

# 18 Coping with shrinkage in old and young mining cities in Slovakia

The cases of Banská Štiavnica and Prievidza

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## Introduction

Although urban shrinkage is a global phenomenon (Pallagst, Wiechmann and Martinez-Fernandez 2013, Richardson and Nam 2014), East-Central Europe is often identified as a region with a large share of shrinking cities (Turok and Mykhnenko 2007, Stryjakiewicz 2014, Haase, Rink and Grossmann 2016). Numerous cities, also in Slovakia, are losing population with multiple consequences. This is especially the case of lower-ranked cities in peripheral locations with industrial and mining traditions. This process has attracted the attention of scholars in Slovakia primarily during the last decade. In addition to the more general focus on urban population development and shrinkage (Šprocha et al. 2017), attention had been paid to planning in shrinking cities (Buček and Bleha 2013) and the specific demographic conditions and policies in Bratislava (Bleha and Buček 2015), and Banská Štiavnica (Buček and Bleha 2014). Nevertheless, more extensive insight into shrinkage processes, as well as policies adopted in such cities are missing in Slovakia. The term “shrinkage” is not widely used (no equivalent exists in Slovak) and only a minor number of cities face a significant impact of shrinkage on their functioning (Buček and Bleha 2013).

The geographical focus of this study is on the cities of Banská Štiavnica and Prievidza. They can be considered as mining cities (Martinez-Fernandez et al. 2012) due to their dependence or development based on mining (silver and gold in Banská Štiavnica, brown coal in Prievidza) and linked industries. Both are typical in that they have a non-mining future. While in Banská Štiavnica mining activities ceased, Prievidza is in the last phase of extraction, with the expected closure of mines in 2023. Differences in the mining period, population size, location conditions, scale, and importance within the Slovak economy offer excellent potential to study the reasons and effects of shrinkage, changing development priorities, and their implementation from a comparative perspective. We also intend to contribute to the debate on the emergence of shrinkage, as well as mitigation and adaptation approaches to shrinkage in cities facing mining-induced decline under postsocialist conditions. The key research questions include the following:

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(1) Are these cities able to cope with shrinkage alone? and (2) Are more sophisticated approaches applied in the case of a “young” shrinking city compared to a long-term shrinking city? Although many experiences can be unique and hardly transferrable, they can provide useful knowledge from an international perspective. We used data on population, social and economic development provided by the Statistical Office of the Slovak Republic, in addition to governmental planning documents, company information (Trend 2019), and reports prepared by advisory and non-governmental bodies.

### **Theoretical framework**

To understand shrinkage in the selected cities, we must consider the unique processes of postsocialist transition, especially in its early period. We can mention the introduction of a market economy (including privatization and the collapse of less competitive local businesses), a reduction of public funds transfers to cities, and an absence of selected public policies (e.g., in housing). Additionally, the state-building process in Slovakia (a new state since 1993), including public administration reorganization and progress in decentralization, is important. As a result, in addition to population loss caused by birth rate decline and out-migration, typical signs of shrinkage such as changing needs for public services, deindustrialization, unemployment growth, unused and abandoned premises (Haase, Rink and Grossmann 2016; Stryjakiewicz 2014) appeared in Slovakia.

Urban shrinkage substantially affects local public sector operations. It leads to changed local services and infrastructure demands accompanied by inevitable managerial and local finance implications (Wolf and Amirkhanyan 2010). Among the typical consequences of shrinkage, we can mention infrastructure overcapacity, housing market imbalance and decreasing local property values, school closures, increased spending on social and health care, fewer public service users (e.g., of public transport), and a decline in local public sector jobs. These challenges are often multiplied by decreasing revenues (from taxes and fees for services), which further threaten the provision of local services and new investments. Not surprisingly, financial issues are crucial in the debate concerning the right-sizing of cities facing shrinkage (Hummel 2015). The adaptation of local public sector operations to a modified financial framework is significant in the battle against the effects of shrinkage. This depends, however, on country specific local finance frameworks. Primarily it is a question of local government powers in relation to local budget revenues. Under postsocialist conditions, we can also observe the limited scope of fiscal decentralization (e.g., as a portion of local government budgets compared to total public budgets), more equalizing approaches, and fewer direct links of the local tax system to the local economy.

The non-renewability of resources places postsocialist mining cities at particular risk. This vulnerability has been exacerbated by the fact that socialist era mining developed outside global markets. The new economic framework, uncompetitive production, long-term underinvestment, difficulties with labor safety standards, and rising environmental standards have placed this sector and many mining cities under multifaceted pressure, including Ostrava in the Czech Republic (Rumpel and Slach 2012) and Walbrzych in Poland (Jaroszewska 2019). Smaller, less efficient mines, with lower quality coal or ores, located at the periphery and dependent on state support, faced closure or a substantial reduction of operations. Some mining operations have survived under the threat of social and political tensions thanks to close production linkages that are not easy to replace (energy production and distribution systems are often defined as national economic interests) or due to the large number and traditionally high status of miners within the workforce.

The twilight of mining has seriously threatened the future of many local communities. However, for those mining areas facing the exhaustion of resources, we can accurately predict the decline of mining according to the exhaustion of resources, technological limits, and market conditions. These areas offer the opportunity to prepare economic restructuring and regeneration strategies when the first signs of irreversible changes and shrinkage are known. They can mitigate the effects of diminishing mining activities and assist in the adaptation to a future “non-mining existence”. Typical responses include re-industrialization (new segments of industry, including culture and creative industries), deindustrialization and a shift to services (e.g., tourism), improvements to the physical environment (e.g., housing renewal), environmental sustainability, and the protection of public sector employment. Responses are usually context-specific and dependent on external actors, including central state and foreign investors (Rink et al. 2012, Pallagst et al. 2013).

We decided to follow the institutionalist and governance concepts and their application for the successful adaptation to shrinkage (Dale 2002). They reflect the important role of context (historical, political), institutional influences (relevant organizational base and the more general regime, rules, and regulations), multiple actors involved, as well as the symbolic position of mining as a traditional sector of the economy. The specific multi-level governance system established in Eastern German mining regions after 1990 (Harfst and Wirth 2011) and the governance approach to the economic regeneration of the shrinking city of Ostrava (Rumpel and Slach 2012) are good examples. Institutional development and a coordinated effort between a plethora of actors/stakeholders’ capacities and resources (with a significant role played by external actors) are essential. It is reflected in various partnership-based strategies, policies and planning documents, and implementation projects. They mostly focus on local economic development measures, the

labor market, and responses in the field of “public consumption” (social services, education, housing, infrastructure), including its financing.

When focusing on urban shrinkage and governance in the postsocialist Slovak context, we must also consider public administration and territorial organization changes. The existing dual public administration model is based on separate lines of state administration and self-government and the related division of powers. The revised territorial division consists of eight self-governing regions, 79 districts, and 2,890 local self-governments (141 have the status of cities). The state administration below the central level represents district offices representing central state ministries and agencies. They have a dominant role in selected fields (e.g., social affairs or the labor market). Both case study cities are district centers (Banská Štiavnica district—16,134, Prievidza district—134,546 inhabitants; 2018).

Local self-governments, introduced in 1990, developed as the main power center at the local level. The term local self-government is used instead of local government to signify democratic changes, autonomy, link to administrative tradition, and the differences compared to the previous socialist regime. Local self-governments have wide-ranging powers in managing all local affairs and the provision of public services, including, e.g., development planning and regulation, primary education, local roads, and waste management. Although they have limited autonomous revenue-raising powers, stable tax revenues are in general guaranteed by legislation and they may access other sources such as intergovernmental grants. Due to the decentralization processes introduced in 2001, selected powers (e.g., in secondary education, regional roads, regional development coordination) were obtained by regional self-government. This means that more levels and lines of public administration are active on each city’s territory according to their powers, and their cooperation is often inevitable.

## **Brief city profiles**

### ***Banská Štiavnica***

Banská Štiavnica is located in a mountainous region in the southern part of central Slovakia. At present, its population is slightly above 10,000 (2018). Nevertheless, in 1782, it was the second-largest city in the territory of present-day Slovakia with more than 22,000 inhabitants. Thanks to silver and gold mining, the city grew. Natural resource exploitation supported its development into a vibrant historical city with an architecturally rich built environment. The decrease in mining efficiency, problems with groundwater, and increasing international competition caused a substantial reduction in mining activities, especially since the 19th century, led to long-term economic, social as well as population decline. This trend was partly mitigated by attempts to locate new activities since the 19th century. Socialist industrialization

after 1948, later accompanied by an effort to transform the city into a service center (secondary education, tourism), played a major role. Depopulation tendencies were also mitigated by new socialist mass housing developments that attracted new inhabitants. Since the change of regime in 1989, the city has had to cope with shrinkage-related pressures caused by the postsocialist transition including population decline, a collapsing local economy, and a poorly maintained yet valuable historical city center. The city's long-term shrinkage was accompanied by the loss of its economic and administrative position in the broader region. The development core shifted from the traditional, resource-rich mountain areas of the region (with Banská Štiavnica at its center) to the more accessible Hron river valley and the city of Žiar nad Hronom, which grew thanks to the location of an aluminum factory during socialist industrialization. Banská Štiavnica decayed into a peripheral, second-rate urban center, with its own small functional region based on less intensive commuting flows and the provision of services to its hinterland.

### ***Prievidza***

Prievidza, located in the western part of central Slovakia in the upper Nitra River basin, is surrounded by mountains and beyond the main railroad and highway lines. It is a medium-sized city by Slovak standards with a population greater than 45,000 as of 2018. It boasts of a compact urban environment with the neighboring small spa town of Bojnice. During most of its history, the city served as a center for small local services and a market for the surrounding agricultural region, with minor factories (food, wood, and construction materials processing). In 1930, it had only 5,608 inhabitants. Although brown coal resources had been identified by the mid-19th century, its extraction was limited partly due to its poor quality. The first phase of larger-scale mining started after the city's connection to the railroad network at the end of the 19th century. Eventually, three mines (Handlová—1909, Nováky—1939, Cígeľ—1962) were established. Coal production peaked in the 1970s and 1980s at about 5 million tons per year (Office of the Government 2018) as traditional energy resources in Slovakia became increasingly scarce. The primary consumers of local coal (Szöllös 1993) have been the neighboring power plants in Nováky and Handlová (total installed capacity almost 600 MW in 1990), along with the chemical industry in Nováky (plastic and carbide production). The construction material industry based on waste by-products generated by the Nováky power plant also contributed to the local industries. Thus, Prievidza developed into internally integrated region of mining, energy production, and processing industry, considered the fourth most important industrial area of the country, with approximately 23,000 employees in 1980 (Mládek 1990). The city had been planned principally as a housing and service center for the neighboring mining and industrial areas. It led to rapid growth during the second half of the 20th century till 1989. Nevertheless, the city faces

the decline of an inherited economic structure, which has led to intensive shrinkage in the last two decades.

### Latest population and socioeconomic change

Historical context is crucial to understanding the developmental trajectories of both cities, whose historical backgrounds could not be more different. As Banská Štiavnica was the third-largest city in the Hungarian part of the Austro-Hungarian Empire in the 18th century, Prievidza was a very small town (Figure 18.1). The socialist period changed everything. Prievidza was planned as one of the development cores with intensive industrialization and immigration. It was one of the leaders in relative population growth and experienced a five-fold increase during the socialist era. As a result, it was one of 11 cities with more than 50,000 inhabitants in Slovakia. On the other hand, Banská Štiavnica represents an entirely different story. The city had been systematically losing population since its peak in the 18th century, although less dramatically during the last 150 years. The periods during and immediately after WWI and WWII (including the emigration of part of the local population) also had a negative influence. After World War II, population development became more stable, and the population slightly increased in the later phase of the socialist period. The demographic scissors in the growth of Prievidza and the stagnation of Banská Štiavnica during the socialist era say much about the diverging social and economic trajectories of these cities. Most Slovak mining cities lost their position, while others gained at the expense of these historically formed cities. From the demographic point of view, this stagnation was a combination of lower

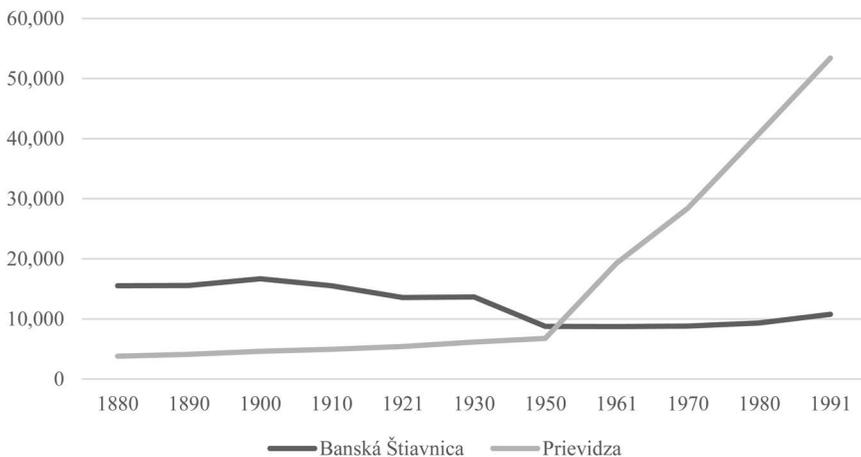


Figure 18.1 Population change in 1880–1991 (according to historical census data).

Sources: Federal Statistical Office (1978) and Statistical Office of the Slovak Republic (2003).

natural increase, negative net migration, and unfavorable trends concerning the age structure.

The fall of the Iron Curtain triggered the deterioration of the demographic situation for Banská Štiavnica and was also a negative turning point for Prievidza. Annual population loss became pronounced around 2000. Prievidza lost its position among Slovak cities with more than 50,000 inhabitants, and Banská Štiavnica's population fell below 10,000. A decomposition of the overall trend to the natural increase and migratory component highlights some differences between the cities in terms of population loss. In Banská Štiavnica, the natural increase was negative from 1995 until 2017; however, the slight increase in 2018 does not necessarily indicate the start of a positive trend. The balance in the number of births and deaths remained positive up to 2013 in the case of Prievidza, mainly due to a younger age structure. However, the city has been losing this advantage continuously. The out-migration component has played a critical role in population stagnation and loss, although the period after 1993 has been volatile in terms of trend curves. Prievidza's population decline is a result of higher emigration throughout the entire period. Banská Štiavnica faced better times before 2003, but since then, annual decreases have prevailed. Population loss is induced more by the migratory component in the case of Prievidza since its annual decrease of about 10 persons per 1,000 is one of the highest negative values among Slovak cities.

Population aging is the most specific feature of the population trend in both cities (Figure 18.2). The aging index (65 years and above per 100 population 14 years and below) of the population of Banská Štiavnica rose from 45 to 120 between 1996 and 2018, and from 29 to 152 for the same period for Prievidza. The increase in the senior population of the Slovak Republic

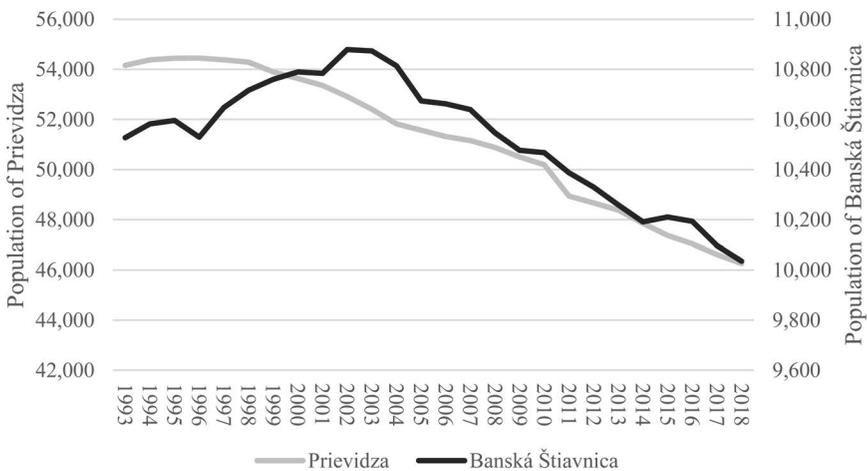


Figure 18.2 Population change in the postsocialist period.

Source: Statistical Office of the Slovak Republic (2019).

was 50 persons (to 102 in 2018) during this period. Prievidza is an “older” city than Banská Štiavnica, as expressed by the aging index, and one of the “oldest” cities in Slovakia. Such a high level of aging is a combination of the outflow of the population in the reproductive age (direct aging) with a lower number of births as a secondary effect. Together with this, large cohorts that were born during the socialist era and moved to the city are aging. This is due to a shift from the productive to post-productive age (aging from the middle) as well as increasing life expectancies (aging from the top). Prievidza is facing some suburban trends like other cities, but it is also losing its population to other regions, mainly Western Slovakia and the capital city of Bratislava. Since this migration relates to younger and middle-aged inhabitants, the impact on aging is clear.

Both cities have suffered from the strong impact of postsocialist transformation, accompanied by reduced employment opportunities and the slow expansion of new businesses. While in the case of Banská Štiavnica, shrinkage has been visible for two centuries (with a new phase occurring after state socialism), in the case of Prievidza, major changes only began after 2000. Although there is an absence of detailed social and economic data at the city-level, district-level data is available. The population of the district of Prievidza in 2018 was 95.5% of its population in 2000, while the population of the district of Banská Štiavnica in 2018 was 95% of its population in 2000. The changing situation is reflected in the higher level of unemployment, which culminated in 2012 at 13% in Prievidza district, and at 18.5% in Banská Štiavnica district. Thanks to the positive influence of the economic cycle, the employment situation subsequently improved. The unemployment rate in Prievidza district has remained close to the national average for a long time (e.g., it was 5.2% in Prievidza district compared to the national average of 5.9% in December 2017) and reflects stability partly guaranteed by the continued role of the local economy in the national energy production system and its ability to attract some new investors. The social situation and attractiveness of both cities are reflected in the average monthly salary of their inhabitants, which is below the national average in both cases (2017 average salary in Slovakia—1095 EUR, in Prievidza district—993 EUR, in Banská Štiavnica district—690 EUR). In Banská Štiavnica, salaries are stagnating and uncompetitive. The change of salary level in Prievidza is parallel to the nationwide trend, although on a lower level. While access to jobs has improved, average salaries remain low compared to better-performing Slovak regions due to employment in less knowledge-intensive and low-paid sectors of the economy.

### **Effects of and adaptation to shrinkage**

The postsocialist transformation and its accompanying reforms had many new and not always positive effects for cities. Many anti-shrinkage activities were adopted under the pressure of changing local economic and social

situations. Major responses have occurred during the last two decades thanks to market economy consolidation, the clarification of the role of local self-government and the state, decentralization, and better access to international experience and resources.

### ***Postsocialist transition and anti-shrinkage activities in Banská Štiavnica***

Due to long-term shrinkage, initiatives addressing depopulation have been implemented in Banská Štiavnica since the 19th century. These measures had the greatest mitigating effect during the socialist regime (1948–1989) but were not sustainable after 1989. Earlier mitigation activities included industrialization (establishment of a tobacco factory in the 19th century; new wood processing and furniture, engineering, textile/clothing industry; completion of a standard gauge railroad after 1945; an attempt to revitalize mining and ore processing since the 1970s), heritage revitalization (renovation of historical buildings after 1978; initiation of massive national media attention to valuable local heritage since the 1980s), quaternary sector development (general and vocational secondary education; tertiary education—field centers of some universities; scientific and cultural institutions location—Slovak Academy of Sciences branch, Mining Museum, State Mining Archive); and, improved living conditions (public housing construction to attract new inhabitants and to resettle inhabitants who previously lived in the neglected historical city center and new public facilities in 1980s).

The postsocialist transition has posed a serious challenge to the local society. Many larger industrial employers collapsed (mining activities ceased in 1993). The local tobacco factory was closed a few years after its privatization by the multinational company Reemtsma (later Imperial Tobacco). The opening of global markets led to the collapse of the non-competitive local textile and clothing industries. Local engineering factories closed or experienced diminished production. Other local industries, such as wood processing and construction, also faced problems. Only residual minor employers remained active in these traditional sectors. This contributed to higher unemployment, migration, and abandoned premises.

However, the postsocialist transition also offered many new opportunities. Numerous initiatives addressed the rising pressure of shrinkage. Adopted strategies (City of Banská Štiavnica 2006) emphasized the need to change the development base from mining and industry to tourism, small and medium businesses, and public sector activities (state administration, education, health, and social services). In particular, tourism-oriented activities moved to the forefront of local development. The city's rich mining history, attractive buildings, and surrounding natural beauty, together with its status as a UNESCO World Heritage Site since 1993, is exploited as in other former mining cities around the world (Pretes 2002, Dale 2002). The first Geopark in Slovakia, which combines mining monuments with

the unique environment of the most massive Carpathian stratovolcano, was established here. A new winter tourism center on the outskirts of the city (Salamandra Ski Resort) has been operating since 2010. Other locally specific, mild adventure tourism products are under preparation (City of Banská Štiavnica 2019). The number and variety of events are increasing each year. Positive trends are documented by increases in the number of beds in accommodation facilities from 665 in 2001 to 1,182 in 2017 (data for the Banská Štiavnica district, Statistical Office of the Slovak Republic 2019).

Ongoing shrinkage mitigating efforts include small and medium business development (besides tourism services, in industries with local traditions); physical environment revitalization (historical buildings in the city core, socialist housing estates, public spaces), accessibility improvements (sustaining and improving the quality of roads), public transport (rail and bus access and service), retaining public sector functions and employment (district level offices; nationwide institutions in mining, water management, science; secondary and minor university education).

### ***Postsocialist transition and anti-shrinkage activities in Prievidza***

The Prievidza city-region has remained strongly dependent on its traditional coal-energy base (City of Prievidza 2016) and only partially diversified its local economy. The transition period affected the local economy seriously but not across all sectors. Coal production gradually decreased and the mining workforce fell below 3,500 employees in 2018 compared to 9,000 in the mid-1990s (employment peaked at an estimated 10,000–13,000 employees in the 1970s), and the Cígeľ mine was closed in 2017. The power plant in Nováky closed part of its power generators, and employment has declined to less than 250 employees (2018), compared to 1,700 during the socialist era (Slovenské elektrárne 2013, Office of the Government 2018). The leading local chemical enterprise in Nováky (Fortischem) is in operation after a partial modernization with less than 1,000 employees (2017), compared to 2,500 in the mid-1990s. Two companies (Xella and Porfix) are active in construction material production based on porous concrete and enjoy a stable position on the international market. The privatization of the traditional local food company by Nestlé in 1992 and the expansion of its culinary production (almost 800 employees in 2017, Trend 2019) has also improved the local economy. Employment in many other local companies decreased during the transition as a reaction to the necessary adaptation to market conditions as well as technological modernization.

After decades of rapid, post-WWII growth, the city has had to cope with long-term shrinkage. Suitable general conditions, including a consolidated national economy, EU membership, easily accessible expertise, and increased capacities of the local self-government have played a decisive role in such efforts. Nevertheless, the phasing-out of the local mining-energy system may prolong shrinkage and have more damaging effects on

unemployment and out-migration. In order to adapt to the “post-mining” era, the main focus is directed to local economy restructuring and diversification. In particular, links to the expanding automotive industry in western Slovakia, with companies like Brose, Il Jin, and GeWiS have been sought-after. A set of small and mid-sized innovative companies in light-sport aircraft production (Aerospool), construction products (INCON), plastics (JP Plast) are also operating. However, some new foreign investors (e.g., Yazaki—wires, Geox—shoemaking) have left the city for other locations with a cheaper labor force. Mining and industrial heritage will be added to already operating tourism industry sites (the spa, castle museum, and zoo in the adjacent town of Bojnice).

Local economy reorientation also requires the large-scale adaptation of the transport, technical and business infrastructure (with an industrial park and business incubator; new research and development facilities; connection to the national highway network; modernization of the local airport, and the adjustment of the inherited local infrastructure previously serving mining and energy e.g., a new source of heating to replace centralized heating based on local coal). It also requires a reorientation of higher education, including the conversion of schools focused on mining and chemistry to better meet current needs (secondary schools, undergraduate level university education). Prievidza, as the second-largest urban center of the administrative region (the eastern part of the Trenčiansky region), would like to strengthen its role as an administrative and service center. The post-mining period will also require special environmental, social affairs, and labor market measures (e.g., focusing on the conversion of derelict land and mining areas; improving social and health services focusing primarily on the elderly; requalification opportunities). Expanding foreign investments (e.g., expansion of companies in the automotive industry) and increasing the use of the local airport (better access to business travelers and tourists, increased popularity as glider airport, providing more services) demonstrate the development potential of this region.

## **Governance and local finance in shrinking cities**

### ***Governance***

Both cities are coping with shrinkage thanks to a practical application of the local and multi-level governance approach. Shrinkage mitigation activities have been organized in partnerships and in coordination with many stakeholders, with city governments playing a crucial role. Both cities, together with other local self-governments in the region, have called attention to the shrinking and threatened economic base. Other entities have participated in the preparation and implementation of development initiatives and plans (e.g., master plans, development strategies, community plans, proposing measures and projects).

While miners (represented by labor unions) are among the key stakeholders, they oppose the changes discussed herein. Compared to the closure of mines in Banská Štiavnica in the early transition period, miners in Prievidza had been able to achieve better conditions. Local branches, as well as central representatives of labor unions, have exerted moderate pressure (petitions, negotiations) regarding the suitable mitigation of mine closures and their impact on miners (My Horná Nitra-SME 2018). Thanks to a well-developed social dialogue adopted at all levels, a suitable “exit” strategy and special measures were developed to guarantee their livelihood. This includes specific legislation (Act 385/2019 Compensation Benefits for Miners) that provides generous financial assistance for laid-off miners.

Despite the absence of a national policy addressing shrinking cities, both Banská Štiavnica and Prievidza have enjoyed extensive attention from the national and regional governments. Banská Štiavnica enjoys the support of central state institutions thanks to individual legislation—Act No. 100/2002. It resulted in financing development projects, the location of its institutions, and subsidizing of historical heritage reconstructions. In the case of Prievidza, shrinkage has been countered by ongoing attention to its mining and energy systems. Considerable state resources have been allocated to address the survival of local mines and energy production each year, including more than 100 million EUR per year in the last few years. It is combining three approaches: hidden subsidies in electricity prices (approximately 60% of the annual sum), tax exemptions on coal used for electricity production (approximately 30%), and direct subsidies provided by the Ministry of the Economy to the mining company (Haluš 2011). Recently, the central government (PwC and Office of the Vice-Premier for Investment and Informatization, 2019) has actively participated in formulating specific measures addressing the problems of the Prievidza region. Both cities also benefitted from national development policies addressing Slovak regions in general. Regional self-government is involved thanks to its responsibility for secondary education, transport infrastructure, and its coordinating role in regional development and tourism.

Progress in anti-shrinkage activities has also been achieved thanks to cooperation with the private and nonprofit sectors. In addition to creating jobs, private businesses have participated in the preparation of development documents and offered their own projects for future expansion (PwC and Office of the Vice-Premier for Investment and Informatization 2019). Their involvement in the historical heritage revitalization of Banská Štiavnica and the modernization of the local airport in Prievidza is especially noteworthy. Numerous NGOs, associations, and inter-sectoral institutions focus on environmental improvement, heritage protection, social care (e.g., addressing the elderly and disabled), and enriching cultural life. Selected local activities are supported by large national NGOs such as Pontis and Ekopolis. The NGOs have also been actively calling for the closure of the mining–energy chain in the Prievidza region and supporting the revival of traditions in

Banská Štiavnica. Intersectoral regional tourism organizations are active in both city regions (marketing, coordination in tourism development, including the presentation of coal mining traditions). The business and innovation center (BIC-TI), as well as the Regional Development Agency based on partnership principles, operate in Prievidza.

Attracting external partners with relevant expertise and funding capacities is an important aspect in coping with shrinkage. EU institutions and specialized agencies are crucial for Prievidza. In the case of Banská Štiavnica, its status as a World Heritage Site has had a substantial mobilizing effect. Various external consultancy and advisory bodies provide specialized know-how. They have participated mostly in the elaboration and implementation of various development strategies. For example, Baten&Partners Slovakia participated in a project focusing on the integrated urban development of historic cities in Banská Štiavnica. PricewaterhouseCoopers (PwC and Office of the Vice-Premier for Investment and Informatization 2019) prepared an action plan addressing the transformation of the Prievidza mining region. These cities frequently use the expertise of Slovak universities and research centers, as well as the experiences of their sister cities.

### *Local finance*

Slovak public finances have less extensive fiscal decentralization. Shrinkage-related processes further reduce the financial capacity of city self-governments. Nevertheless, fiscal pressure has not dramatically threatened cities' current budgets. However, more costly measures and development initiatives depend on the ability to develop multi-source financing schemes that include other stakeholders (regional self-government, state, private sector, EU).

The impact of shrinkage on city self-government finances seems less serious due to the reduced scope of powers allocated to local governments, as well as the Slovak local finance system's equalizing/redistributing features. The primary sources of local self-governments revenue in Slovakia include personal income tax (PIT, as shared tax—70% of the total national yield goes to local self-governments), property tax, local fees, and subsidies from the state budget (to selected powers). Pure local income is only comprised of property tax and selected local user fees. Due to population decline, the most sensitive issues for city governments in financial terms are the national formulas of PIT redistribution according to the population number and the subsidies for primary education based on the number of pupils. Cities are not directly financially dependent on local economic situations (e.g., in their main tax revenues), with their minor impact on property tax yield. They also have a minor role in funding costly public policies addressing unemployment, social care, infrastructure networks (provide regional or nationwide companies), and housing. It reduces pressure for more intensive debate on rightsizing and this model gives city representatives a solid basis for day-to-day operation. During the positive part of the economic cycle, accompanied

by rising salaries and low unemployment, local self-governments have a guaranteed income increase. Nevertheless, cities tend to initiate decisions forced by financial scarcity and inefficiency caused by shrinkage.

Prievidza recently lost a large portion of its budget due to its depopulation and relegation to a lower category of cities with less than 50,000 inhabitants since 2012 (more than 500,000 EUR per year). Both cities face decreasing usage of their facilities due to shrinkage. The most typical are school closures caused by the lower number of students. Between 2005 and 2010, two primary public schools in Prievidza and one primary public school in Banská Štiavnica were closed. The lack of demand places pressure on some public services provided locally in Banská Štiavnica (e.g., specialized health services) that face obstacles related to decreasing the scale of their operation. Both cities expect costs associated with care for the elderly and citizens with disabilities (e.g., former miners) to continue rising. Community plans for social services (e.g., City of Prievidza 2018) anticipate new facilities and new service users. These requirements can only be satisfied by the coordinated efforts of all levels of government, insurance companies (social, health), and citizens.

The existing local finance model and impacts of shrinkage have also reduced governments' fiscal capacity to invest in larger-scale measures. They are strongly dependent on external sources of loans or financial transfers provided by higher levels of government, among other non-governmental entities. In 2010, Prievidza almost faced excessive debt proceedings due to its large portion of the debt relative to incomes. The city borrowed money to finance a new industrial park development; however, a lack of capital prevented more comprehensive plans for derelict areas and brown-field regeneration, as well as the conversion of abandoned buildings for new purposes. Thus, the role of the national government is crucial in managing and financing large-scale measures.

## **Discussion**

Banská Štiavnica and Prievidza are among the most typical cases of shrinkage in Slovakia influenced by various phases of their mining and industrial development. Despite the complicated postsocialist era, they have exerted considerable effort to deal with shrinkage. They must form new development bases, stabilize their populations, maintain a suitable physical structure, and find and adapt their functioning to the new conditions. Their approach has been largely based on economic restructuring and diversification. However, overcoming shrinkage is far from complete. As in the case of mining cities in general, various activities (land reclamation, redevelopment, energy source replacements) will be needed for decades. It is clear that the cities alone will not be able to cope with shrinkage. While Banská Štiavnica is already less dependent on external assistance, Prievidza and its phasing-out mining industrial base will be dependent on massive external support for at least the next five to seven years.

The experience of both cities shows that postsocialist development has various local phases. While Banská Štiavnica was faced with large-scale changes immediately after 1989, the core of Prievidza's local economy remains in the final stage of postsocialist transformation and at-risk of shrinkage. In the case of coal mining, the transition has been more careful due to the importance of coal for energy production, as well as the position of miners at the forefront of the working class and their links to influential leftist political parties. This, in turn, meant significant delays to the closure of mines and local transformation. In the case of Prievidza, it also led to a sort of "agony". The inhabitants did not trust the future of mining (e.g., local mines had to attract miners from outside the region), and they searched for other opportunities, including out-migration. Nevertheless, the diminishing number of miners (e.g., compared to other postsocialist countries), their "dwindling" respect within the postsocialist realm, rising environmental awareness, the public's declining acceptance of huge state subsidies for energy prices and a "compensation agreement" with miners brought about a substantial change in the approach to mining.

Both cities offer useful approaches to their future. It seems, however, that overall the response is better in those cities that enjoy a stronger position within the national economy and the settlement and have a generally recognized role in national historical heritage, with multiple values to protect. The ability to declare at least interim urgency (e.g., by local self-governments, NGOs) increases awareness and the mobilization of support. The danger of deep socioeconomic problems, environmental threats, and the loss of national heritage can motivate important entities to act thoughtfully. The successful placement of shrinkage-related problems in the broader political environment (national, international) is essential. Both cities, in cooperation with national authorities, have been able to shift their problems to the international framework, which has improved their chances for more efficient transformation (Banská Štiavnica as a UNESCO World Heritage Site; the Prievidza region on the EU's coal mining and energy transformation agenda, Donnari et al. 2018).

Banská Štiavnica and Prievidza adopted a mixture of local and multi-level governance approaches in addressing their prospect. Under the leadership of active local self-governments, both cities developed extensive local cooperation practices among various actors, including citizens. The ideas of governance and intersectoral partnership also expanded into the field of planning. After two decades of local planning experiences (regularly updated master plans, strategic development plans, community plans), the latest documents are more realistic about future population growth and better identify local situations. They are more interconnected, search for new endogenous potential, and focus on possible measures and implementation. The local effort is crucial but insufficient. The scale and complexity of shrinkage require coordinated participation across levels of government and between all involved stakeholders (public, private, non-governmental). Local planning outcomes have been assessed and incorporated into regional

and national policies (economic, energy, transport, regional development, social). They include the implementation of measures that respect cities' needs and interests (e.g., motorway access, new central heating source, new social facilities, allowances to miners, new administrative and public sector functions, and motivations to investors).

The impact of international experiences, policy transfer, and inspiration are well visible, especially in directing economic restructuring and diversification. Like other mining cities (Dale 2002, Pretes 2002; Ballesteros and Ramirez 2007, Harfst and Wirth 2011, Martinez-Fernandez et al. 2012, Marais et al. 2018, Jaroszewska 2019), they turned to services, tourism and culture (museums, cultural events), and re-industrialization focusing more on traditional non-mining industries. They also support residential functions (modernization, affordable housing), provision of public services to their hinterlands, good commuting conditions for residents, and accessibility for business activity. The two case study cities also confirm the importance of size, location, and local condition awareness. There are limited chances to imitate successful strategies of large re-growing cities (Wiechmann and Pallagst 2012, Rink et al. 2012), for example, by focusing on the development of extensive cultural and creative sectors, knowledge-intensive economic activities, large manufacturers, or desirable office locations. However, Prievizda has managed to attract new investors into its new industrial park thanks to an initiative oriented on global industrial production networks, which was already operating in Slovakia and neighboring states (primarily in the automotive industry). Additionally, in light of growing levels of media attention to their transformations, the image of both cities has improved. Despite these activities, outcomes have been limited to the mitigation of shrinkage.

## **Conclusion**

The two Slovak cases document potential approaches to urban shrinkage in smaller countries, with a national urban system dominated by smaller cities (only 10 out of 140 cities in Slovakia have more than 50,000 inhabitants) and relatively few cities characterized by acute shrinkage. In addition to intense local efforts, the approach allows strategic external entities (primarily the national government) to pay more individual and systematic attention to selected cities facing such problems (individual legislation, the concentration of funding), despite the absence of national policies focusing on shrinkage. The inclusion of higher levels of decision-making bodies (e.g., the relevant ministries), in addition to taking leadership on particular issues (planning, funding large investments, mitigating the social and labor market impact) is extremely important. They have sufficient power to influence legislation, financial allocations, and attract the participation of top-level stakeholders, for example, large corporations. Despite the important role of local resources, stable, massive, and longer-term financial support from national and international sources is also crucial.

Banská Štiavnica, which has been coping with shrinkage for a long time, is closer to being considered as “shrunk” in a new sustainable equilibrium (with minor oscillations, e.g., in population number). The national and regional support framework has been stable without any new strong impulses since the turn of the century. Restructuring and adaptation processes have been issues for decades, with extensive experience and a strong mobilization of local capacities based on deeply rooted local identity of citizens. It has consolidated its local economy in tourism, public services, small and medium business in various sectors, coupled with a flourishing cultural and social life based on traditions. It is also an attractive location for residents commuting to work outside the city. Renovated historic buildings, improvements of public spaces, and the modernization of socialist housing estates have contributed to the stabilization of the local community.

Prievidza, as a young shrinking city, faces greater uncertainty. Its most acute challenge is connected to the end of mining and the conversion of related industries. Despite the active participation of external actors and promised support, the outcome is less clear and the threat of further population declines remains. Nevertheless, the final decision concerning the closure of mines in 2023 and intensive work on a clearer vision for this urban region are positive steps. For one, debates about “when it will happen” have ended. This step has facilitated new and more positive expectations among the local population and political elite. Furthermore, investors are thinking about the workforce available from the mining and traditional industries. Due to the combined efforts of several levels of the government, the EU, and the business community, the prospects are better than they were a few years ago. The Prievidza case also documents the substantial shift to a more elaborated, “ex-ante” prepared conversion (PWC and Office of the Vice-Premier for Investment and Informatization, 2019) of the mining region compared to Banská Štiavnica. In the later stage of the transition, more intensive international links and shared experience contribute to this. Prievidza, as a higher ranked and larger city region, with a more important economic position and better location, also has better preconditions to mobilize external support compared to Banská Štiavnica at present. It may yet mitigate shrinkage or even stabilize its population in years to come.

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