affairs - Data on registration of violations/investigations
12. State Executive Service - Information on public auctions on sale of confiscated property
13. Subsidiary “Judicial Information Center” - Bankruptcy database
14. Other data providers such as utility, telephone or other
15. Ukraine Mobile/Cell phone Companies
16. Utility Companies – Information from the utilities companies is not a priority at this time, although as this market sector matures, it is likely that many companies would be willing to exchange data with the credit bureau.

Data from passport and taxpayer registration database will be essential to develop and test the search algorithms.

The first layer is the *demographic data*. Key search identifiers such as passport numbers, taxation codes or other text data (name/address date of birth) are entered into the database with the subjects demographic information (name, address, date of birth etc). The more accurate this data is the stronger the first layer will be. Ideally the best source of consumer demographic data is government databases of tax data and/or passport data.

The next layer is added one bank at a time. After adding in a test mode, the number of files created compared to the number of records supplied would begin to establish how well the algorithms differentiate individuals. File fragmentation (different files for same individuals with slightly different demographic data) must be kept to a minimum as each layer is added by making any changes to the search engine required.

After the data from the first source was loaded, data from the second source would be loaded to the database. The number of new files created as the second source is processed would begin to determine if search is exhaustive enough to locate the correct subject.

### *Data Scrubbing*

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<sup>112</sup> Each bank must be done one at a time and it must be fully tested and validated prior to the actual upload and before moving to the next bank database.

Normally demographic data such as name and address is inconsistent and non standard. The goal of the credit bureau is a high level of accuracy in the spelling and completeness of both names and addresses. There may be a need of the banks for go through some *data scrubbing* processes in order for the banks (or insurance companies) to meet an acceptance level. During our meetings, banks have identified the need for database clean up and some are undertaking that process now. Database clean up (scrubbing) implies banks consolidate all accounts attached to single individuals or entities identified in their internal database only once, and identified correctly.

Address validation, street names and numbers, can be validated using current mapping technology. The same module can validate accuracy of postal codes. Mapping databases do not exist in all countries. If a mapping database can be obtained, it will contribute significantly to the accuracy and integrity of the credit bureau address database.

### **Pilot Project (s)**

Although going through a pilot project will be time consuming, it does provide the opportunity to test the entire system with people and systems that were not involved in the development. Not only does this test the system but policies, procedures and training.

The pilot project for the Credit Bureau should involve at least two or three customers who between them will use the products initially offered by the bureau. There will be a need for two pilot groups – credit reporting and insurance reporting. The pilot should run for at least two - four weeks.

Everything generated by the system during the pilot period has to be checked and verified for accuracy and completeness. A list of the problems, questions and concerns should be compiled as the pilot project runs. Problems that render the system inaccessible to the member should be fixed before the end of the pilot.

At the end of the pilot project, all of the problems, questions and concerns should be discussed by all of the participants. This will rank the importance of each item and set a time line for its resolution. This review should be completed within a month of the end of the pilot. Once completed, the Bureau should be able to establish an "operational" start date. A pilot project should be setup for the introduction of the introductory products to the market. The following table summarizes the implementation work effort; launch time depends on progress in earlier stages. The level of effort may overlap.

### **Implementation**

The desired output from this stage will be:

- install all remaining hardware and test

- install all backup systems and test
- initiate a new project for electronic disaster recover plan (EDRP)
- test all communication and access models
- continue to test each module
- set up and establish live processing environment
- commence pilot project with initial partner(s) for 30 days – this overlaps the pilot project(s) identified above
- analyze results of initial pilot and plan any changes
- commence pilot with second pilot partner for 30 days
- analyze results of second pilot and plan any changes
- commence a pilot with as third pilot partner for 30 days
- depending on results of first 90 day pilots above, announce a go live date
- build organized schedule to handle acquisition new customers over period of time

### **Electronic Disaster Recovery Plan (EDRP) and Back-up System**

Disaster Recovery is a term used to describe the operations undertaken to respond to a catastrophic event which makes the normal conduct of business impossible. This could be anything from a burglary, fire or flood to a building collapse.

The Ukraine Credit Bureau needs to have a Disaster Recovery / Business Continuity plan with records and documents prepared and the relevant procedures communicated to staff. Early in the establishment of the Ukraine Credit Bureau, the strategies for addressing an electronic disaster recovery plan will require careful consideration. The period in which the disaster must be recovered from is directly related to the overall cost of the recovery options. Options for EDRP range from a hot site for immediate recovery to options as simple as a data backup on to new, redundant or alternative equipment. The shorter the recovery time required, the more expensive the cost of the EDRP will be. Management of the Credit Bureau will be require to find the correct balance between the cost of the recovery plan and the recovery timeframe.

Steps required to develop to an electronic disaster recovery plan are:

- Plan Introduction
- Business Impact Analysis - including a sample impact matrix
- DRP Organization Responsibilities pre- and post-disaster
- Backup Strategy for Data Centers, Departmental File Servers, Wireless Network Servers, Data at Outsourced Sites, Desktops (In office and "at home"), Laptops and PDAs
- Recovery Strategy including approach, escalation plan process and decision points
- Disaster Recovery Procedures
- Plan Administration Process

- Technical Appendix including definition of necessary phone numbers and contact points
- Job Description for Disaster Recovery Manager.

## Network Infrastructure Cost Estimate

### Hardware Estimates

**DATABASE SERVERS (3)** \$ 92,650  
(Production, Backup, Development/Testing)

HP Integrity rx8620-32 Server

\*see [http://www.hp.com/products1/servers/integrity/mid\\_range/rx8620/index.html](http://www.hp.com/products1/servers/integrity/mid_range/rx8620/index.html)

2-32 Intel® Itanium® 2 processors 1.6 GHz 6M L3 cache

4 Gb high-density SyncRAM

Ultra320 dual-channel RAID 240 (4 x 80) Gb SCSI Hot Plug HDD

PCI Dual 1000 BASE-T LAN

DVD+RW Backup Array Module

Fingerprint Reader

Microsoft® Windows® Server 2003 Datacenter Edition

Microsoft® SQL Server 2000 SP4 / 2005 Enterprise Edition

UPS T2200 XR 2200 VA 1600 Watts

**NETWORK SERVERS (3)** \$ 48,750  
(Primary Product Delivery, Internet E-Mail, Authentication)

HP ProLiant ML350 G4p Server

\*see <http://h18004.www1.hp.com/products/servers/proliantml350/index-ml350.html>

2 Intel® Xeon 3.4 GHz 2 MB L2 cache 800 MHz front side bus

4 Gb PC2-3200 ECC DDR2 SDRAM

Ultra320 dual-channel RAID 240 (4 x 80) Gb SCSI Hot Plug HDD

Integrated NC7761 10/100/1000 BASE-T LAN

DVD+RW Backup Array Module

Fingerprint Reader

Microsoft® Windows® Server 2003 Enterprise Edition

Microsoft® Windows® Exchange Server 2003 SP1

Microsoft® Internet Security and Acceleration (ISA) Server 2004

UPS T2200 XR 2200 VA 1600 Watts

**WORKSTATIONS (15)** \$ 57,000

HP xw4200 Workstation

\*see

<http://www.hp.com/workstations/pws/xw4200/index.html>

Intel® Pentium 4 Processor 3.80 GHz, 1 MB / 800 MHz

FSB

1 GB RAM DDR-2 533 MHz ECC

Integrated four-channel Serial ATA controller with RAID

SATA2 HDD 40 Gb

ATI FireGL V3100

16X DVD+/-RW

HP L1955 19 inch flat panel

Fingerprint Reader

Microsoft® Windows® XP Professional SP2

Microsoft® Office 2003 Professional Edition SP1 with MUI Pack

UPS T1000 XR 1000 VA 700 Watts

**NETWORK**

Cisco Access Server 2511-RJ Ethernet/Dual Serial/16 Async \$ 2,500

Cisco 1802 Integrated Services Router ADSL over ISDN \$ 3,600

Cisco Catalyst 3560G-24PS 24-port 10/100/1000 Switch \$ 7,200

Cisco PIX 525 Security Appliance Firewall \$ 14,000

HP Rack System/E 49U \$ 1,200

UPS T2200 XR 2200 VA 1600 Watts \$ 6,800

Tape Backup Devices \$ 6,400

**OFFICE**

HP LaserJet 4350N Laser A4 Network Printer (with HP Jet Direct) \$ 3,000

HP LaserJet 1320N Laser A4 Network Printer (with HP Jet Direct) \$ 1,200

HP LaserJet 4101mfp Laser A4 Network Printer/Fax/Copier/Scanner \$ 2,500

PBX Panasonic KX-TDA-200 with phones and software \$ 3,200

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**Total** **\$ 250,000**

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### Software Estimates

Database servers (3)	\$ 10,500
Application Server	\$ 5,000
Internet Mail Server	\$ 3,500
Authentication Server	\$ 1,000
Accounting software	\$ 350
Antivirus software	\$ 3,500
Workstation Operating S/W	\$ 5,000
Office Software	\$ 3,650
Reporting Software	\$ 2,500
Oracle	\$ 90,000
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Total Operating Software	\$ 125,000
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### Computer Room Estimate

Motion detectors, alarm system & Security Cameras	\$ 12,500
Air conditioner (heat sensor monitoring system )	\$ 5,000
Secure card access system	\$ 3,500
Backup Gas Power Generator - 30 Kw (Incl site prep)	\$ 10,000
Wiring	\$ 4,500
<hr/>	
Total Computer Room	\$ 35,500
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<b>Total ALL</b>	<b>\$ 410,500</b>
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Annual Maintenance Fee Estimate	<u>\$ 25,000</u>
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## Credit Bureau Software Schedule

Man  
Months<sup>113</sup>

### Detailed Design

<u>Project Planning</u>	0.50
<u>System Design</u>	
Data Model	0.75
Functional requirements	0.50
Interface Requirements	0.25
Operational Requirements	0.50
User Acceptance Testing Requirements (UAT)	0.30
Documentation Requirements	0.10
Security Requirements	0.75
Performance Requirements	0.30
Selection of rapid application development tools	0.10
Selection of report writing software to be used	0.10

### Database Design

Requirements collection for STANDARD file format	1.00
Identification of data objects and relationships	0.25
Drafting the initial diagram with entities and relationships	0.10
Add key attributes to the diagram	0.10
Adding non-key attributes	0.10
Diagramming Generalization Hierarchies	0.10
Validating the model through normalization	0.10
Adding business and integrity rules to the Model	0.10

### Module Design

Data Acquisition	0.50
Inquiry Input	0.50
Maintenance	0.50
Search Engine	0.75
Output Reporting Design	0.75
Output A/R Billing Design	0.50

### Product Design

Trade	0.75
Insurance	0.50
<u>Access &amp; Security Design</u>	1.25

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<b><i>Subtotal Design</i></b>	<b>12.00</b>
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<sup>113</sup> Man months required is NOT sequential as most individual tasks can be addressed concurrently and many tasks overlap. The purpose of this schedule is to provide the scope of the overall effort required.

**Development**

Install Hardware	1.00	
Generate Database	See Data Collection	
Build Front End User Screens	1.50	
Build output reports	1.00	
Setup Security Levels	0.50	
Build Billing Module	1.00	
Install A/R Software	0.50	
Build billing Interface	0.75	
Build Search Engine	6.50	
Build other data acquisition interfaces	1.50	
Complete Documentation	0.50	
Internal Testing	Ongoing	
<b><i>Subtotal Development</i></b>		<b><i>14.75</i></b>

Note:

Estimate for Each Additional Product 1.00

**Data Collection (layering) / TEST**  
**(Includes TESTING)**

Loading of Initial Demographic Data	4.00	
Loading of Initial Bank Data	8.00	
Loading of Initial Credit Union Data	8.00	
Loading of Initial Other Data	6.00	
<b><i>Subtotal Data Collection</i></b>		<b><i>26.00</i></b>

**Pilot Project**

Pilot Project Planning	0.50	
Pilot Projects		
Initial Pilot	1.00	
Second Pilot	1.00	
Third Pilot	1.00	
<b><i>Subtotal Pilot</i></b>		<b><i>3.50</i></b>

**Implementation**

Build Implementation Schedule	0.50	
<b><i>Subtotal Implementation</i></b>		<b><i>0.50</i></b>

***Total All*** ***56.75***

## *Annex 1*

### **4.9 Overview of International Credit Bureau Operators**

Internationally, there are five potential partners who are directly involved in the credit reporting database business and who have direct international experience. They could have the qualifications necessary to construct a Ukraine Credit Bureau and to invest financially in the shares of a Ukraine Credit Bureau. Each offers a variety of supplementary services, in addition to the development of the core credit report.

They are as follows:

- **CreditInfo**, based in Iceland, has presence in a number of European and Scandinavian countries and, most recently, began operations in Kazakhstan. Their website is [www.creditinfo.com](http://www.creditinfo.com)
- **Dun & Bradstreet**. E-mail: Chee, Leon [<mailto:CheeL@dnb.com>] They have partnerships and alliances around the world.
- **Experian** is based in Nottingham, England. They are the largest credit bureau in the world and have operations and have established alliances throughout Europe and most recently in Russia. Their website is [www.uk.experian.com](http://www.uk.experian.com)
- **Trans Union/CRIF** is based in the United States/Italy. They have partnerships and alliances in countries around the world. Their website is [www.transunion.com](http://www.transunion.com). Or <http://www.creditbureau.cz/>
- **SCHUFA GROUP** - <http://www.schufa.de/kontakt.html>

In selecting a foreign partner/contractor to assist in the development of “state-of-the-art” database, there are a number of factors/questions that the bureau owners should consider besides the price for engaging or contracting over the long term one of the above listed companies. These are noted below:

#### **1. Company**

- a. How long has the company been in business?
- b. What products and services does the company offer in its business?
- c. What is the ownership/shareholder structure?
- d. What is the background of the ownership/shareholders of the Company?
- e. What is the composition of its Board of Directors?
- f. What is the background of Directors?
- g. Who are the individuals who comprise the Senior Management of the Company?
- h. What are the backgrounds of the Senior Management, especially in the credit database building area?

#### **2. Financials**

- a. What does a review of the previous three years, in addition to the current year, tell you about Revenues, Expenses, EBITDA, Assets, Liabilities, Shareholder equity?
  - b. Is the Company financially sound?
  - c. What are the sources from which the Company derives its operating revenues?
  - d. Does the company have interests in other companies/subsidiaries and, if so, are their results contained in a consolidated balance sheet for the Company or are their results filed separately? If separately, see Number 1 for each company.
3. **Subsidiary Companies**
- a. Does the Company own all or a portion of other credit data related companies? If so, what are the ownership details and, if not 100% ownership, what are the details of the other owners of these companies?
  - b. Does the Company own all or a portion of companies that supply software, hardware or other related items that would be used by a credit data company? If so, what are the details?
4. **Experience**
- a. What experience has the Company had in similar credit database construction projects?
  - b. What are the locations and details of these projects, specifically when did they occur, where did they occur, what were the final results and what is the status of these projects as of the current date?
5. **References**
- a. What references are they able to provide related to any or all of the projects identified in Item #4?
  - b. Are the references related to use of their products and services or are they related to their employees or both (preferable to have references for both).
6. **Standards and Procedures - This section would be specifically to address the terms of the Request for Proposal that would be a part of any consideration of hiring a contractor to construct a credit bureau database:**
- a. What standards and procedures do they have in place to address all terms of the RFP?
  - b. How would they propose to organize the project?
  - c. How would they gather credit data?
  - d. How would they install software and hardware relative to timing and how would each phase interconnect with other phases?
  - e. What would be the outputs and details they provide for the following phases in terms of completion, quality control and benchmarks: overall

detailed analysis, structure of the software through the architectural design of the system; system development phase; installation phase; operational phase; acceptance testing and training phase?

- f. What would be the structure and detail of their accounting system?
- g. What would be the software development schedule (probably eight categories) in terms of time estimation and completion date?
- h. Who would comprise their construction team and what are there backgrounds?
- i. Provide an overview of the proposed system in diagrams and flow charts.
- j. How would they propose to build products and the interface of these products with other products?
- k. What is the proposed format of the credit report? Of other reports?
- l. How would they design system logic for file retrieval?
- m. What is the detail of reports they would provide for the Bureau?
- n. What access methods would be provided for users of the system and how would they be designed?
- o. What types of security standards and requirements would they have in place and how would they interface with the system?
- p. What type, and thickness, of firewalls would they have in place?
- q. How would the secure access to the system via users along with flow charts of same?
- r. What would they see as further modules to the base system?
- s. How would they interface with the ownership group?

#### **7. Software and Hardware**

- a. What type of software and hardware would they recommend and how would they achieve their recommendation?

#### **8. Plant**

- a. How would they deal with UPS, back up system, parallel system, disaster recovery plan etc.
- b. How would they protect the system for hackers, from down time and from system loss.