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National Bank of the Republic of Kazakhstan

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Inflation Target: Formulation of the Goal and Implications of its Change. Overview of the International Experience

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This paper analyzed the international experience of changing the inflation target, the factors and reasons that prompted the monetary authorities to revise the targets. In addition, based on the experience of countries that use inflation targeting, the advantages and disadvantages of different ways of formulating an inflation goal (point target, range, point target with allowable deviations) were assessed. Based on the review of international practice, the main conclusions and recommendations were formulated, which can later be used in the decision-making in the field of monetary policy.

Key Words: monetary policy, inflation targeting, inflation goal, inflation target.

JEL classification: E22, C33, C51, C55.

1. Preamble

The inflation targeting regime is popular as a research topic among the academic and scientific community, and many scientific and applied publications are devoted to this topic. The studies highlight the main essential criteria that define the inflation targeting regime. In particular, Lars Svensson pointed to the following characteristics, which are integral to inflation targeting:

- 1) setting and publishing the numerical inflation targets;
- 2) a high degree of the central bank transparency and responsibility for achieving the target;
- 3) pursuing the monetary policy with the main focus on achieving the target based on realization of constructed inflation forecasts (Svensson, 2010).

The target and its formulation are one of the central subject matters of inflation targeting, since the clarity of the target determines the signals of the monetary policy strategy and the degree of perception of this signal by economic agents. In addition, comparing the target with actual inflation is the simplest and most obvious way to assess the performance of the monetary regulator in effectively achieving the announced target. The topic of this paper is the study of international experience in determining the numerical inflation targets, their formulation, as well as an analysis of the practice of revising the target and the reasons that dictated the revision episodes.

Section 2 provides an overview of theoretical and empirical literature devoted to the formulation of inflation goal within the framework of inflation targeting and a search for an optimal numerical target.

Section 3 describes the performed analysis of experience of countries in formulating the inflation target parameters, advantages and disadvantages of different ways of formulating an inflation goal.

Section 4 presents the international review of main recent trends in the field of monetary policy, opinion of independent experts regarding inflation targets. Experience of certain central banks in changing the parameters of a target to be set is shown in Section 5.

In conclusion, the authors systematized the information obtained when studying the international experience, reported general findings and key recommendations that can serve as a monetary policy guideline.

2. Literature Review

A huge number of works and literature are devoted to the study of the target, its optimal numerical value from the point of view of attainability, and the key parameters for its formulation.

Full-fledged inflation targeting implies the definition of a clear target and the absence of other nominal anchors in addition to the target, a commitment to price stability, the absence of fiscal dominance, the independence of the monetary authority as well as transparency and accountability of the central bank in pursuing the monetary policy. To a large extent, the success of inflation targeting depends on high market confidence in the ability and determination of the central bank to implement the monetary policy aimed at achieving the target (Mishkin & Schmidt-Hebbel, 2001).

B. Bernanke in his speech at the Annual Washington Policy Conference of the National Association of Business Economists¹ pointed to a number of distinguishing features of the inflation targeting regime where the announcement of a quantitative target for inflation being the most obvious, capturing the essence of the approach is not entirely straightforward. Maintaining the price stability and adherence of a central bank to its main goal help reinforce expectations regarding future inflation (Bernanke, 2003).

Svensson in his work cites the general advantages of inflation targeting, which, according to the researcher, include the focus of monetary policy directly on achieving the target level of inflation. A clear quantitative target makes it easier to measure the effectiveness of monetary policy, in particular by comparing actual inflation with the target set. In addition, the index of inflation expectations relative to the inflation target serves as the indicator of confidence in the monetary policy pursued (Svensson, 1996).

Determination of a reliable nominal anchor is important from the standpoint of creating a medium-term target for inflation expectations, which will help achieving a stable level of inflation within the given limits. This is the main objective of monetary policy. At the same time, along with the main goal, the monetary policy should be flexible enough to respond to temporary shocks and fluctuations in order to help smooth business cycles without compromising the credibility of the main goal. According to economists, inflation targeting combines these two aspects, which are important for successful monetary policy (Pétursson, 2004).

The target gives a clear signal about the main objective of monetary policy and the criteria for evaluating the effectiveness of the central bank's performance in achieving the target. At the same time, the target indicator varies depending on the specifics of implementation of inflation targeting. For example, a target can be differentiated by choosing a target price index, target width, target horizon, etc. in the existing monetary conditions. These differences are explained by diversities in institutes and history of the countries, by the specifics of existing conditions at the time of transition to inflation targeting as well as by different views of practitioners and scientists regarding the monetary policy parameters in the context of current inflation (Mishkin & Schmidt-Hebbel, 2001).

For example, Svensson in his works concluded that an intermediate target for inflation targeting can be a conditional inflation forecast of the central bank as determined by the current state of the economy and the current settings of monetary policy instruments. At the same time, the conditional inflation forecast is, in his opinion, an ideal intermediate goal due to the high correlation between them. In addition, the inflation forecast as a target is easier to control and observe and such indicator is also more understandable to be perceived by the public in the context of monetary policy. However, these conclusions were made by the researcher on the basis of a simple model of a closed economy (Svensson, 1996, 1999).

An important issue is the definition of the type of inflation goal formulation. Central banks can variably define one of three main types of target as a benchmark: a simple numerical target, a numerical target with certain tolerance limits around it, and a range with no specified midpoint

¹ «A perspective on inflation targeting», Speech by Mr. Ben S Bernanke, Member of the Board of Governors of the US Federal Reserve System, at the Annual Washington Policy Conference of the National Association of Business Economists, Washington, DC, 25 March 2003.

(Pétursson, 2004). Each of these types has its own advantages and disadvantages, which are discussed in more detail in the next section.

In addition, the most important issue in the framework of inflation targeting is the determination of the target value and the optimal level of inflation. At the same time, there is a close relationship between the optimal and target values of inflation, which are often perceived as identical concepts. Thus, the threshold level of inflation, determined empirically in applied research, is often regarded as the optimum that central banks strive to approach (Sinelnikova-Murylyova and Gerbenkina, 2019).

Schmitt-Grohé and Uribe, in their study of an optimal level of inflation argue that the empirical pattern regarding the size of set inflation targets cannot be explained by the optimal long-term inflation rate determined by existing theories of monetary non-neutrality. The two leading components of this theory (the demand for money and the slow price adjustment) define optimal inflation targets of no more than 0% per year, which, as Schmitt-Grohé and Uribe point out in their paper, is at odds with observed inflation targets due to such factors such as imperfect taxation, a zero floor on nominal interest rates, downward rigidity in nominal wages, and quality distortion in the measured inflation. For example, in industrialized countries that use inflation targeting, inflation targets average around 2%, while in emerging markets the target is about one percentage point higher (Schmitt-Grohé & Uribe, 2010).

Later, Ball in his study brings up the problem of underestimating the level of optimal inflation, which was especially relevant at a time of increased risk of deflation in industrialized countries. In a period of high deflationary risk, a low inflation target, in his opinion, can lead to near-zero nominal interest rates, which will negatively affect the monetary policy flexibility during the periods of easing (Ball, 2014).

In current realities, given the accelerating inflation in many countries because of recent global changes and shocks, the reaction of central banks around the world in relation to rates and a target is a topical issue. At the same time, revision of the target inflation rate by the central bank is especially sensitive.

According to the results of the descriptive analysis, Sinelnikova-Murylyova and Grebenkina revealed that the central banks of developed countries rarely revise inflation targets, which is stemming from commitment to the policy of “leading indicators” that is based on high confidence of economic agents in the central bank. At the same time, frequent revision of targets “in order to curb short-term shocks in the emerging markets reduces the success of sustainable achievement of inflation goal” (Sinelnikova-Murylyova and Grebenkina, 2019).

3. Formulation of the Inflation Target under Inflation Targeting

3.1. Target Types, their Advantages and Disadvantages

Formulation of the target is one of the *important* elements of inflation targeting, since the public’s perception of the monetary policy strategy and the assessment of the central bank’s performance in relation to achievement of the target depend on the clarity of the target. As already mentioned, the most common types of targets used by central banks are: (1) point target; (2) a point target with ranges of tolerances, uncertainty or fluctuations; (3) a range with no specified midpoint. There are three criteria that can be applied in choosing between different target formulations: (i) their effectiveness in anchoring the inflation expectations, (ii) their ability to stabilize the economy, and (iii) flexibility they provide for the monetary policy. Each type of target has its own disadvantages and advantages, discussed below.

(1) A point target is a target where the central bank’s goal is formulated in the form of a specific value of the change in the price index used during specific period of time.

A point target provides a clearer nominal anchor for the central bank and is easier to communicate. It is better remembered and, thus, helps anchor inflation expectations at the target level, including through the determination by economic entities of the corresponding price changes in long-term contracts. It is assumed that in the case of a point target, the central bank will always strive to return inflation to this point by adjusting its policy.

(2) A point target with ranges of tolerances or fluctuations means a target where the goal is defined in the form a specific numerical value, but the central bank allows certain fluctuations from this value or informs in advance that, according to its expectations, inflation will be staying mainly within a certain tolerance range around the target. In some countries, if inflation goes beyond the limits of tolerable fluctuations in one direction or another, a certain form of sanctions is applied. For example, in New Zealand and the UK, the central bank must present to the country's government the reasons why inflation has gone beyond the tolerances. That is, the target and its tolerances may be part of an appropriate agreement between the central bank and its governing body. The range of tolerances may indicate the central bank's own level of ambition to stabilize inflation without going beyond the tolerable limits leading to any sanctions. The use of such target may also reflect the fact that inflation is constantly exposed to various shocks and is difficult to control with a high degree of accuracy. On the other hand, tolerance bands serve to increase the accountability of monetary policy rather than for the decision-making.

A point target with tolerance ranges somewhat eases the monetary policy communication by signaling that the central bank has the ability to limit inflation fluctuations while providing a specific reference for fluctuations that can be expected over time.

However, when inflation goes beyond this range, it can be perceived as a much more worrisome and serious failure of the monetary policy. According to an alternative view, uncertainty can be illustrated in another way, for example by a band of uncertainty around central bank forecasts (Apel & Claussen, 2017). In addition, in the case of a range (both with and without a midpoint), there is a high risk of focusing on the upper bound of the band, rather than the midpoint as a target, and inflation expectations will be anchored at a higher level than the central bank assumed. At the same time, statements from the central bank that inflation is within acceptable tolerance band will not be any convincing (Pétursson, 2004).

Of course, there are usually other channels available for central banks to communicate that there is uncertainty about inflation dynamics. For example, one such channel is the publication of central bank forecasts. Inflation forecasts show that it may take time in certain periods before inflation comes back to the target, and that inflation will not always be exactly corresponding to the target. In addition, the uncertainty can be illustrated, for example, by the band of uncertainty around the central bank's forecasts (Apel & Claussen, 2017). Nonetheless, a point target with ranges is a more educationally correct way of illustrating this uncertainty, and economic agents perceive it as a clearer alternative.

When the central bank uses a point indicator with tolerance ranges as its target, deviations of actual inflation from the point target are more easily perceived by economic agents and do not cause criticism from them as long as inflation remains within acceptable boundaries. Since such criticism itself can reduce the credibility of the inflation target, having a tolerance band can indirectly help keeping long-term inflation expectations more pinned to the target.

Another difficulty is that the range must be well adapted. For example, the Bank of Sweden has mentioned one of the reasons for moving away from the previously used point indicator with a range of tolerances since 2010, because inflation was beyond the tolerance band as often as it was within the band. For a range of deviations to work as a reference for a reasonably expected variation in inflation, it must be realistic to the extent that most inflation outcomes can be expected to lie within it.

When determining the optimal range of tolerable deviations, the choice of the inflation indicator itself is of great importance. For example, a narrower tolerance band around the inflation target works better for less volatile inflation measures such as core inflation than for the consumer price index. Thus, the definition of the range bounds requires careful consideration. It is also believed that the figure itself should be easy to remember.

When such target is introduced, the central bank should consider whether going beyond the tolerance range should lead to any specific consequences, and if so, to what consequences. One option could be the standpoint that the development of inflation is uncertain, and its going beyond the range will not lead to any specific consequences. Another option is that the central bank

commits itself to explaining to the governing body or the parliament the reasons why inflation is going beyond the set band.

(3) A target range or an interval is a target indicator in the form of a range of percentage changes in the inflation index with no specific point value. With a target range, there is no need for inflation to reach a certain midpoint of the interval. A central bank can, in principle, pursue the monetary policy in which inflation stabilizes just before the end of the band. Australia is an example of a country where the inflation target is defined as a target range: "In pursuit of the goal of medium-term price stability, the Reserve Bank and the Government agree on the goal of keeping consumer price inflation at 2-3% on average over the cycle". This formulation allows for a natural short-term variation of inflation over the course of a cycle, while maintaining a well-defined fulfillment of the set target over time.

The main difference between a point target with a tolerance band and a target range is as follows. A point target with a range of tolerances refers to the result, and the monetary policy is always aimed at achieving a point value for inflation. However, with a target range, the monetary policy can be aimed at reaching any point within the interval.

One of the advantages of a target range over a point measure is that it provides greater flexibility for policy makers. The target range gives the central bank some freedom in choosing an inflation target in the light of economic conditions, allowing more flexibility in the conduct of monetary policy. In addition, the target range may strengthen confidence in the central bank to some extent, since actual inflation will most often fall within the target range (Castelnuovo et al., 2003).

However, the target range could distort communication about the central bank's objectives – both within the central bank and among the general public – undermining the anchoring of inflation expectations and bringing the risk of worsening economic performance. Although actual inflation falls within the target range more often than it reaches the point target, this also comes at a cost (Mishkin, 2008). Bernanke et al. (1999) suggest that missing the target range may be more damaging to the credibility of the central bank than missing the point target. Carare and Stone (2006) provide some empirical data that is consistent with this interpretation; according to such data, countries with a weak institutional structure adopt less accurate and less credible inflation targets.

Both Mishkin and Svensson (2001) argue that a target range is a less accurate anchor for inflation expectations than a point target. This conclusion resonates with the results of the Grosse-Steffen study (2020), which state that in case of constant deviations of inflation from the target long-term inflation expectations are better anchored to point targets than to ranges in the sense that point targets are related to a lower risk of inflation deceleration (acceleration) in the periods of constant undershooting (overshooting). Besides, in the case of a range (both with and without a midpoint), there is a high risk of focusing on the upper bound of the band rather than the midpoint as a target, and inflation expectations will be anchored at a higher level than the central bank assumed. At the same time, statements from the central bank that inflation is within tolerable acceptable limits will not be any convincing (Pétursson, 2004).

The economic context in which inflation targets are adopted is of importance. In a recent empirical study, Ehrmann (2021), based on the data from 20 countries that use inflation targeting, assessed the impact of various types of targets on the anchoring of inflation expectations over short horizons. He tested two conflicting hypotheses, in particular that targets with intervals lead to (1) less target anchoring due to greater central bank flexibility (flexibility hypothesis), or (2) better anchoring due to rare misses and increased confidence (confidence enhancement hypothesis). Based on the results obtained, the researcher refutes the flexibility hypothesis by accepting the second validity hypothesis, which suggests the preference for an interval target, whether in the form of a range or tolerance bands around a point target. However, for emerging markets, target bands have more uncertainty about the future path of inflation than either point targets or point targets with tolerance bands. In this case, the economic conditions in which decisions are made on inflation targets are essential. The author also notes in his work that the target ranges and

tolerance bands show the best results in several tests, but none of them is superior to the other. Thus, despite some advantages of using a range, there are other factors influencing the anchoring of inflation expectations (Ehrmann, 2021).

The width of the specified range plays an important role. A wide range increases the ability of the central bank to keep inflation within a given target range, but such range has a reduced ability to anchor inflation expectations. A narrow range demonstrates the decisiveness of the central bank in achieving the goal, which in general increases the confidence of economic agents in the monetary policy pursued but reduces the central bank's flexibility in responding to changes in the real economy and increases the likelihood of a miss, which can cause more damage to the bank's reputation than a failure to comply with a simple numerical target. Thus, the increased flexibility of the range target leads to greater uncertainty about the future exact path of inflation and a weak anchoring of inflation expectations. However, failure to comply with the point targets also undermines public confidence in the inflation target, especially if actual inflation consistently deviates from the target (Meyer, 2001; Pétursson, 2004; Cleanthous, 2020).

The most common range bounds are 1pp in either direction. The bounds tend to be wider for emerging markets or those where inflation has been more volatile, as the consumer price index in emerging economies and economies in transition consistently places more weight on volatile components. In some cases, the target adjustment process uses wider tolerance bands.

Other types of targets are discussed in the literature (Chung et al., 2020) but are rarely observed in practice, such as indifference bands (when the central bank does not respond to inflation deviations within this range) or operating ranges (when the central bank would deliberately want to deviate from the middle of the range).

3.2. Some Other Characteristics of Targets

Another choice that inflation-targeting central banks make is the measurement of inflation—whether to set the target in terms of the headline inflation (CPI) or in terms of core inflation (e.g., CPI less the direct impact of fluctuations in energy and food prices, which are usually unstable). Most central banks use the consumer price index as their target. This choice seems practicable because the CPI is the most appropriate indicator for calculating real household income, because the ultimate goal of monetary policy is to ensure household welfare, and because the CPI is the most “visible” of all inflation indicators. At the same time, focusing on core inflation may increase the likelihood that the monetary policy will respond to persistent changes in core inflation rather than temporary changes in inflation. In this regard, the practice of some central banks to track the dynamics of core inflation as a reference for consistency of the current monetary policy with a long-term target for the headline inflation seems to be positive.

Another important issue in the development of inflation targeting frameworks is the determination of time horizons for inflation targets. It must be taken into account that monetary policy affects the economy and inflation with long lags. At the same time, for countries with a low level of inflation, the lag, according to Mishkin and Schmidt-Hebbel, will be quite long – two or more years. According to the researchers, the use of a short time horizon, especially with a narrow target range, can lead to controllability problems and frequent target misses even in the presence of optimal monetary policy. A short time horizon and a narrow target range could lead to the monetary policy instruments being unstable and fluctuating excessively. This issue is particularly relevant in small open economies, where a short time horizon and narrow range can lead to exchange rate manipulation to achieve an inflation target, as exchange rate fluctuations have a faster impact on inflation than interest rates. In order to avoid problems with controllability and instability of instruments in the inflation targeting framework, the researchers proposed four options of actions for central banks:

- 1) including unofficial retreat provisions into the inflation targeting framework that would allow not achieving inflation target rate under certain circumstances;
- 2) focusing on core inflation rather than on the headline inflation;
- 3) expanding the inflation target range;

4) setting inflation targets for several years ahead (Mishkin & Schmidt-Hebbel, 2001).

The first and third options are controversial, since both, to one degree or another, can undermine the confidence in the central bank. Thus, the inclusion of unofficial retreat provisions into the monetary strategy contradicts the essence of inflation targeting, as a regime characterized by a clear goal, a minimum set of tools, and maximum transparency of actions of the monetary regulator. Moreover, the expansion of the range cannot be positioned as a solution to the problems of controllability and instability of monetary policy instruments. Choosing a wide target range will mislead the public about the intentions of the central bank, and a high range ceiling will make the target less clear.

3.3. Experience of Central Banks in Choosing Characteristics for Targets

According to the IMF, by 2020, 46 countries moved to the inflation targeting framework² to a varying degree, of which 13 countries belong to the category of advanced economies and 33 – to emerging economies³.

At present, 13 central banks establish a point target (point), 25 central banks determine a point target with tolerances (point-tolerance) and 8 central banks formulate the target as a range with no midpoint (range) (Table 1). Kazakhstan belongs to the latter, with the target range for 2022 being 4%-6%. The target set as close to any value (for example, in the Euro Area – close to 2%), in essence could be interpreted as the range (0%-2%) with an aim to be closer to the upper bound. However, the Governing Council of the ECB emphasized the symmetry of the goal and undesirability of its deviation either above or below the announced rate of 2%, therefore such formulation is classified as a point target within the scope of this paper.

Table 1

Type and level of the target in the inflation targeting countries (2022)

	Country	Country Category	Target Type	Target Inflation	Point	Lower Bound	Upper Bound
1	Albania	EME	P	CPI	3	--	--
2	Armenia	EME	P-T	CPI	4	2.5	5.5
3	Australia	AE	R	CPI	--	2	3
4	Brazil	EME	P-T	IPCA	3.5	2	5
5	Canada	AE	P-T	CPI	2	1	3
6	Chile	EME	P-T	CPI	3	2	4
7	Columbia	EME	P-T	CPI	3	2	4
8	Costa Rica	EME	P-T	CPI	3	2	4
9	Czech Rep.	AE	P	CPI	2	--	--
10	Dominican Rep.	EME	P-T	CPI	4	3	5
11	Euro Area	AE	P	HICP	<2	--	--
12	Georgia	EME	P	CPI	3	--	--
13	Ghana	EME	P-T	CPI	8	6	10
14	Guatemala	EME	P-T	CPI	4	3	5
15	Hungary	EME	P-T	CPI	3	2	4
16	Iceland	AE	P	CPI	2.5	--	--
17	India	EME	P-T	CPI	4	2	6
18	Indonesia	EME	P-T	CPI	3	2	4
19	Israel	AE	R	CPI	--	1	3
20	Jamaica	EME	R	CPI	--	4	6
21	Japan	AE	P	CPI	2	--	--
22	Kazakhstan	EME	R	CPI	--	4	6
23	Kenya	EME	P-T	CPI	5	2.5	7.5
24	Mexico	EME	P-T	CPI	3	2	4
25	Moldova	EME	P-T	CPI	5	3.5	6.5
26	New Zealand	AE	P-T	CPI	2	1	3
27	Norway	AE	P	CPI	2*	--	--
28	Paraguay	EME	P-T	CPI	4	2	6

² As at 2020, <https://www.elibrary-areaer.imf.org/Pages/ChapterQueryReport.aspx>

³ According to the IMF, <https://www.imf.org/en/Publications/WE0/weo-database/2022/October/select-countries?grp=110&sg=All-countries/Advanced-economies>

29	Peru	EME	P-T	CPI	2	1	3
30	Philippines	EME	P-T	CPI	3	2	4
31	Poland	EME	P-T	BCPI	2.5	1.5	3.5
32	Romania	EME	P-T	CPI	2.5	1.5	3.5
33	Russia	EME	P	CPI	4	--	--
34	Serbia	EME	P-T	CPI	3	1.5	4.5
35	South Africa	EME	R	CPI	--	3	6
36	South Korea	AE	P	CPI	2	--	--
37	Sri Lanka	EME	R	CCPI	--	4	6
38	Sweden	AE	P	CPIF	2	--	--
39	Thailand	EME	R	CPI	--	1	3
40	Turkiye	EME	P-T	CPI	5	3	7
41	Uganda	EME	P-T	CPI	5	2	8
42	Ukraine	EME	P-T	CPI	5	4	6
43	UK	AE	P	CPI	2	--	--
44	USA	AE	P	PCE	2	--	--
45	Uruguay	EME	R	CPI	--	3	6
46	Uzbekistan	EME	P	CPI	5	--	--

Note: EME – emerging economies, AE – advanced economies.

P – point, P-T – point-tolerance, R – range with no midpoint.

The IPCA, the Extended National Consumer Price Index (IPCA, in Portuguese). The HICP, the Harmonized Index of Consumer Prices. The BCPI, the Basis of the Consumer Price Index. The CCPI, the Colombo Consumer Price Index. The CPIF, the Consumer Price Index with a Fixed interest rate. The PCE, the Price Index for Personal Consumption Expenditures.

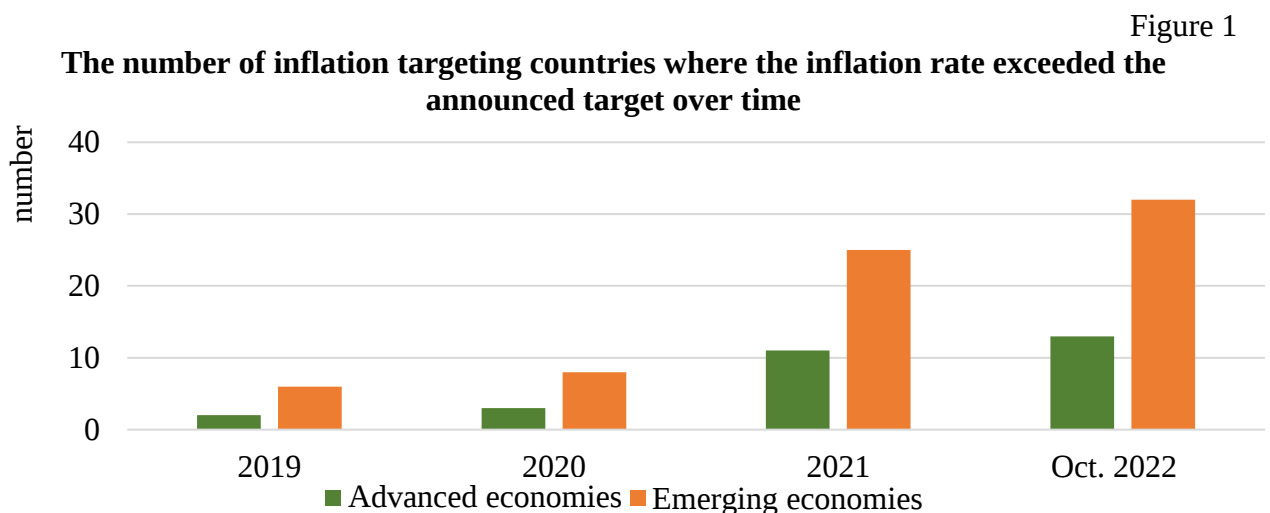
* Close to 2 percent

Source: central banks' websites

Thus, at the moment, it is more preferable for most countries to formulate the goal in the form of a range with a midpoint, around which central banks seek to keep inflation. At the same time, most of the countries (15 out of 25) that have defined the target as a point range set a fairly narrow range (+/-1pp). Emerging economies (Armenia, Brazil, Ghana, India, Kenya, Moldova, Paraguay, Serbia, Turkiye, and Uganda) set a wider range. Among countries with a target in the form of a range with no target, Australia sets a narrow range (2%-3%), whereas in the remaining 7 countries their monetary regulators determined a wider range at 2-3 pp.

4. Discussions Regarding the Revision of the Inflation Target

Amid the post-COVID recovery in demand, the effects of government support programs for the economy, disruptions in supply chains, emergence of bottlenecks, the geopolitical situation and supply shocks in the energy and food markets, inflation has accelerated in many countries, even in advanced economies where deflation risks have always been relevant (Figure 1).



Source: IMF, central banks' websites

Acceleration of inflation provoked an anticipated reaction from central banks: virtually all inflation-targeting central banks raised their interest rates (93%), including those that have previously been at all-time lows (Table 2).

Table 2

Key Rates of the Inflation Targeting Countries

	Country	Country Category	Key Rates				Dynamics
			2019	2020	2021	Oct.22	
1	Albania	EME	1.0	0.5	0.5	2.8	
2	Armenia	EME	5.5	5.3	7.8	10.5	
3	Australia	AE	0.8	0.1	0.1	2.9	
4	Brazil	EME	4.5	2.0	9.3	13.8	
5	Canada	AE	1.8	0.3	0.3	3.8	
6	Chile	EME	1.8	0.5	4.0	11.3	
7	Columbia	EME	4.3	1.8	3.0	11.0	
8	Costa Rica	EME	2.8	0.8	1.3	9.0	
9	Czech Rep.	AE	2.0	0.3	3.8	7.0	
10	Dominican Rep.	EME	4.5	3.0	3.5	8.5	
11	Euro Area	AE	0.0	0.0	0.0	2.0	
12	Georgia	EME	9.0	8.0	10.5	11.0	
13	Ghana	EME	16.0	14.5	14.5	24.5	
14	Guatemala	EME	2.8	1.8	1.8	3.0	
15	Hungary	EME	0.9	0.6	2.4	13.0	
16	Iceland	AE	3.0	0.8	2.0	6.0	
17	India	EME	5.2	4.0	4.0	5.9	
18	Indonesia	EME	5.0	3.8	3.5	5.3	
19	Israel	AE	0.3	0.1	0.1	3.3	
20	Jamaica	EME	0.5	0.5	2.5	7.0	
21	Japan	AE	-0.1	-0.1	-0.1	-0.1	
22	Kazakhstan	EME	9.3	9.0	9.8	16.0	
23	Kenya	EME	8.5	7.0	7.0	8.8	
24	Mexico	EME	7.3	4.3	5.5	10.0	
25	Moldova	EME	5.5	2.7	6.5	21.5	
26	New Zealand	AE	1.0	0.3	0.8	4.3	
27	Norway	AE	1.5	0.0	0.5	2.5	
28	Paraguay	EME	4.0	0.8	5.3	8.5	
29	Peru	EME	2.3	0.3	2.5	7.3	
30	Philippines	EME	4.0	2.0	2.0	5.0	
31	Poland	EME	1.5	0.1	1.8	6.8	
32	Romania	EME	2.5	1.5	1.8	6.8	
33	Russia	EME	6.3	4.3	8.5	7.5	
34	Serbia	EME	2.3	1.0	1.0	4.5	
35	South Africa	EME	6.5	3.5	3.8	7.0	
36	South Korea	AE	1.5	0.5	1.0	3.3	
37	Sri Lanka	EME	7.0	4.5	5.0	14.5	
38	Sweden	AE	-0.3	0.0	0.0	2.5	
39	Thailand	EME	1.3	0.5	0.5	1.0	
40	Turkiye	EME	10.5	15.5	12.5	9.0	
41	Uganda	EME	9.0	7.0	6.5	10.0	
42	Ukraine	EME	13.5	6.0	9.0	25.0	
43	UK	AE	0.8	0.3	0.8	3.0	
44	USA	AE	1.5	0.0	0.0	4.0	
45	Uruguay	EME	9.3	4.5	5.8	11.3	
46	Uzbekistan	EME	16.0	14.0	14.0	15.0	

Note: EME – emerging economies, AE – advanced economies.

Source: Central banks websites.

Amid the fear of stagflation and a visible excess of established inflation targets in the information field of a number of advanced economies, some experts are stirring up a discussion

about the need to increase inflation targets. The main subject of discussion is the question of how justified the 2% inflation target set in many developed countries is. For advanced economies that use inflation targeting, the median target is 2% (from 1-3% to 2-3%). At the same time, for emerging economies it is 4% (from 1-3% to 8 +/- 2%). Historically, the 2% target has been adopted by many central banks in advanced economies based on the following considerations:

1) such inflation rate is relatively low for the economy to take advantages of the price stability and create a buffer against the deflation risk and ensure the effectiveness of monetary policy instruments;

2) this inflation rate brings about the lowest losses for the people's welfare: a downward movement of wages because of deflation is fraught with an excessive growth of unemployment;

3) this inflation rate is neutral for the economic activity and enables to anchor inflation expectations: thus, according to Mishkin's estimates, households and businesses in making their economic decisions do not pay attention to inflation rate less than 3%, and if it exceeds this level it will usually keep going up.

This is not the first time since the introduction of inflation targeting that the discussion about targets has arisen. For example, in 2010, Blanchard raised the issue related to the consequences of low inflation. Thus, there is a high probability of falling into a liquidity trap when keeping inflation close to a low target, since low average inflation results in a lower nominal rate. A near-zero nominal rate at the lower boundary gives less room for monetary policy in the event of adverse shocks (Blanchard, 2010). Ball also considered the 2% target to be too low in the face of high deflationary risk and proposed an estimated optimal inflation rate of 4% (Ball, 2014).

Another argument was that in the period of low rates that followed the global financial crisis, many central banks, including the Fed, ECB and the Bank of Japan, were unable to raise inflation to the target of 2% for years. Under conditions of near-zero rates, attempts to achieve inflation of 2% lead to an ultra-soft monetary policy, provoking an increase in prices for risky assets, which is fraught with the appearance of bubbles in the markets and a possible new financial crisis. At the same time, during the years of low inflation, completely opposite proposals were made – to lower the target or even reset it to zero.

Thus, among the expert community there are both proponents of the target revision and the experts who do not support the idea to revise the target, with either of them providing a number of arguments in favor of their standpoint.

So, for example, experts make the following arguments in favor of increasing the inflation target:

- preventing a return to the “disease” of low inflation and low economic growth that was observed in the decade following the global financial crisis;

- an inflation target of 2% is no more than a “tribute to the lofty status of tradition”, while the recently concluded 20-year period of very low inflation has neither led to a positive jump in productivity nor to any change in savings behavior;

- preventing a future problem of the so-called “zero lower bound nominal interest rates” and reducing the necessity of making non-traditional measures by central banks;

- despite the current period of monetary tightening, the risk that interest rates will remain relatively low is persisting, as long-term factors that influenced interest rates before the pandemic, such as an ageing population and low productivity growth, are still in place. Reducing persistently high inflation requires the cooling of the economy, which is usually associated with an increase in the unemployment rate. Therefore, the lower the inflation target, the higher unemployment central banks need to create in order to achieve it.

Experts speaking against the increase of inflation target provide the following arguments:

- when prices and inflation expectations are high, a change of the target may give the impression of a retreat from fighting inflation and a weak ability of the central bank to achieve the established target, and may lead to a lower confidence in the central bank and its policies. This argument is especially relevant in light of the sharp criticism for the loss of control over price increases that has recently arisen from economic agents;

– a significant reduction in the “anchoring” of inflation expectations, which has been achieved over many years of existence of the inflation target, and the formation of further expectations that the target would be increased when inflation rises sharply.

Despite a strong commitment to inflation targeting and their own statements, some central banks have carried out the so-called “fine-tuning” in prior years. An example is the founder of inflation targeting, the Reserve Bank of New Zealand, which changed the target from 0-2% to 0-3% in 1996, or the Central Bank of South Korea, which changed the target range of 2.5-3.5% to a 2% point range in 2015 due to low inflation and systematic failure to achieve its own goal. The Bank of Japan, on the contrary, raised the target from 1% to 2% in 2013 because of a chronic deflation (experiences of countries are presented in more detail in Section 5).

The two largest central banks in the world – the US Federal Reserve System (Fed) and the European Central Bank (ECB) – switched to more flexible targets due to the threat that, in the environment of extremely low inflation that was observed in advanced economies after the global financial crisis until the pandemic, inflation expectations could anchor at the level below 2% and start a deflationary spiral. However, the “anchor” of 2% remained, and the heads of central banks made it clear that a departure from such anchor is not considered.

There is still no consensus on what is better – to change or to maintain existing inflation targets when macroeconomic conditions change, and not only representatives of central banks but also authors of academic studies show conservatism in this matter. According to Bernanke, the rejection of the previous target would have crossed out the main gain of the Fed – anchored inflation expectations: “Because people would say – well, if you raise the target to 4%, then why not go to 6%, and if you raise to 6%, then why not go to 8%?” The price for revising the target, in his opinion, will be an increase in the volatility of inflation, the loss by firms and households of a stable price target in the long-term planning, and collapse of public confidence in the central bank (Bernanke, 2010).

A recent global survey of more than 600 leading economists found out that 54% of respondents are of the opinion that the current central bank target should be maintained, about 30% of respondents are inclined to raise the target, while 16% would choose a lower target. Thus, 46% of respondents consider it justified to change the target (in one direction or another). At the same time, the main argument of supporters of keeping the target at the same level is not so much the optimality of the declared targets but the loss of confidence in central banks and the growth of inflation expectations, the anchoring of which reflects the effectiveness of the inflation targeting framework. At the same time, the weakening of inflation expectations may affect the views of the private sector and the expectation of further changes in the target. Among the supporters of changing the target level, the majority tends to increase the target, as they are worried about the zero lower bound of the nominal interest rate (Ambrocio et. al, 2022).

The ECB revised its monetary policy strategy at the end of 2021. In the original review of the monetary strategy adopted by the ECB, the price stability was the goal and the main objective was to keep inflation low, given its historical level. The quantitative definition of this goal and target was an inflation rate below 2%. The strategy was reassessed in 2003, following which the price stability was retained as the target set in 1998, but the point close to the upper bound of the range, “below but close to 2%”, became the reference for price stability. In the monetary policy strategy in 2021, the ECB made a statement about the symmetry of inflation target, which means that both negative and positive deviations from the target of 2% are equally undesirable. Such inflation target, according to the ECB’s Governing Council, “provides a clear underpinning for inflation expectations, which is necessary to maintain price stability” (ECB, 2021a; ECB, 2021b; Benigno et. al, 2021).

In 2016, the Bank of Canada conducted a study on practicability of raising the target inflation rate from 2 to 3%. This study was conducted as part of an agreement between the Bank of Canada and the Government of Canada, whereunder the central bank conducts a cycle of studies every 5 years on whether it is worth revising the current monetary policy regime, including the target level. According to the study, a higher target could significantly reduce the frequency and

duration of episodes of near-zero rates, and would also provide more room for monetary easing. Thus, with an increase in the inflation target (up to 3%-4%), both the frequency of episodes of near-zero rates and the duration of the period of near-zero rates are reduced. Nonetheless, despite the results obtained, the case for maintaining the target at 2% was stronger for the Bank of Canada, which failed to outweigh the results obtained in the study of the effect of changing the target. In particular, according to the researchers, a higher target and its achievement would lead to modest and episodic improvements in macroeconomic indicators by mitigating the effects of periods of near-zero rates. At the same time, the transition to a new target could jeopardize the gained credibility that underpins the success of Canada's inflation targeting system (Bank of Canada, 2016).

The issue of changing the target arises from time to time for both advanced and emerging economies. At the same time, emerging economies are more likely to revise their targets. Thus, since 2009, the inflation target has been changed several times in Türkiye, India, and China. As part of the Brazilian monetary strategy, a gradual reduction of the target was planned in 2019-2021. At the same time, for emerging economies, the revision of the target may be associated with adjustment of the target to the actual level of inflation. According to Sinelnikova-Murylyova and Grebenkina, such monetary policy is of an accommodative nature, which blurs a clear target for economic agents and does not allow inflation expectations to be anchored at the target level (Sinelnikova-Murylyova and Grebenkina, 2019).

5. Experience of Certain Central Banks in Changing the Parameters of the Target to be Set

New Zealand (*expanding, narrowing the range, transition to a point target*). From the time when inflation targeting was adopted, New Zealand's monetary regulator made several amendments, which in different years to a varying degree affected all parameters of the framework including numerical values of the upper and lower bound and, as a result, the mid-point of the target range, inflation measurements as well as deadlines for achieving the inflation target.

When introducing inflation targeting in 1990, the National Bank of New Zealand (NBNZ) set a transitional period for reducing core inflation to a target level of 0-2% by December 1992 (3-5% by December 1990; 1.5-3.5 % by December 1991; 0-2% by December 1992). From 1991 on, the target of 2% had been achieved.

Having taken inflation under control, the NBNZ began to pay more attention to medium-term inflation targets. This enabled to increase the flexibility of monetary policy to stabilize the real economy. The NBNZ also acknowledged that monetary policy affects inflation with a lag, so it allowed inflation to deviate from the target for short periods of time.

The originally set inflation goal of 0-2% was replaced with the target range of 0-3% in 1996, which allowed attaining more flexibility in compromise management. In 2002, the target range was narrowed to 1-3% in the medium-term perspective.

In 2012, the target range was replaced with the point target that was determined at a mid-point (2%) of an earlier established target range (1-3%). This was important for anchoring inflation expectations at 2%, as without a point target inflation expectations could fluctuate to either end of the range from 1% to 3%. In practice, by that time, the NBNZ was already targeting inflation at 2%, but the formalized anchoring had a stronger impact on the anchoring of inflation expectations.

When introducing inflation targeting, the NBNZ was guided not by the CPI but by its estimate of core inflation. In this context, some experts argued that the NBNZ was manipulating with this indicator. In December 1997, the NBNZ decided to focus on the CPI officially published by Statistics New Zealand excluding credit services (referred to as CPIX) rather than the NBNZ's estimate of core inflation. Since Statistics New Zealand revised the composition and calculation of the CPI in June 1999, interest rates on mortgage loans were excluded from official calculations, so since then the NBNZ has been guided by the general CPI. As the NBNZ no longer needed to make technical adjustments to the CPI, informing the public about inflation became much easier.

Canada (*setting a point target with a tolerance band*). In 1991, the Bank of Canada announced the introduction of inflation targeting regime, with specification that by 1995 inflation

will be gradually lowered to 2% (3% by the end of 1992; 2.5% by the end of 1994). The regulator also announced that only 4 years after the introduction, starting from 1995, the target range would be staying within 1-3% targeting at 2%. It is worth mentioning that since then Canada by no means changed the inflation target. However, every five years, in accordance with the agreement between the Bank of Canada and the Canadian Government, the central bank conducts a cycle of research regarding whether it is worth revising the pursued monetary policy regime including the level of the target.

Euro Area (specifying the target). The ECB, when introducing the targeting policy in 1998, set a target value “below 2%”. This goal turned out to be insufficiently clear to a wide range of economic agents; therefore, in 2003 the decision to clarify the target was made. The goal began to sound like “not higher than 2% but near it”. Over time, it also turned out that this target is interpreted as “below 2%”. In search of the optimal value, in July 2021, following the results of the 18-month market review, the ECB set its target as “2% over the medium term”. At the same time, the ECB’s commitment to this goal is symmetrical.

The symmetry of the inflation target means that negative and positive inflation deviations from the target are considered equally undesirable by the ECB. The symmetrical 2% inflation target provides a clear basis for long-term inflation expectations, which is necessary to maintain the price stability. Temporary and moderate fluctuations of actual inflation are inevitable, both above and below the medium-term target of two percent; however, large persistent deviations could destabilize longer-term inflation expectations. This applies to both too high and too low inflation. Accordingly, it is important that the monetary policy respond decisively to significant and persistent inflation deviations from the target in any direction. In the ECB’s view, the clear commitment to symmetry in the new strategic framework removes any lingering sense of ambiguity. In particular, two percent should not be interpreted as a ceiling.

The ECB intends to assess its strategy from time to time, and its next assessment is anticipated in 2025.

Sweden (narrowing to a point target). The Central Bank of Sweden, which announced inflation targets on its own, without consultation with the government, after the introduction of the inflation targeting regime (1993), maintained an acceptable inflation range of 1-3% for a long time. The target horizon is 2 years but in certain situations it can be increased. Until the end of 2010, inflation was below 2%. The Swedish Central Bank, in an attempt to prevent falling into a deflationary spiral, decided to switch to a point target of 2% (from 2017, with permissible variations of 1-3%, to show that inflation fluctuates around the target and will not be exactly 2% each month), explaining this by the fact that under the old target range, inflation was beyond it as often as within it.

In retrospect, Sweden most often fought to increase inflation and prevent the strengthening of the krona so that imports do not become much cheaper than domestic goods.

Japan (first, narrowing to a point target followed by an increase). Since 2006, the Bank of Japan began to carry out implicit inflation targeting (the interval is 0-2%, and the midpoint of the range has always been 1% - this was the hidden goal). In February 2012, the Bank of Japan for the first time adopted and announced a specific inflation target of 1% (i.e. it narrowed the target down to a point target). The adoption of a clear inflation target was seen by market participants as a significant departure from the previous practice when a general range was reported. Since the actual inflation rate was lower than the forecast, a year later, in January 2013, the Bank of Japan raised its inflation target from 1% to 2% (the increase of the target) in order to stimulate the business activity and bring inflation up to a new target level. Since then, the Bank of Japan’s inflation target has remained at 2%.

The experience of Japan shows that announcing a higher inflation target does not guarantee that inflation will rise to a new target (in the case of Japan, the reason was the fundamental asymmetry in the monetary policy that appeared due to restrictions on the lower zero bound). Moreover, before convincing economic agents in the necessity to raise inflation to a higher target, the central bank needs to sustainably achieve the old, lower target. Because if in the past the central

bank failed to achieve the previous goal, then it is highly likely that the population will not believe the new goal.

The UK (*narrowing to a point target*). The UK in 1992, after the fall of the pound sterling, moved to the inflation targeting framework abandoning the previous exchange rate targeting regime. The quantitative target was set in the range from 1 to 4% for the period up to the end of 1997 (until the next parliamentary elections). Later, the Bank of England and the Treasury agreed that there is a need to move towards point targeting, which was first announced in 1995.

In 1997, the Monetary Policy Committee was established and was given operational independence. In May 1997, the Bank of England moved to targeting a point inflation target of 2.5%. Six months later, in December 1997, a new benchmark was set – “in the long run at 2 percent or less”, and a compromise was reached with the Parliament on maintaining “core inflation within 1-4%”; the target variable was also changed: instead of RPIX, the Harmonized Index Customer Price (HICP) began to be used. The transition to this goal had a positive impact on the dynamics of inflation itself, which since 1997 has been at 2% but inflation expectations remained at a higher level.

In December 2003, the target was ultimately replaced with a point target of 2% with the Consumer Price Index (CPI) as a measured variable and has not been revised since then.

In 2013, the Government initiated a revision of the monetary policy fundamentals due to the need to assess the effectiveness of inflation targeting system in connection with the changing global and local conditions, since more than 20 years have passed since the introduction of this framework. Some members of the Bank of England’s Monetary Policy Committee have proposed “greater flexibility” in extreme circumstances to deal with the post-crisis problems the British economy was facing. For example, a 2-stage approach: a temporary goal and a long-term goal. Temporary targets could increase inflation expectations for a certain period and stimulate business activity. However, the Government did not agree making the argument that even temporary alternative targets could be interpreted by the market as “a regular weakening of adherence to the price stability” and decided to leave the goal at 2%.

The Czech Republic, (*narrowing of the range, transition to a point target, lowering the target*). After the introduction of inflation targeting in 1998, inflation targets in the Czech Republic were gradually adjusted given the needs of the transforming economy. In the early years, they were set in relation to net inflation, i.e. the CPI adjusted based on regulated prices and changes in indirect taxes. Inflation targets were presented as a range, and their achievement was assessed only as of the last month of the year.

In 2002, the Czech National Bank moved to targeting the headline inflation, which is easier for comprehension by the general public and, consequently, is more effective in terms of the anchoring of inflation expectations. During the period from 2002 to 2005, the inflation goal had a form of a corridor with a linear narrowing. In January 2002, the range was 3–5% and later it was lowered to the level of 2–4%, which should have been achieved in December 2005.

From 2006, the inflation goal was replaced with a point target. Initially, it was set at 3%, i.e. in the middle of the previous target band. In 2010, the target was lowered to 2%, since, from the monetary policy standpoint, the process of step-by-step transformation of the economy was completed. The current inflation goal of the Czech National Bank is in line with the practice of advanced economies and the target is set at 2%.

Brazil (*narrowing the target*). After a series of crises, Brazil switched to the inflation targeting policy in 1999. Over five years since the introduction of the target, it had changed annually. Actual inflation rates were often beyond the given range, for example in 2001, 2002, 2003, 2015, 2017 and 2021. The permanent impact of external and internal shocks had caused non-compliance with the target over quite a long period.

Since 2005, the target has been set at 4.5%. In the post-crisis period in 2013, in order to reduce the balance of trade deficit, the Bank of Brazil conducted devaluation.

In 2019, the Bank of Brazil proceeded with the downward adjustment of the target on an annual basis by 0.5pp with the deviation band of ± 1.5 pp (2019 – 4.25%, 2020 – 4.0%, 2021 – 3.75%, 2022 – 3.5%, 2023 – 3.25%, 2024 – 3.0%).

The inflation targeting policy allowed reducing the level of high inflation in the country and move on to the process of adjusting the target in order to bring inflation indicators in line with those of advanced economies.

Turkiye (*first several occasions of lowering the target, followed by its increase and then lowering it again*). After a large-scale crisis in 2002, the Central Bank of the Republic of Türkiye (CBRT) announced about the transition to inflation targeting and adoption of the hidden inflation targeting regime by 2005.

The transition to a full-fledged CPI-based inflation targeting regime took place in 2006. The CBRT chose the “point target” based on simplicity of understanding by the public and advantage in terms of communication. However, the target had an “uncertainty zone” of $\pm 2\%$ and the target was planned to be achieved in stages. Taking into account the 3-year budget and other endogenous factors, the CBRT announced a 3-year target path: 2006 – 5%, 2007 – 4% and 2008 – 4%.

The global financial crisis had a negative impact on price stability in Turkey. In 2008, the Central Bank had to admit that it would not be able to meet its 4% target for 2009 due to the aggravation of situation in the external oil and food markets. The letter to the government said that “the monetary policy will not respond to shocks caused by external factors, such as rising oil and food prices”. After these statements, inflation expectations increased exponentially. In this regard, there were discussions among the expert community, who believed that an increase in interest rates along with reduction in domestic demand would further aggravate the situation, and a recession would be inevitable. The CBRT, taking account of the fact, raised the inflation target so that to “prevent a collapse of confidence in the pursued policy”. The CBRT admitted openly that in such an extraordinary situation it is not plausible to achieve the goal of 4%. The target for 2009 was raised to 7.5%, followed by a step-by-step lowering to 5% by 2012.

The problems that arose in connection with the global crisis forced the Central Bank to look for alternative strategies. For this reason, at the end of 2010, a new monetary strategy was developed to respond to external shocks – in addition to the price stability, financial stability was included in the CBTR’s mandate, an asymmetric and wide range framework was introduced along with a flexible system containing multiple interest rates.

A wide interest rate band reduced the negative impact of fluctuations in capital movements during the periods of global turmoil but caused certain difficulties in understanding the stance of monetary policy. In this regard, in 2016, the CBTR gradually lowered the upper bound of the wide interest rate band, namely the overnight interest rate, by 250 bp. Thus, a transition to a simpler and more understandable monetary policy was made. During this period, the monetary policy strategy was aimed at increasing communication with the public.

The USA (*adjusting the target*). The Fed that lowered interest rates in 2020, at the height of the pandemic, to near-zero, in August 2020 adopted a new monetary policy strategy and adjusted the 2% annual target replacing it with a medium-term target with the assumption that the inflation period of below 2% will be followed by a compensatory period of inflation above 2%.

The Fed chair announced that the central bank would aim to keep inflation at an average of 2% over time. The change was associated with the need to prevent a slowdown in the economic recovery due to the too early withdrawal of support.

It was assumed that a new policy would enable inflation to go above the 2% target in order to balance the periods of lower inflation during the economic downturn.

The South Korea (*changing the target range bounds, changing the inflation target measurement, moving to a point target*). Before the 1997-1998 Asian crisis, the South Korea was targeting the M2 monetary aggregate, whose effectiveness was decreasing over time because of the gap between targets and actual values.

The Bank of Korea officially announced the transition to inflation targeting in April 1998. At an early stage of inflation targeting, i.e. in 1998-1999, the target was based on the CPI because it was known to the general public. After a series of comprehensive studies (finding that core inflation is less prone to short-term volatility than the CPI and is sensitive to interest rate adjustments), the core inflation index was adopted as the target in 2000, excluding the prices of non-grain agricultural products (due to strong dependence on weather conditions, crops, etc.) and on petroleum products (because of dependence on changes in world oil prices). However, given various deficiencies of such indicator (for example, aloofness from everyday life of the general public, use of the CPI in many other countries, use by the government of the CPI as a price indicator in economic planning, risk of confusion in estimating the price level among the population), from 2007, the Bank Korea returned to the CPI as its target.

Initially, the target was set at $9.0\% \pm 1\%$ per annum, relatively high in terms of the annualized CPI growth, reflecting the sharp depreciation of the won since the onset of the currency crisis. It was subsequently adjusted downward to $3.0\% \pm 1\%$ in 1999 as prices stabilized. In 2000, when the transition to core inflation targeting took place, the target was set at $2.5\% \pm 1\%$ per annum in terms of core inflation and $3.0\% \pm 1\%$ for each year from 2001 to 2003. The target was set in the range of 2.5–3.5% for 2004-2006, i.e., the bounds of the target range were lowered from the previous two percentage points to one percentage point in order to minimize price volatility and create the basis for medium and long-term price stability. As for 2007-2009, when the CPI was reintroduced as an inflation target, the medium-term inflation target was set at $3.0\% \pm 0.5\%$. From 2010 to 2012, it was set at $3.0\% \pm 1\%$ and tolerances for changes were raised to 2 percentage points in the face of increased uncertainty following the financial crisis. For the next three years (2013-2015), the target was set at 2.5-3.5% (a target range with no midpoint, as it was not possible to determine a specific point, despite the decreasing inflation expectations against the reduced global inflationary pressure) narrowing the range to 1 percentage point to improve the accountability of monetary policy. Finally, a point inflation target of 2% was set for the period from 2016 to 2018, taking into account structural changes in the Korean economy. The method for target setting has changed from a target range to a target point in order to clearly communicate policy intentions and achieve stability in inflation expectations. A new additional accountability framework has also been introduced to provide specific reasons for cases where the actual inflation rate deviates from the target by more than a certain amount. Thus, if the CPI growth rate exceeds $\pm 0.5\%$ per annum for six consecutive months, the Governor of the Bank of Korea is required to explain (for example, at a press conference) the reasons why the actual inflation rate deviated from the target, the projected path of the CPI and the stance of monetary policy to achieve the goal. If the deviation from the target by more than $\pm 0.5\%$ continues later on, the Governor is responsible for providing additional clarifications every three months.

Since then, the numerical target in the South Korea has not been revised and at present it also equals 2%.

6. Conclusion

Amid a fear of “global stagflation” in a number of developed countries, there are discussions among experts about the optimal level of the inflation target and the need to revise the targets. Expert opinions on this matter are mixed. Nevertheless, based on the world experience and existing research on this topic, the following conclusions can be drawn.

1. The change of monetary policy paradigm at a high level of prices and inflation expectations can give an impression that the central bank is not able to achieve its set target. This can erode confidence in the central bank, which could affect the monetary policy effectiveness.

There are several examples when in the past years inflation target was changed upwards or the range was expanded but these changes were associated with the need to stimulate consumer demand in order to get out of deflation (Japan, 2012), with the technical transition from core inflation targeting to CPI targeting (New Zealand, 1997) and dealing with implications of the global financial crisis (Turkiye).

A change in the strategic inflation goal for an emerging market could lead to strong volatility in inflation expectations. According to the economic theory of the “inflationary spiral”, the higher the expectations, the higher the inflation, which, in turn, will lead to higher wages, an increase in the money supply, thus resulting in a further increase in prices.

2. The change of the inflation goal may be successful if inflation expectations of economic agents are anchored. The anchoring of expectations gives the central bank more room for stabilization of both inflation and the economy in general, including in the pursuance of counter-cyclical policy for smoothing the economic cycle – that is, for minimizing negative effects of booms and downturns by changing the policy rate.

3. The increase or decline in the target value does not necessarily guarantee that the price level must change in the same way. To do so, the central bank needs to have the instruments that would enable it to achieve a decline/increase in the price growth rate; otherwise, the confidence among market participants in verbal statements and actions of the central bank would decline significantly.

4. Countries with a weak institutional structure adopt less clear and less credible inflation targets, which is evidenced by some empirical studies.

5. A deviation range with a midpoint target around which central banks strive to keep the inflation is one of the most common type of a target. A number of countries replaced the target interval with a point target for inflation since the point target, in their opinion, is more explicitly defining the monetary policy goal. For emerging economies, target ranges have great uncertainty in relation to a future inflation path than point targets or point targets with tolerance bands.

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Segmented Labor Market: Cyclical Elasticity of the Demand for Qualifications

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The study whose insights are presented in the paper was carried out owing to the grant of the National Bank of the Republic of Kazakhstan.

This paper, based on empirical analysis, outlines the specifics of susceptibility of the Kazakh labor market to cyclicity, the segmentation principles of the Kazakh labor market by qualifications, and also estimates the cyclical elasticity of demand in the labor market in relation to demand in the commodity market, depending on the qualifications and sector of the economy.

Key Words: labor market elasticity, business cycles, skill levels by sectors, Dickey-Fuller test.

JEL-Classification: J310, J210, J230, J240.

Preamble

The current situation in the labor market is always in the center of attention of the government, business and public at large. It affects both the economic development of the country, social policy, and the competitiveness of enterprises, monetary policy, and the well-being of an individual.

At the same time, the labor market itself is strongly influenced by economic, demographic, technological and political trends, which makes it unique in each country. This necessitates its comprehensive analysis both at the global and national levels.

At present, the labor market in Kazakhstan is facing the pressure from many factors. According to experts, until 2030 the Kazakh labor market will experience a large inflow of new workers owing to those people who were born during the birth boom since 2003, as well as because the raising of retirement age for women was suspended. More than 300 thousand young people will reach working age every year, and the number of women of pre-retirement age will exceed 415 thousand people. This will also change the qualitative structure of the labor force. It will consist of the existing “stable” employees, the “conservative” self-employed individuals and the more mobile young workforce. All this will eventually lead to a deepening gap between these categories of workers and the pressure on the labor market.

In addition, during 2010-2020, the labor market had undergone a sectoral restructuring towards the service sector and the industry, with their share increasing from 72% to 79% in response to the pursued policy of industrialization, urbanization and the requirements of the new economy.

At the same time, in industries with the highest level of labor productivity, and, consequently, the level of wages, large business prevails; as a rule, it is represented by export companies and dominates in the industries where the economic scale and capital investments are important, while it does not generate a large number of jobs. It should be noted that a key factor in the development of the economy is the role of small and medium-sized enterprises (SMEs) as engines of diversification and creation of high-quality and productive jobs.

Moreover, given a relatively insignificant real growth in average wages and high inflation, there are disproportions in the income of the population. So, if in a highly productive mining industry the level of wages can be 2-4 times higher than the national average, then in agriculture, trade, education or accommodation and catering services the level of wages remains at low against

a large share of people employed in those sectors. Along with this, based on the results of the analysis, an assessment of the real situation in the labor market in the context of qualifications and industries, depending on economic cycles, reflected the corresponding fluctuations in wages.

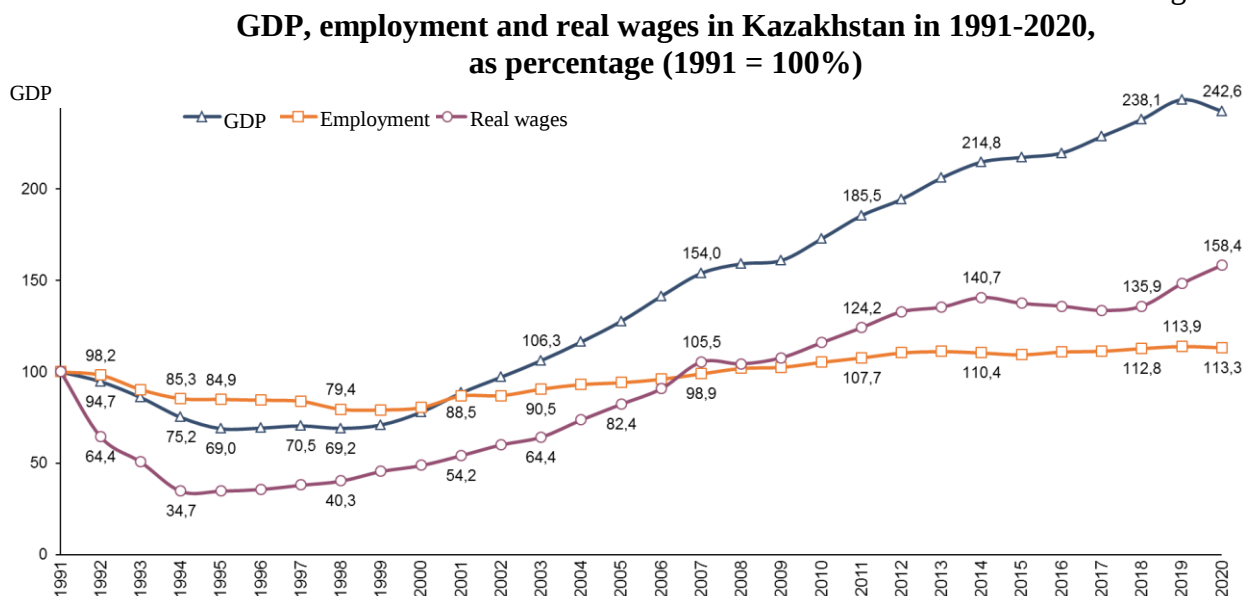
Below is the analysis of the Kazakh labor market based on the aggregated data and the assessment of elasticity of the demand for labor based on the results of the study.

Analysis of the Kazakh Labor Market

The Kazakh labor market has been developing under the impact of political and various socio-economic factors already over thirty years. As a result, the country's labor market model today differs from the model found in most developed countries, which is characterized by wage flexibility and employment growth owing to the increasing number of self-employed people with low levels of education and income. It should be noted that self-employment in Kazakhstan mainly implies the work in the countryside and the production of goods for own consumption. This, in turn, affects the price and productivity of labor, the quality of labor resources, the amount of income of the population and the economy as a whole.

The first stage during the crisis of the 1990s in Kazakhstan was characterized by a landslide decline in production and hyperinflation due to the transition to a market economy and dependence on the former Soviet republics. In 1994, GDP contracted by 25% compared to 1991, while employment showed a smooth pattern and decreased by 15% only.

Figure 1



Source: ASPR BNS RK

The next phase during 2000–2008 was accompanied by a steady increase in labor productivity in Kazakhstan, as the GDP growth was faster than the job growth. The number of employees increased, while the self-employed population decreased, and the Kazakh economy was recovering. Nevertheless, during this period, the market encountered an imbalance, when wages grew faster than GDP. Compared to 1998, GDP grew by 2.2 times by 2007, wages by 2.6 times, and the number of employees increased by 24% only.

Further economic downturn during 2007–2009 is explained by the global financial crisis, when the decline in economic growth was simultaneous and peaked in mid-2009. During this period, wages in Kazakhstan were more sensitive to GDP fluctuations, declining even in case of a slight slowdown in the economic growth.

Considering employment in Kazakhstan since 1999, it is necessary to note the positive dynamics of changes in the number of the employed, regardless of the crisis. This is explained, first, by the growth in the country's population and, therefore, of the labor force in the labor market,

and second, by a decreased labor productivity and attempts made by the government to maintain unemployment at a socially acceptable level, which speaks for inflexibility of the labor market.

Provisions of the Labor Code did not allow termination of contractual relations with employees for economic reasons. It was much more difficult to fire an employee in Kazakhstan than in the countries where labor relations are more liberal. Overall, inflexibility of the labor market is conducive to persistently excessive employment, decreases motivation in improving the labor productivity and often leads to inefficient business practice⁴.

In 2014, Kazakhstan also felt the consequences of the unfolding crisis, the GDP growth accounted for 4.4%, decreasing by 1.6% pp compared to the preceding year, exports declined by 4.5%. The crisis affected the price of labor even more, causing it to fall by 4.7 percentage points against 1 pp in 2009. One of the reasons for the fall has been the devaluation of the national currency in February 2014 and August 2015.

In 2020, due to the corona crisis, for the first time in two decades, Kazakhstan's GDP growth rate became negative, declining by 2.6% in 2020. Unlike previous crisis periods, the economic downturn in 2020 was concentrated in the service sector, which accounts for 67% of employment and has been hit hardest by border closures and the need for social distancing. Therefore, the number of employed people decreased, while real wages showed an increase, which can be explained by a cut in the number of low-skilled workers with low wages. During the lockdown, jobs that require a higher level of skills and "cognitive" labor have quietly moved to online mode and continued to function.

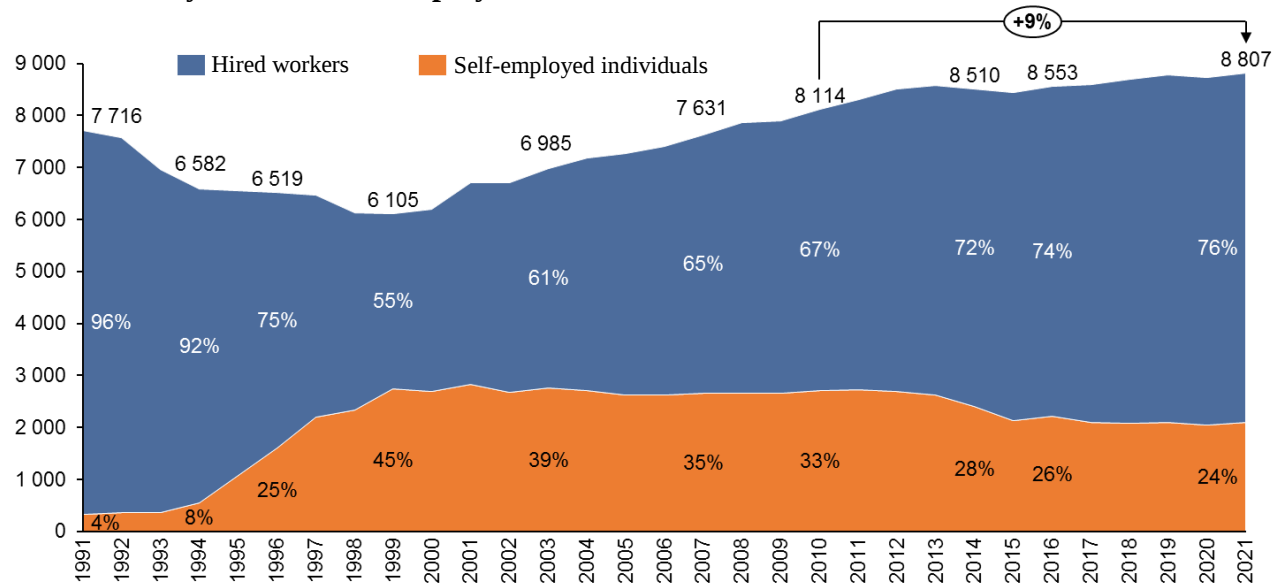
In general, during 2010-2021, the number of employed people increased by 9% from 8,114 thousand to 8,807 thousand individuals (Figure 1). The number of employees in Kazakhstan in the period from 2010 to 2021 increased by 1,300.8 thousand individuals, or 24%, the self-employed population went down by 607.9 thousand, or 23%. The level of self-employment at the same time decreased by 9 percentage points, amounting to 24% of all employment.

It is worth mentioning that self-employment has become a kind of buffer during the crisis periods, allowing people to realize their labor potential in difficult life circumstances, it also feeds small businesses. After the pandemic, in 2021, the number of self-employed individuals increased by 51.5 thousand, or 2.5%.

However, as a rule, the self-employed population is engaged in low-productivity work, mainly in the service sector, which does not allow self-employed individuals to receive sufficient income. In 2021, there were 2.1 million self-employed people in Kazakhstan, 75% of whom earned less than 100 thousand tenge per month, and 4% received income below the subsistence level (Figure 2).

⁴ Kulekeev Zh..A. The Labor Market and Employment in Kazakhstan, 2016

Figure 2

Dynamics of the employment structure in Kazakhstan, thous. individuals

Source: ASPR BNS RK

Before proceeding to the analysis of sectoral employment dynamics, one should keep in mind that the adopted sector classification is often overly detailed and does not allow seeing certain trends as a whole. In this regard, the authors of the study made a certain grouping of branches, presented in table 1.

Table 1

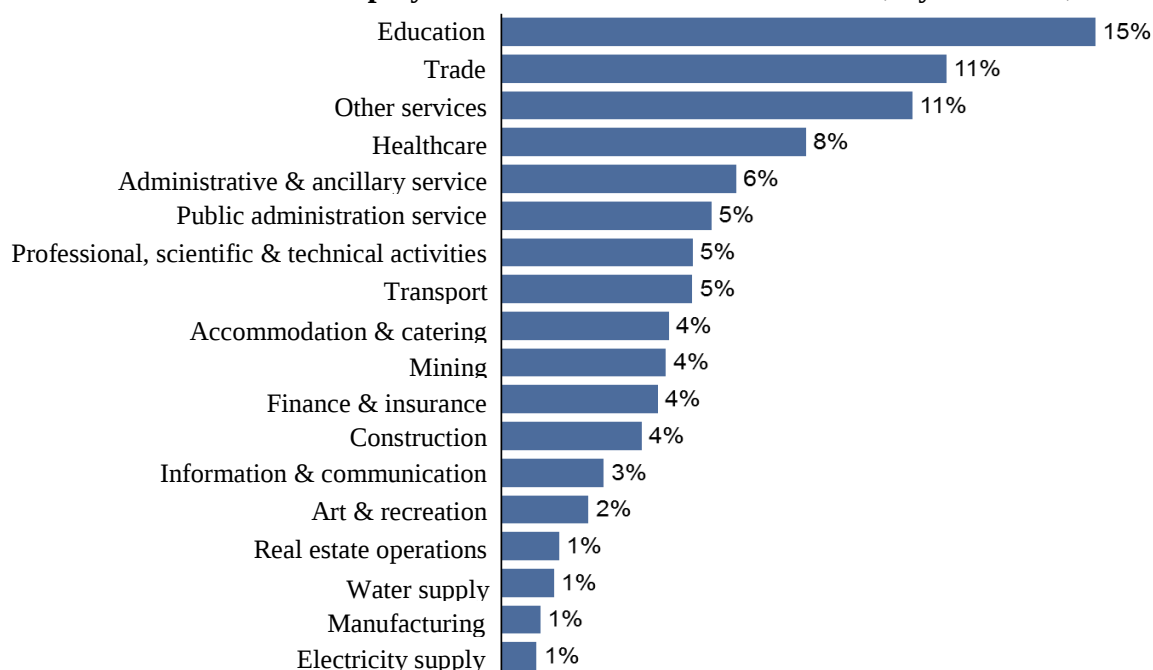
Sector grouping		
Sector	Group	Branch
Production of goods	Agriculture	Agriculture
	Industry	Mining
		Manufacturing
		Electricity and power supply
		Water supply and waste disposal
Service delivery	Construction	Construction
	Transportation and distribution of goods	Trade
		Transport and warehousing
		Catering and accommodation services
	Business services	Information and communication
		Finance and insurance
		Real estate operations
		Professional and scientific activities
		Administrative and ancillary service
	Public services	Public administration and social security
		Education
		Healthcare
	Other services	Arts and entertainment
		Other personal services

Based on the grouping, it can be seen that the largest growth in employment (28%, or 567.1 thous. individuals) was secured by public services such as education, healthcare and public administration (Figure 3), and the share of public services within the employment structure went up from 19% in 2010 to 24% in 2021. At the same time, a 20% growth of employment (411.2

thous. individuals) was nurtured by branches of the sector of transportation and distribution of goods (trade, transport and accommodation and catering services), and their share within the employment structure increased from 23% in 2010 to 26% in 2021. In the sectors related to business services, the growth of employment accounted for 19%, or 380.1 thous. individuals. The main contribution to the growth was secured by activities in the sphere of administrative and ancillary service. The share of business services within the total employment structure increased from 8% in 2010 to 12% in 2021.

Figure 3

Growth of employment in 2010-2021 in Kazakhstan, by branches, as %



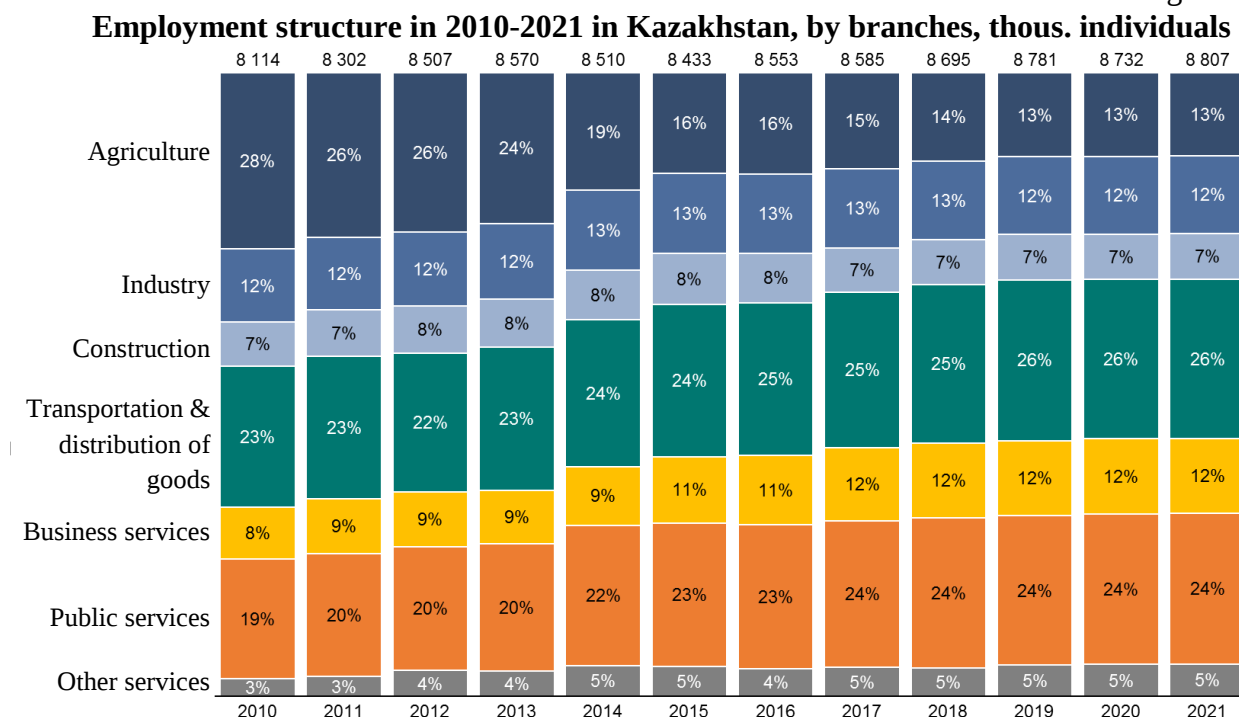
Source: ASPR BNS RK

Due to its capital intensity, the industry practically does not generate new jobs. Presumably, it is replenishing the natural loss of workers, since over 10 years the increase in employment in the industry as a whole amounted to only 7%, or 149.1 thous. individuals, and the share of the industry within the employment structure is steadily staying at 12-13%.

The growth of employment in the construction sector in 2010-2021 made up 4%, or 71.6 thous. individuals, and their share within the overall employment structure is also stable being at 7-8%.

It is worth noting a significant reduction in the number of employees in agriculture (-1.1 million individuals in the whole country) in 2010-2021. Presumably, it was mainly associated with the overflow of workers to a higher paid service sector, the transition to hired work, migration from the southern regions to northern regions, and the natural decline in the older population. In addition, it should be noted that in 2014 changes were made to the methodology for record-keeping of employees, resulting in that a part of the population classified as self-employed individuals working on private plots and producing products mainly for their own consumption was excluded from employment and transferred to the category of the economically inactive population. Therefore, the share of agriculture in the employment structure has decreased from 28% to 13%.

Figure 4



Source: ASPR BNS RK

In order to analyze the demand for labor by qualifications, the data about professional employment structure was used in accordance with the Government Job Classifier GJC-2005⁵ for the 2010-2017 period and the NJC-2017⁶ for the 2018-2021 period.

Considering the professional structure of jobs, it should be noted that in 2010-2021 the demand for workers with a high level of skills (specialists-professionals) increased, regardless of economic fluctuations. Their number increased by 936.7 thousand individuals, or 90% (from 1,043.2 thousand individuals to 1,979.9 thousand individuals), and the share in the overall structure of employees went up from 19% in 2010 to 30% in 2021 (Figure 5).

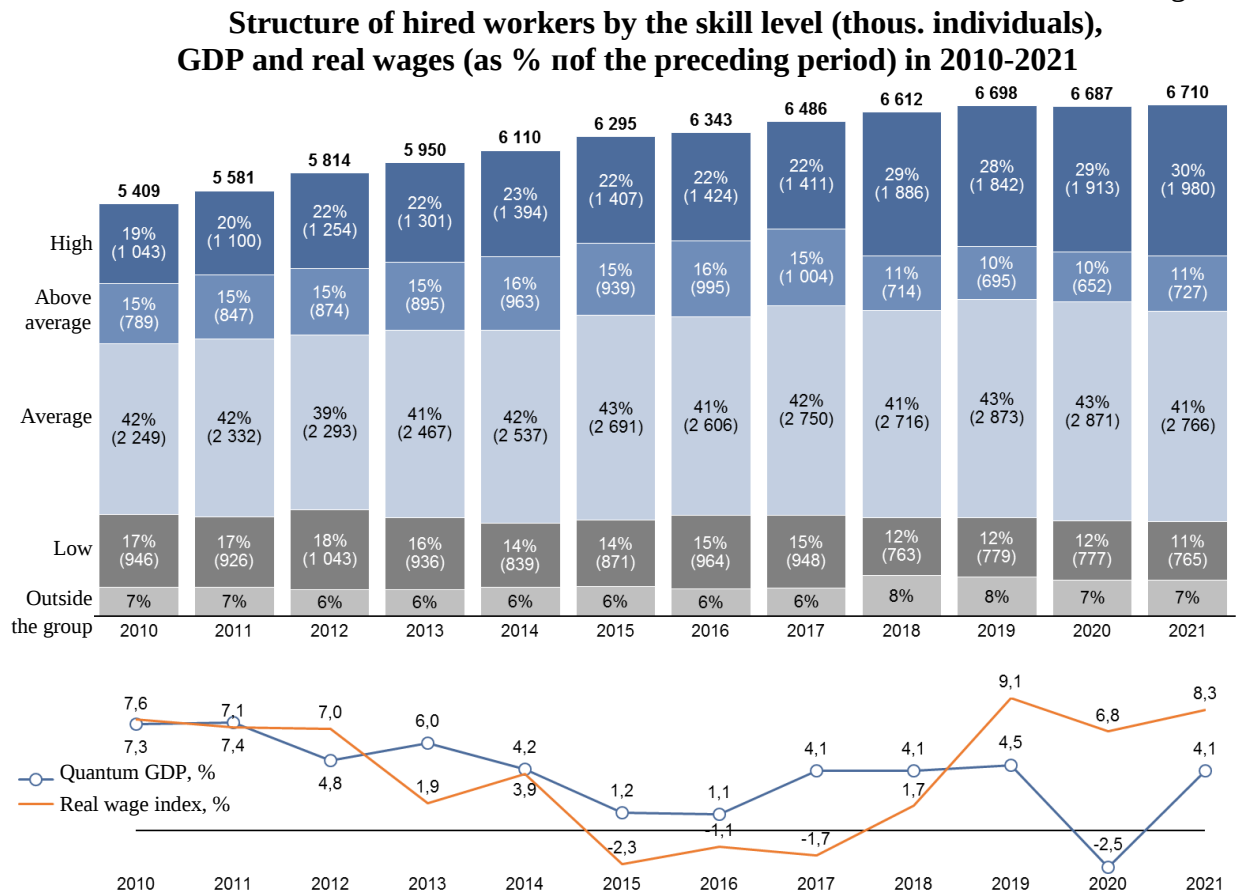
The number of jobs with above-average skill levels in 2010-2021 decreased by 8%, or 62.3 thous. individuals. The share in the overall structure of jobs decreased from 15% in 2010 to 11% in 2021. It is worth mentioning that the number of such jobs does not directly depend on the rate of economic growth. Thus, in 2015-2016 the economic growth slowed down to 1.2% and 1.1%, respectively, while the share of workers with above-average skills in the overall job structure remained at 15-16%, as it was years ago.

The number of hired workers with the average skill level went up by 23%, or 516.9 thous. individuals, amounting to 2.8 mln. individuals in 2021. This group of jobs accounts for the largest portion in the overall job structure ranging from 39% to 43% during 2010-2021. The largest growth was secured by the office employees whose numbers increased by 61% and by people working in the sphere of services and sales, whose numbers went up by 48%.

⁵ Government Classifier of the Republic of Kazakhstan "Job Classifier GC RK 01-2005" (GJC-2005).

⁶ National Classifier of the Republic of Kazakhstan "Job Classifier 01-2017" (NJC-2017).

Figure 5



Source: T-001, ASPR BNS RK

The number of farmers and agricultural workers went down by 12% in response to the general curtailment of employment in the sector; an overflow of workers to the service sphere took place.

The number of workers in the industry, construction, transport sectors also decreased by 11% from 692.5 thous. individuals to 616.2 thous. individuals. As a rule, such workers perform work manually or with the use of tools, they are engaged in maintenance, manufacturing of handicrafts, therefore, with the growing automation part of the labor functions of such workers was replaced by equipment. At the same time, there is a 39% increase in the numbers of the 8th group, "Operators of production equipment, assemblers and drivers" from 478 thous. individuals in 2010 to 663.2 thous. individuals in 2021.

The number of low-skilled workers decreased by 19% from 946.3 thous. individuals in 2010 to 764.9 thous. individuals in 2021. At the same time, preliminary analysis shows an increase in the demand for low-skill workers during the economic slowdown. Thus, in 2012, GDP decelerated to 4.8% and the number of low-skilled workers increased by 13%, or 117.1 thous. individuals, in 2015-2016 the economic growth slowed down and amounted to 1.2% and 1.1%, respectively, as a result, the number of low-skilled workers increased by 15%, or 124.8 thous. individuals over this period compared to 2014.

Therefore, the recovering output exerts a positive effect on the job placement of more qualified workers.

The dynamics of real wages reflects the changes in the professional structure of jobs. As the share of workers with high and above average skills increases, real wages change positively, and vice versa. So, in 2015-2017, against a reduction of the share of employees with a high level of skills by 1 pp to 22% and an increase in the number of workers with medium and low skills, the real wage index was (-2.3)% in 2015, (-1.1)% in 2016, (-1.7)% in 2017.

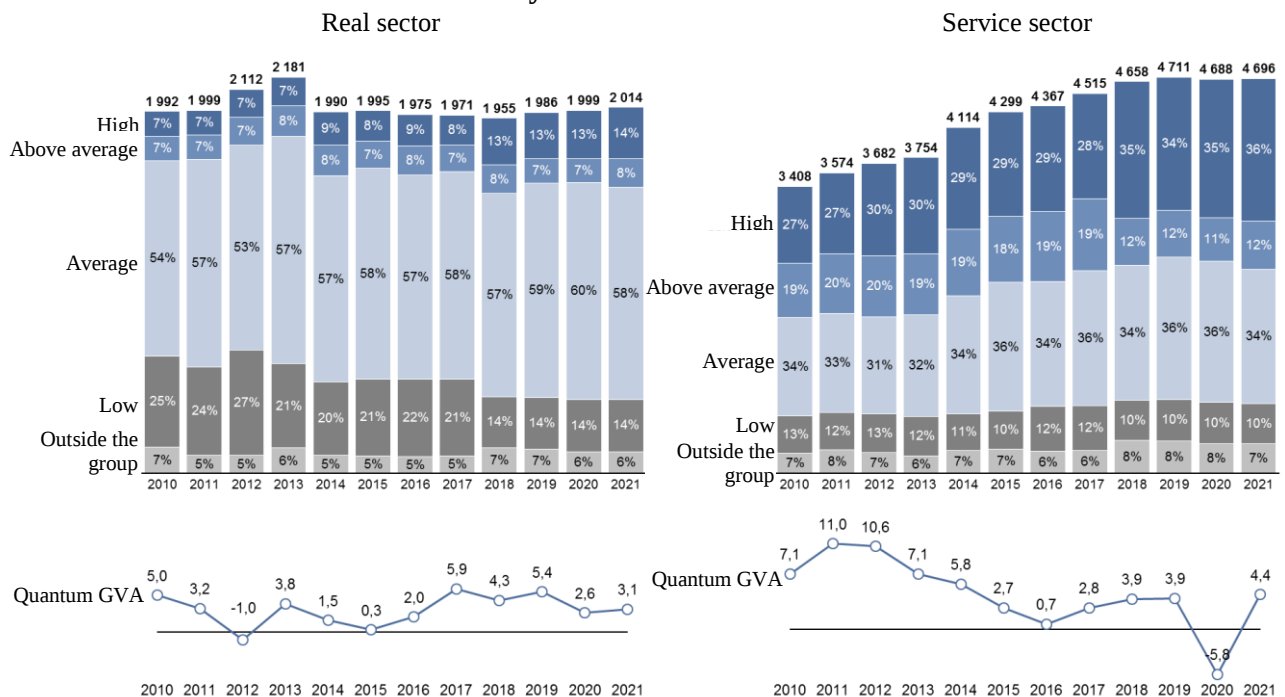
In 2019-2021, the overall employment structure was changing towards more qualified staff; this had a positive impact on the real wage level even despite the crisis year of 2020 because of the COVID-19 pandemic.

In the context of sectors, there are differences in the professional structure of jobs (Figure 6). In the real sector, the structure of jobs is quite stable, despite the jumps due to the transition to a new job classifier in 2018. There is a high demand for workers with an average level of skills – 54-60% of the overall structure of workers. These are the workers in the industry and equipment operators that are required in the production sphere.

It is the real sector where a large share of low-skilled workers are employed, they accounted for 25% in the overall structure in 2010, and for 14% - in the service sector. At the same time, in 2012, in response to a 1% drop in the real sector GDP, workers with an average level of skills switched to low-skilled work, their share decreased by 4 pp to 53%, and the share of employees with low skills increased by 3 pp to 27% compared to 2011. In 2015, a similar situation was observed when, with a slowdown of the real sector to 0.3%, the share of workers with an average level of skills decreased by 1 p.p. to 57%, and the share of low-skilled workers increased by 1 pp to 21%.

Figure 6

The structure of hired workers in terms of the skill level (thous. individuals) and gross value added (as % compared to the preceding period) by sectors in 2010-2021



Source: T-001, ASPR BNS RK

The percentage of workers with a high skill level increased from 7% in 2010 to 14% in 2021 and was generally not dependent on economic fluctuations.

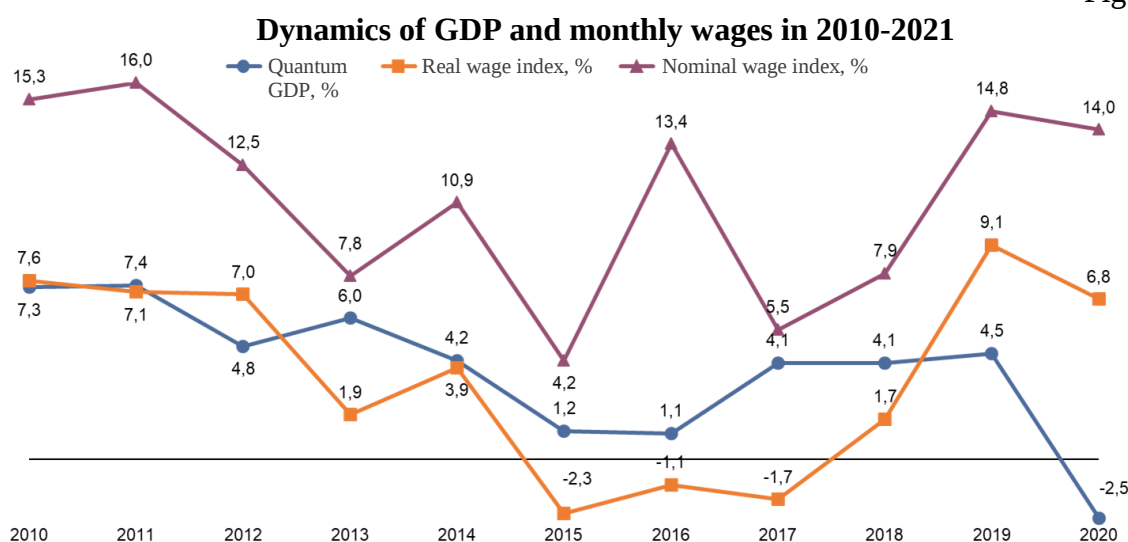
The percentage of workers with the above-average skill level during 2010-2021 had been steadily staying at 7-8% and was also not dependent on the output growth or decline in the sector.

As for the service sphere, a major share of jobs was held by workers with a high (27-36%) and average (31-36%) skill level. In 2010-2013, during the period when the service sphere volume was growing, the demand for highly qualified staff was increasing with their share going up by 3 pp to 30%, workers with the average skill level decreased by 2 pp to 34% during the same period. Later, the growth rate slowed down, and the opposite situation occurred, when the demand for workers with the average skill level increased, with their share going up by 4 pp to 36%, whereas

the share of highly skilled workers decreased by 2 pp to 28%. The same recovery occurred after the crisis year of 2020, when in 2021, due to recovery in the growth rate of the service sector, the demand for highly skilled workers and employees with above-average skills increased, while the share of workers with an average skill level decreased. The share of low-skilled workers went down from 13% in 2010 to 10% in 2021 and generally did not respond to ongoing changes in the production of services.

Therefore, in 2010-2021, the overall structure of hired workers in Kazakhstan was demonstrating a greater demand for highly qualified workers, who are required to produce more “cognitive” work; workers with the above-average skill level were migrating to this category, meantime, workers with the above-average skill level are prone to economic fluctuations most of all. For example, an 18% drop in gross value added (GVA) in agriculture in 2012 led to a reduction in the number of average-skilled workers, a 0.1% drop in GVA in construction in 2011 was reflected in a reduction in low-skilled workers, while all sectors, with the exception of public administration and social welfare and administrative and ancillary service, have seen an increase in demand for highly skilled workers; all sectors without exception have experienced job cuts requiring the above-average skills, workers have either improved their skills and engaged in “cognitive” work, or moved to jobs with an average level of skills, that is, they took up “routine” work.

Figure 7



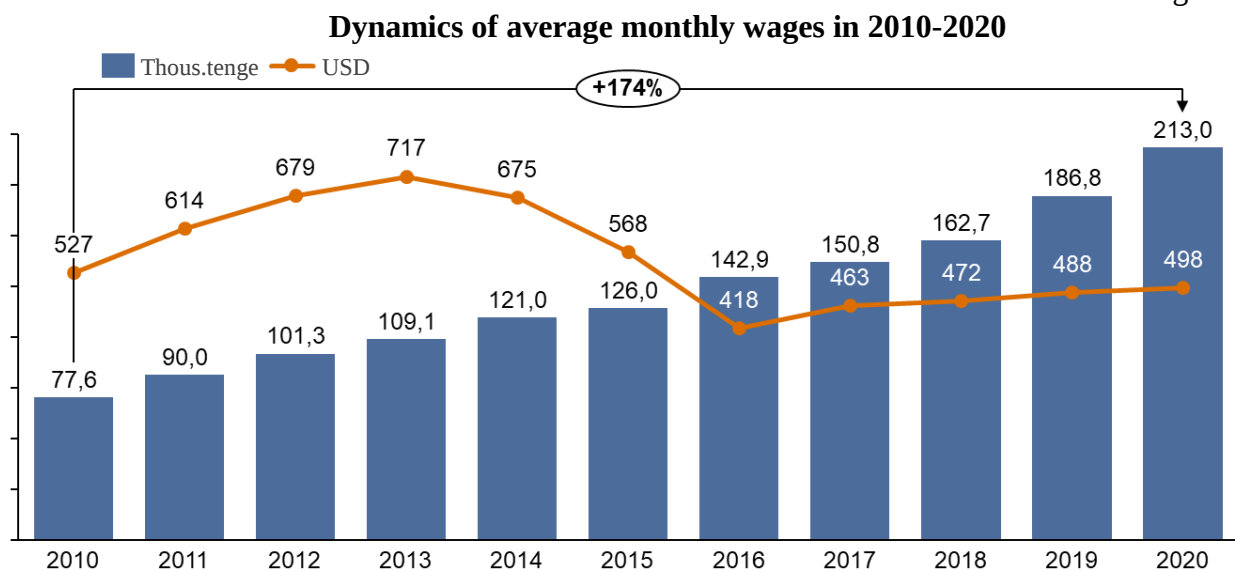
Source: ASPR BNS RK

When looking at the dynamics of average monthly wages which are calculated according to Form 1-T⁷, where the total payroll is divided by the actual number of hired workers, it is worth mentioning that such dynamics are sensitive to economic fluctuations and are decreasing even with a minor slowdown in the economic growth (Figure 7). With a slowdown in the rate of economic growth in 2012, namely, a reduction in the quantum GDP compared to the preceding year by 2.6 pp to 4.8%, the decline in the growth rate of nominal wage index amounted to 4.7 pp, and of real wages – to 5.1 pp. As the volume of production of goods and services recovers, the growth rates of the index of nominal and real wages of workers increase several times.

Overall, an average monthly nominal wage during 2010-2020 went up by 174% from 77.6 thous. tenge to 213 thous. tenge (Figure 8), which is equivalent to 498 US dollars. However, the average size of salaries and wages in the US dollars has decreased by 6% since 2010.

⁷ The statistical form of the nation-wide statistical survey “The Labor Report” (index 1-T).

Figure 8



Source: ASPR BNS RK

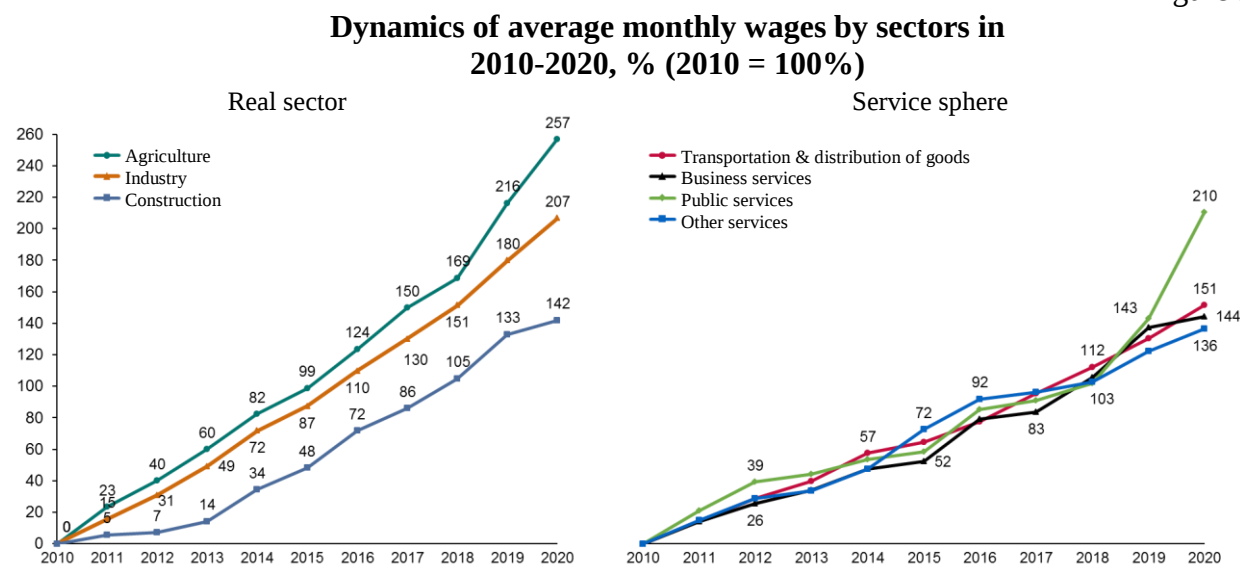
Median wage as at end-2020 had been at 157.9 thous.tenge, that is, exactly a half of hired workers in the country receive less than this amount; furthermore, it is nearly twice as small as the average wage, indicating a large gap in income from employment among different groups of workers. At the same time, the amount of modal or most frequently paid wage was 173.2 thous.tenge.

In the real sector, average monthly wages of workers almost tripled – from 89.5 thous.tenge in 2010 to 267.3 thous.tenge in 2020, and average monthly wages in the service sphere went up by 171% from 72.6 thous.tenge to 196.6 thous.tenge.

In 2020, the largest average monthly wage in terms of sectors was paid in the highly productive industries such as mining (450.8 thous.tenge), finance and insurance (387.5 thous.tenge), and professional and scientific activities (342.4 thous.tenge). Meanwhile, the smallest wage was observed in such branches as agriculture (130.2 thous.tenge), water supply (131.1 thous.tenge) and the arts and entertainment (162.5 thous.tenge).

At the same time, the largest growth of average monthly wages in relative terms in 2010-2020 was observed in agriculture (+257%) and public services (+210%), and the smallest – in the sphere of other services (+136%) (Figure 9).

Figure 9



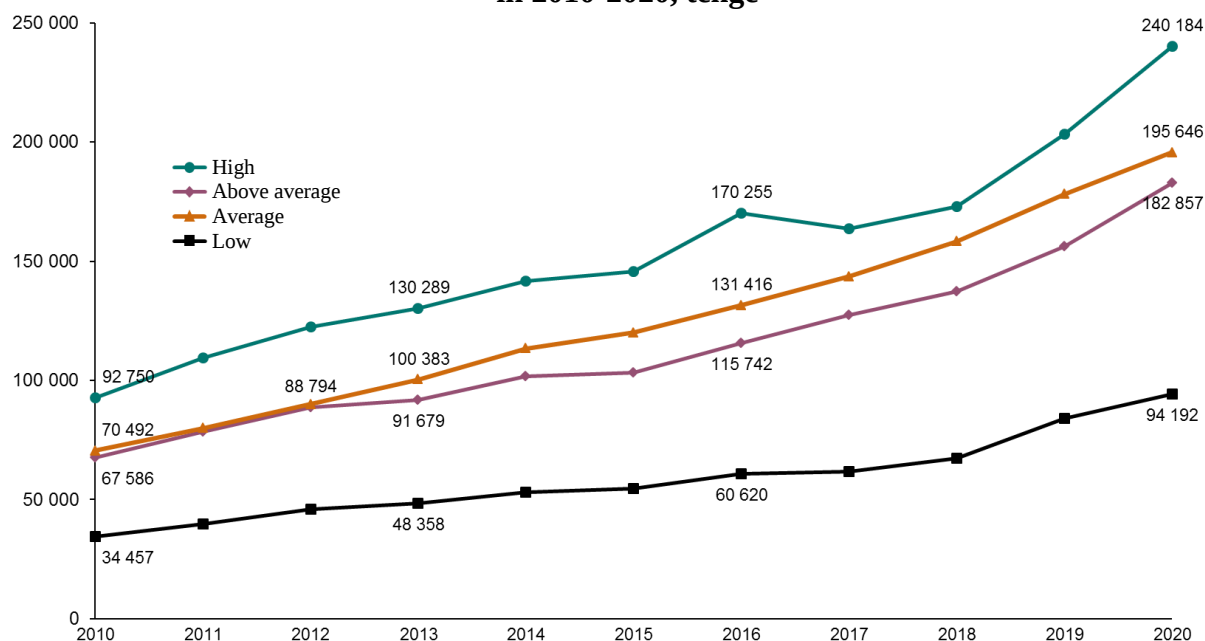
Source: 1-T, ASPR BNS RK

A sharp increase in wages of workers in the public service sphere since 2019 is explained, first, by an increase in the minimum wage from 28 to 42.5 thous.tenge, and second, by the instructions of the Head of State to increase the wages to public sector workers. Thus, in 2020, the wages of 883 thousand public sector employees increased, including 609 thousand teachers, 215 thousand medical workers, 34 thousand employees working in the field of culture, archives and arts, and 25 thousand workers in the sphere of social protection.

In terms of skill level (Figure 10), the largest wages are paid to the highly qualified staff – 240.2 thous.tenge as at end-2020. The lowest labor compensation is provided to low qualified workers – 94.2 thous.tenge as at end-2020. In 2019, wages went up by 25% as compared to a year earlier in connection with the raising of minimum wage from 28 to 42 thous.tenge.

Figure 10

**Dynamics of average monthly wages by skill level
in 2010-2020, tenge**



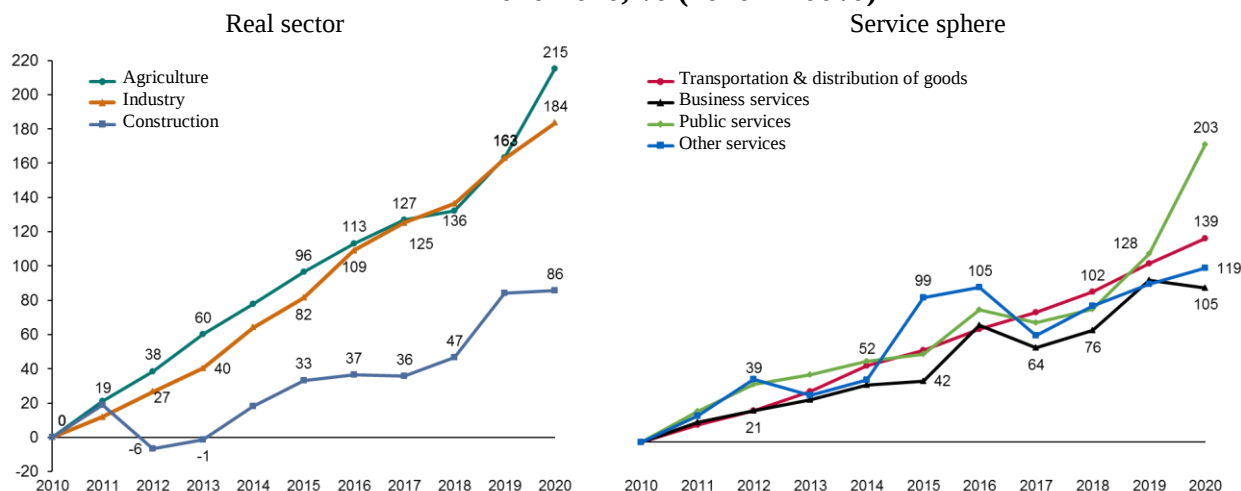
Source: 1-T, ASPR BNS RK

However, despite the fact that workers on the jobs with the above-average skill level perform a more complex work, their wages on average are by 6.5% lower (182.9 thous.tenge) than among workers with average qualifications (195.6 thous.tenge).

Considering the dynamics of labor compensation to highly qualified workers by sectors (Figure 11), it is worth mentioning that in 2012-2013 wages in the construction sector decreased; along with that, during the period the share of workers with average qualifications went down by 5 pp from 62% in 2011 to 57% in 2013, whereas the share of low qualified workers went up by 2 pp to 15%, and the share of workers with a high skill level also increased by 2 pp to 12% in 2013.

In 2016, the overall production in the service sphere decreased. The quantum GVA made up 0.7% and wages of workers reacted to it a year later, that is, the growth rate of labor compensation to workers slowed down except for the sector of transportation and distribution of goods where the labor compensation to highly qualified staff was steadily growing, despite economic fluctuations.

Figure 11

Dynamics of average monthly wages of workers with a high skill level, by sectors, in 2010-2020, % (2010 = 100%)

Source: 1-T, ASPR BNS RK

Considering the dynamics of wages of workers with above-average skills (Figure 12), it is worth mentioning that there are significant differences both in terms of industries and in comparison with other groups of workers.

In the construction sector, in 2010-2013 the wages of workers with above-average skill levels went down. Thus, the real wage index in 2011 decreased by 13% and in 2013 by 15% compared to 2010. At the same time, there is an inverse relationship between the level of wages and the growth rate of construction. With an increase in production, the wages of workers with above-average skill levels decreased. Thus, in 2016, the quantum GVA in construction increased by 3.1%, while the nominal wage index decreased by 8 pp. As a result, the wages of this group of workers have increased by only 76% since 2010.

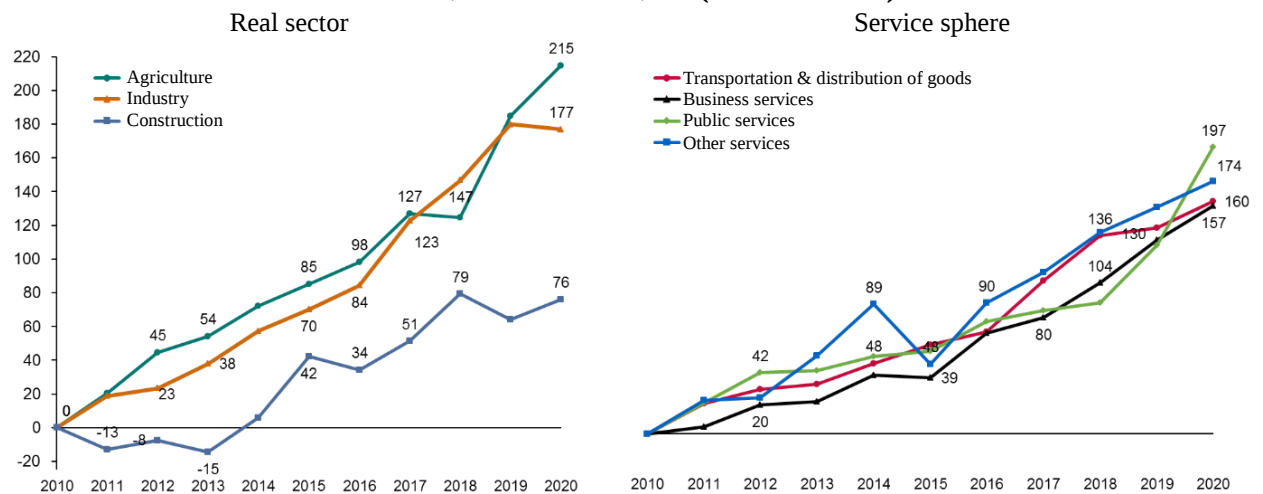
In the service sector, large jumps in the change of wage size of workers are observed in the provision of other services. In 2015, the wage growth fell by 41 pp. The reduction in the total number of employees in this area may be one of the reasons.

Looking at the dynamics of wages of workers with the average skill level (Figure 13), it is worth noting that no more jumps in labor compensation were observed in the construction sector as among other groups of workers.

A significant jump in the growth of salaries of workers of average qualifications was observed in the field of other services in 2017 (+112 p.p.), which may be due to an increase in the number of workers in this category, whose share increased by 4 pp compared to 2016.

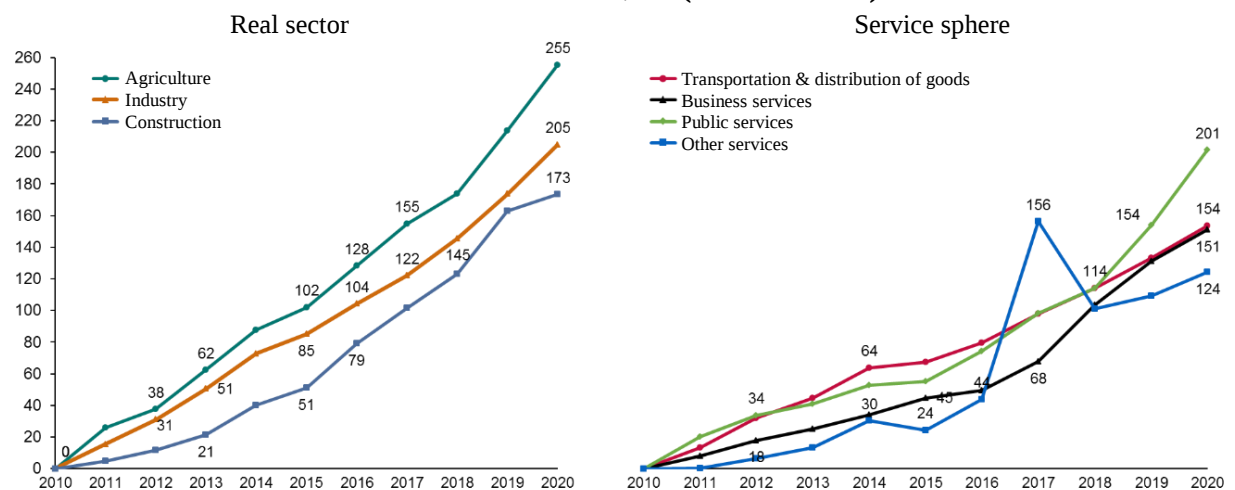
The largest increase in the average monthly nominal wage of low-skilled workers (Figure 14) is observed in agriculture, where wages have increased since 2010 by 285% in 2020. In the service sector, wage dynamics are generally homogeneous across industries. The largest wage growth is observed in the public service sector, where the growth was 189% compared to 2010.

Figure 12

Dynamics of average monthly wages of workers with the above-average skill level, by sectors, in 2010-2020, % (2010 = 100%)

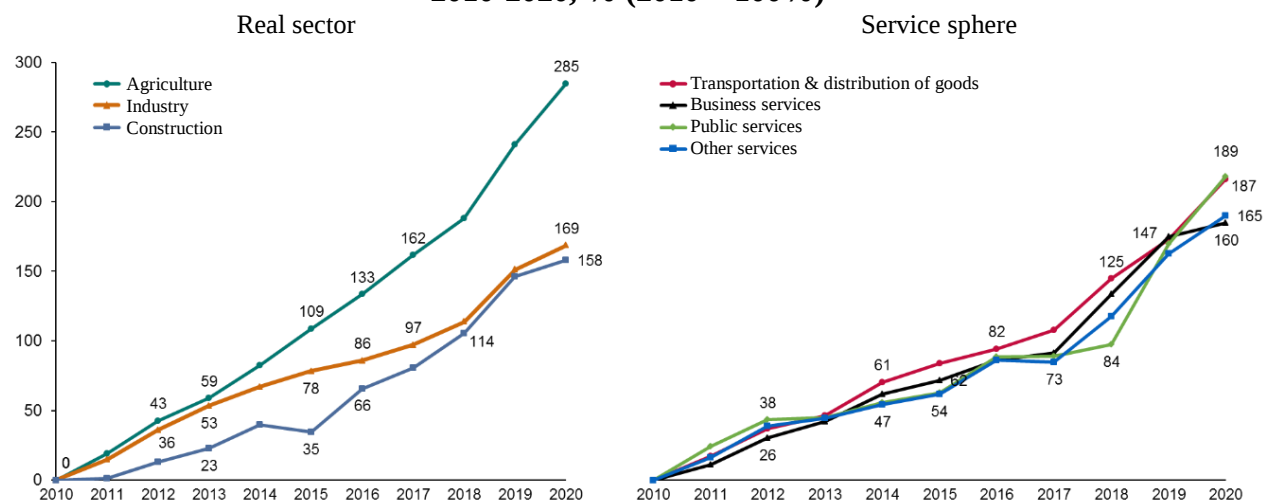
Source: 1-T, ASPR BNS RK

Figure 13

Dynamics of average monthly wages of workers with average skill level, by sectors, in 2010-2020, % (2010 = 100%)

Source: 1-T, ASPR BNS RK

Figure 14

Dynamics of average monthly wages of workers with a low skill level, by sectors, in 2010-2020, % (2010 = 100%)

Source: 1-T, ASPR BNS RK

Analysis of Elasticity of the Demand for Labor

Average estimates of changes in the number of hired workers in general are associated with the stage of the business cycle. Thus, for the economy as a whole, at the stage of slowdown in relation to all workers, the change in the number of workers is (-2.5)%; at the stage of sustainability (stability) – 2.1%, and at the stage of growth – 4.7%. For high-skilled employees, the average headcount change estimates are (-1.6)% at the slowdown stage, 15.8% at the sustainability stage, and 6.9% at the growth stage; for the above-average skilled workers – (-3.7) %, 5.5% and 2.3%, respectively; for workers with average qualifications – (-2.8)%, 1.8% and 3.9%; and for low-skilled workers – (-2.7)%, 7.3% and 76%.

Therefore, based on the assessment of chosen model, one can assert that at the slowdown stage in case of the change in the quantum GVA by 1% the demand for hired workers:

- in the economy as a whole is changing unidirectionally by 0.3%;
- in agriculture – inversely by 0.4%;
- in the service sector – unidirectionally by 0.4%;
- in the sector of transportation and distribution of goods as well as in the transport and warehousing sector – unidirectionally by 0.2%;
- in the sphere of business services – unidirectionally by 2.6%;
- in the sector of information and communication – inversely by 1.5%;
- in the sector of administrative and ancillary service – unidirectionally by 0.8%;
- in the healthcare sector – inversely by 3.2%.

In terms of skill levels, the demand for highly qualified workers changes unidirectionally by 6.2% in the field of real estate transactions, by 0.5% in the field of professional and scientific activities, and by 4.4% in the field of public services. The demand for workers with the above-average skill level changes unidirectionally at 6.3% in business services. The demand for the average-skilled workers changes unidirectionally by 0.6% in the economy as a whole, by 0.4% in the transport and warehousing sector, by 5.5% in the business service sector, and by 1.6% in the administrative and ancillary services and changes inversely by 4.6% in the information and communication sector. The demand for low-skilled workers during the slowdown phase reverses at 1.7% in agriculture and unidirectionally at 5% in finance and insurance.

At the stage of sustainability (stability) in case of the change in the quantum GVA by 1% the demand for hired workers:

- in the sphere of transportation and distribution of goods changes unidirectionally by 1.6%;
- in the sphere of professional and scientific activities changes inversely by 6.4%;
- in the sphere of public administration – unidirectionally by 4.8%.

In terms of skill levels, the demand for highly qualified employees changes unidirectionally by 15.1% in the production of goods, by 16.2% in the manufacturing industry, by 11.2% in the field of electricity and energy supply and by 25.1% in the field of other services; the demand changes inversely by 9.4% in the mining industry, by 16.3% in public administration, and by 4.7% - in education. The demand for workers with the above-average qualifications changes unidirectionally by 15.1% in the business service sector, by 45.8% in the administrative and ancillary services sector, and by 17.6% in the sector of education. Meantime, the demand for the average-skilled workers changes inversely by 2.7% in the industry as a whole, by 2.1% in the mining industry, by 5.2% in electricity and energy supply, and by 25.4% in professional and scientific activities. Moreover, it is only the service sector as a whole where it changes unidirectionally by 5.2%. The demand for low-skilled workers is changing inversely in all sectors, including by 7.7% in the mining industry, by 61.6% in financial and insurance activities, by 29.6% in professional and scientific activities, by 9.4 % in arts, entertainment and recreation and by 11.3% - in other personal services.

At the stage of growth in case of the change in the quantum GVA by 1%, the demand for hired workers changes mainly in the opposite direction:

- in the industry by 0.7%;

- in construction by 0.6%;
- in the sphere of real estate transactions by 2.4%;
- in the sphere of public services by 0.6%.

In terms of skill levels, the demand for highly qualified workers changes inversely by 1.4% in the field of education, for workers with a skill level above the average – unidirectionally by 6.6% in the economy as a whole, by 7.9% in the accommodation and catering services and inversely by 5.6% in the production of goods. The demand for average-skilled workers changes inversely by 1.9% in the construction sector, by 1.8% in the service sector, and by 2% in the provision of accommodation and catering services; the demand for low-skilled workers changes unidirectionally by 3.9% in the construction sector.

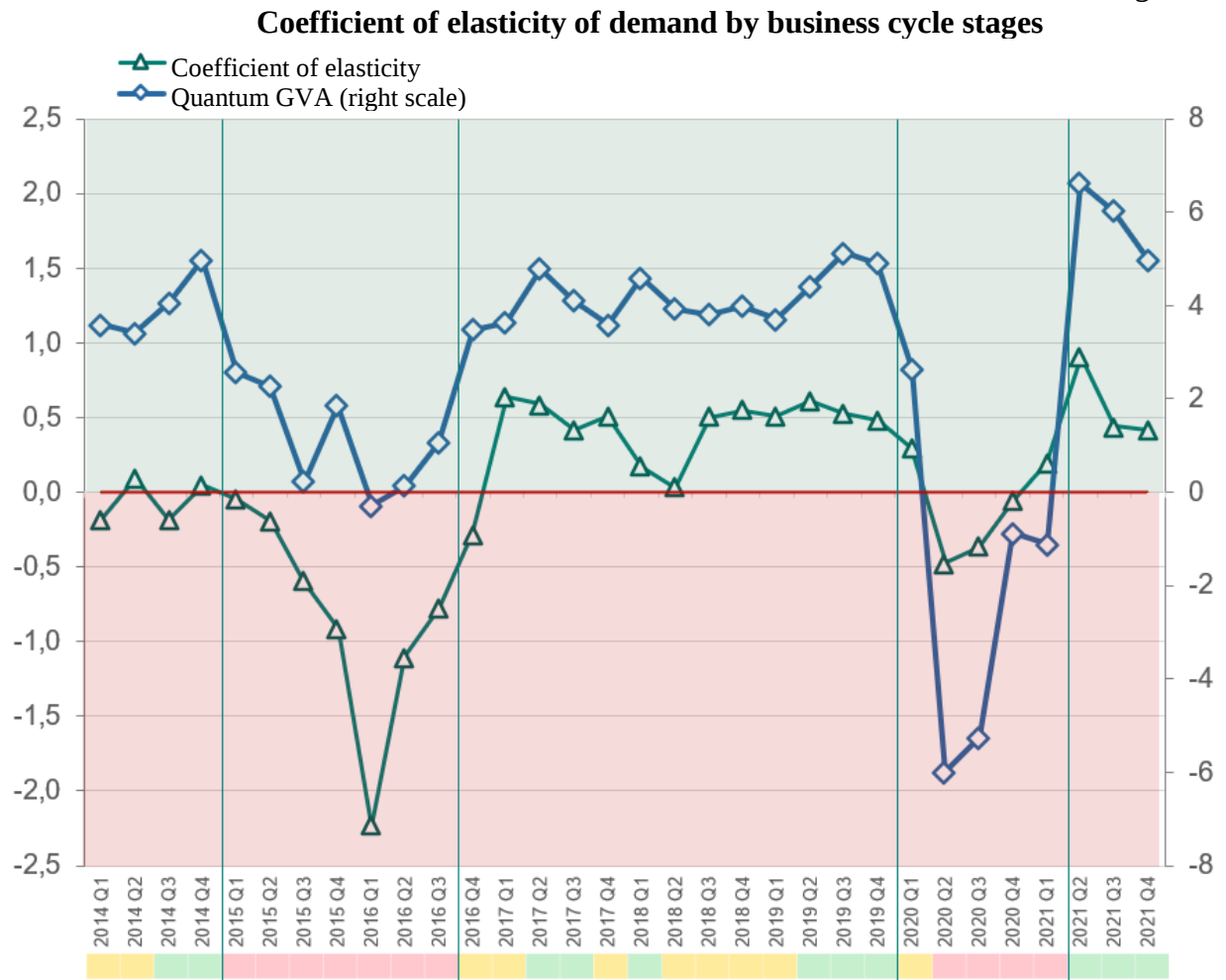
Conclusion

As part of this study, an analysis of the dynamics in the labor market and the demand for qualifications was performed. Correlation analysis found a negative relationship between the number of low-skilled workers and the quantum GVA both in the real sector and in the service sector as well as a positive relationship for average-skilled workers, the dependence seems to be much weaker in relation to other groups of workers. Moreover, this dependence for low-skilled workers in the real sector is mainly typical only for agricultural production, which accounts for a significant part of employment in this sector.

A significant difficulty in analyzing the stages of business cycles was caused by the fact that in the reviewed period provided with relevant data the Kazakh economy and its individual sectors often did not encounter a pronounced cyclicity in the standard measurement in terms of the quantum GVA level; this complicated the quantitative assessment of elasticity coefficients for cycle stages. Nevertheless, due to the use of the author-developed approaches, it was possible to form a sufficient number of observations for statistical evaluation.

According to the results of the study, it was found that, in general, the demand for labor in Kazakhstan mainly has low elasticity, often close to zero. In analyzing the elasticity coefficient, it was found that, in general, for the economy and employees, the demand for labor is not very elastic, taking average values of 0.63 at the slowdown stage, 0.34 at the stability stage and 0.46 at the growth stage. It was also revealed that there is a certain correlation between the rate of economic growth and the elasticity of demand for labor: during the periods of recession and economic slowdown, the elasticity coefficient becomes negative, but increases as the pace of economic development accelerates (Figure 15).

Figure 15



For highly qualified workers, the demand is elastic (1.61) at the stage of sustainability, the demand is close to unit elasticity (0.73) at the stage of growth and mainly inelastic – at the stage of slowdown (0.66).

The demand for hired workers with the above-average skill level is close to unit elasticity at the stage of slowdown (0.95) and is significantly less elastic at the stage of sustainability (0.71) and growth (0.56).

With regard to hired workers with an average skill level, it was found out that the demand has almost unit elasticity (1.14) at the stage of slowdown and is less elastic at the stages of sustainability (0.63) and growth (0.61).

The demand for low-skilled employees is highly elastic at any stage of the business cycle, the average values of the coefficients at the stage of slowdown are 15.6, at the stage of sustainability – 25, and at the stage of growth – 11.5. At the same time, in terms of sectors, it was found that for industries that are characterized by the presence of a large number of low-skilled workers, the elasticity of demand for labor also exceeds similar indicators for other industries. Thus, in agriculture, the average absolute value of the coefficient at the stage of slowdown is 5, at the stage of sustainability – 3.4, and at the stage of growth – 3.1. At the same time, in the industry, where a relatively large amount of highly skilled labor is involved, similar coefficients are 0.4, 0.33 and 0.17.

The results of this study show that the demand for low-skilled workers is almost perfectly elastic. It is assumed that workers with low qualifications and, therefore, low wages are extremely sensitive to any change in wages. Workers with a higher level of qualifications are much less affected by this. However, as noted above, among different groups of workers, the stage of the business cycle is affected to varying degrees. If for medium-skilled workers at the stage of

slowdown, the elasticity coefficient increases significantly, moving from the category of low-elasticity to unity elasticity, then for workers of a high skill level, this phenomenon is already observed at the stage of sustainability, which is an intermediate stage between the decline and growth.

The results obtained allow assessing the labor market's flexibility and how the situation with employment will be unfolding under different scenarios of economic development. Practical results of the study may be further applied in the computation of an expected level of demand for labor depending on the stage of the business cycle.

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An Overview of the International Experience in Using a “Bad” Bank

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This paper looks into the international experience of establishing and running a “bad bank” to understand its impact on the economy and financial system, and describes potential lessons for Kazakhstan. Along with this, the experience of Kazakhstan in establishing and operating a fund for managing troubled loans was discussed.

Key Words: non-performing loans, bad bank, loans.

JEL-Classification: G2, G21, E51, E52.

The study is devoted to the international practice of creating and running a bad bank, whose activities are aimed at managing non-performing assets excluded from the financial system and making their recovery more effective.

A bad bank purchases non-performing assets from existing banks or initiates the liquidation of assets of failed banks as part of their resolution.

The type of assets to be transferred and the macroeconomic environment are critical to the successful asset disposals. Complete and reliable documentation of assets, an independent evaluation of market prices for non-performing assets, efficient asset servicing, a strong legal framework, qualified personnel, and recoverability of invested resources are additional factors for the success of a bad bank.

Despite a notable reduction in the level of non-performing loans (NPL) in the banking system of Kazakhstan from 31.4% in 2013 to 3.7% in October 2022, there is a significant volume of non-performing assets on the balance sheets of second-tier banks and organizations engaged in doubtful asset management (ODAM): non-performing loans, foreclosed property in the form of real estate, land plots, production facilities and equipment.

The relevance of this topic is associated with the fact that as a result of the Covid-19 pandemic, the economic slowdown, geopolitical tensions, sanctions against Russia, record-high inflation and other shocks, the problem of potential resumption of NPL growth is becoming an important factor in the effective functioning of the economy and financial system of Kazakhstan.

This paper contains an overview of the international practice of applying the bad bank framework in order to understand its impact on the economy and the financial system, as well as to assess its potential application in Kazakhstan. In addition, the experience of Kazakhstan in the setting up and operating a fund for troubled loan management was reviewed.

1. International Experience

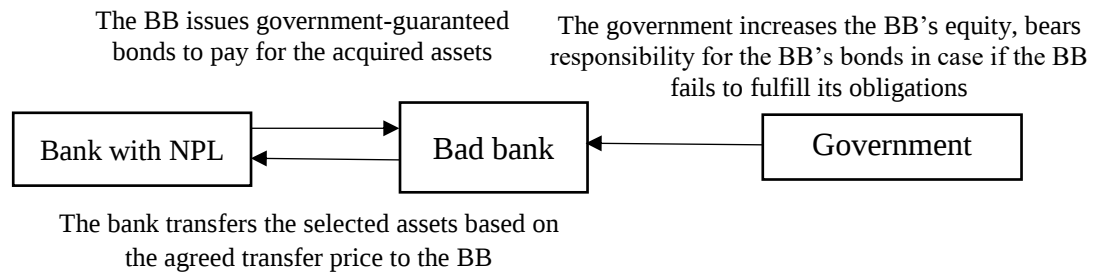
1.1. Definition

A bad bank is a public and/or private organization established to manage and improve the recovery of non-performing assets excluded from the financial system. A bad bank buys non-performing assets from existing banks or liquidates the assets of failed banks as part of their resolution. Further, a bad bank sells non-performing assets in order to ensure the recovery of monies invested by the government and/or private entities. Thus, the bad bank framework returns frozen non-performing assets into the economic circulation.

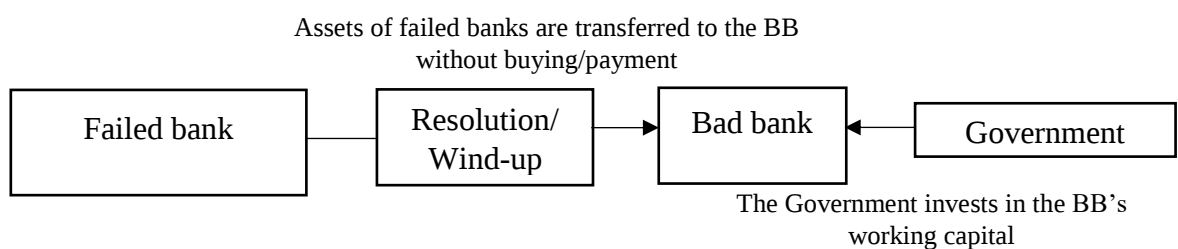
Chart 1 shows two frameworks of a state-owned bad bank operation based on the bad bank practice of 2008-2012.

Frameworks for Operation of State-Owned Bad Banks

1. Asset purchase from existing banks



2. Liquidation of assets of failed banks



Source: World Bank

In the first case, the bad bank buys non-performing assets from existing banks. Such assets should meet the characteristics defined by the laws or by the bad bank. A financial transaction is made between the existing selling bank and the bad bank; the bad bank issues government-guaranteed bonds to pay for the acquired non-performing assets. After that, the commercial bank transfers the selected assets to the bad bank based on the agreed transfer price.

In the second case, the bad bank does not select and does not buy non-performing assets. The bad bank is set up for a full/partial restructuring or liquidation of insolvent banks (usually after the transfer of protected deposits). Therefore, no financial transactions or purchases take place.

In both cases, the value of assets is determined by a preliminary appraisal or evaluation of assets by the supervisor or the bad bank by engaging an independent third party with experience in asset appraisals that performs a due diligence based on market prices.

The main prerequisites for creating a bad bank are the implications of country-wise financial crises in the form of excessive growth of non-performing assets, growing bankruptcy of borrowers/banks, and deterioration of the situation in the real estate market. During the financial crisis and after it, a bad bank buys non-performing assets from banks at the market price (in most cases, the purchase price is significantly lower than the asset price on the bank's balance sheet). In such cases, in order to effectively clear the bank balance sheets from non-performing assets and restore lending, additional capitalization of the bank is required.

There were three main periods in the international practice when bad banks were set up: an earlier period of creation of bad banks (1989-1993) against the backdrop of local financial crises in the USA and Sweden, the Asian financial crisis (1997-2001) and the global financial crisis (2007-2009).

The first bad bank, Resolution Trust Corporation, was set up in 1989 amid the savings and loan crisis in the USA. In 1993, the Securum bank was created in Sweden because of the financial crisis.

In 1997-2001, bad banks were created in Asia to fight the consequences of the Asian financial crisis in 1997-1998:

The South Korea – Korean Asset Management Corporation, 1997;

China – four state-owned companies were established to manage non-performing loans: China Great Wall Asset Management Co., China Orient Asset Management Co., China Huarong Asset Management Co., China Cinda Asset Management Co., 1999;

Thailand – the Thai Asset Management Company, 2001;

Malaysia – Danaharta, 1998;

Indonesia – Indonesian Bank Restructuring Agency, 1998;

Japan – The Resolution and Collection Corporation, 1999.

Bad banks were also created in 2008-2012 in the environment of slump in prices for bank equities, the collapse of construction sector and the real estate market:

Ireland – National Asset Management Agency, 2009;

Germany – FMS Wertmanagement, 2010;

Nigeria – Asset Management Corporation of Nigeria, 2010;

Spain – Sareb, 2012;

Slovenia – Bank Assets Management Company, 2012.

The key characteristics of the abovementioned bad banks are analyzed and the best international practices (USA, Sweden, Indonesia, Spain) are discussed in Appendix 1 and henceforth in the text.

Form of Ownership. A bad bank can be a public or private entity. State-owned or partially state-owned bad banks are created by and accountable to government authorities and ultimately to the taxpayer. Here, the government bears the risks, but also receives potential benefits from improving the situation in the banking sector. In a favorable macroeconomic situation, the government can benefit from any possible increase in the price of assets of a bad bank.

Private bad banks can also benefit from government guarantees. This is related to the fact that if a significant amount of distressed assets needs to be transferred within a short period of time, it can be difficult to find a private investor without government guarantees. When the banks themselves own a bad bank, the risk of loss on impaired assets still remains with the banks. The line of operational separation with the “main” bank can be defined in different ways but the bank’s balance sheet remains consolidated.

In their works, Haldane (2002) and Goodhart (2016) note that privately owned bad banks are more effective in rehabilitating troubled banks than state-owned banks. This may depend on the following factors. First, privately financed bad banks are more efficient at cleaning up banks’ balance sheets, as private finance requires more market discipline in the management and future behavior of a commercial bank. Gandrud (2014) makes a point that privately owned bad banks purchase assets at a higher price, which forces troubled banks to recognize losses faster, thereby avoiding the problem of “zombie lending”, that is, rollover of bad loans. This frees up resources for new and better loans. Second, privately owned bad banks can conduct the resolution of banks precisely when the problem of impaired assets is less severe, i.e. requires less capital injection.

When the clearing of troubled banks’ balance sheets is financed by private investors, the bank lending is growing stronger and the number of future distressed loans decreases to a greater extent than in case of funding from the government sources (Brei, 2019).

The early bad banks such as Resolution Trust Corporation (USA) and Securum (Sweden) were fully owned by their governments. Danaharta officially was a corporation 100% owned by the Malaysian Ministry of Finance. AMCON is a public corporation fully owned by the Nigerian federal Government and the Ministry of Finance.

One of the first bad banks with private holding is KAMCO set up in 1997, where 57.4% belonged to private investors and 42.8% – to the Ministry of Finance of the South Korea. In the European Union, in 2007-2012, there was a trend to create bad banks with joint participation of public and private entities: Sareb was 55% owned by private investors and 45% – by the government, NAMA: 51% – private investors, 49% – the government.

Bad Bank Financing. The financing structure is distinguished depending on the objective: purchase of non-performing assets from existing banks or liquidation of assets of failed banks.

A bad bank that purchases non-performing assets will need initial buildup of working capital and coverage of future asset losses. The bad bank can issue government-guaranteed securities to purchase non-performing assets and would have to pay interest on bonds with proceeds from fees. At the initial stage, the bad bank will need financial resources to pay interest on its bonds and to manage assets.

A bad bank liquidating the assets of failed banks will need working capital to manage the assets and sell them, and may also be assigned to cover losses to sell non-performing assets.

A key success factor is predictability in the process of financing of a bad bank. Periodic lack of funding seriously hinders a bad bank and leads to increased losses in the banking sector and deterioration in the value of an asset. To ensure a smooth operation, there must be clarity not only about initial capital, but also about working capital, to ensure that a bad bank has sufficient resources to support its activities until internal cash flow becomes positive.

Mandate. The choice of mandate depends on the diagnostics of the problem and the institutional structure of troubled banks. As a rule, the success of a bad bank is associated with a narrow mandate and the presence of certain goals. Asset management is a function that is necessary when there is a large pool of similar assets, whose value can be increased through effective management.

NAMA and SAREB did not bear responsibility for liquidation of non-performing assets of failed banks. At the same time, Danaharta managed assets of two failed banks for fee; however, it did not take part in their closure or liquidation.

Turkiye and Indonesia used the then existing structures to set up a bad bank. The Turkish Savings Deposit Insurance Fund (SDIF) and the Indonesian Bank Restructuring Agency (IBRA) were not only responsible for managing general deposit insurance but also restructured and closed failed banks as well as were responsible for recovering losses caused by liquidity misappropriation by former shareholders. The SDIF (Turkiye) only dealt with non-performing loans from institutions covered by the deposit insurance system. Indonesian private banks, which were recapitalized jointly with the government and their shareholders, had to transfer their non-performing loans to the IBRA. The multiple mandates of the SDIF and IBRA slowed down the asset management function as the organizations engaged in takeovers and resolutions of insolvent banks in their early years. Another problem for these two organizations was the existence of separate banking supervisory functions. Unlike the IBRA and SDIF, the RTC (USA) was established as a bank resolution authority but has benefited from deep and liquid capital markets to support asset sales. At the same time, the IBRA and SDIF had to rely on restructuring and create a market for distressed assets through their sales.

Asset Management and Administration. Bad banks tend to quickly sell non-performing assets because of maintenance costs and other expenses in order to generate higher profits. A slow sale of a bad bank's non-performing asset exposes the bad bank to the risk of further deterioration of the asset value as well as to the increased needs in a longer-term financing.

In their study, Aggarwal and Aritomo (2012) suggested that assets with a high capital intensity should be secured (restructured or hedged) and sold as soon as possible. On the other hand, it is recommended not to rush to sell: a) medium-term assets, b) not very capital-intensive assets, c) illiquid long-term assets or assets where the costs of their fixing and/or selling will be unreasonable.

Asset management may include completion of unfinished buildings in order to increase their market value and get profit upon sale.

The release of a large amount of assets can lead to dumping (artificial underpricing) and market destabilization. Therefore, it is important to balance the sale of assets, ensure an acceptable level of market supply and set a price level that can help normalize market expectations.

The Size of Bad Banks. The impact of the amount of assets transferred to a bad bank on the supply of loans and future NPLs is debatable in the international practice (Brei, 2019).

On the one hand, the European Commission (2018) believes that bad banks can operate more efficiently if they cover a large part of the banking system, if loans are backed by commercial

real estate, and if there are big corporate risks. On the other hand, international experts point out that bad banks are less efficient when assets are heterogeneous. For example, smaller consumer and retail loans are better managed by the bank itself, since it is more difficult for potential investors to evaluate such loans in terms of availability of borrower information (including confidential information). Bad banks are less active in residential real estate due to legal restrictions on the sale of these assets.

It was noted that purchases of retail NPLs should be avoided in asset selection because of high collection cost of such loans relative to their value. Limiting the number of acquired assets, both in quantity and value, requires their good inventory and a detailed analysis of troubled assets before creating a bad bank.

Some complex assets, such as state-owned enterprises or strategic industry enterprises, should not be managed by a bad bank. These assets can expose a bad bank to political interference and prevent it from exercising its powers over other assets. For such assets, other areas of restructuring should be implemented. State-owned enterprises can be restructured by a separate agency, such as a government holding company or a privatization agency.

If performing assets are purchased, a rationale for the purchase of such assets should be justified. For example, about 20% of loans purchased by the NAMA (Ireland) were active but were associated with one borrower. This made the resolution of loans easier as the borrower had to deal with only one legal entity. Another example comes from the SAREB (Spain), which decided not to consolidate all of the borrower's relationships and therefore had difficulty dealing with multiple lenders. Another example: the AMCON (Nigeria) bought large loans from banks that met the criterion of systemic importance.

In the international practice, the purchase of performing (not overdue) loans by bad banks is allowed if they are associated with overdue loans of one borrower in order to deal with all loans of this particular borrower. At the same time, a bad bank should not purchase performing loans from borrowers who do not have overdue loans. However, borrowers with performing loans need to communicate with the bank constantly since a transfer to a bad bank can be detrimental to the borrower's business.

Legal System. An effective legal system is one of conditions for successful operation of a bad bank since non-performing assets are often associated with disputed claims between various parties (lender, borrower, etc.).

The bad bank must assume the role of the former lender, which is achieved by ensuring a direct transfer of ownership and removing legal obstacles in the transfer transaction.

The legal framework should facilitate the orderly settlement of debt without impediment to realizable collateral when needed, and strike a balance between protecting both debtors and creditors. Significant bottlenecks in the regulatory documents that could interfere with the timeliness or quality of the process of transferring non-performing assets to a bad bank and the subsequent sale of these assets should be eliminated. According to Klingebiel (2002), an immature legal and regulatory framework has often been the reason for poor performance of a bad bank; therefore, it is important to establish appropriate framework for foreclosure, bankruptcy and seizure of collateral.

Effectiveness of a Bad Bank. The more successful a bad bank is in fulfilling its mandate, the sooner its functioning is accomplished.

Ingves et al (2004) point to the need to design the right set of incentives for the management and staff of a bad bank, as recruitment and retention problems often arise. Additional problems stem from the state-run bad banks, whose staff are subject to the public wage system that is less flexible. To remedy this, it was proposed to introduce a combination of salary and performance-based bonuses (Parker, 2011). Retention policies are also important to ensure that the quality of a bad bank's performance is consistent, so attention should be paid to the staff development, reward schemes, and career prospects.

Morrison (2009) noted that troubled banks, by selling non-performing assets to a bad bank, improved their credit ratings and improved confidence from the market, investors, shareholders

and depositors. M. Brei (2020) mentions that troubled banks, having separated viable and profitable enterprises from distressed and non-performing assets, were able to focus on their core business – making new loans. In general, the troubled bank, by selling non-performing assets, cleared the balance sheet and restored the growth of lending to enterprises. The authors compared the performance of 135 large banks in 15 European countries from 2000 to 2016. Of the entire sample, 81 banks (60%) received support in connection with the problem of accumulation of non-performing assets. In the study, depending on the type of such support, banks are divided into three groups: those that received additional capitalization from the government (36% of 81 banks); banks that transferred a part of impaired assets to bad banks (11%); and those combining both measures (53%). The study showed that individually, each of the measures did not lead to the resumption of lending and did not help decrease the bank's NPLs in the future. However, those banks that have got rid of bad assets and received capital injections, managed to “recover”. The need for additional capitalization of the bank when clearing its balance sheet is related to the fact that non-performing assets are sold to a bad bank at a price significantly lower than their book value. The maximum efficiency was achieved when non-performing assets were bought with private money and in small portions – in this case, the assessment of future risks and the value of non-performing assets was the most fair.

The study by S. Cas (2016) mentions that the type of assets transferred and the macroeconomic environment are critical to the successful disposal of assets. Reliable and complete documentation on the transferred assets, a robust valuation process, efficient asset maintenance, an effective legal framework are additional factors for the success of a bad bank.

According to estimates made by A. Ari (2018), the total volume of NPLs continues to grow on average 2.4 years after the onset of the crisis. In more than 20% of countries, the NPLs continue to increase for 4 years or more. In 30% of countries, the NPLs remain above 7% seven years after the crisis. In other words, the increased NPL levels are not immediately resolved. For countries that manage to bring their percentage of NPLs down to below 7%, achieving such reduction is highly variable and occurs 5 years after the onset of the crisis on average.

Table 2

Macroeconomic indicators in some countries

	2008	2009	2010	2011	2012	2013	2014	2015
NPL (as % of the total quantity of loans)								
Ireland	1.9	9.80	13.00	16.10	25.00	25.70	20.70	14.90
Spain	2.8	4.10	4.70	6.00	7.50	9.40	8.50	6.30
Germany	2.9	3.30	3.20	3.00	2.90	2.70	2.30	
Real GDP growth (as %)								
Ireland	-2.2	-5.60	0.40	2.60	0.20	1.40	5.20	7.80
Spain	1.1	-3.60	0.00	-1.00	-2.60	-1.70	1.40	3.20
Germany	1.1	-5.60	4.10	3.70	0.40	0.30	1.60	1.70
Growth in loans to the private sector (as %)								
Ireland	14.00	-4.30	-7.90	-10.00	-4.40	-3.80	-7.20	-10.10
Spain	11.30	1.90	-0.40	-0.10	-3.40	-9.30	-7.20	-3.10
Germany	5.20	2.10	-0.50	1.30	1.80	0.40	0.60	1.80
Growth in new loans to the private sector (as %)								
Ireland	-13.50	-14.50	-50.80	-47.00	-26.80	1.10	-0.30	26.10
Spain	-11.10	-8.10	-22.10	-23.40	-8.70	-19.20	-6.60	12.00
Germany	21.50	-8.20	-20.90	-0.90	-2.10	-2.60	0.80	9.90
	Year of establishment - NAMA							
	Year of establishment - FMS Wertmanagement							
	Year of establishment - Sareb							

Source: European Commission

Recoverability Ratios for Invested Resources. There is no data published on all bad banks concerning the results of efforts to repay monies to the government. According to the publicly

available data (USA, Sweden, Japan, Slovenia, Indonesia, Malaysia), most of bad banks returned over a half of invested resources. The best recoverability was demonstrated by bad banks in the USA and Japan; having said this, bad banks in Japan even managed to generate profits from the sale of non-performing assets.

The US-based RTC acquired assets of 747 savings and loan associations with total assets equaling 402.5 bln US dollars. Assets worth 395 bln US dollars were sold during the period of its operation. Despite a large-scale of the mandate, the RTC benefited owing to deep and liquid capital markets to support the sale of non-performing assets.

A bad bank in Japan – the Resolution and Collection Corporation of Japan (RCC) – during the period of its operation in 1999-2005 acquired troubled assets worth 353 bln yen (3 bln US dollars) and secured the repayment of invested resources of 642 bln yen (5.6 bln US dollars). The RCC purchased assets from insolvent financial institutions worth 6.4 trln yen (55.8 bln US dollars), the recovery on these loans amounted to 7.1 trln yen (61.9 bln US dollars). Thus, the RCC managed not only to ensure recoverability of invested resources but also to generate profits.

Detailed characteristics of bad banks internationally are presented in Appendix 1.

1.2. Successful Experience

Cerruti (2016) describes the experience of the USA, Sweden, Spain and Malaysia in setting up a bad bank as the most successful.

USA. The RTC (operated during 1989-1995) was created as an organization dealing with bank resolutions/liquidations (about 3 000 in total, of which 1 295, or 44% were savings and loan organizations) as well as covering the shortages of financial resources as part of payouts to or transfers of protected depositors. The RTC did not buy non-performing assets from existing banks, i.e. it did not engage in operations related to valuation of non-performing assets.

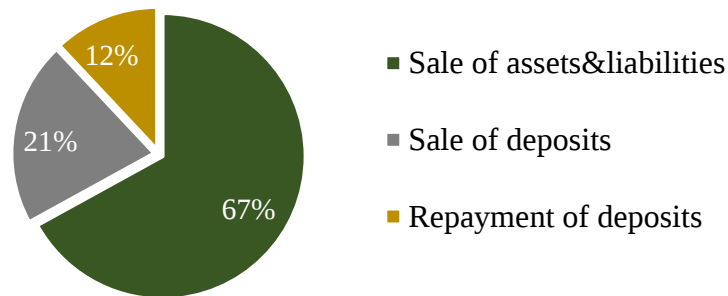
Its activities were financed with taxpayer money. In total, the US Congress approved 3 tranches for the Corporation totaling 105.1 bln US dollars (the Corporation used only 91.3 bln US dollars), of which 31.3 bln US dollars were attracted through the placement of 30-year bonds by the public-private organization Resolution Funding Corporation (REFCORP). The burden of paying interest on these bonds fell on the government, as well as on the savings and loan industry, through higher insurance premiums and taxes on the profits of home loan banks. Another 1.2 bln US dollars were provided by federal home loan banks, the rest of the funds were attracted from budget allocations.

The working capital of RTC was in the form of short-term loans from the US Federal Reserve Bank backed by the expected profit from the sale of assets. The maximum amount of loans received by the RTC was 63 bln US dollars (in 1991); subsequently they were fully repaid with proceeds from the sale of assets. The three goals of the RTC included:

- 1) maximizing the value of non-performing assets at their sale;
- 2) minimizing the impact of these transactions on the local real estate market;
- 3) maximizing affordability and availability of residential real estate for buyers with low to medium income.

The main activity of the RTC was to accept and analyze the current state of insolvent savings and loan associations, covering high-cost liabilities and operating expenses. Then the decision was made whether to sell or liquidate them.

Figure 1

**Resolved assets of insolvent savings and loan associations in the USA,
by types of methods**

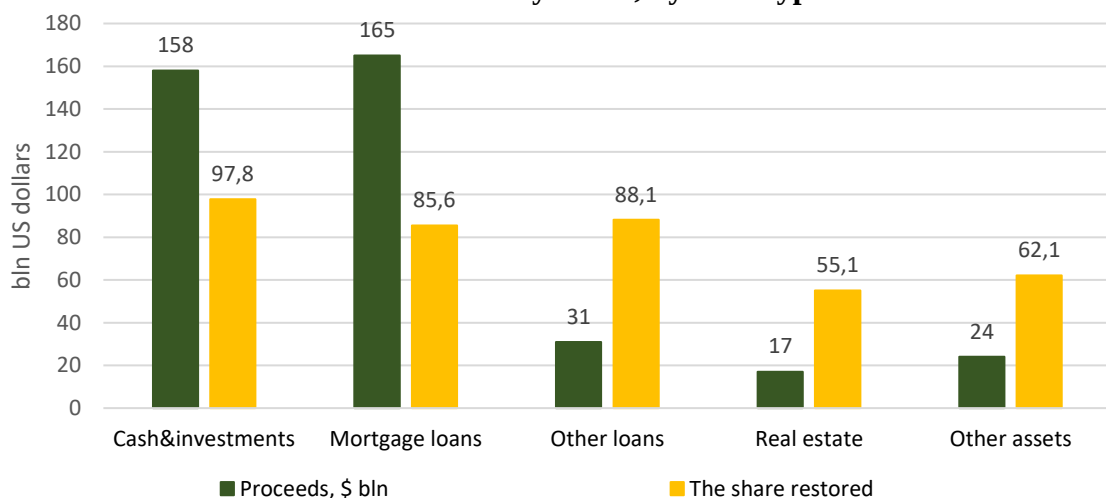
Source: RTC

Following the process of resolution of troubled associations, the RTC proceeded to manage and dispose of their residual assets. The first method of dealing with assets was the sale in bulk or in parts to “financially healthy” organizations of the assets and liabilities of troubled savings and loan associations. The second method was to transfer deposits of clients of troubled savings and loan associations to healthy institutions. Moreover, in some cases, the repayment of deposits to depositors of troubled savings and loan associations was carried out at the expense of the RTC itself.

As part of the sale of non-performing assets, the RTC devised a sales strategy that involved asset segmentations based on certain criteria: location, quality, and maturity. Later, in cooperation with the investment community, the RTC adapted the products to the needs of investors.

To fulfill its mandate to make the housing more affordable, the RTC has developed a program for the transfer of property with no compensation to non-profit organizations or government agencies, on the condition that the donated assets are used as homeless shelters, low-income housing, and day care centers for low- and middle-income families. In total, during its operation, the corporation sold over 100 thousand affordable housing facilities worth more than 2 bln US dollars, and also ensured a free-of-charge transfer of more than 1,000 residential real estate facilities.

Figure 2

RTC recoverability ratios, by asset types

Source: RTC

Overall, during 1989-1995 the RTC purchased assets of 747 savings and loan associations with the total assets of 402.5 bln US dollars. In the course of its operation, the Corporation sold

assets worth 395 bln US dollars. Apart from a wide scale of the mandate, it is worth paying attention to the fact that the RTC was selling non-performing assets and benefited from deep and liquid capital markets.

Sweden. In the late 1980s and early 1990s, the Swedish economy suffered from low growth rates and high inflation, and the national currency, the Swedish krona, depreciated several times. During a severe financial crisis in the early 1990s, Swedish banks were shaken, two banks were nationalized, unemployment soared, and the government spending and public debt increased. The recovery strategy was determined by the banks themselves. Some banks survived the crisis on their own by merging with other banks and creating their own bad bank as a subsidiary, others – with the help of government support by transferring non-performing assets to a bad bank – Securum.

Securum is one of the early bad banks of Sweden (1993-1997). Securum had a narrow mandate for restructuring and sale of assets of two state-owned banks (Nordbanken and Gota Bank) and did not make payments for the transferred non-performing assets of banks. Instead, the Government provided additional capital to two banks in exchange of the transfer of bank assets to Securum. Assets and collateral were appraised with the support of external consultants and an audit firm. Because of time constraints, the valuation of 1/5 of assets was conducted with the use of models based on valuation of other assets.

Nordbanken, the main state-owned bank and the third largest bank in terms of assets at that time was provided with additional capital by the government (14.2 bln Swedish kronor, or approximately 2.4 bln US dollars in 1991–1992), at the same time it transferred its own non-performing assets to Securum. Gota Bank, the fifth largest commercial bank, was provided with additional capital by the government (20 bln Swedish kronor, or approximately 2.6 bln US dollars in 1993), and the “viable” part of Gota Bank was merged with Nordbanken. Non-performing assets of Gota Bank were transferred to Securum.

The portfolio transferred to Securum consisted of over 3,000 loan claims to 1,274 companies (of which 790 were limited liability companies). The book value of assets amounted to SEK 67 billion, or 10 bln US dollars, and the transfer price was SEK 50 billion, or 8.7 bln US dollars. Loans accounted for 90% of the portfolio, with the remainder being equities and real estate. Most of the transferred companies were insolvent.

The sale of real estate property was carried out in several ways: sale of property on an individual basis; association and sale of real estate pools; sale of companies specializing in real estate. The preferred method for sale of individual properties and pools of assets was the sale under a private contract through direct negotiations with selected potential buyers.

Securum owned more than 2 000 units of commercial property totaling SEK 15-20 bln (approximately 2.2-2.9 bln US dollars), which accounted for 1-2% of the overall real estate fund in Sweden.

The real estate companies bought by Securum were sold through initial public offerings (IPOs) on the Stockholm (four deals) and London (one deal) stock exchanges. While these deals generated substantial profits for Securum, they accounted for less than half of the assets sold. The practicability of these transactions consisted in the one-time alienation of a large number of property items by selling shares, which, in turn, enabled to avoid the costs associated with a further fall in real estate prices.

Unlike many other bad banks, Securum did not sell properties through auctions. This was related to the limited time it took to sell a large amount of assets in this way, the difficulty of putting up suitable pools of properties to maximize profits, the risk of lower prices because of the bringing of a large amount of property to the market at once, and the relatively small size of the Swedish market, which made it difficult to find potential buyers.

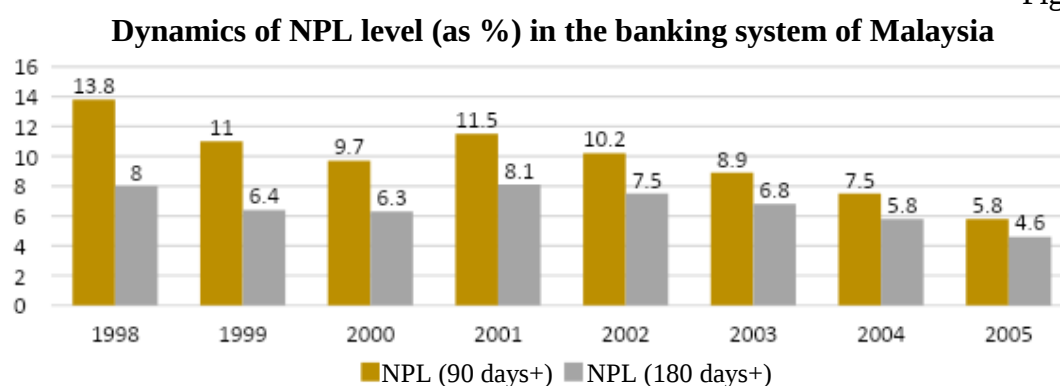
By the time of its closure (1997), Securum had sold 98% of its assets and returned SEK 14 billion to the government (the government provided Securum with SEK 24 billion). The operating strategy was to register the title for real estate, increase its value and sell.

The success of Securum was nurtured by the fact that it was a commercial organization and was not subject to regulation and supervision, and its activities were aimed at maximizing profits

from the sale of non-performing assets. The second success factor was the strong economic recovery and the introduction of inflation targeting regime by Sweden.

Malaysia. The experience of Malaysia is also considered as one of successful examples of running a bad bank (Danaharta, operated during 1998- 2005).

Figure 3



Data source: Central Bank of Malaysia

Danaharta was established under the Malaysian Ministry of Finance as the National Distressed Asset Management Company to assist financial institutions in clearing NPLs from their balance sheets and rehabilitating businesses. The main objective is the acquisition of large corporate loans with an amount of debt from RM5 million; such loans accounted for more than 70% of troubled loans in the banking system.

The Malaysian law did not oblige banks to sell their distressed assets to Danaharta, while the government used the carrot and stick method in relation to troubled banks to encourage purchases and sales of assets (Table 3).

Table 3

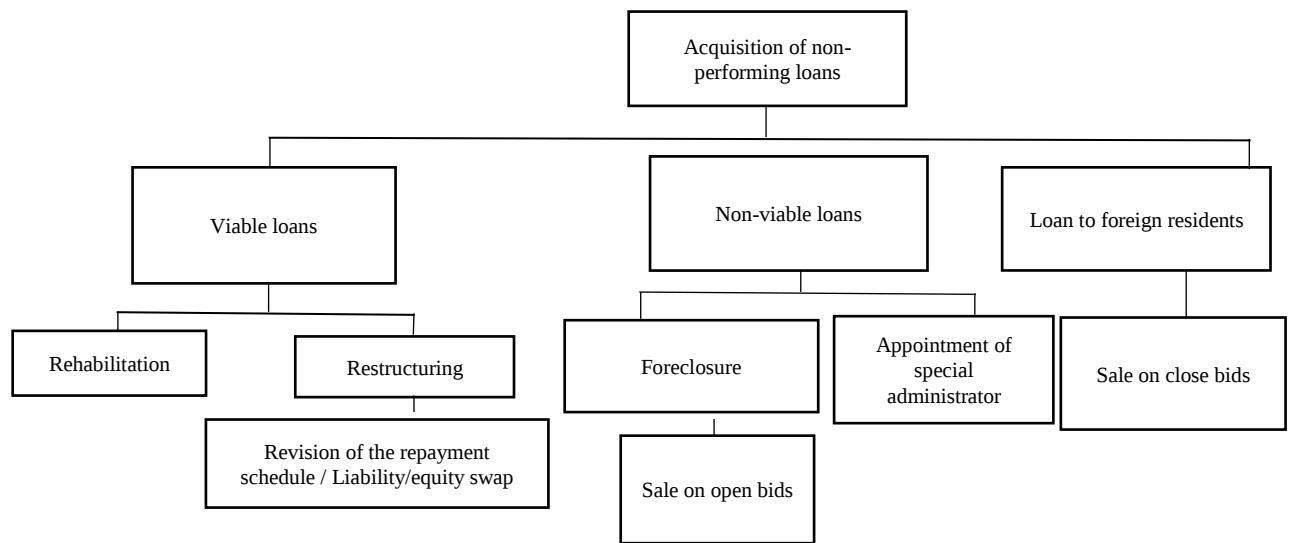
Methods used by Danaharta to encourage purchases and sales of non-performing assets

“Sticks”	“Carrots”
• All banks recapitalized by Danamodal were required to sell their troubled assets to Danaharta • Banks with a gross share of troubled loans exceeding 10% were required to sell their troubled loans to Danaharta; otherwise, they would have to write down the value of those loans to 80% of the price offered by Danaharta	• Bank Negara Malaysia gave the banks a right to amortize losses from the sale of their assets to Danaharta within 5 years • Danaharta entered into the profit-sharing agreements with the selling banks • Danaharta’s bonds had a zero weight in the risk assessment

Source: Danaharta (Malaysia)

Overall, the Danaharta’s asset portfolio consisted of 2,902 projects with a total book value of RM47.7 bln (59% of NPLs transferred in trust from 2 banks and 41% of NPLs bought from 70 financial institutions). Danaharta’s approach to asset management depended on the borrower’s recovery potential and the currency of NPLs. Foreign currency loans and marketable securities issued by foreign companies were immediately realized because they were outside the jurisdiction of Danaharta. Loans in the local currency and those with recovery potential had undergone restructuring. In addition, Danaharta has developed its own loan restructuring guidance to enable borrowers to prepare their own loan resolution plan and reduce the time it takes to complete the restructuring process.

As for bad loans or the borrowers who refused to cooperate, foreclosure was initiated or a special administrator was appointed. Chart 2 shows the Danaharta’s asset management framework.

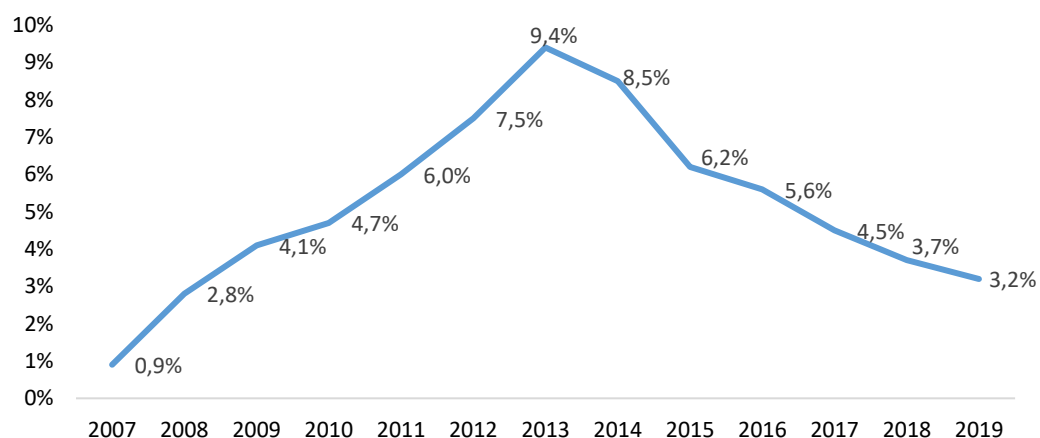
Danaharta’s asset management and disposal framework

Source: Danaharta (Malaysia)

In general, the functioning of Danaharta is considered successful, as its activities contributed to a reduction in the level of non-performing loans in the banking system. Danaharta redeemed its bonds in March 2005 and suffered a small loss before being liquidated in December 2005 after 7 years of incorporation. During the period of its operation, as a result of the sale of “bad” assets, Danaharta returned about RM 13 bln to the government (the government allocated RM 14 bln). Following the closure, Danaharta transferred RM1.72 bln of remaining assets (about 3.6% of the total carrying value of Danaharta’s NPL portfolio) to the Ministry of Finance. However, the strong performance was secured by loans transferred to Danaharta for management on a gratuitous basis, which had a higher recovery rate than purchased assets. Without returns generated from the management and sale of these loans, Danaharta would have suffered significant losses.

Spain. After an excessive growth in the volume of loans for construction of real estate and mortgages during 1992-2009 (from 10% of GDP in 1992 to 43% of GDP in 2009), the real estate bubble in Spain burst in 2009. The onset of the debt crisis in the euro area pushed the economy into a sharp recession by the end of 2008. In 2009, the economic downturn was 3.5%.

Figure 4

Dynamics of the NPL level in the banking sector of Spain

Source: statista.com

The ongoing deterioration of the economy led to increased risks associated with real estate transactions and to a potential capital shortage in banks. During 2010-2011, the volume of NPLs provided to businessmen in the real estate sphere went up from 14% to 21%. Initiatives undertaken to increase transparency of reporting loans in financial statements and recognize losses was insufficient for restoring the investor confidence in the banking system.

The bad bank SAREB was created in 2012 to buy out, manage and sell distressed assets. To support the banking system, the European Commission and the Government of Spain allocated funds in the amount of 100 billion euros, only 41.4 billion euros were used, of which 38.9 billion euros were for recapitalization of banks and 2.5 billion euros for capitalization of the SAREB.

The SAREB was established as a private commercial company with a government mandate and a limited lifespan of 15 years. Financing of the SAREB transactions amounted to 55.6 billion euros, of which 50.8 billion euros in the form of government bonds, 1.2 billion euros – budgetary funds, and subordinated debt – 3.6 billion euros.

Within the structure of purchased assets, loans to entrepreneurs accounted for 80% and real estate – for 20%. The SAREB bought out about 200,000 distressed assets from 9 banks with a total nominal value of 107 billion euros for 51 billion euros.

The SAREB used five tools to resolve the acquired troubled loans: debt collection, debt restructuring, transfer of collateral by the debtor to repay the debt, enforcement of debt collection through initiation of legal procedures, reassignment of loans to the third parties.

In order to increase the value of the real estate portfolio and generate additional cash flows, the SAREB also leased property.

The SAREB's approach to buying and valuating distressed assets was as follows. Commercial banks in Spain, based on the results of the relevant diagnostics, were divided into 4 groups:

- group 0 – banks without capital deficit;
- group 1 – banks, which failed and their assets were transferred to the Spanish Executive Resolution Authority (Fund for Orderly Bank Restructuring – FROB);
- group 2 – banks with capital deficit and unable to cover it without the government support;
- group 3 – banks with capital deficit that may adopt recapitalization plans without the government support.

Banks in groups 1 and 2 were required to sell assets to the SAREB.

The asset valuation and buyout price were based on valuation reports prepared by independent experts. The assets were purchased by the SAREB after applying a discount rate that varied depending on the asset type.

The SAREB used a multi-channel strategy for asset sales:

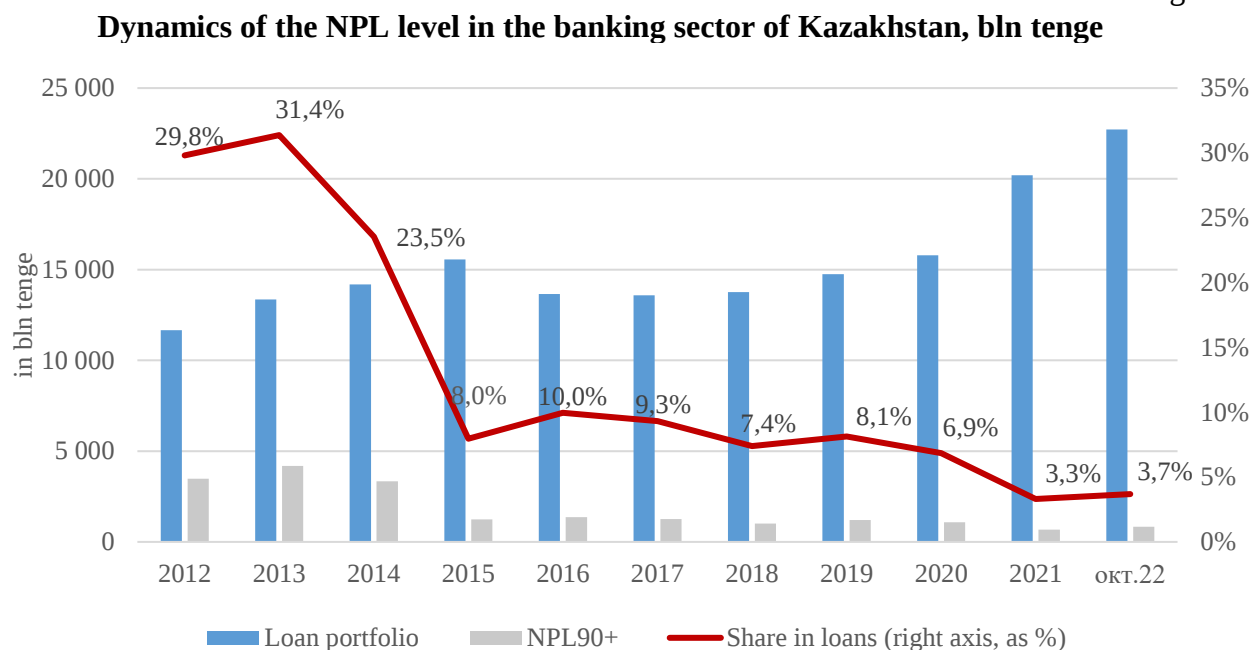
- 1) a retail channel – to sell residential property;
- 2) a direct channel – to sell more sizable assets;
- 3) an institutional channel – to sell an expensive commercial property to professional international investors.

The sale of assets was carried out both through the organization of auctions and directly to target investors. In 2017, the SAREB launched an online asset sale platform oriented at international investors. The purpose of the platform launch was to inform potential buyers about the planned sales, which was part of the European initiative to set up the European market of non-performing loans.

2. Kazakhstan's Experience. Problem Loan Fund

After the 2007-2009 global financial crisis, the level of non-performing loans in the banking system of Kazakhstan exceeded 30%, and the funding sources were persistently scarce. A maximum percentage of NPL 90+ was 31.4% as at end-2013.

Figure 5



Source: NBK, FRA

As part of the government measures to rehabilitate the banking sector of Kazakhstan in 2012, the National Bank of Kazakhstan established the “Problem Loan Fund” JSC (PLF). In 2017, the National Bank of Kazakhstan initiated a 100% transfer of the Fund to the Ministry of Finance of Kazakhstan.

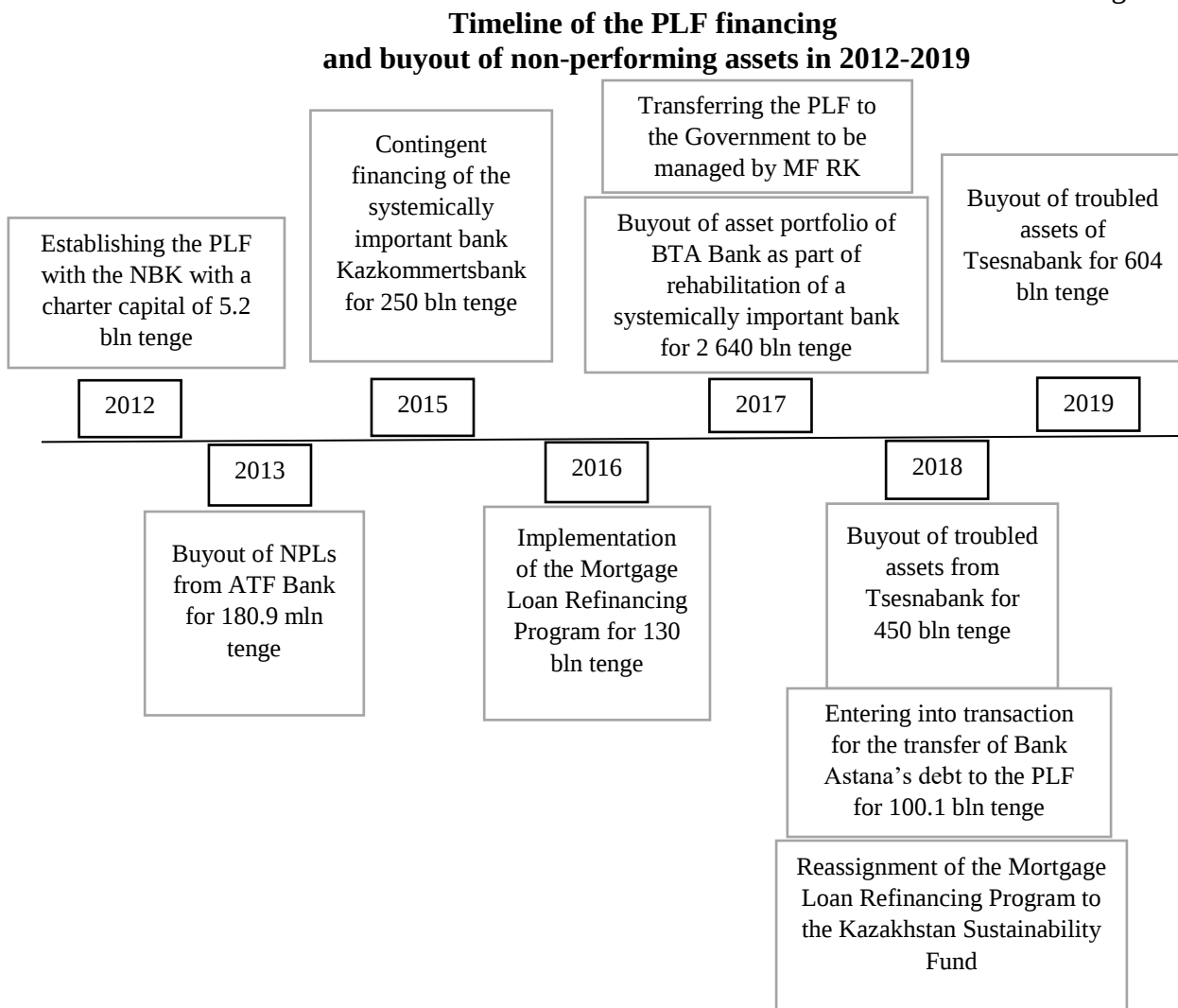
The PLF is a professional management company with expertise in clearing loan portfolios of financial institutions, asset restructuring and non-performing asset management. That is, the PLF is engaged in the banking sector rehabilitation and the mainstreaming of non-performing (frozen) assets into the economic circulation. The PLF has two subsidiaries: “Estate Management Company” JSC is dealing with real estate management and “Kazkom Realty” LLP is engaged in land plot management.

The objectives of the PLF are to: (1) improve the quality of banks loan portfolios through the buyout of non-performing assets and other mechanisms for the banking sector recovery; (2) mainstream non-performing assets into the economic circulation through their rehabilitation and sale; (3) implement other government measures aimed at stabilizing the financial sector.

The PLF uses the following methods and approaches. To rehabilitate the banking sector: direct repurchase of non-performing assets from the bank; contingent bank financing; issuance of the PLF guarantees in favor of the bank backed up by securities of the Ministry of Finance of the Republic of Kazakhstan. To mainstream the repurchased assets into the economic circulation, the rehabilitation of purchased assets and the sale of property are used.

Upon inception, the PLF charter capital amounted to 5.2 bln tenge. During 2013-2019, in order to rehabilitate the banking sector, the PLF bought out non-performing assets, provided contingent financing and refinanced mortgage loans for 4.2 trln tenge in total.

Figure 6



Source: PLF

The PLF is engaged in the diagnostics and sale of purchased assets, preparation of property for sale via the electronic trading platform, and generation of the plan for property sales. To ensure transparency and openness of their sales, assets are sold via the electronic trading platform of the Information and Accounting Center of Kazakhstan's Ministry of Finance.

In 2018, the Government of the Republic of Kazakhstan instructed the PLF to accelerate the mainstreaming of assets bought out by the PLF into the economic circulation. During 2019-2021, based on the results of asset sales, the PLF returned about 47 billion tenge (1.1% of the total PLF financing for bank rehabilitation) to the National Fund. As part of the implementation of this task, a number of property units were transferred for public needs and the development of the nation-wide infrastructure; real estate and land property were sold. The low return on invested public resources is associated with:

- the lack of interest on the part of banks in selling non-performing assets at their market value. The assets of banks and corporate entities (BTA Bank) that used to be banks in the past were acquired at the non-market conditions (at par); thus, their market value appeared to be below the acquisition cost;
- insolvency of debtors resulting in reduction of proceeds on claims assumed by the PLF;
- the growing costs for the current property maintenance;
- reduction in the value of collateral under the claims at the stage of pre-judicial and judicial enforcement as well as bankruptcy;
- the fact that a number of acquired assets require investments.

Non-performing assets in the existing second-tier banks. Since 2017, the financial regulator has taken measures to reduce non-performing assets in second-tier banks of Kazakhstan. As a result, the size of non-performing assets of the banking sector has significantly decreased – by estimate, since 2017, non-performing assets in the banking system have decreased from 7.7 trln tenge to 2.4 trln tenge by mid-2022, or to 6.1% of the assets in the banking system. The percentage of non-performing loans amounted to 0.8 trillion tenge, or 3.6% of the total loan portfolio of the banking sector.

Most of the problems associated with the high volume of non-performing assets accumulated in the banking sector in recent years have been resolved or are in the process of being resolved. There is still a significant amount of non-performing assets on the balance sheets of second-tier banks and organizations engaged in doubtful asset management (ODAM) in Kazakhstan, including both troubled loans and recovered property in the form of real estate, land plots, production facilities and equipment that need to be mainstreamed into the economic circulation.

At the beginning of 2021, the financial regulator took regulatory measures limiting the presence of non-performing assets on the balance sheets of banks and ODAM to 5 years⁸, and also expanded the ODAM's powers to manage and write off troubled loans, including through the creation of joint ventures with foreign capital. These measures contribute to acceleration of the process of recovery of non-performing assets and their further sales.

In order to encourage banks, organizations engaged in certain types of banking operations, and microfinance organizations to quickly mainstream distressed assets into the economic circulation, a deadline (3 years) has been prescribed by the law for the presence of recovered property on the balance sheets of banks and microfinance organizations, that is, a distressed asset in the form of property that passed into the ownership of the bank as repayment of the troubled loan.

The banking sector supervisor⁹ makes effort to set up the infrastructure for the sale of non-performing assets and establish the secondary market for purchase and sale of non-performing assets. It is believed that the development of a liquid market of non-performing assets at market conditions will encourage banks to bring down the level of non-performing assets more actively and to direct the relieved capital to credits to the economy.

Based on the above, Kazakhstan needs to create conditions for unhindered access to the market of non-performing assets for a wide range of investors interested in the rehabilitation of assets and their mainstreaming into the economic circulation. Frozen assets should be returned to the economic circulation, but only on a market basis.

3. Conclusion and Recommendations

This paper discusses the international experience and experience of Kazakhstan in setting up and running a bad bank. The creation of bad banks in the USA and Sweden stemmed from the need to deal with a large number of bankruptcies of financial institutions. In Asian countries, bad banks were set up to deal with the consequences of the Asian financial crisis, in Europe and other countries – to overcome the consequences of the global financial crisis.

In all countries, the main prerequisite for creating a bad bank was the excessive growth of non-performing (frozen) assets. The recovery of lending in many countries depended on a bad bank framework at that time. Countries where bad banks cleared banks' balance sheets of NPLs followed by their recapitalization, as a rule, recovered lending to the economy more efficiently and faster.

The successful operation of a bad bank allowed many countries to reduce the NPL level below 7% within 7 years. Thus, Spain was able to reduce NPLs from 9.4% in 2013 to 3.2% in 2019, Malaysia – from 13.6% in 1998 to 5.8% in 2005, and Ireland – from 25.7% in 2013 to 3.36%

⁸ Specialized commercial bank subsidiaries engage in management of doubtful assets

⁹ Agency of the Republic of Kazakhstan for Regulation and Development of the Financial Market (FRA)

in 2020. An analysis of the successful functioning of bad banks showed that troubled banks improved their credit ratings by selling non-performing assets to a bad bank, increased the confidence of the market, investors, shareholders and depositors. Troubled banks, by separating viable and profitable enterprises from distressed and non-performing assets, were able to focus on their core business and provide new loans.

The macroeconomic environment and the type of assets transferred were crucial to the success of a bad bank. In addition, the success factors of a bad bank include complete and reliable documentation of the assets transferred to a bad bank, an independent valuation of non-performing assets at market prices, efficient asset servicing, a strong legal framework, qualified personnel, as well as recovery of investments.

Generally, bad banks exist for a limited time – from 5 years to 15 years; however, there are also bad banks operating without limitation in time. Most bad banks complete their operation once the sales of non-performing assets have been accomplished.

Since the time of creation of a state-owned bad bank in Kazakhstan – the Problem Loan Fund – the NPL level in Kazakhstan went down from 31.4% in 2013 to 3.7% in October 2022. An active reduction of non-performing assets started from 2017. However, despite a sizable reduction of NPLs on balance sheets of second-tier banks and creation of the ODAM, there is still a significant volume of non-performing assets (2.4 trln tenge), which includes both troubled loans and foreclosed property in the form of real estate, land plots, production facilities and equipment.

The PLF used 4.2 trln tenge to rehabilitate the banking sector, however, the rate of return on government investments remains low (1.11% of total investment). Due to a slow sale of non-performing assets, the PLF exposed itself to the risk of asset deterioration, rising costs for the maintenance and repair of collateral. The slow sale is associated, among other things, with an immature regulatory framework and non-market approaches to the valuation of non-performing assets used in the buyout of non-performing assets of troubled banks.

Taking into account the analysis of international experience and the FRA’s ongoing effort to improve the procedures for the purchase and return of non-performing assets into the economic circulation, we consider it appropriate to draw attention to the following.

1. A bad bank’s mandate should be narrow with specific goals and limited period of operation.
2. In the course of asset selection it is important to preserve the homogeneity of non-performing asset portfolio at a bad bank and also to conduct an independent valuation of non-performing assets based on market prices.
3. The buyout of non-performing assets from banks should be limited by large and complex assets that require financial and operating restructuring, which cannot be conducted by banks on their own.
4. Such complex assets as state-owned enterprises and enterprises in strategic sectors must not be managed by a bad bank.
5. The legal system should facilitate an orderly debt settlement without obstacles in order to sell collateral and ensure the balance between protection of depositors and creditors. In addition, the legal provisions should not have the bottlenecks, which could hinder the timeliness and quality of the bad bank operation.
6. It is important to ensure an uninterrupted and predictable process of the bad bank financing.
7. In order to make the operation of a bad bank more efficient, in line with the international practice, it is advisable to consider the involvement of private entities.
8. Frozen assets should be returned into the economic circulation but solely on a market basis.

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Appendix 1

Table 1

Key Performance Indicators of a “Bad Bank”

	First “bad banks”		After the 1997-1998 Asian crisis				After the 2007-2009 financial crisis				
Bad bank	RTC	Securum	KAMCO	IBRA	Danaharta	SDIF	NAMA	SAREB	AMCON	BAMC	FMS Wertmanagement
Country	USA	Sweden	South Korea	Indonesia	Malaysia	Turkiye	Ireland	Spain	Nigeria	Slovenia	Germany
Creation date	1989	1993	1997	1998	1998	1999	2009	2012	2010	2012	2010
Period of existence	7 years	5 years	n/a	6 years	7 years	n/a	15 years	15 years	n/a	10 years	n/a
Shareholders	100% state-owned	100% state-owned	57.4% – private investors: 28.6% – Korean Development Bank, 28.6% – other financial institutions 42.8% – government in the person of the Ministry of Finance	100% state-owned	100% state-owned	100% state-owned	51% - private investors (3 private companies), 49% – government	55% private investors (14 national banks, 2 foreign banks, 10 insurance companies) 45% – government in the person of the Fund for Orderly Bank Restructuring	100% state-owned	100% state-owned	100% Special Financial Market Stabilization Fund (SoFFin)
Mandate	Resolution of troubled savings and loan associations (banks)	Resolution of troubled loans of the state-owned Nordenbanken, which was later expanded due to the merger of Gota	NPL purchase, management and disposal	Resolution of troubled banks, management of deposit insurance and recovery of unduly used liquidity support	Acquisition, management and the clearing of the balance sheet from troubled loans. The bad bank, which acquired assets of two failed banks undertook their management	Resolution of troubled banks, management of deposit insurance and recovery of unduly used liquidity support	Acquisition, management and the clearing of the balance sheet from troubled loans	Acquisition, management and the clearing of the balance sheet from troubled loans	Acquisition, management and the clearing of the balance sheet from troubled loans, recapitalization of failed banks and equity investment	Acquisition, management and the clearing of the balance sheet from troubled loans	Assumption of transferred assets and sale and maximization of the asset value in order to stabilize the financial market

Overview of the International Practice in Using a “Bad Bank”

Type of assets transferred to a “bad bank”	Real estate, mortgage loans, cash and investments, other loans and assets						Credit secured by real estate, land plot, real estate development and associated loans	Credit secured by real estate			Commercial real estate, commercial real estate-development, infrastructure, public sector and structured products
Funding	91.3 bln US dollars	SEK 24 bln	21.5 trln won		14 bln RM	8.5 bln US dollars	31.8 bln euros in the form of government bonds for 30.2 bln euros, and subordinated debt of 1.6 bln euros	55.6 bln euros in the form of government bonds for 50.8 bln euros, budget for 1.2 bln euros, and subordinated debt of 3.6 bln euros	-	Government guarantee – 1.97 bln euros	In the form of government bonds for 124 bln euros
Repayment to the Treasury	395 bln US dollars	SEK 14 bln	n/a	151 trln rupees	13 bln RM	n/a	16 bln euros	-		In 2017 – 172 mln euros. In 2018 – 1.28 bln euros, by the end of 2018, BAMC has had assets worth 830.1 mln euros	-
Methodology	n/a (didn't buy assets)	n/a (didn't buy assets)	Internal pricing based on the present value of cash flows	n/a (didn't buy assets)	Real estate: market value based on new valuation; owners' equity: market value; unsecured: 10% of outstanding principal amount	n/a (didn't buy assets)	Discounted cash flow plus increased factor of 8.3% on average, which reflects the improvement of situation in the	A transfer price is set by the Bank of Spain based on the independent asset quality review (AQR)	Methodology designed by the central bank		

Overview of the International Practice in Using a “Bad Bank”

							real estate market over time				
Discount from the book value	n/a (RTC didn't buy assets, assets of failed banks were transferred to it)	n/a (didn't buy assets)	64%	n/a (didn't buy assets)	54%	n/a (didn't buy assets)	57%	52.4%	54%	-	-

Measuring and Assessing the Level of Transparency of the National Bank of the Republic of Kazakhstan

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The purpose of this paper is to make an attempt to measure and provide an unbiased assessment of the level of transparency of the National Bank of the Republic of Kazakhstan using indices that are common in the international practice.

Key Words: transparency, Eiffinger–Geraats index, Flesch–Kincaid scale, inflation targeting, openness, communication policy, respondent, regulator, target audience.

JEL-Classification: E520.

The communication policy of a central bank plays a significant role in pursuing the monetary policy (MP) in modern environment. A high degree of openness and accountability to the public is extremely relevant for inflation-targeting central banks, since the actions of these regulators should form rational economic expectations in the society.

For central banks, whose main objective is to maintain an acceptable level of inflation, economic expectations imply the forecasts of market participants regarding possible future price changes. At the same time, the regulator's actions can influence the economic decisions made by market entities, which turns their expectations into the most important factor in the economic development.

At present, it is difficult to overestimate the importance of the mechanism for managing economic expectations in the society. Households that constantly function in anticipation of price increase take this factor into account in making economic decisions and can thereby ensure the self-sustaining nature of inflation.

For example, vendors that have been operating for a long time in a pro-inflationary environment, expecting an increase in the cost of materials or equipment, are prone to raise prices for their products unreasonably. On the other hand, consumers in such an environment, due to fake news, rumors or other circumstances, are disposed to an unjustified increase in the demand for certain types of goods, which, in turn, affects the rise in price of such goods.

Thus, taking into account the access of the population to information of various levels of reliability, it is important for the central bank to take a leading role in the information space as a reliable and timely source of data. In this regard, the regulator should strive to ensure the monetary policy transparency, the public availability of economic information, and the openness of the process of interaction with the government economic policy.

Transparency Indices

The trend towards greater transparency emerged in the 1990s with the expansion of the inflation targeting regime (Code of Good Practices on Transparency in Monetary and Financial Policies, IMF and Bank for International Settlements, 1998). The world's leading central banks have recognized the benefits of openness and better communication with the public in the implementation of monetary policy. Most modern regulators of both developed and developing countries are striving to increase transparency of their activities, and therefore there was a need to develop a universal index suitable for quantitative measurement of central bank transparency in various countries.

At present, there are many indices that measure transparency of regulators, including Eiffinger-Geraats index, Minegishi-Cournède index, weighted central bank transparency index, CBT-IT index, etc.

In this paper, we used the most well-known international index – the Eiffinger-Geraats index, which classifies the transparency of the central bank in 5 areas:

1. Political transparency. Shows the level of openness of the regulator in relation to the monetary policy objectives. It takes into account the existence of declared official goals, their quantitative indicators and their prioritization in case of contradictions. The level of political transparency is enhanced by institutional arrangements that guarantee the central bank's independence.

2. Economic transparency. Measures the availability of economic information used in implementing the monetary policy and published by the central bank. Thereby, the willingness of the regulator to disclose to the public information on applied models, internal forecasts and other economic data related to monetary policy is considered.

3. Procedural transparency. Assesses the openness of the central bank in relation to decision-making procedures in the field of monetary policy, which includes the existence of an open strategy, protocols that record discussions and voting results in the decision-making on key monetary policy instruments.

4. Information transparency. Discloses the timeliness of publication of decisions in the field of monetary policy and completeness of their explanations, as well as the presence of indications of future possible actions of the regulator.

5. Operational transparency. Reviews the extent to which operational targets are met, the disclosure of forecast errors, and the impact of monetary policy on the achievement of macroeconomic goals.

There are three questions asked in respect of each area, and the central bank is assigned one score for each positive answer.

The work of N. Dincer and B. Eichengreen (2014) measured transparency of 120 central banks of various countries; in particular, the quantitative assessment of transparency of the National Bank of Kazakhstan (NBK) was made in accordance with the Eiffinger-Geraats index: the NBK's transparency was rated at 3.5 points from 1998 to 2004 and 6 points from 2005 to 2010.

In another study by J.G. Golodova and Yu.S. Ranchinskaya (2014) using the Eiffinger – Geraats index, the transparency of the NBK was rated at 1 point in 1994 and at 6 points in 2014. The author did not find more recent studies on measuring the NBK's transparency using the index.

Thus, the most recent assessment of the NBK's transparency was conducted 8 years ago, before the NBK moved to the inflation targeting (IT) regime in 2015; therefore, at present, measuring the NBK's transparency becomes necessary to assess the effect of IT regime on the Bank's communication policy.

Communication Policy Channels Used by the NBK

Since the NBK's transition to the IT regime in 2015, transparent communication of monetary policy has become one of the key elements implemented by the NBK. The effectiveness of the IT regime largely depends on inflation expectations of the public and the confidence of economic entities in the central bank's policy. As a result, transparency of the regulator is one of the main instruments of the pursued monetary policy.

Currently, the NBK uses a whole range of regular and non-regular communication channels to provide information to the public. The main regular channel for disseminating information on the monetary policy is the NBK's official website, with press releases, reviews, information on inflation expectations of the population, monetary policy reports, annual reports and other materials being published on its platform on a regular basis.

The documents published on the official website based on which a current assessment of the NBK's transparency was conducted are presented below:

- 1) Press release about decisions on the base rate is a key document reflecting decisions made by the regulator on the base rate and the factors contributing to such decision supported by the necessary statistical information;

2) Monetary Policy Strategy until 2030 published in 2021, which is aimed at strengthening the capacity to ensure price stability and reinforcing the foundation of the inflation targeting regime; it contains inflation targets and defines the monetary policy principles for the medium- and long-term perspective;

3) Monetary Policy Report (the former Inflation Report) enhances the NBK's communication channel with regard to the analysis of lending terms and conditions, financial markets, internal economic processes and a more detailed disclosure of the implemented monetary policy;

4) The Annual Report of the National Bank of the Republic of Kazakhstan includes the key outcomes of the NBK's operations for the past year;

5) The Law of the Republic of Kazakhstan "About the National Bank of the Republic of Kazakhstan" sets forth the main provisions about the NBK's operations;

6) The National Bank's Macroeconomic Survey is intended to improve communications between the National Bank and professional market participants and presents an overview of independent opinions, assessments and expectations of professional market participants regarding the developments in the domestic and global markets;

7) Resolution of the Monetary Policy Committee is the document containing information about decisions made by the NBK as part of monetary policy.

In addition, it is necessary to mention regular meetings of the NBK officials with representatives of the expert community of the financial market and the information published on the NBK's website and devoted to the Monetary Policy Committee and its rules of procedure, held in order to increase transparency and effectiveness of the monetary policy communication.

Measuring the NBK's Level of Transparency

To conduct a comprehensive assessment of the level of transparency in the NBRK and the possibility of its comparison with previous studies, the Eiffinger-Geraats transparency index was used in the study.

The end result of this index is an indicator that reflects the extent to which, out of the maximum possible, the regulator provides information to the public, whose economic expectations it seeks to influence.

In order to improve the understanding of the results, the final figures are expressed as a percentage. To do this, the index used in the study and having a minimum value of 0, a maximum of 15, and a step of 0.5 is expressed as a percentage, where the minimum is 0, the maximum is 100%, and the step is 3.33%.

The NBK's transparency has been measured in accordance with the Eiffinger-Geraats method and is presented as its percentage (Table 1).

Table 1

Assessing transparency of the National Bank of the Republic of Kazakhstan according to the Eiffinger – Geraats method

Index component	Sub-index	Sub-index component	Note	Score	%
Political transparency	Formulation of the monetary policy goal, prioritization of objectives	Monetary Policy Strategy Until 2030	is available	1	6.67
	A quantitative goal for monetary policy	Monetary Policy Strategy Until 2030	is available	1	6.67
	The framework of NBK's communication with the Government	The Law "About the National Bank of the Republic of Kazakhstan"	is available	1	6.67

Economic transparency	Availability of economic data	Monetary Policy Report, Market Review, Annual Report	is available	1	6.67
	Macroeconomic model disclosure	NBK's website	is available	1	6.67
	Regular publication of macroeconomic forecasts	Monetary Policy Report	is available but without public coverage of forecasts on MP instruments	0.5	3.33
Procedural transparency	Description of rules and mechanisms of monetary policy implementation	Monetary Policy Strategy Until 2030	is available	1	6.67
	Explanation of the regulator's decisions	Press release	is available	1	6.67
	Publication of voting data in the decision-making on key monetary policy instruments	-	is not available	0	0
Information transparency	Timeliness of publication about the change in monetary policy goal/instruments	Press release	is available	1	6.67
	Completeness and quality of information accompanying the regulator's decisions	Press release	is available	1	6.67
	Disclosure of intentions about further actions/priorities of monetary policy	Press release	is available	1	6.67
Operational transparency	Regular evaluation of the degree of operational goal attainment	Monetary Policy Report	is available	1	6.67
	Regular presentation of information about the impact of macroeconomic environment on monetary policy	Monetary Policy Report	is available but without discussion of errors in previous forecasts	0.5	3.33
	Assessment of monetary policy outcomes with the frames of macroeconomic goals	Monetary Policy Report	is available but without the explanation of the MP contribution to the goal achievement	0.5	3.33
Overall score				12.5	83.4

Thus, Table 1 shows that the level of NBK's transparency, compared to the most recent assessments of its transparency, increased by 6.5 points and amounted to 12.5 points out of 15 possible (83.4%) according to the Eiffinger-Geraats method. The main growth factors were such indicators as "Description of rules and mechanisms of monetary policy implementation", "Macroeconomic model disclosure", "Explanation of the regulator's decisions" and "Disclosure of intentions about further actions/priorities of monetary policy".

Such sub-indices as "A quantitative goal for monetary policy", "Regular presentation of information about the impact of macroeconomic environment on monetary policy", "Timeliness of publication about the change in monetary policy goal/instruments", "Regular evaluation of the degree of operational goal attainment" and "Completeness and quality of information accompanying the regulator's decisions" increased by 0.5 points compared to the assessment of NBK's transparency presented in the paper of J.G.Golodova and Yu.S.Ranchinskaya in 2014.

However, there is still a sufficient resource to increase the level of NBK's transparency, especially in the operational and procedural areas, which are currently rated by the author at 2 points out of 3 possible.

Further improvement of the NBK's communication policy can be ensured by disclosing personal voting results when making decisions on the key monetary policy instruments, publishing forecasts about monetary instruments and discussing errors in previous forecasts.

Using the Flesch-Kincaid Readability Index

In order to analyze the regulator's transparency more comprehensively, it is necessary to assess the availability of information provided to the public. To do this, the Flesch-Kincaid Readability Index is used in the study as the most common and proven method, correlating with other readability indices by 91%.

The readability index measures the difficulty of reading a text by the reader. The higher the result, the more readable the text for the user, which is especially important for non-professional audiences. The readability of a text depends on complexity of the used vocabulary, terminology and syntax.

The essence of the method used is to measure complexity of a text based on an average sentence length in words and an average number of syllables per word. The Flesch-Kincaid formula looks as follows:

$$0.39 \times ASL + 11.8 \times ASW - 15.59,$$

where ASL is an average sentence length and ASW – an average number of syllables per word.

The described formula results in the number of years of study necessary to understand the information to be read.

Many experts believe that simple readability formulas, including the Flesch-Kincaid method may not be accurate enough because, despite the fact that the sentence length and the word length affect complexity of perception, measuring the perception of information is a more complex process that must also take into account the amount and complexity of professional terminology in the text. However, in the absence of alternatives, readability indices can show an approximate level of text complexity.

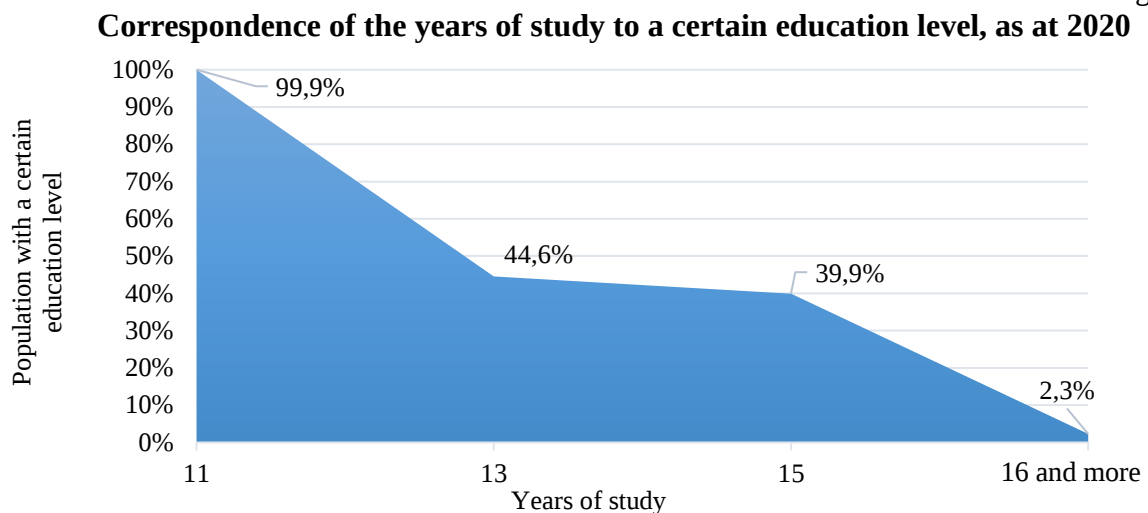
Since the Flesch-Kincaid index was originally developed for the American education system, it needs to be adapted to the local education. To do this, the author correlated the Flesch-Kincaid scale and the NBK's target audience classified by the level of education (Figure 1). The NBK's target audience was taken to be the economically active population of the Republic of Kazakhstan, who receives income, manages their assets and, therefore, is interested in the pursued monetary policy to varying degrees, and is divided into the following categories:

1st Category – lower level of the boundary includes those with secondary education (school/high school), which corresponds to 11 years of study on average (99.9%);

2nd Category combines those who got elementary vocational (specialized) education (technical schools, colleges), which is equivalent to 13 years of study on average (44.6%);

3rd Category combines those with higher education (university), which takes 15 years of study on average (40.3%);

4th Category – the upper level of the boundary, which includes graduate students, PhD students and other students who have studied for 16 years and more (2.3%).



As Figure shows, in order to ensure that the population fully understands the information disclosed by the regulator, the NBK should strive for a score of 11 on the Flesch-Kincaid scale. With an index value of 14 points, the understanding audience is less than half of the target group, and with an assessment of 16 or more points, the percentage of people perceiving information is extremely insignificant.

Measuring the NBK's Effective Transparency

To conduct a comprehensive assessment of the regulator's transparency, the use of the Eiffinger-Geraats method alone is not enough, since this index only shows the presence or absence of communication tools in the central bank's monetary policy and not the degree of their availability to the public. To calculate the effective transparency index of the NBK, the author assessed the level of readability of published information for each component of the Eiffinger-Geraats index. The author assessed the readability of texts published on the NBK official website and translated into English, since no verified and adapted to the Kazakh or Russian languages indices for measuring the complexity of texts were found by the author.

When calculating the readability level, publicly available online programs were used to determine the complexity of texts that were randomly selected from numerous resources of this kind and are based on the Flesch-Kincaid formula (charactercalculator.com, mobilefish.com, wordcalc.com and editpad.org). The table reflects the readability score of the NBK texts, whose average values are calculated using the above four resources and are correlated with the results of transparency measurement using the Eiffinger-Geraats method (Table 2).

Table 2

Measuring the effective transparency of the National Bank of Kazakhstan

Sub-index component	Assessment under the EG method, %	Assessment under the Flesch-Kincaid scale		Links to the sources of assessed texts	Result 2*4, %
		score	%		
1	2	3	4	5	6
Formulating the monetary policy goal, prioritization of objectives	6.67	13.2	44.1	https://nationalbank.kz/en/page/osnovnye-napravleniya-dkp	2.9

¹⁰ According to the National Compendium "Statistics of the Education System of the Republic of Kazakhstan" of the "Information and Analytical Center" JSC: Nur-Sultan, 2022.

				(Chapter 1. Goal and vision of the Monetary Policy Strategy until 2030, Appendix 2)	
A quantitative goal for monetary policy	6.67	9.7	99.9	https://nationalbank.kz/en/page/osnovnye-napravleniya-dkp (Chapter 1. Goal and vision of the Monetary Policy Strategy until 2030)	6.7
The framework of NBK's communication with the Government	6.67	14.7	40.7	https://adilet.zan.kz/rus/docs/Z950002155 (Article 22, Chapter 5)	2.7
Availability of economic data	Money supply	6.67	11.6	https://nationalbank.kz/ru/page/obzornost-inflyatsii-dkp (Sections: Money Supply, Inflation, Labor Market)	4.0
	Inflation		12.4		
	Unemployment		12.8		
	GDP		13.5	https://nationalbank.kz/ru/news/godovoy-otchet (Section; Real Sector of the Economy)	
Macroeconomic model disclosure	6.67	15.0	39.9	https://www.nationalbank.kz/ru/page/sistema-prognozirovaniya-i-analiza-fpas (NBK website)	2.7
Regular publication of macroeconomic forecasts	3.33	13.7	43	https://nationalbank.kz/ru/page/obzornost-inflyatsii-dkp (Section: Dynamics of the Economic Development under the Baseline Scenario)	1.4
Description of rules and mechanisms of monetary policy implementation	6.67	14	42.3	https://nationalbank.kz/en/page/osnovnye-napravleniya-dkp (Appendix 3)	2.8
Explanation of the central bank's decisions	6.67	12.2	67.2	https://nationalbank.kz/ru/news/prezidentskaya-relizy/14660	4.5
Publication of voting data in the decision-making on key monetary policy instruments	0	0	0	-	0
Timeliness of publication about the change in monetary policy goal/instruments	6.67	12.2	67.2	https://nationalbank.kz/ru/news/prezidentskaya-relizy/14660	4.5
Completeness and quality of information accompanying the regulator's decisions	6.67	12.2	67.2	https://nationalbank.kz/ru/news/prezidentskaya-relizy/14660	4.5
Disclosure of intentions about further actions/priorities of monetary policy	6.67	12.2	67.2	https://nationalbank.kz/ru/news/prezidentskaya-relizy/14660	4.5
Regular evaluation of the degree of operational goal attainment	6.67	13	44.7	https://nationalbank.kz/ru/page/obzornost-inflyatsii-dkp (Section: Money Market)	3
Regular presentation of information about the impact of macroeconomic environment on monetary policy	3.33	13.4	43.7	https://nationalbank.kz/ru/page/obzornost-inflyatsii-dkp (Section; Decisions on the Base Rate)	1.5
Assessment of monetary policy outcomes	3.33	12.4	62	https://nationalbank.kz/ru/page/obzornost-inflyatsii-dkp (Section: Inflation)	2.1
Overall score	83.4	12.8	49.5		47.8

Based on Table 2, one can conclude that the average number of years of study necessary for the reader to understand the information provided by the regulator reaches 13 years. This indicator means that approximately 49.5% of the target audience is able to fully perceive the

signals given by the NBK, and the rest of the population – 50.5% – is not covered by the regulator's communication policy.

Therefore, the effective transparency index obtained as a result of summing the transparency levels of each component of the sub-index, adjusted for the corresponding Flesch-Kincaid index score, was 47.8%.

Conclusion

Based on the results of the analysis, a conclusion can be made that the most difficult text for perception of the NBK audience is the description of the macroeconomic model on the regulator's website – this information is understandable only to 39.9% of the public. On the other hand, the most accessible information that is understandable to almost the entire audience of the NBK is the quantitative goal for monetary policy.

The most significant contribution to the overall communication policy of the NBK is made by information from press releases and the Monetary Policy Report: more than half of the information, or 8 sources out of 13 presented in Table 2, are contained in these documents, which makes them the most important communication resources. In this connection, improving the readability of these documents can significantly increase the level of the NBK's effective transparency.

Thus, an attempt was made to objectively measure the NBK's transparency using the Eiffinger-Geraats index, whereby the NBK's transparency was rated at 12.5 points out of 15 (83.4%). In recent years, the openness of communication policy improved on all index components; however, it is noted that the main growth drivers were procedural and information transparency, including such sub-indices as explanation of the monetary policy strategy and decisions of the regulator; the quality and timeliness of information provided by the regulator and disclosure of intentions about further actions/priorities of monetary policy, which, of course, is related to the fact that the NBK is adhering to the inflation targeting regime in carrying out its activities.

Despite the increased degree of transparency of the National Bank since 2014 by 6.5 points compared to the assessment of the NBK's transparency in the study by Zh.G. Golodova and Yu.S. Ranchinskaya (2014), there is still a room for the NBK to further increase the level of transparency in all components of the sub-index, except for political and information transparency, where the maximum was achieved (3 points out of 3).

The author measured the degree of accessibility to information communicated by the NBK to a wide audience using the Flesch-Kincaid Readability Scale. According to the analysis of the texts, a reader needs to have 13 years of education on average to understand the signals of the regulator, which corresponds to 49.5% of the economically active population.

The final step was to adjust the level of regulator's transparency to the degree of readability of texts published by the NBK. As a result of combining the methods, an estimate of the effective transparency of the NBK was calculated, which amounted to 47.8%. The advantage of this method is that its result shows not only the amount of information provided by the regulator but also helps understand how accessible the communication policy is for perception by a wide audience.

The decrease in the level of regulator's transparency as calculated in accordance with the Eiffinger-Geraats index, by almost 2 times, when adjusted for the readability index, points to insufficient attention to the problem of perception of information by the public that the NBK seeks to influence.

In connection with the above, the author believes that there is a need to refocus the regulator's attention from the amount of information provided towards the quality of public understanding of the signals given by the National Bank of Kazakhstan, since at present only about half of its target audience fully perceives information provided within the framework of communication policy.

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