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Operational Efficiency, Outreach and Loan Pricing of Bank Perkreditan Rakyat (BPR)

Assessment and Recommendations

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CONTENTS

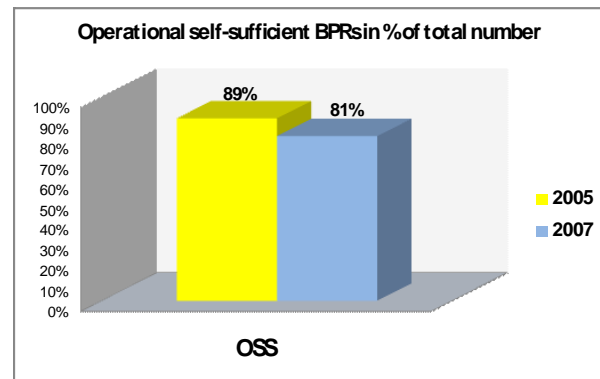
Introduction and Summary	1
1 Analysis and Assessment of Current Situation	3
1.1 BPR Interest Rates and Loan Pricing	3
1.2 BPR Efficiency and Productivity	5
1.3 BPR Outreach	7
1.4 Bank Indonesia: Regional Supervision and Regulatory Issues	9
2 Recommendations	10
2.1 Supervisory System	10
2.2 Apex	16
2.3 Reaching the Economically Active Poor	18
2.4 Regulations on Provisions	20
2.5 Active Involvement in NTB	20
2.6 Interest Rates in Aggregated Bank Indonesia Reports	21
3 Formulas and Detailed Information	22
3.1 Transformation of Flat into Effective Interest Rates	22
3.2 Formulas for Profit Margin, Interest Income and Other	23
3.3 Loan Size Distribution of a Sample BPR	25
3.4 Current Aggregated Bank Indonesia Report on Interest Rates	26
4 Selected Results	27
4.1 Interest Rates, Average Loan Sizes and Loan Volume by Loan Product Type	27
4.2 Efficiency and Productivity Indicators	29
4.3 Outreach Indicators	31
4.4 Rough loan pricing	32

Introduction and Summary

The purpose of this study is to assess the current efficiency and loan pricing of BPRs as well as to suggest ways of improving observed issues through better regulation, supervision and BPR management, while increasing outreach to micro borrowers.

The vast majority (81%) out of the 1812 BPRs is operational self-sufficient, i.e. operational income divided by operational costs (OSS) is over 100%. However, this might come at a price, i.e. high interest rates and/or not reaching out to micro entrepreneurs and rural people.

Besides this there has been a drop of OSS > 100% by 10% during the last 2 years. One reason for this could be recent mergers pulling good performing BPRs down. However mergers resulting in losses for the new company for more than one year are also a sign of inefficiency. Another reason could be a decrease of interest rates – a phenomenon observed especially during the last 2 years - without covering costs.



In order to study the relationship between OSS and the level of interest rates one has to analyse each BPR on its own, looking at more than its financial indicators, i.e. indicators measuring efficiency, productivity and outreach. For this one needs to have data such as: interest rates, non performing loans and provisions *by loan product type* and distinguished *by loan size*; the blended funding rate; number of total staff and loan officers; etc.

Since the BPRs are currently not reporting these data, a *questionnaire* was developed for this study and sent to 61 BPRs in the provinces of West Sumatra, Yogyakarta and Nusa Tenggara Barat (NTB). Twelve BPRs out of these, four in each of the three provinces, have in addition been interviewed on-site.

The questionnaire requested from the BPRs amongst other things to slice their loan portfolio into their internal product types and providing for each of these the outstanding loan volume, the number of loans as well as the average/typical interest rate and loan term. To calculate a blended funding rate the questionnaire also requested their average funding rates on savings and term deposits distinguished for third party and banks as well as for long term bank loans. Beyond this the BPRs were asked to report on their number of total staff, loan officer supervisors, loan officers, and the respective salaries of the latter ones.

These data together with the available data from Bank Indonesia reports, i.e. balance sheet and profit and loss statement allowed

- i. *determining indicators* for efficiency, productivity and outreach;
- ii. comparing the BPRs amongst each other by *finding some first benchmarks* for a good or not so good performance;
- iii. calculations of first *rough profit margins* per loan product and the *total estimated income* over the last/next period;
- iv. yielding reasonable results.

Using these indicators and rough pricing tools, it was found that a few banks - outside of NTB - do already quite well in terms of efficiency and productivity but that there is room for further improvement and a large potential for outreach, i.e. expansion.

The indicators and tools revealed *which actions* each of the BPRs has to undertake in order to perform like a “*perfectly efficient BPR serving also its rural community*” (see Chapter 1.2 and 4.2).

Therefore it is recommend enhancing the current *supervision system* with this kind of data allowing the set up of statistics on efficiency, productivity and outreach indicators as well as the establishment of an additional report resulting in time series on income, cost and risk parameters with respect to the defined “standardized product classes” (see Chapter 2.1).

This will set the foundation for

- A. transparency of and **benchmarks** for the BPR market at any and over time;
- B. **risk based supervision** including early warnings;
- C. loan product pricing & expansion planning (**MIS**).

While the supervision system can be enhanced by imposing the additional data collection on BPRs, this step will also benefit the banks allowing them to

- analyse their indicators and comparing them to benchmarks themselves;
- ultimately use the data for loan product pricing and expansion planning.

It is recommended to establish a 2- to 3-graded alliance of BPRs strengthening the local BPRs and enabling them pooling excess liquidity which can be used to provide “cheaper” loans. These APEX functions should also develop the MIS for the BPRs on the basis of the provided data (see Chapter 2.2).

Capacity could be increased by providing *new rewards* and *incentives* based on the *measurable* results (new reports) to reach the economically active poor via linkage and group loans at reasonable interest rate levels. Besides this it is recommended to promote successful techniques for group loans (see Chapter 2.3).

Adjustments to the current regulations on provisions benefiting the product classes “micro business -“ and “group loans” will support lower collateral amounts (see Chapter 2.4)

It is suggested that Bank Indonesia gets involved in NTB making owners aware on how much more efficiently their capital could be used (see Chapter 2.4).

1. Analysis and Assessment of Current Situation

1.1 BPR Interest Rates and Loan Pricing

The following loan product types exist: Working and investment capital (cash flows to cover loan payments are generated via the clients business), consumptive/salary (cash flows are generated via the clients regular salary), general (non-salary/household: cash flows neither generated via business nor salary), staff loans, group loans, soft loans based on subsidized funds from the government or other development organisations, linkage loans to MFIs

Interest rates are set by product type and sometimes by loan size. They are either based on the way cash flows are generated by the borrower: working capital / investment and consumptive (salary) loans or due to the special nature of the loan type, i.e. staff -, subsidized -, group - and linkage loans.

Agricultural loans are included under the investment loan category but as a “fix” loan. This means the customer pays back principle not in regular instalments but in a lump sum at the end of the season. In this way the level of the effective¹ rate corresponding to the usually flat² quoted rate equals the level of the latter one (instead of being far higher). Some BPRs know this other seem not to know this and thus charge much less interest than desired for these loans.

Interest rate levels are far higher in NTB than in West Sumatra and Yogyakarta. Working capital /investment loans have been observed in the sample as between 35 - 41% effective in West Sumatra and Yogyakarta but between 42 - 57% effective (and higher for daily loans) in NTB.

In NTB some BPRs and BPR-LKPs provide “micro-micro” individual loans with daily/weekly payments at effective interest rates **between 110 – 180%** .

Most of the BPRs charge much less interest on a salary loan than on a working / investment capital one. The difference is around 8 - 17% effective depending on the level of interest rates charged for the working / investment capital. Staff loans are usually provided around 11% effective.

Soft loans have to be provided far below the BPR's usual interest rate level since they follow the conditions requested by the fund provider and could thus be extremely cheap. A bank might charge for example around 42% effective but has to provide the soft loan at 22% effective which might no longer cover its costs since the reduction in funding costs is relatively smaller. Fortunately the total volume of the soft loans is usually small.

¹ Interest is paid on the declining balance in case of instalments

² Interest is always paid on the original loan amount.

See Chapter 4.1 for some detailed results of the above on selected BPRs.

Interest rates have come down substantially since 2005 where still 39% of all loans had been charged *above 30% flat*, i.e. *above 55.5% effective* assuming an average term of 12 months, compared to only 19% of all loans at the end of 2007.

Chapter 3.4 shows the complete distribution on loan amounts and interest rates.

In general directors do not know how to transform a flat rate into an effective one. Exception is Yoga where about 20% of the banks quoted a transformation formula in the questionnaire that is basically right. The consequence is that the majority of BPRs cannot predict of how much they should have earned over a period if loan capital was continuously re-disbursed.

See Chapter 3.1 for further explanations on the rate transformation.

A few directors use the so called “*base lending approach*” to determine the minimum interest rate p.a. they should charge in order to cover all costs occurred over the last period. However, this approach does not take into account the loan size and the resulting rate is an effective one. Thus if it is not transformed into a flat one, before charging it as flat, the rate demanded from the client is far higher than intended. Otherwise the rates are more or less set on the basis of general interest rate levels (per product type) prevailing in the region of the BPR.

Loan pricing is not done in the sense of setting interest rates according to the desired income net of costs for admin, personnel, provisioning and funding (distinguished by product type) and taking into account the size of the loan regarding income and funding.

See Chapter 3.2 for further explanations.

A first attempt on rough loan pricing and with this estimation of the total net income has been performed for each surveyed BPR using the estimated averages on funding rates, interest rates and loan terms by product type provided in the questionnaire as well as data on admin and personnel costs obtained from the Bank Indonesia reports.

It resulted in numbers that were either already close to the realized net income or that were (only) 25 - 35% higher.

Since the income calculations had to be based on the outstanding portfolio in March 08 scaled up by three whereas the realized income is based on the actual outstanding portfolios from January to March 08, the estimates are too high for banks that grew the portfolio substantially since December 07. For other banks the estimates could be higher due to the director’s overestimation of average interest rates per loan product type. For the remaining banks this is probably caused by *too slow re-disbursement of returned funds*.

See Chapter 4.4 for detailed results.

1.2 BPR Efficiency and Productivity

Efficiency and Productivity has been investigated based on the below listed indicators for which special data had been collected in the questionnaire:

- Operational Self-sufficiency (OSS)
- Average interest rate by loan product
- Average loan size: Total portfolio / total number of loans
- No. of salary loans / total number of loans
- Admin + Personnel costs / outstanding gross portfolio
- Difference between charged (see Chapter 3.2) and realized average interest rate/yield
- Loan portfolio / total assets
- Gross loan portfolio / capital
- No. of loan- plus funding officers / total no. of banking staff
- Caseload per loan officer
- Age of institution

Analysing these indicators separately for each BPR, we could find quite efficient BPRs in both West Sumatra and Yogyakarta but not in NTB. The percentage of efficient BPRs seems to be higher in Yogyakarta though.

Some immediate reasons for this general picture could be that due to the higher competition in Yogyakarta compared to West Sumatra (and the higher competition in West Sumatra compared to NTB), the market pressure forces the BPRs to go out more pro-actively looking for clients in all areas (salary as well as micro entrepreneur loans) and to offer competitive rates.

A **perfectly efficient BPR serving also its rural community** was defined via these indicators as *a bank that satisfies the below criteria* :

1. OSS > 100
2. "Micro-micro" loans ($\leq 1\text{m Rp}$) are made available but mainly indirectly via i) group loans or ii) linkage loans to other MFIs.
3. Interest rates are as low as possible:
 - a. $< 37\%$ for business -; $< 24\%$ for salary - ; $< 40\%$ for group1 loans, or formulated independent of the current Indonesian market:
 - b. Spread over BI-rate $< 28.5\%$ / $< 15.5\%$ and $< 31.5\%$ for business / salary and group loans, respectively.
4. Average loan size over total portfolio is as small as possible: $< 10\text{m Rp}$, and if more than 30% of all loans are group loans: $< 1.5\text{m Rp}$.

(This can be achieved with a loan size distribution of some large loans and many small ones or just small ones. A better indicator would be the average loan size and percentage of total number of loans in the first loan size bucket ($< 5\text{m Rp}$) which we could not yet get.)
5. As many as possible of the loans are for business usage, i.e. the percentage of salary loans amongst the total number of loans is small: $< 30\%$.

If these targets are not achieved, most probably the bank has to improve the level of one or more of the below listed indicators:

1. Admin + Personnel costs / outstanding gross portfolio is as low as possible: < 15%.
Note: for banks with asset sizes < 3 bn Rp a somewhat higher number is fine. This indicator compared to the average charged interest rate shows immediately how much profit can be made.
2. The difference between the average charged interest rate and realized yield has to be investigated, e.g. are returned funds fast enough re-disbursed?
3. Loan portfolio / total assets are as high as possible: > 85%.
4. The outstanding loan portfolio is leveraging the available capital as many times as possible, i.e. up to 12.5 times¹ : more than 11 (unless new capital has just been added)
5. No. of loan- plus funding officers / total no. of banking staff is as high as possible: > 50%.
Note: “Banking staff” is all staff but drivers and security, cleaning and service personnel. Banks reaching out far via many cash officers and branches need much more non banking personnel than banks consisting only in a head office. Therefore this effect has to be taken out. Loans plus funding officers are considered since in some banks loan officers perform both tasks.
6. The caseload per loan officer is as high as possible: > 200.
Note: If the percentage of the number of group loans to the total number of group loans is high, this can be less. Vice versa if there are many salary loans, this could be higher. A loan officer concentrating on group loans, e.g. can’t service much more than 40 groups if visiting them bi-weekly.

Note:

More discussions and investigations are needed regarding the above quoted ranges for these indicators. These ranges are first suggestions. Once more data on these are collected in the BPR industry and first *on-site pricing exercises* have been performed (see recommendations, especially critical for indicator 6), they might need some revision.

See Chapter 4.2 for application of these indicators and the respective analysis of efficiency for some selected BPRs. Once precise data for the whole BPR industry have been collected - see recommendations - this exercise can be done regularly and for all BPRs.

1.3 BPR Outreach

Outreach has been investigated based on the below listed indicators for which special data had been collected in the questionnaire as well as via on-site visits:

- Number of group loans
- Number of cash offices and branches
- Average distance (km) to existing clients
- (better: average km travelled per loan/funding officer per day)
- Maximal potential of customer = No. of households within 30 km / No. of banks
- Number of villages in radius of 30 km

Besides these indicators a first attempt has been made during on-site visits in measuring the

- ***Coverage of potential clients a bank has achieved so far.***

This was defined as:

- No. of existing loans / maximum potential of clients, whereby the maximum potential was defined as
- No. of households within 30 km / No. of commercial banks and BPR

Analysing these indicators and talking to the bank directors, we got the impression that many of the real micro entrepreneurs and economically active poor are not yet reached since the BPRs are not pro-actively enough in their mobilization efforts. This is supported by the following observations during on-site visits and some of the data:

Not many real micro-micro loans (< =1m Rp) are provided. This is more or less only done on the basis of subsidized funds with soft conditions from government. More clarity about this could be obtained if the banks report their loans by loan size buckets, see recommendations. Most directors believe that only 20% of all households can qualify for a loan - the rest being too poor. The idea of the mission “to serve the economically active poor” for example via group loans is thus in general not there.

Most directors have given up on group loans with a “leader” or have never tried any kind of group loan.

- Reasons for not doing group loans mentioned were: “we can’t find good leaders”, “the people do not trust each other”, “they can’t save”.
- The group loan methodology in which people guarantee for each other with their savings - of at least 20% of the loan amount anticipated - is in general not known.
- The idea that the loan officers educate the people in the villages on financial and business matters, building long time client relationships instead of leaving all of this work to a “perfect group leader” is widely unknown.
- Instead, a quite inefficient way of providing micro-micro loans on an individual basis with daily collections is chosen in NTB

- In West Sumatra group loans basically do not exist.
- In NTB a few banks seem to have some “left over” of group loans from certain programs they participated in (less than 10 groups). Only one bank has 29 groups.

However, in Yogyakarta some banks have a substantial amount of group loans demonstrating that this form of lending can work. Five banks out of 19, i.e. more than 25% have 100 - 540 group loans.

The “**coverage of potential clients a bank has achieved so far**” indicator, defined above, ranges between 5 to 60% (average ~ 22%) across the three sample regions giving a feeling of how much room for further extension exist if all households should ultimately get a loan. Even if only say 75% of all households can make use of a loan the average coverage would still only be around 30%. This is not in line with the fact that in areas with low employment most of the households have to build some kind of business. Thus the BPRs have to increase their outreach further, see Chapter 2.3 for recommendations. In NTB hardly any BPR and none of the BPR-LKPs have cash offices. In West Sumatra the average distance to the clients lies only between 5 and 15 km. See Chapter 4.3 for some detailed results on the above listed indicators.

Sometimes it is the ownership which hinders the growth process

Some **privately owned BPRs** lack capital to expand the business (CAR is just little above 8%) and their owners request too high dividends instead of growing the capital base via retained earnings. The directors wish to merge with other BPRs or get more capital through *foreign investments* but they can not push for these ideas on their own.

The **governmental owned BPR-LKPs in NTB** on the other hand can't expand if the government does not provide them new loan officers. Beside this if they get assigned new employees, these in general lack banking skills. The governments of Central, West and East Lombok are working on merging all BPR-LKPs in their respective districts since many years hindering plans for growth until the merger has been taking place.

Human resources:

- Almost all banks seemed to be well organised with clear definitions of employee tasks and reporting lines, motivated directors / management teams and relative good knowledge about their data regarding loan portfolio, clients and procedures.
- About 75% of the banks investigated in Yogyakarta and NTB have a bonus system (only 20% in West Sumatra) in which performance targets are more or less defined on individual performance regarding NPL, disbursement and mobilization of time deposits. The bonuses range from between 8% and 42% of salary.
- Some banks do not organise their loan officers into smaller teams in order to have better follow up of their work. For some banks this is not yet an issue since their number of loan officers is anyway still (too) small.

1.4 Bank Indonesia: Regional Supervision and Regulatory Issues

Regional supervision

Supervisors concentrate mainly on NPL, i.e. asset quality which is only one of many possible indicators that make a good performance as outlined in Chapter 1.2.

The supervisory system contains not enough data and tools allowing supervisors to

- advise on how to increase efficiency, and
- see **early warnings** for non performance.

Regulatory issues

Requests for collateral are high: 125 – 400% of loan amount. On the other hand the same regulations regarding mandatory provisions (PPAP) for commercial and rural banks are discouraging to take low collateral amounts.

The director of one BPR in Yogyakarta with high NPL rates on his group with only 10% collateral is of the opinion that his clients only need more time to repay since they had either experienced family problems or their businesses were currently not going well. Under the current regulations he is discouraged to provide new group loans.

Non existence of a liquidity pool for BPRs: Some BPRs work well together in terms of taking on or releasing funds of/for a neighbouring BPR in a very flexible and fast way. Other BPRs do not think that the credit worthiness of the BPRs around them is good enough and thus prefer to deposit their excess liquidity at a lower rate with a commercial bank.

There is a lack of transparency of what is going on in the BPR market regarding

- interest rates levels;
- distribution of loan sizes per bank, in particular existence of true micro loans;
- realized versus potential outreach to villages.

2. Recommendations

2.1 Supervisory System

Improve the supervisory system in a *simple* but very *effective way* that sets the *foundation* for

- Transparency of and benchmarks for the BPR market at any and over time;
- Risk based supervision including early warnings;
- Loan product pricing & expansion planning (MIS).

Request that additional data are reported allowing derivation of the efficiency, productivity and outreach indicators described in Chapter 1.2. In addition to the data described in the next section these are:

- No. of loan- plus funding officers
- No. of total staff
- No. of non-banking staff
- Number of cash offices and branches
- Age of institution

With respect to outreach it is *desired* to also get estimates on the following items:

- Average km travelled per loan/funding officer per day
- No. of villages within 30 km radius and average number of households per village
Or number of households within 30 km radius
- No. of other banks (BPR and commercial) within 30 km

Request that loans are reported according to standardized product classes reflecting underlying *risk, costs* and the way the client is *creating cash flows* for payment.

Based on the survey one should distinguish seven uniform product types and four loan size buckets (micro, small, medium, large) forming up to 28 product classes as follows:

- Business loan for working capital & Investment: payments are covered by client's cash flows, includes petty trading.
- Salary loan (often called "konsumtif"): payments are covered by client's salary cash flows.
- Non-salary consumption/household loan: e.g. school fees, motorcycle; health care, client has no regular salary nor direct business usage to cover payments.
- Staff loan: usually at or below market rates

- Group loan: outreach to economically active poor, indirect way of providing “micro-micro” loans.
- Soft loan: subsidized by government or donors with soft conditions on interest rates.
- Linkage loan to MFIs: indirect way of providing “micro-micro” loans.

For each product *type* distinguish the following loan *size* buckets:
 micro: ≤ 5 m Rp , small: $>5-25$, medium: $>25-100$, large: >100 m.

If the BPRs report their loans according to the above product classes

together with the respective

- interest rates,
- quotation (flat or effective),
- payment method (fix, instalment, irregular plus frequency),
- term bucket (0 – 6m, $>6m - 12m$, $>12m - 24m$, $>24m$), and
- quality of loan (i.e. respective arrears bucket)

thereby *aggregating* in each of the categories the

- number of loans,
- original principals and outstanding amounts,
- NPL amount and fair market value of collateral,
- loan disbursement in period (indicating their liquidity usage).

Bank Indonesia can first derive the corresponding *effective*³ interest rate for each loan and based on this the *weighted average effective interest rate*⁴ per product class.

It can also calculate the *average term* and the *weighted amount of arrears per product class* whereby the weights are different from the current fixed parameters⁵.

These data plus the blended funding rate⁶ allow Bank Indonesia to derive for each BPR on a *monthly* basis a report displaying *per standardized product class* some basic parameters needed for market knowledge, risk based supervision and pricing.

Since the product classes are standardized, *time series* to produce **statistics** on these data can be stored *per BPR* and *across the whole industry*.

³ Please see Chapter 4.1 for easy to apply transformation formula.

⁴ This will be the same as what a BPR reports for each of the loans unless it charges interest rates by loan size and has decided on different loan size buckets or it has substantial amounts of agricultural loans with other interest rate levels. Please see Chapter 4.2 formula (4) for precise definition.

⁵ Using the current parameters for the arrears buckets, i.e. 0,5%, 10%, 50%, 100% this results in PPAP before collateral.

⁶ Please see Chapter 4.2 formula (6) for definition. It is best if this is reported as well by the BPRs.

Benefits:

Transparency & benchmarks

The data requested will make the whole of the BPR industry comparable and will thus result in clear benchmarks and trends for efficiency, productivity and outreach indicators as well as comparable levels of interest rates due to their distinction by standardized product class.

This **will also impact the market - leading to a reduction in rates**, especially if interest rate levels are published in local newspapers.

Furthermore it provides immediate answers to questions such as:

- How many real micro borrowers have been reached? (loan size buckets)
- The loan size distribution of a BPR is important in this respect and with regard to default risk on the other side of the scale, i.e. of large loans (see Chapter 1.3).
- How many economically active poor people have been reached (group & linkage loans)?
- Does the industry really support entrepreneurship (business loans) or is the majority of the capital given out as salary loans?
- Are interest rates continuously decreasing over time - are they correlated with the Bank Indonesia rates? (comparison of interest rates by cost and risk based product classes)

These questions can then be answered for *each* BPR, *by region* and for *the whole industry* for the current situation as well as regarding trends. This

- provides a sound basis for talks amongst all stakeholders, local governments, regional development banks, Apex functions and BI.

Hence it

- **allows formulating new *rewards and incentives* based on measurable performance.**

For example,

- **share capital** could be attracted and / or **technical support** via Apex could be provided for a BPR that performed over some periods like a “*perfectly efficient BPR serving also its rural community*” (see Chapter 1.2).
- This might be an opportunity to allow **foreign investment** (without voting rights)
- BI could **convince local governments to stop distorting the market with subsidized funds** for soft micro loans and **instead invest this capital into BPRs having these proven track records of serving their communities.**
- Apex could assist in merger talks based on this throughout monitored performance.

Risk based supervision and early warnings

The data listed under 1 and 2 above allows estimating/projecting for each BPR future operational income and costs in dependence of shifts / shocks with respect to

- interest rates and fees (Market competition, increase of government/donor subsidized funds for soft loans);
- weighted amount of arrears per product class (default of borrowers in class of large business loans);
- reduction in collateral value (house and land prices);
- costs of funding (increase in BI rates) ;
- costs for fix and variable admin (fuel, general increase in price levels due to inflation);
- costs for personnel (expansion, demand for higher salaries and incentives);
- outstanding loan portfolio (loss in market share, expansion).

For example, the *change in*

- operating income over the next month based on a shift of x in the effective interest rate p.a. for a particular loan product class can be estimated as:
$$x / 12 * o/s \text{ volume in product class}$$
- operating income over the next month based on a shift by $y\%$ in the o/s amount of a product class due to an increased caseload per loan officer or additional personnel can be estimated as:
$$y\% * o/s \text{ volume in product class} * \text{av. effective IR of product class p.a.} / 12$$
- variable costs over the next month due to a shift by $y\%$ of the price per fuel is estimated as:
$$y\% * \text{no. of loan- + funding officers} * \text{average km travelled per day} * 22$$

Risk based supervision and early warnings can be based on the advise/request holding enough capital to be able surviving these kind of shocks. The appropriate shock sizes can be determined via the described statistics of the risk parameters collected for the entire BPR industry.

The suggested additional data collection and report enables regional supervisors to apply these concepts already at this point in time for the BPRs allowing them to

- expand their field of supervision currently often focused on asset quality (NPL);
- collect valuable experience for the official implementation of risk based supervision;
- project additional income and costs for necessary portfolio growth of inefficient BPRs to assess their ability to reach OSS > 100%.

Rough loan product pricing & expansion planning

The various income and cost items listed under section B above are the basic building blocks for the profit margins (income - costs) per loan in each loan product class. Please see Chapter 3.2 for the precise formula.

The successful attempt on rough loan pricing and with this the estimation of the total *net* income per BPR shows that the suggested additional collection of data in terms of product classes will enable the BPRs ultimately to (roughly) price their products and to do expansion planning, i.e. **to project income and costs based on actions such as:**

- **lowering interest rates,**
- **increasing outreach,**
- **reducing overhead costs by boosting the portfolio.**

This will assist the banks to become a *perfectly efficient* BPR serving also its *rural community*.

Assisting less advanced BPRs in the implementation of the new reports and the associated calculations for some rough pricing via Apex functions (see later), would also enable them to do some basic risk calculations on their own – understanding early warnings – and thus easing the supervisory work.

More advanced BPRs could then further refine their loan pricing formula by estimating the personnel costs *per loan product* e.g. with *activity based costing*. Besides this they could start using a *rating based approach* for estimating default rates of large loans not by product class but by probabilities of default associated with these ratings.

Note, the outlined new reports and methodologies need of course more internal and on-site discussions (& investigations). Just to list a few issues:

- 1) Since Bank Indonesia needs to cover the whole BPR industry, it is important to distinguish at least four loan size buckets as well as product types such as *salary, group, soft* and *linkage* loans revealing information about outreach or reasons for different interest rate levels. For these four types the size will be relatively unique across the industry. Thus once the distribution of loan sizes for each BPR has been derived each month, in the statistic on loan product classes one might only distinguish by size with respect to the first three loan types, i.e. business, salary and non-salary/household loan. This would result in only $3 \times 4 + 4 = 16$ classes for which time series have to be stored.
- 2) Not every product class will be used and management might charge the same interest for many classes so that much less than 28 classes do matter to them.
- 3) *To set the boundaries of the loan size buckets more discussions and investigations are needed.* Important is to get transparency both on the small end as well as on the large end of the loan size scale. E.g. *daily “micro-micro” individual loans* with huge interest rates as found in NTB could also be detected via the payment

frequency and then taken out of the class “Working Capital – micro” before averaging over the respective interest rates.

- 4) *Agricultural loans for crops* (not livestock) being particularly risky due to their dependence on the weather have not been separated as a product class since they are seasonal so that they can be recognized by their term (3 – 6 months) and the payment method (fix). As for the micro loans one could separate these before averaging over the interest rates in the business loan classes.
- 5) The calculations outlined in sections B and C above can be performed based on the formulas provided in Chapter 3.2. The pricing formula is not set in stone, i.e. it has room for slight modifications after internal and on-site discussions about customer’s payment behaviour when being in arrears, chances of recovery, etc.
- 6) The request on these additional data could either be integrated into the *current report* or by creating a new report.

In order to save space one might get rid of the category “Usage” which is often misleading, substitute the column PPAP (which can be derived) with PPAP before deduction of collateral and add columns for *product class*, loan disbursement in period, original principal and payment method.

Therefore it is recommend to **proceed in three steps:**

1. **Discuss** the above ideas and open issues internally and with two to three selected BPRs getting their inputs as well. Based on the impressions obtained during the survey this could be done with two to three BPRs in Yogyakarta where management is already more advanced than in other regions and is already thinking in these directions. Besides this they have the most variety in their portfolios and procedures (see also Chapter 4.2).
2. **Apply on pilot basis on-site** the suggested concepts onto the data of these BPRs *including rough loan product pricing*. “Rough” means hereby that together with the BPRs one tries to find estimates of relative costs occurring per loan product type (e.g. the caseload per loan officer for group loans could be 5 times smaller than for individual loans). These estimates could replace a full blown activity based costing exercise for less advanced BPRs. This would ultimately allow developing “basic pricing -” and “indicator monitoring tools” for these BPRs since all other inputs for the pricing formula, see Chapter 3.2, can already be derived from the new/enhanced reports.
3. **Implement as pilot project** programming the reports (and tools) via the Apex function into the next version of their uniform software, called “integrated system” so that all participating BPRs get it automatically by upgrading to this next version.

2.2 Apex

Strengthen BPRs through formation of a 2- to 3-graded alliance consisting of the

- Local BPRs,
- Regional Apex, and if needed a
- Central Apex.

The respective tasks of these three levels are outlined next to the graphic below.

In order to get started establish a pilot Regional-APEX.

In order to gain the trust of the participating local BPRs, a **non-disclosure agreement** need to be signed ensuring that the bank operating as Regional-APEX in its function as (competing) bank has no access to customer data of the BPRs.

The first concrete two tasks of the pilot Regional Apex could consists in the following:

- take on **external audit function** for participating BPRs (based on usual fees) to evaluate BPRs credit risk as preparation to extend loans on a very fast basis;
- create the “**APEX liquidity pool**”
 - pool excess liquidity from all local BPRs that wish to participate,
 - deposit funds in an account of the Regional-APEX,
 - pass on all interest received up to transactions and admin cost (incentive).

Once a **critical mass of funds** has been collected so that there is enough excess liquidity to satisfy the daily needs of participants, the pool could start extending cheap longer term loans.

- In the case that BPRs in the respective regions already lend amongst each other at rates as low as what they charge on their term deposit rates⁷ (currently ~11.5%), these loans have to be extended as cheap as this plus a fee since only then there is incentive for the BPRs to
 - put money into the pool receiving what they get in neighboring BPRs (~11.5%);
 - get a loan via the liquidity pool at a rate less or equal to what they would also be charged in neighboring BPRs (~11.5% + fees).
- In the case that all BPRs have surpluses, the Regional-APEX has to achieve lending the pooled funds to its own customers at a rate that covers the promised deposit rate (~11.5%) for the participating BPRs.

⁷ This has been observed in many of the surveyed BPRs in West Sumatra.

The first operational rules of the liquidity pool could work as follows: The Local-BPRs can

- get back their deposits at any time;
- get a “cheap” short term loan from the pool according to fund availability;
- If the pool is used up, the Regional-APEX takes a loan from any commercial bank to pass it on to Local-BPRs at the same favorably interest + fee it could get.

Central-APEX:

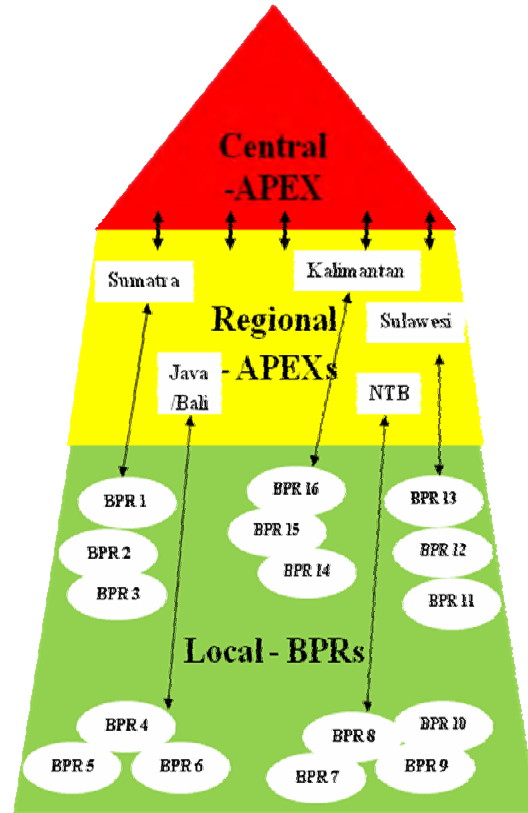
- operate with inter- & national commercial banks
- support Regional-BPRs
- develop: MIS & Risk Mgmt for alliance
- do product development (e.g. “commitment line”)

Regional-APEXs:

- operate with regional commercial banks
- get support by Central-BPR for excess/shortage of liquidity need for guarantees
- support Local-BPRs, e.g. regarding MIS

Local-BPRs:

- operate independently but gain strength via support of Regional-APEX:
 - excess/shortage of liquidity
 - technical advise (IT, infrastructure,..)
 - general advise (business strategy, legal,..)
 - external auditing



2.3 Reaching the Economically Active Poor

Capacity building measures to reach the economically active poor via the BPR industry can be done in particular through

- Linkage loans to other MFIs and
- Group loans

The suggested reports on standardized product classes will reveal *which* BPR does provide *how many* of such loans at *what* interest rate levels.

It is suggested to hold talks amongst all stakeholders, local governments, regional development banks, Apex functions and Bank Indonesia in order to formulate *new rewards and incentives* based on these measurable results to reach the economically active poor. One incentive is for example the investment of share capital.

It is also recommended to promote successful techniques for group loans. The idea is to get people started and build long term relationships with these clients. Some of them will be so successful with their tiny businesses that they qualify for individual loans over time. The idea is to promote group loans which are based on techniques and procedures that work if applied correctly. For example, the practice to let the group loan depend *solely* on one “leader” imposing on him/her the whole burden of ensuring regular payments and recovery can in fact only work if this person is willing to take on part of the job of the loan officer...

In the following one way of extending group loans in a successful way is described:

- The group members do not need to be involved in the same type of business. In fact it is an advantage if the members will engage in diversified economical activities.
- The loan officers get trained in-house how to talk well in front of a group and how to convince economically active poor people about the idea of forgoing for a period of time everything up to the most necessary in order to save a little amount that can be turned into a loan that is five times as big. Being from the same area as these people the loan officer needs to prepare with his/her peers concrete examples that allow demonstrating the benefits of starting a very small scale business in this way.
- The loan officers well prepared in this way then mobilize people in the villages educating and training those who are willing to build a group for several weeks - each week for one hour.
- In these regular group meetings all principles and procedures of the group loan and in particular the principle of guaranteeing for each other with the group savings are explained and discussed.
- Once all group members have saved 20% of their individual loan amount, the loan officer disburses the loan to the group.

- He/she keeps monitoring the group visiting them on a bi-weekly basis, assisting in the repayments and any issues as well as offering each time a 10 minute lesson on basic business topics.
- All of the above described steps will bind the group members amongst each other and the loan officer more and more together establishing a long term relationship that allows to renew the loan again and again thereby increasing the loan amount (and savings) if desired by the group. This plus the achievement of having saved beforehand and to guarantee for each other is the fundament for good payment behaviour.
- Should there still be a default of a group member in despite of this, the loan officer will assist in recovering whatever is possible and then encourage the group to continue operating – possibly with a replacement for the defaulter.

The promotion of group loans could be stirred by the Regional Apex. Tying in what has been suggested about Apex in Chapter 2.2, one could get started with this topic plus the subject of a liquidity pool by arranging a say 1 - 2 day forum to which directors of BPRs in that region are invited. For the topic of group loans it is important that

- Speakers are loan officers plus their directors from BPRs where these methods work as for example in Yogyakarta.
- Speakers describe their techniques and experiences in detail accompanied with many live examples including of course also those things that did not work well and what they did to solve those problems.
- Rough calculations of costs for group loans - especially for those following a methodology as described above - are explained in order to demonstrate that these loans can be very profitable (caseload per loan officer is much smaller than for individual loans but total loan size is bigger and interest rate is higher depending on the intensity of attention given to the group)

Those BPRs that decide to make a (new) attempt with group loans, could then be supported via Apex with some basic material developed for in-house training of their loan officers covering especially issues such as “how to talk well in front of a group and how to change the consciousness of people”, see second bullet above.

2.4 Regulations on Provisions

The current regulations on provisioning might need to be relaxed for rural banks with respect to the product classes: micro business (\leq 5m Rp) and group loans. One possibility consists in stretching the timing of the arrears buckets which define the quality of the loan for PPAP.

Unlike reasonable sized business, the one of the micro and micro-micro borrower (i.e. the member of a group loan) is dependent of problems occurring due to weather or family events / conditions that will be overcome only with time.

It is important though that the loan officer continues monitoring these borrowers. This should be one of the requirements to allow provisioning at a later time. Of course this is difficult to control. Another condition that can be measured more easily could be that the borrower tries paying regularly whatever he/she can which is a kind of soft restructuring of the loan.

The decision on the precise conditions, especially the adjusted timing would need a bit more research on the existing examples of the non performing loans in the two product classes.

2.5 Active Involvement in NTB

Firstly, Bank Indonesia could assist restructuring and strengthening government owned BPRs.

Secondly, using the suggested indicators Bank Indonesia could make owners aware how their capital could be used more efficiently when giving the banks more freedom but controlling them by means of these indicators. (Numbers speak!)

At least in West Lombok the methodology found for merging all of the seven BPR-LKPs is now very promising, the task force for implementation has been established and the new BPR should be operating by 2010.

In the resulting new BPR any employee of the former banks will be placed according to his/her ability combined with their own preferences for the type of work and area of operation

It could be suggested to Central and East Lombok to adopt this methodology instead of trying to demote currently weaker performing BPRs to sub branches or even cash offices which is the current plan not moving anywhere.

Thirdly, Bank Indonesia may encourage BPRs to transform their individual micro-micro loans into group loans at reasonable interest rates.

2.6 Interest rates in Aggregated Bank Indonesia Reports

In the current aggregated BI reports interest rates are aggregated in disregard of them being quoted as flat or effective.

It is recommended to improve these aggregated reports by

- transforming flat into effective interest rates before aggregation
- increasing/decreasing the current interest rate buckets at the low/high end of scale
- regularly monitoring the distribution of interest rate levels by
 - loan amount and
 - number of loans

See Chapter 3.4 for further details.

3. Formulas and Detailed Information

3.1 Transformation of Flat into Effective Interest Rates

According to survey:

- with the exception of some in Yogyakarta, directors do not know the corresponding effective interest rate when charging a “flat” one.
- BPRs set interest rate levels
 - according to what is charged in general in the area of operation
 - a few ones using from time to time the “base lending rate” approach
 - a few ones based on the loan size (Yogyakarta)

Once BPRs transform their interest rates by product class, they will see the huge lost opportunity in case of late re-disbursement.

Transformation formula:

- The effective interest rate depends on: the flat rate, the timing of payments (~ frequency) and the term of the loan (~ no. of payments).
- Neglecting the effect of discounting future cash flows to its present value, this dependence reduces to the number of payments, see formula below, resulting in transformation factors listed to the right hand side
- The majority of the loans is currently priced between 1 – 2% flat p.m. with monthly payments for 3 months to 3 yrs. Discounting at a risk free rate of 8,5%, the effective rate is overestimated by 0,5 - 1,9%.
- For flat rates btw 1 – 2.75% the error increase to 2,6%

Term in mths	factor ⁽¹⁾ flat -> eff.
100	1.98
60	1.97
48	1.96
36	1.95
30	1.94
24	1.92
20	1.90
18	1.89
16	1.88
14	1.87
12	1.85
10	1.82
9	1.80
8	1.78
7	1.75
6	1.71
5	1.67
4	1.60
3	1.50
2	1.33
1	1.00

Neglecting the effect of discounting future cash flows a flat quoted rate for a loan with n regular instalments is transformed into an effective rate by multiplying the flat rate with the *factor* for n instalments. This factor can be determined as follows:

$$Factor(n) = \frac{n * OriginalPrinciple}{\sum_{i=0}^{n-1} OutstandingPrinciple_i} = \frac{n * (n * Inst)}{\sum_{i=0}^{n-1} (n - i) * Inst} = \frac{n * n}{n * (n + 1) / 2} = 2 * \frac{n}{n + 1}$$

Where

$$Inst = Instalment = OriginalPrinciple / n$$

$$OutstandingPrinciple_i = OriginalPrinciple - i * Inst = (n - i) * Inst$$

The transformation formula reveals in particular that regardless of how many instalments exist until the due date of the loan, the effective interest rate is never larger than twice the flat rate.

3.2 Formulas for Profit Margin, Interest Income and Other

The **Profit Margin** per month (p.m.) **per loan per product class** on the average loan size of the product class is the income minus the costs that occur for the loan during a month.

It equals

$$\left[\begin{array}{l} IR_{effective} \text{ p.m.} * (1 - m * NPL_Rate) \\ + FeeRate \text{ p.m.} \\ - BlendedFundingRate \text{ p.m.} \\ - ProvisioningRate \text{ p.m.} \end{array} \right] * AverageLoanSize$$

- fixAdminCosts p.m. /total number of loans
- variableAdminCosts p.m.(per product class) /NoOfLoans (in product class)
- PersonnelCosts p.m. (per product class) /NoOfLoans (in product class)

(1)

Where

$IR_{effective} \text{ p.m.}$	=	Effective annual interest rate for product class divided by 12. <i>If some loans in the same class have different interest rates - e.g. since the BPR does distinguish interest rates by loan size but uses other size buckets than the standard ones defined above – this is determined as the loan size weighted average effective annual interest rate over all loans in this class, see formula (4) below.</i>
NPL_Rate	=	non performing loan amount in product class / outstanding loan amount in product class
m	=	A scaling factor: Estimated percentage of non performing loan amount in product class still paying interest. <i>Example: if all non performing loans in product class still pay interest, this factor should be set to zero. This means that the bank gets interest on the full portfolio of outstanding loans in the product class.</i>
$FeeRate \text{ p.m.}$	=	One-off fee apportioned per month based on average term of loans in product class
$BlendedFundingRate \text{ p.m.}$	=	Average funding rate over all fund sources, see formula (5)
$ProvisioningRate \text{ p.m.}$	=	(Provisioning amount accumulated <i>over the last month</i> in product class) / outstanding loan amount in product class <i>For pricing and projection purposes it is best to use a provisioning rate that is averaged over several periods</i>
$AverageLoanSize$	=	Total outstanding loan volume in product class / number of loans in product class
$fixAdminCosts \text{ p.m.}$	=	All non personnel monthly costs that are occurring independently of the expansion of the loan portfolio
$variableAdminCosts \text{ p.m.}$	=	All non personnel monthly costs that are depending on the size of the loan portfolio, e.g. <i>costs for depreciation, maintenance and usage of motorcycles depend on the number of loan officers which in turn depend on the size of the portfolio</i>
$PersonnelCosts \text{ p.m.}$	=	All monthly personnel costs

The estimated **total net income** is the sum over all n product classes of the Profit Margin per loan product class times the number of outstanding loans in this class, $NoOfLoans_i$:

$$\sum_{i=1}^n ProfitMargin_i * NoOfLoans_i \quad (2)$$

The estimated **total interest income** is the sum over all n product classes, $i = 1, \dots, n$ of the interest rate per loan class adjusted by the percentage of loans in this class no longer paying interest times the average loan size for this class times the number of outstanding loans in this class:

$$\sum_{i=1}^n IR^i_{effective\ p.m.} * (1 - m * NPL_Rate^i) * AverageLoanSize^i * NoOfLoans^i \quad (3)$$

The **loan size weighted average effective interest rate** of a loan product class is the sum over the effective interest rates of all k loans in the class weighted by their respective loan sizes and divided by the total outstanding loans in this product class:

$$\left(\sum_{j=1}^k IR^j_{effective\ p.m.} * LoanSize^k \right) / \sum_{j=1}^k LoanSize^k \quad (4)$$

The “**charged average effective interest rate**” (term used in definition of indicators) of the loan portfolio is the sum over the effective interest rates of all k loan products in the portfolio weighted by the respective sizes of their sub-portfolios and divided by the total outstanding portfolio:

$$\left(\sum_{j=1}^k IR^j_{effective\ p.m.} * Sub-portfolioSize^k \right) / \sum_{j=1}^k Sub-portfolioSize^k \quad (5)$$

The **blended funding rate** of a BPR is the sum over the funding rates of all k funding sources used weighted by their respective fund sizes and divided by the total outstanding funding amount:

$$\left(\sum_{j=1}^k FundingRate^k * FundSize^k \right) / \sum_{j=1}^k FundSize^k \quad (6)$$

3.3 Loan Size Distribution of a Sample BPR

The following example demonstrates why it is crucially important to report also on loan size.

One secret of the success of this chosen BPR is the composition of its portfolio in micro, large and very large loans as shown in the below distribution:

KREDIT YANG DIBERIKAN PER MARET 2008

Plafon (Rp)	Jumlah		average size	% of clients	% of portfolio
	Rekening	OSC (Rp)			
< 50.000.000	7.827	13.496.909.377	1.724.404	93,4%	11%
50.000.000 s/d 200.000.000	521	83.101.619.952	159.504.069	6,2%	68%
> 200.000.000	34	26.087.661.635	767.284.166	0,4%	21%
Jumlah	8.382	122.686.190.964	14.636.864	100,0%	100,0%

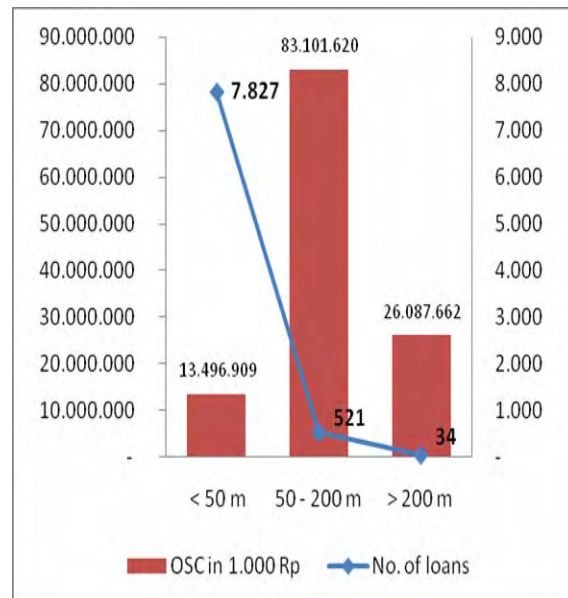
Kredit yang diberikan = loan portfolio, Rekening = accounts, Jumlah = total.

Distribution of loan sizes:

- 0,4% of clients have very large loans, on average >700m
- 6,2% of clients have large loans, on average ~160m
- These together make up 21% + 68% = 89% of total portfolio

But since this BPR charges already the lowest interest rates in its area of operation, it lets the customers of even the very large loans pay the same as all other clients, namely around 26% on salary loans. Consequently

- 89% of total interest income is generated by only 6,6% of all customers
- the Admin + Personnel costs p.a. on the gross portfolio are only 6%



The danger of very large loans however especially if the requested collateral is low – which is the case in this BPR – lies in the associated default risk which could cause huge losses.

The solution consists in setting up a sound credit risk management process. The management of this BPR is aware of this and suggests training on risk management issues for all BPRs.

3.4 Current Aggregated Bank Indonesia Report on Interest Rates

According to the survey, interest rates are charged *mostly* flat.

Therefore even if the current aggregated reports are mixing up flat and effective rates let's interpret the available reports for December 2005 and 2007 as if *all* rates were flat and let's only consider the upper range buckets.

The distributional charts then reveal the following messages:

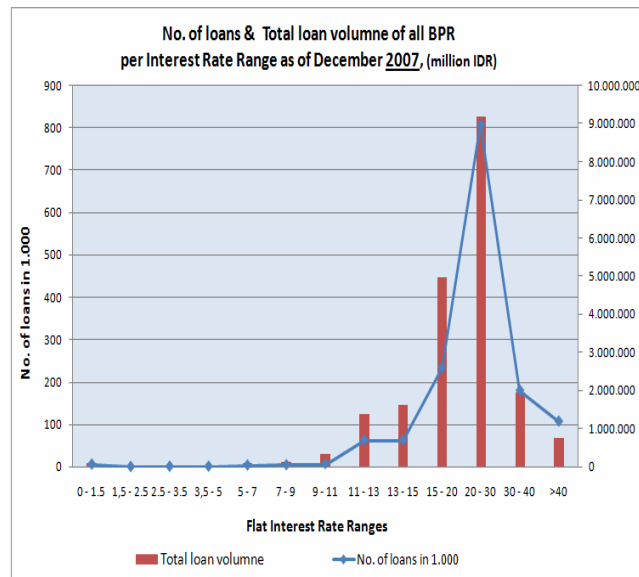
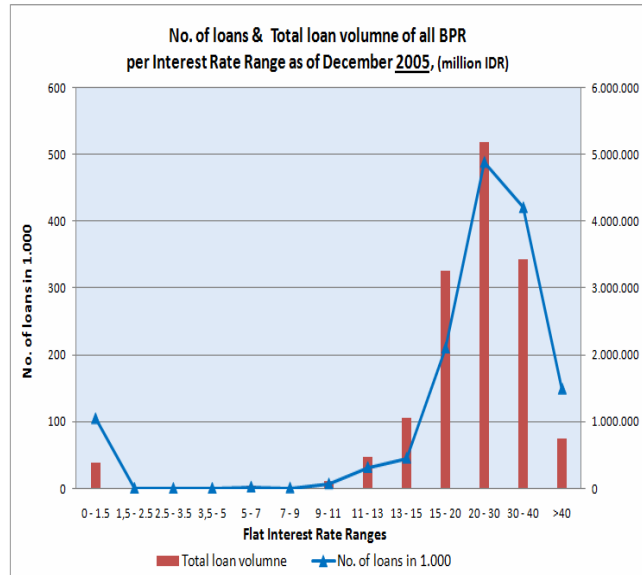
- **Interest rates decreased strongly since 2005:**

Now 81% of all loans are priced below 30% flat.

In 2005 this were only 61%

This is in line with survey results where the majority of the loans have been indicated at even between **18 - 22% flat**

Once the new aggregated reports are ready it will be interesting to look at this distribution also by region. Most of the rates above 30% flat will probably be found in NTB with those above 40% flat arising from individual micro-micro loans with daily payments.



4. Selected Results

In all tables displayed in the following rows coloured yellow, blue and green display numbers from banks in West Sumatera, Yogya and NTB, respectively. The framed numbers in the tables of Chapters 4.1. – 4.3 display the respective interest rate level for the product type described in the row coloured in orange. Numbers of the BPR in the most upper row can serve as benchmarks in almost all indicators and level of interest rates.

4.1 Interest Rates, Average Loan Sizes and Loan Volume by Loan Product Type

The below table displays average interest rate levels, average loan sizes and the total outstanding by loan product type - not yet distinguished by size.

- The majority of the banks charge far less on salary loans than working capital loans.
- The majority of their loan volume is in working capital or salary loans.
- Three BPRs have group loans, which make up a substantial part of the total loan volume.
- Three of the selected banks in NTB provide daily/weekly micro-micro individual loans at large interest rates - average loan sizes are between Rp. 340.000 to 560.000. This has been indicated by calling the product type/class for these loans “Micro Working Capital, see third product column.
- One BPR in Yogyakarta is doing well regarding outreach with over Rp. 3 billion not only in group but also in linkage loans to other MFIs which.

NAME	Transform: flat into effective rates per annum							Average loan sizes by product type							Total O/S amounts by product type													
	Loan product types NOT yet distinguished by size (except MTB)							Average loan sizes by product type							Loan product types NOT yet distinguished by size													
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7							
Can cons	Wk Cap	Salary	Micro/WKCap	Staff	Grp	Soft	Linkage	Wk Cap	Salary	Micro/Wk	Staff	Grp	Soft	Linkage	Micro/WKCa	Staff	Grp	Soft	Linkage									
PD, BPR	35.0%	23.6%	23.8%	17.3%	28.6%	28.4%	26.9%	17.494	54.153	3.191	16.960	6.434	5.015	41.390	28,918.038	67,257.765	12,340.896	3,239.362	3,500.018	3,962.117	3,311.194							
PT, BPR	35.0%	27.4%	0.0%	0.0%	0.0%	0.0%	0.0%	11.178	14.743	0	0	0	0	0	8,695.098	2,462.143	0	0	0	0	0	0						
PT, BPR	42.6%	29.2%	0.0%	0.0%	0.0%	0.0%	0.0%	7.000	4.488	0	0	0	0	0	1,995.000	359.000	0	0	0	0	0	0						
PT, BPR	28.0%	37.6%	0.0%	0.0%	0.0%	0.0%	0.0%	5.185	1.975	0	0	0	0	0	933.295	3,396.586	0	0	0	0	0	0						
PT, BPR	40.3%	25.5%	40.3%	40.3%	40.9%	40.3%	40.3%	15.831	22.900	47.978	2.453	16.444	2.697	15.000	3,973.567	5,198.227	3,022.616	29,441	328.884	744.353	15,000							
PT, BPR	22.5%	22.5%	18.6%	24.0%	0.0%	0.0%	0.0%	8.417	10.814	75.703	2.069	0	0	0	1,818.010	1,340.942	151.405	300.000	0	0	0	0						
PT, BPR	0.0%	34.6%	26.3%	30.6%	32.6%	13.3%	0.0%	0	3.270	6.984	7.968	9.611	5.242	0	0	277.922	1,564.499	3,322.671	13,253.793	340.768	0							
PD, BPR	35.0%	23.6%	23.8%	17.3%	28.6%	28.4%	26.9%	17.494	54.153	3.191	16.960	6.434	5.015	41.390	28,918.038	67,257.765	12,340.896	3,239.362	3,500.018	3,962.117	3,311.194							
PT, BPR	30.4%	33.0%	0.0%	21.0%	36.0%	0.0%	0.0%	7.507	6.636	0	20.125	5.009	0	0	7,146.927	5,514.168	0	221.380	996.744	0	0	0						
PD, BPR	46.1%	46.7%	12.0%	0.0%	0.0%	0.0%	0.0%	4.110	5.143	26.740	0	0	0	0	2,067.194	1,080.013	267.402	0	0	0	0	0						
PD, BPR	41.4%	43.7%	41.4%	0.0%	41.4%	0.0%	0.0%	6.383	6.473	3.181	0	2.434	0	0	2,489.321	3,184.519	508.920	0	43.804	0	0	0						
PD, BPR	55.4%	58.4%	0.0%	0.0%	0.0%	0.0%	0.0%	2.026	4.188	0	0	0	0	0	877.121	523.539	0	0	0	0	0	0						
PT, BPR	44.9%	0.0%	177.8%	0.0%	0.0%	0.0%	0.0%	7.670	0	558	0	0	0	0	6,442.867	0	1,055.822	0	0	0	0	0						
PD, BPR	40.3%	23.6%	36.9%	39.8%	36.9%	39.8%	0.0%	3.435	8.836	17.975	5.861	3.159	11.600	0	1,342.891	7,315.892	2,642.275	154.993	34.754	23.200	0							
PT, BPR	45.5%	51.8%	45.5%	23.0%	49.8%	0.0%	0.0%	3.426	1.727	3.487	4.509	7.492	0	0	2,066.019	713.139	156.914	81.167	1,243.747	0	0	0						
PT, BPR	31.8%	23.6%	30.2%	22.5%	31.5%	31.5%	13.3%	6.649	11.896	9.370	23.589	1.026	623	7.900	66.485	44,207.055	12,480.699	3,019.399	451.524	306.337	323.896							
PD, BPR	56.8%	46.1%	56.8%	33.0%	0.0%	0.0%	0.0%	3.154	6.450	0	18.922	0	0	0	1,018.836	2,425.372	0	189.220	0	0	0	0						
PT, BPR	57.8%	0.0%	148.8%	0.0%	0.0%	0.0%	0.0%	13.393	0	343	0	0	0	0	4,192.118	0	39.839	0	0	0	0	0						
PT, BPR	62.5%	56.8%	112.8%	0.0%	0.0%	0.0%	0.0%	2.200	1.898	425	0	0	0	0	3,838.624	32,240	14,034	0	0	0	0	0						
PD, BPR	42.0%	43.2%	43.2%	43.2%	41.5%	0.0%	0.0%	11.871	9.598	5.449	6.508	2.171	0	0	1,982.500	1,861.922	1,111.553	1,665.975	62.970	0	0	0						
PT, BPR	57.6%	46.1%	33.0%	0.0%	0.0%	0.0%	0.0%	15.924	7.762	41.101	0	0	0	0	1,815.392	807.289	9,042.289	0	0	0	0	0						
PT, BPR	40.6%	23.6%	37.8%	40.6%	18.0%	15.0%	0.0%	7.408	23.314	542	2.532	9.087	3.922	0	2,578.119	9,791.970	51,500	1,283.654	499.782	76.462	0							
PT, BPR	40.3%	23.5%	40.3%	35.0%	40.3%	38.8%	36.4%	14.199	24.986	2,615	11.785	1.062	1.125	3.972	3,223.214	5,921.658	664.174	2,569.203	6.369	33.740	67.516							
BPR, LPIV	36.7%	34.7%	34.9%	0.0%	0.0%	0.0%	0.0%	7.943	6.156	12.724	0	0	0	0	5,679.129	135.423	2,150.411	0	0	0	0	0						

4.2 Efficiency and Productivity Indicators

One BPR in Yogyakarta charges the lowest interest rates at all AND serves over 7.000 micro clients, Chap 4.3, including group and linkage loans. The indicators reveal a high degree of efficiency as well as areas with room for improvement:

- The average loan size is a bit high indicating that the number of micro loans could/should even be increased further. We know from the distribution of loan sizes that this is due do the existence of several hundreds very large loans.
- There is room for further leverage of the capital and a higher percentage of loan officers amongst the total staff.
- There should be no problem to expand further into the micro sector. We know that the staff is well organised via a throughout structure of senior and middle management that could well manage a few more loan officers.
- One issue that needs on-site investigations is the large difference between the charged and realized interest rate.

One BPR in Klaten is in many aspects very similar to the first one with an even lower average loan size over the total portfolio serving relatively more clients with only have of their asset size. The bank should try to increase their number of non salary loans though. This could for example be done by increasing the number of group loans.

BPR-(LKP) in NTB are not efficient and could serve their communities better with the amount of available capital. Most of them:

- charge very high interest even for salary loans accompanied with high OSS but have at least overall low average loan sizes. Loans with daily/weekly payments for “micro-micro working capital” are provided at extremely high rates
- The banks are hardly leveraging their capital having low number of caseloads per loan officer and thus unnecessarily high administration and personnel costs in relation to the outstanding portfolio.

One BPR in West Sumatra

- has low interest rates and has leveraged the capital as far as possible. The average loan size over the whole portfolio could be a bit smaller and /or it would be desirable that they extend group or linkage loans.
- The average caseload per loan officers is low due to the fact that the capital is already fully leveraged and the private owners have no more capital to invest. They would love to expand but that they even had to send new potential saving clients to the next BPR due to the lack of capital.

One BPR in West Sumatra

- is not very efficient: relatively high interest rates are charged on both working and salary loans with an average loan size that is good but not too small to justify such rates. There is no outreach via group or linkage loans.
- The bank does not leverage its capital which explains why total asset size is only at Rp 3.5 billion. A low caseload per loan officer causes unnecessarily high administrative and personnel costs in relation to the loan volume.

NAME	Profitability	Transform flat into effective rates per annum										Efficiency & Productivity										Portfolio Quality									
		1	2	3	4	5	6	7	Linkage	Loan product types	Micro	WK	Cap	Staff	Grp	Soft	Average loan size of total portfolio	No. salary y / loans	Admin +Pers costs p.a. on gross prof.	realised annualized yield on gross prof.	charged portf. wghtd effect. IR p.a.	Loan portf. / tot assets	CAR	Loan portfolio / banking staff	LO+ / tot	Total no. of loans	No. of Grp loans	Loans per Loan officer	Saving acc per LO+ FO	NPL Rate	prov. rate p.a. accum. over last qtr
Can cons	as a bench	WK	Cap	Salary	Micro	WK	Cap	Staff	Grp	Soft	Linkage																				
PD, BPR	131.1 13.4%	35.0%	23.6%	23.8%	17.3%	28.6%	28.4%	26.9%									14,637	15%	6%	17.0%	26.5%	9.6%	15.6	8.1	42%	8,381	547	322	779	5%	0.3%
PT, BPR	14.8 120%	35.0%	27.4%	0.0%	0.0%	0.0%	0.0%	0.0%									11,808	18%	7%	21.6%	33.4%	75%	8.8	12.0	72%	945	0	189	173	3%	0.6%
PT, BPR	3.5 126%	42.5%	29.2%	0.0%	0.0%	0.0%	0.0%	0.0%									6,449	22%	14%	29.3%	40.5%	67%	35.6	4.0	33%	365	0	183	222	3%	0.6%
PT, BPR	6.0 110%	28.0%	37.5%	0.0%	0.0%	0.0%	0.0%	0.0%									2,279		12%	23.1%	35.6%	72%	9.0	11.7	38%	1,529	0	382	1,680	17%	0.0%
PT, BPR	16.7 122%	40.3%	25.5%	40.3%	40.3%	40.9%	40.3%	40.3%									15,632	27%	10%	22.2%	34.5%	80%	17.5	7.3	68%	988	2	141	623	7%	1.2%
PT, BPR	6.0 92%	22.5%	22.5%	18.6%	24.0%	0.0%	0.0%	0.0%									7,413	25%	23%	26.5%	22.5%	60%	13.0	7.3	42%	487	0	122	144	20%	0.6%
PT, BPR	22.3 108%	0.0%	34.6%	26.3%	30.6%	32.6%	13.3%	0.0%									8,645		13%	19.9%	31.4%	84%	16.2	7.0	42%	2,172	0	310	578	1%	0.6%
PD, BPR	131.1 13.4%	35.0%	23.6%	23.8%	17.3%	28.6%	28.4%	26.9%									14,637	15%	6%	17.0%	26.5%	9.4%	15.6	8.1	42%	8,381	544	322	779	5%	0.3%
PT, BPR	17.0 59%	30.4%	33.0%	0.0%	21.0%	36.0%	0.0%	0.0%									6,964		15%	20.1%	31.7%	81%	7.4	16.5	63%	2,034	329	170	665	16%	9.9%
PD, BPR	4.6 154%	46.1%	46.7%	12.0%	0.0%	0.0%	0.0%	0.0%									4,723	29%	14%	30.5%	43.6%	74%	55.0	1.7	45%	727	0	364	408	15%	2.1%
PD, BPR	8.7 159%	41.4%	43.7%	41.4%	0.0%	21.4%	0.0%	0.0%									5,874		16%	37.8%	42.6%	72%	60.2	2.2	56%	1,060	18	177	335	9%	0.0%
PD, BPR	1.8 80%	55.4%	58.4%	0.0%	0.0%	0.0%	0.0%	0.0%									2,510		17%	28.6%	56.5%	79%	50.5	1.8	55%	558	1	186	115	22%	11.5%
PT, BPR	11.0 109%	44.9%	0.0%	177.8%	0.0%	0.0%	0.0%	0.0%									2,745		21%	38.8%	63.6%	68%	14.2	7.3	59%	2,732	0	171	242	20%	4.8%
PD, BPR	17.8 159%	40.3%	23.6%	35.9%	39.8%	36.9%	39.8%	0.0%									8,195	59%	9%	24.0%	28.9%	65%	53.6	1.9	57%	1,405	2	281	350	8%	2.1%
PT, BPR	5.9 159%	45.5%	51.8%	45.5%	23.0%	49.8%	0.0%	0.0%									3,422	33%	18%	42.9%	47.4%	72%	30.9	3.0	59%	1,245	166	104	108	5%	0.1%
PT, BPR	67.7 113%	30.2%	23.6%	31.8%	22.5%	31.5%	31.5%	13.3%									9,881	60%	10%	21.0%	25.0%	90%	15.0	10.6	61%	6,160	106	268	353	6%	1.4%
PD, BPR	4.3 206%	56.8%	46.1%	56.8%	33.0%	0.0%	0.0%	0.0%									5,125		15%	41.0%	48.4%	85%	116	1.2	56%	709	2	236	347	19%	2.5%
PT, BPR	5.5 115%	57.8%	0.0%	148.9%	0.0%	0.0%	0.0%	0.0%									9,865		15%	37.0%	58.7%	76%	15.1	7.0	33%	429	0	143	122	20%	0.0%
PT, BPR	5.1 124%	62.5%	56.8%	112.9%	0.0%	0.0%	0.0%	0.0%									2,164		31%	50.7%	62.7%	76%	30.7	2.9	40%	1,795	0	189	204	8%	0.0%
PD, BPR	7.3 200%	42.0%	43.2%	43.2%	43.2%	41.5%	0.0%	0.0%									7,865		13%	39.2%	42.8%	86%	47.3	2.6	77%	858	29	172	229	11%	0.4%
PT, BPR	15.6 141%	57.6%	46.1%	33.0%	0.0%	0.0%	0.0%	0.0%									25,852	8%	8%	26.8%	37.7%	75%	15.3	6.5	38%	438	+	438	283	5%	0.5%
PT, BPR	16.1 129%	40.5%	23.6%	37.8%	40.6%	18.0%	15.0%	0.0%									9,883	29%	9%	19.6%	28.0%	89%	16.0	9.2	65%	1,415	0	236	1,206	5%	0.2%
PT, BPR	15.1 146%	40.3%	23.5%	40.3%	35.0%	40.3%	38.8%	36.4%									12,231	23%	10%	23.3%	31.3%	83%	20.7	6.7	57%	1,024	0	341	1,544	1%	0.1%
BPR, LPI	10.5 144%	36.7%	34.7%	34.9%	0.0%	0.0%	0.0%	0.0%									8,791	2%	9%	26.2%	36.2%	76%	21.9	4.8	56%	906	0	227	1,231	8%	1.1%

4.3 Outreach Indicators

Institutional characteristics	Outreach																									
	Maximum potential := No. of households within 30 km / No. of banks																									
	Total assets (bn)	Age no. of staff	Total no. of offices (+branch)	Total no. of saving acc.	Total no. of loans	No. of Grp loans exist. clients, radius of 30 km	Av. no. of villages in radius of 30 km	no. of average no. of households per village	no. of competing banks	tot. household no. / no. banks	Coverage: existing loans / max. potential	Number of loans by product type							Average loan sizes by product type							
												1	2	3	4	5	6	7	1	2	3	4	5	6	7	
Can con																										
PD, BPR	131,1	27	82	20,265	8,381	544	40	88	2,890	6	36,331	23%	1,653	1,242	3,868	191	544	790	80	17,494	54,153	3,191	16,960	6,434	5,015	41,390
PT, BPR	14,8	8	22	2,252	945	0	1	44	0	0	0		778	167	0	0	0	0	0	11,178	14,743	0	0	0	0	0
PT, BPR	3,5	15	9	665	365	0	5	15	750	5	1,875	19%	285	80	0	0	0	0	0	7,000	4,488	0	0	0	0	0
PT, BPR	6,0	18	16	8,400	1,529	0	5	9	450	5	675	227%	180	1,720	0	0	0	0	0	5,185	1,975	0	0	0	0	0
PT, BPR	16,7	11	37	14,326	988	2	4	30	450	1	6,750	15%	251	227	63	12	20	276	115,831	22,900	47,978	2,453	16,444	2,697	15,000	
PT, BPR	6,0	15	14	719	487	0	0,1	5	1,000	5	833	58%	216	124	2	145	0	0	0	8,417	10,814	75,703	2,069	0	0	0
PT, BPR	22,3	18	40	8,091	2,172	0	7	125	2,890	21	16,420	13%	0	85	224	417	1,379	65	0	0	3,270	6,984	7,968	9,611	5,242	0
PD, BPR	131,1	27	82	20,265	8,381	544	40	88	2,890	6	36,331	23%	1,653	1,242	3,868	191	544	790	80	17,494	54,153	3,191	16,960	6,434	5,015	41,390
PT, BPR	17,0	12	34	9,971	2,034	329	30	88	2,890	6	36,331	6%	952	831	0	11	199	0	0	7,507	6,636	0	20,125	5,009	0	0
PD, BPR	4,6	20	12	2,040	727	0	5	15	2,000	1	15,000	5%	503	210	10	0	0	0	0	4,110	5,143	26,740	0	0	0	0
PD, BPR	8,7	10	17	3,018	1,060	18	10	20	1,789	14	2,385	44%	390	492	160	0	18	0	0	6,383	6,473	3,181	0	2,434	0	0
PD, BPR	1,8	11	12	687	558	1	10	12	1,500	6	2,571	22%	433	125	0	0	0	0	0	2,026	4,188	0	0	0	0	0
PT, BPR	11,0	18	40	4,600	2,732	0	35	30					840	0	1,892	0	0	0	0	7,670	0	558	0	0	0	0
PD, BPR	17,8	23	20	2,797	1,405	2	15	8					391	828	147	26	11	2	0	3,435	8,836	17,975	5,961	3,159	11,600	0
PT, BPR	5,9	12	22	1,407	1,245	166	23	120					603	413	45	18	166	0	0	3,426	1,727	3,487	4,509	7,492	0	0
PT, BPR	67,7	38	70	10,582	6,160	106	15	25					1,332	3,716	10	128	440	492	41	9,370	11,896	6,649	23,589	1,026	623	7,900
PD, BPR	4,3	10	11	1,735	709	2	5	20					323	376	0	10	0	0	0	3,154	6,450	0	18,922	0	0	0
PT, BPR	5,5	14	16	489	429	0	35	225					313	0	116	0	0	0	0	13,393	0	343	0	0	0	0
PT, BPR	5,1	18	26	2,041	1,795	0	40	45					1,745	17	33	0	0	0	0	2,200	1,896	425	0	0	0	0
PD, BPR	7,3	10	15	2,294	858	29	10	0					167	194	204	256	29	0	0	11,871	9,598	5,449	6,508	2,171	0	0
PT, BPR	15,6	3	9	848	438	-	20	9					114	104	220	0	0	0	0	15,924	7,762	41,101	0	0	0	0
PT, BPR	16,1	0	19	13,268	1,415	0	5	10					348	420	95	507	55	20	0	7,408	23,314	542	2,532	9,087	3,823	0
PT, BPR	15,1	11	17	12,353	1,024	0	8	60					227	237	254	218	6	30	17	14,199	24,986	2,615	11,785	1,062	1,125	3,972
BPR LPN	10,5	0	20	12,311	906	0	5	100					715	22	169	0	0	0	0	7,943	6,156	12,724	0	0	0	0

4.4 Rough loan pricing

(Framed cells indicate where estimate and realization of income are quite close)

NAME	NOT yet taken into account: i) costs and provisions by product, ii) different IRs for different loan size (in case BPR)										Not yet applied to average o/s portfolio over last quarter but only o/s portf. Mar-08						factor to scale (1-NPLra/te)			
	Current Margins per loan per month by product type										Estimated total NET Income over next qrt if portfolio is constant	Realised Op Inc-costs last qrt	IR +fee estimated over next qrt if portfolio is constant	IR +fee realised last qrt	charged portf. effect. IR p.a. on NPL Incl.	realised, annualized Ytd p.a. on gross portf.		IR fees realized / IR fees estim. NPL Level	% increase portfolio since dec07	NPL / O/S loans
	1	2	3	4	5	6	7	8												
Can cont	* as a benchmark in many aspects!																			
PD, BPR	1,172,503	301	582	-34	56	35	11	543	65	3,517,509	1,392,209	7,919,882	5,214,032	26,5%	15,5%	66%	6,2%	5%	1,00	
PT, BPR	156,052	168	151	0	0	0	0	0	0	468,156	114,165	916,896	602,979	33,4%	19,4%	66%	6,0%	3%	1,00	
PT, BPR	24,893	92	-17	0	0	0	0	0	0	74,678	38,204	233,734	172,399	40,5%	22,7%	74%	37,6%	3%	1,00	
PT, BPR	32,194	51	13	0	0	0	0	0	0	96,582	25,242	332,390	249,884	35,6%	22,0%	75%	-0,9%	17%	1,00	
PT, BPR	170,716	278	179	1,065	-50	295	-44	257	-100	512,147	145,056	1,080,352	740,031	34,5%	20,4%	68%	4,2%	7%	1,00	
PT, BPR	-9,196	-1	38	847	-107	0	0	0	0	-27,587	-28,683	209,006	239,378	22,5%	25,0%	115%	2,3%	20%	0,10	
PT, BPR	152,838	0	-22	7	53	98	-70	0	0	458,513	83,496	1,510,081	934,203	31,4%	19,7%	62%	16,1%	1%	1,00	
PD, BPR	1,172,503	301	582	-34	56	35	11	543	65	3,517,509	1,392,209	7,919,882	5,214,032	26,5%	15,5%	66%	6,2%	5%	1,00	
PT, BPR	-82,806	-47	-37	0	-84	-33	0	0	0	-248,418	-510,779	939,699	693,781	31,7%	18,7%	74%	-2,0%	16%	1,00	
PD, BPR	34,105	42	67	-92	0	0	0	0	0	102,315	105,659	324,176	259,954	43,6%	28,3%	80%	8,7%	15%	1,00	
PD, BPR	76,427	83	89	2	0	-17	0	0	0	229,280	235,006	621,459	587,666	42,8%	36,1%	95%	-0,4%	9%	1,00	
PD, BPR	6,612	2	46	0	0	0	0	0	0	19,837	-25,412	157,286	100,161	56,5%	25,2%	64%	2,1%	22%	1,00	
PT, BPR	91,550	86	0	10	0	0	0	0	0	274,650	67,043	972,256	726,748	63,6%	36,2%	75%	-2,5%	20%	1,00	
PD, BPR	66,184	14	18	296	71	-1	198	0	0	198,553	317,179	783,744	690,522	28,9%	19,6%	88%	15,7%	8%	1,00	
PT, BPR	80,991	60	13	62	13	221	0	0	0	242,974	183,012	495,474	457,310	47,4%	41,0%	92%	7,9%	5%	1,00	
PT, BPR	158,459	61	33	31	147	-63	-69	-61	0	475,376	391,647	3,652,447	3,203,454	25,0%	20,3%	88%	1,8%	6%	1,00	
PD, BPR	50,569	38	94	0	293	0	0	0	0	151,708	197,354	388,451	372,301	48,4%	39,1%	96%	6,1%	19%	0,75	
PT, BPR	67,462	250	0	-93	0	0	0	0	0	202,386	56,295	505,630	391,079	58,7%	35,0%	77%	4,7%	20%	1,00	
PT, BPR	44,452	26	6	-24	0	0	0	0	0	133,357	102,047	581,826	491,934	62,7%	46,3%	85%	-3,3%	8%	1,00	
PD, BPR	96,818	225	152	52	78	-27	0	0	0	250,454	316,413	672,029	615,915	42,8%	37,2%	92%	8,3%	11%	1,00	
PT, BPR	150,158	384	25	472	0	0	0	0	0	450,475	266,044	1,046,899	780,831	37,7%	24,2%	75%	27,1%	5%	1,00	
PT, BPR	129,789	124	233	-64	-9	5	-43	0	0	389,366	169,030	974,291	701,451	28,0%	17,5%	72%	21,8%	5%	1,00	
PT, BPR	150,619	296	248	-31	174	-75	-74	-6	-75	451,856	254,455	971,784	730,763	31,3%	21,1%	75%	15,5%	1%	1,00	
BPR LPN	100,308	97	50	176	0	0	0	0	0	300,924	173,163	676,164	521,497	36,2%	24,2%	77%	1,3%	8%	1,00	